

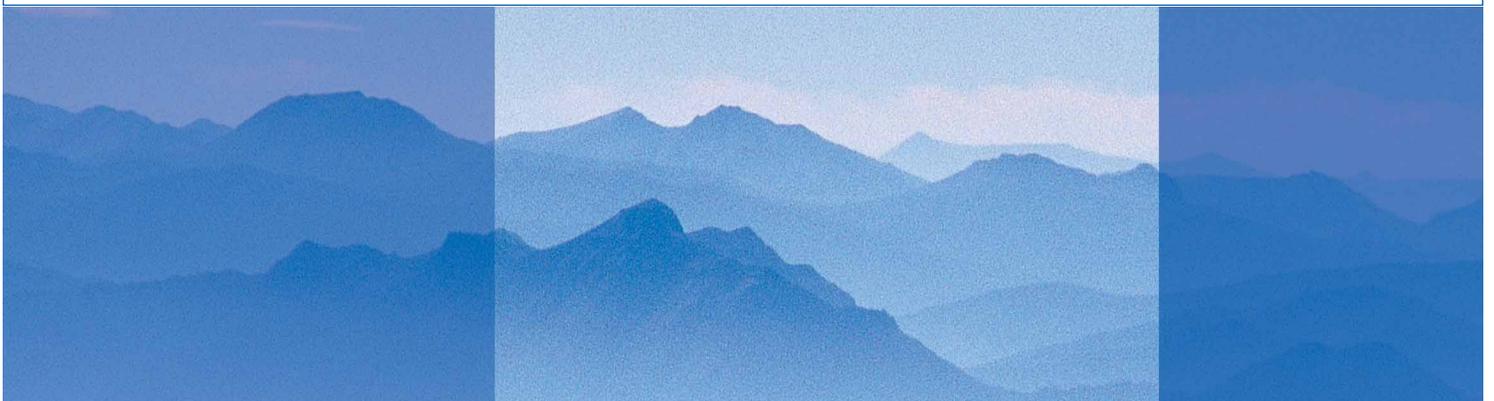


Mental Disorder, Substance Use and Criminal Justice Contact

PART 1

A SYSTEMATIC REVIEW OF THE SCHOLARLY LITERATURE

JULY 2004





Mental Disorder, Substance Use and Criminal Justice Contact

**A SYSTEMATIC REVIEW OF THE SCHOLARLY LITERATURE
JULY 2004**

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Acknowledgements

To our knowledge, this is the most comprehensive review of the professional literature pertaining to mental disorder (broadly construed), substance abuse, and criminal justice contact that has been conducted. Indeed, as we were soliciting information for a subsequent part of this project, we were constantly asked whether we would share the results of this literature review. We were fortunate indeed to rely upon the guidance and support of the project Steering Committee. Perhaps unique anywhere, the Government of British Columbia is synthesizing information from diverse sources regarding mental illness, substance use, and correction, as a basis for potential reforms. The Steering Committee members, and the agencies they represent, are as follows:

Irene Clarkson (Co-Chair), Executive Director,
Mental Health and Addictions, Ministry of Health Services;

Robert Watts (Co-Chair), Provincial Director,
Community Corrections Division, Ministry of Public Safety and Solicitor General;

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Planning and Innovation, Ministry of Health Services;

David Winkler, QC, Assistant Deputy Minister,
Ministry of the Attorney General.

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In addition to the Steering Committee, we are particularly grateful to the research assistants who toiled on this project. Realistically, we uncovered approximately twice as much information as we expected existed. As the reader will note, there are many references from the year 2003 and the references are drawn from many countries and many disciplines. This excellent scope of coverage is largely due to the work that Murray Ferguson and Narelle Warden performed on this project. We would also like to thank Maree Stanford and Matthew Querée for their help in preparing a draft of this manuscript.

While we relied upon the support of the Steering Committee and our research assistants, we are responsible for the final document. We are accountable for any errors or oversights. Also, it must be said that while we have tried to present the literature in an unbiased manner, any opinions expressed are solely ours and do not necessarily reflect the policies or positions of the Government of British Columbia or any of its employees.

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May 2004



Executive Summary

Incontrovertible evidence now exists to show that the prevalence of mental disorder¹ among those in the criminal justice system (prisoners and offenders or accused on community orders) is significantly greater than is found in the general population. Despite the prevalence of mentally disordered people in the criminal justice system, and the difficulties that surround them, few services exist either in prisons or in the community to help identify and prevent these people from entering or remaining in the criminal justice system. This literature review was commissioned as part of a Provincial Strategy in British Columbia intended to support the development of ongoing capacity for mentally disordered persons within or at risk of entering the criminal justice system. The information reviewed is limited to scholarly articles, chapters, and reports that pertain to the subject matter.

The results of the literature review show that the prevalence rates of a wide variety of “mental disorders” are disproportionately high in the criminal justice system. It has been found that rates of the major mental illnesses, such as schizophrenia and depression, are between three and five times higher than that expected in the general community. The number of offenders with mental illnesses has also increased substantially during the process of deinstitutionalization. It must be noted, though, that the increase in the number of mentally ill people in the criminal justice system may be as much or more a product of the increase in the use of substances by people with mental illnesses as it is due to the deinstitutionalization of mentally ill patients.

Substance use disorders are among the most prevalent mental disorders in the criminal justice system. Indeed, it can be stated without exaggeration that substance use problems are endemic among prisoners, and dual diagnosis (comorbid major mental disorder and substance abuse) is the rule rather than the exception for mentally disordered offenders.

¹ As it is used in this document, the term “mentally disordered offender” (MDO) pertains to those people who have a mental disorder and/or substance use disorder (other than anti-social personality disorder), developmental disabilities (IQ below 70), low functioning (IQ above 70 with limited adaptive abilities), brain injury (organic or acquired) and Fetal Alcohol Effects or Fetal Alcohol Syndrome. In addition to the presence of a mental disorder, these people must be accused or convicted of committing offences or at high risk of involvement in the justice system.

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Research regarding the prevalence of developmental disabilities (IQ below 70) and low functioning (IQ above 70 with limited adaptive abilities) in offenders is riddled with methodological problems since most studies have not used valid IQ measures to identify those with an intellectual disability. Nevertheless, it would appear that the rate of intellectual disability is substantially higher than that in the general population in the community. Co-morbid psychiatric disturbances are also very common among intellectually disabled offenders, and of a similar prevalence to that found among offenders in general.

There is minimal research in regard to brain injury among offenders; however, the literature indicates that head injuries are clearly related to subsequent aggressive behaviour. The limited research available suggests that the prevalence of head injuries is higher than in the community for not only violent criminals (where head injuries are astonishingly commonplace) but also among non-violent criminals. Despite the high prevalence of head injuries experienced by offenders, the prevalence of abnormal neurological features is even higher, suggesting that various forms of brain injury are widely prevalent in the criminal justice system.

When offence rates or violence between non-mentally ill people in the community (i.e., non-offenders) are compared with people with mental illnesses, the research has typically shown that those with mental illnesses have higher offence rates and higher rates of violence. While major mental illness is a risk factor for criminal violence, the fact remains that most people with mental illness are not offenders. Thus, there exists a plethora of research regarding risk factors for offending, among not only the mentally disordered population, but non-mentally disordered offenders as well. The treatment of mentally disordered offenders, therefore, requires that both the mental illness and offence-related factors (i.e., criminogenic factors) are addressed.

Unfortunately, research shows that a relatively poor job is done adequately identifying the needs of mentally disordered offenders prior to the time they enter the criminal justice

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system (indeed, it has been said, perhaps facetiously, that any need for a forensic psychiatric system arises from a failure of the mainstream mental health system). Then, due to the multiple and complex needs of a small but significant number of very difficult offenders, the fractionalization of the service and justice systems, and other factors, the costs and inefficiencies escalate.

There is an absolute dearth of published work pertaining to effective interventions with the various groups of people that comprise the “mentallydisordered” population in the criminal justice system. Diversion of mentally disordered offenders is a necessary element of the criminal justice system as research generally shows that a majority of these individuals commit only low-level, non-violent, offences. While a positive concept, diversion may have relatively little benefit to mentally ill offenders – let alone those with dual diagnosis or any of the other disorders considered in this document – due to the lack of appropriate community-based services generally available. Diversion of the mentally ill from the criminal justice system can occur at all stages of contact with CJS: pre-booking (crisis intervention etc), mental health courts (divert into community based treatment program after arrest and charge), and post-incarceration (transition back into community). Unfortunately, contrary to their purpose, many mental health diversion programs often result in a lengthier and more intensive intervention than that which results from more traditional criminal justice processes.

A variety of court programs exist that serve to reduce the number of mentally ill people going to prison, particularly when they have not committed serious offences. Some of these programs are essentially court diversion programs where courts have in place systems to identify and divert mentally ill people from the criminal justice system. In addition, courts have implemented programs in which mental health staff are employed or housed in the courts to liaison with services required by mentally ill defendants. Finally, there has been a movement to develop specialized courts to deal with mentally ill defendants.

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evaluated. Generally the research shows that these programs successfully identify mentally ill offenders, but little outcome research has been conducted. Typically, as well, there is a problem finding appropriate services. Although similar to court diversion programs, court liaison programs essentially act as service brokers to identify and provide appropriate mental health services. In such programs, while diversion from the criminal justice system to the mental health system may occur, the focus of the program is on the identification of mentally ill accused and the provision of appropriate mental health services to them. There has been a trend internationally to develop court-based liaison programs for individuals with a mental disorder. As with other programs reviewed, though, very few if any such programs have been adequately evaluated.

The advent of mental health courts and other specialty courts, including drug courts, has been one of the most dramatic developments in the area of mentally disordered offenders in recent times. The first mental health court was established in Los Angeles some 30 years ago. Since that time, mental health courts have been established in several jurisdictions around the United States and in other countries, including Canada (i.e., Toronto). Although perceived by some as a panacea, the reality is that relatively little is known about the efficacy of the alternative court programs. Despite their promise, authors have pointed out that many important questions – including their efficacy, however measured – are still unknown.

Drug courts have proliferated, particularly in the United States where, as of 2001, there were some 688 courts operating. The first drug court was established in Dade County, Florida in 1989. Overall, both mental health courts and drug courts provide some positive outcomes, yet relatively little good outcome data are available even now that the number of programs has increased. Moreover, virtually no data exist to compare mental health courts to other alternative service systems. Finally, the available information on mental health treatment and mental health courts suggests the importance of assertive case management of accused who participate in mental health court systems.

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A major shortcoming in the mentally disordered offender field is the general lack of systematic staff education and professional training available. Correctional officers have been found to view mentally disordered offenders as being more difficult to work with than other inmates, and feel the need for training in identifying and managing them. As the number of inmates with significant mental health problems and other mental disorders is so large, it is critical that front-line correctional staff and community corrections staff be well informed and skilled in the area of communicating with and caring for inmates. The only successful correctional mental health programs are those that have collaboration between correctional staff and mental health staff. In addition to corrections officers, all other staff, particularly chaplains, teachers, and others should be drawn upon to assist with monitoring inmates who have been identified with mental disorders. Similarly, police officers require complementary training and experience.

The purpose of cost-effectiveness analysis and cost-benefit analysis is to develop an evaluative framework to ensure the most efficient delivery of human services. Generally speaking, few scholarly articles exist to sustain the cost-benefit analysis and cost-effective analysis of therapeutic programs in prisons and, to our knowledge, no such published articles exist examining the economic analysis of services for mentally disordered offenders. The analyses that have been published show that there is good evidence that in-prison and community-based offender programs are cost-effective and have a relative cost-benefit. Such analyses are necessary for programs directed toward mentally disordered offenders.



I. Identifying the Scope of the Problem

There is a general perception shared by correctional health care administrators and correctional mental health professionals that the number of persons with mental illness entering jails has increased over the years. Sixty-nine percent of jail administrators responding to the survey prepared by Torrey and his colleagues (1992) reported that the number of persons with mental illness who were entering jail had increased over the course of 10 years. Moreover, a number of commentators claim that the proportion of mentally disordered jail inmates is increasing (Gove, 1982; Johnson, 1983; Morgan, 1982; Teplin, 1983; Torrey et al., 1992). Upon reviewing the relevant literature Teplin (1983) concluded, "research literature, albeit methodologically flawed, offers at least modest support for the contention that the mentally ill are (now) being processed through the criminal justice system" (p. 54).

The contention that the mentally ill are entering jails in increasing numbers is not universally accepted (Monahan, Caldiera, & Friedlander, 1979). Steadman and his colleagues have proposed that it is simply heightened awareness among professionals and the public of the problem of mentally ill in the jails that has resulted in the perception that they are entering in increasing numbers (Morrisey, Steadman, & Kilburn, 1983; Steadman & Ribner, 1980). In a recent study investigating the criminal offence history of every person in Victoria, Australia with schizophrenia in five-year cohorts from 1975 to 1995, Wallace, Mullen, and Burgess (in press) found that there was no subsequent increase in offence rate by year. This is particularly interesting since during that time the process of deinstitutionalization was completed in Victoria. Indeed, there are no more psychiatric hospitals in Victoria (except for a 100 bed secure forensic psychiatric hospital).

Regardless of whether the deinstitutionalization movement has led to increasing numbers of people with mental disorders making their way into the criminal justice system, considerable research now exists to show that the prevalence of mental disorder among those in the criminal justice system (prisoners and offenders or accused on community orders) is significantly greater than is found in the general population. Although concerns

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I. Identifying the Scope of the Problem

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for assessment and treatment were traditionally limited to major mental illnesses, the term “mentally disordered offender” (MDO)² here pertains to those people with a mental disorder and/or substance use disorder (other than anti-social personality disorder), developmental disabilities (IQ below 70), low functioning (IQ above 70 with limited adaptive abilities), brain injury (organic or acquired) and fetal alcohol effects/syndrome who are currently involved in the justice system or who are at high risk of involvement in the justice system.

Moreover, those in the criminal justice system with mental disorders experience many difficulties and they cause considerable concern for those who are responsible for their safety and for those who care for them. Despite the prevalence of mentally disordered people in the criminal justice system, and the difficulties that surround them, few services exist to help identify and prevent these people from entering or remaining in the criminal justice system. In addition, in most jurisdictions, there is still a dearth of services available to identify and treat those people with mental disorders who come into contact with the criminal justice system. Fewer resources exist still to help ensure that when released to the community the mentally disordered offenders will receive the services they require to help them become reintegrated and to reduce the likelihood that they will return to the criminal justice system.

As part of a Provincial Strategy in British Columbia intended to support the development of ongoing capacity for mentally disordered persons within or at risk of entering the criminal justice system, this literature review was commissioned. The information reviewed will be limited to scholarly articles, chapters, and reports that pertain to the

² Although strictly speaking the term “mentally disordered offender” (MDO) should refer to people who have been convicted of an offence, as we use the term here, it applies to both those accused and convicted of committing offences. Some attention will be paid, as well, to those with a mental disorder who while not yet in the criminal justice system are at risk to offend.

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I. Identifying the Scope of the Problem

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subject matter. This review begins with a consideration of research investigating the prevalence of mental disorder in the criminal justice system (mental disorder, excluding Antisocial Personality Disorder; substance use disorder; developmental disabilities (IQ less than 70); low functioning (IQ greater than or equal to 70); brain injury (organic or acquired); Fetal Alcohol Effects/Fetal Alcohol Syndrome. Consideration will be paid as well to research concerning the risk and protective factors for MDO's both pre- and post-contact with the criminal justice system. In addition to prevalence of mental disorder, the extant research on service utilisation patterns for MDOs will also be reviewed.

A plethora of research exists in criminology and correctional psychology concerning "criminogenic needs" (i.e., the dynamic risk factors that lead to an increased risk of ongoing offending). Given the importance of criminogenic needs generally, it is important to consider research that has investigated the relative importance of criminogenic needs among mentally disordered offenders.

Beyond prevalence and risk research, attention will also be paid to the research that has investigated the efficacy of intervention, diversion strategies, and court programs that have been employed for MDOs. The final sections of the literature review will consider research that has been conducted pertaining to matters such as staff education, professional training, infrastructure, policy/legislative innovations and frameworks, and economic analyses.



II. Prevalence of Mental Disorder in the Criminal Justice System

Estimating the prevalence of mental disorder in the criminal justice system is a somewhat inexact practice as the population is inconsistently defined and markedly heterogeneous (Cohen & Eastman, 1997, 2000; Harris & Rice, 1997; Rice & Harris, 1997). Differences may exist on the basis of age, gender, diagnosis, or culture. Further, being classified a *mentally ill offender* requires that several interacting criteria be met³. The mental disorder limb of such criteria requires a diagnosis by a mental health professional, a practice that requires a great deal of personal opinion by the clinician (i.e., clinical judgment). Despite contemporary improvements in psychiatric nosology (e.g., American Psychiatric Association, 1994, 2000; World Health Organisation, 1992), the reliability of such diagnoses in actual clinical settings remains relatively unknown (Harris & Rice, 1997; Regier, Kaelber, Roper, Rae, & Sartorius, 1994). In addition, contact with the criminal justice system is, to a considerable extent, a product of the attitudes and practices of law enforcement agencies and legal institutions, which can differ markedly across jurisdictions (Drewett & Sheperdson, 1995; Harris & Rice, 1997). Therefore, research regarding the prevalence of mentally disordered offenders is likely to refer to a truncated sample of such individuals. This caveat must be kept in mind when reviewing the literature.

In addition, any consideration of prevalence rates within the criminal justice system must take into account the increasing population within jails and prisons. The greater number of inmates over the past 20 years has certainly included a proportion of mentally disordered inmates within this larger population is also likely to have increased. Ogloff (2002) reviewed population data for prison inmates and psychiatric patients in Canada and the United States from the years 1940 to 1995. He showed that as the population of psychiatric patients was dramatically reduced following deinstitutionalization, the number of prison inmates more than tripled. Similar results were found in Canada and the United States (see Figure 1 and Figure 2).

³ the United Kingdom, and cite the Home Office circular (66/90) and the Mental Health Act (1983).

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II. Prevalence of Mental Disorder in the Criminal Justice System

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Ogloff acknowledged that these figures did not indicate causality, and thus stopped short of declaring that deinstitutionalization had caused the “criminalization” of the mentally ill (see Teplin, 1983, 1991; Torrey, 1992). Nevertheless, he noted, “there can be little doubt that some of the people who might otherwise be detained in psychiatric hospitals are making their way into the criminal justice system.” (p. 5). Gunn (2000) reported strikingly similar results for prisoners and psychiatric patients in England and Wales for the much shorter period of 1982-1997. Thus, this inverse relationship would appear to be a near-universal phenomenon⁴ that would affect the number of mentally ill people having subsequent contact with the criminal justice system.

⁴ In Britain this inverse relationship between psychiatric hospital beds and prisoners is referred to as “Penrose’s law,” after concepts described by Penrose (1939; see Gunn, 2000, for discussion).

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II. Prevalence of Mental Disorder in the Criminal Justice System

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Figure 1. Populations of Psychiatric Hospitals and Prisons in Canada (1940-1995)

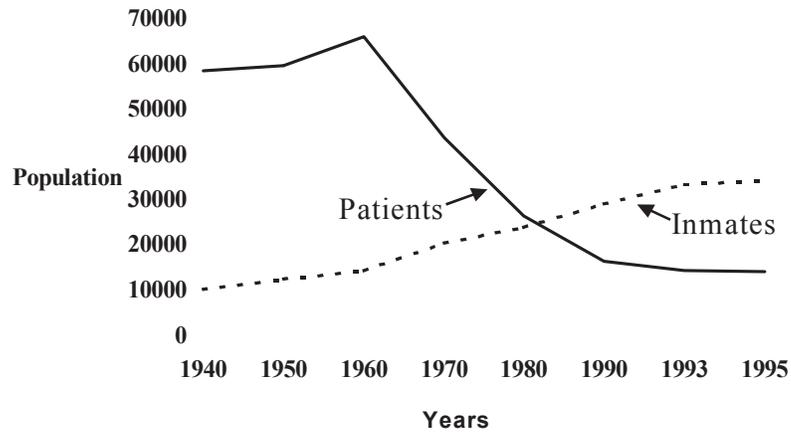
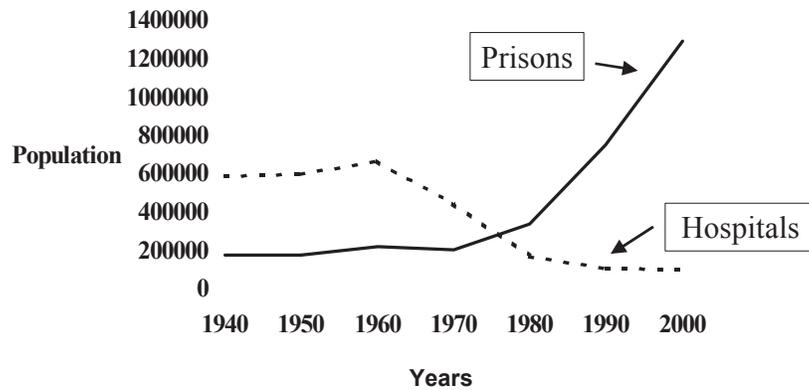


Figure 2. Populations of Psychiatric Hospitals and Prisons in the United States (1940-2000)



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II. Prevalence of Mental Disorder in the Criminal Justice System

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Despite the aforementioned caveats and limitations, considerable literature does exist regarding the prevalence of mental disorder in the criminal justice system. This includes several recent studies across a range of countries, including Australia (Herrman, McGorry, Mills, & Singh, 1991; Mullen, Holmquist, & Ogloff, 2003; Barry-Walsh, & Davis, in preparation),⁵ New Zealand (Brinded, Simpson, Laidlaw, Fairley, & Malcolm, 2001), Canada (Ogloff, 1996; Roesch, 1995), and the United Kingdom (Brabbins & Travers, 1994; Brooke, Taylor, Gunn, & Maden, 1996; Howard & Christopherson, 2003). Notably, these studies show a consistently higher prevalence of mental illness in the criminal justice system than that found in the general population.

Overall Prevalence of Mental Illnesses

Jails and Prisons

Several gross estimates of mental disorder among prisoners are reported in the literature. Mullen, Holmquist, and Ogloff (2003) conducted an extensive review of existing Australian epidemiological data, collating data sets to arrive at composite prevalence data, as part of the forensic mental health scoping study. They concluded “that the prevalence of major mental illness among male prisoners is significantly greater than in the general population in the community” (p. 2). They reported that 13.5% of male prisoners, and 20% of female prisoners, had reported having prior psychiatric admissions(s). In regard to prisoners who reported having had a prior psychiatric assessment, these figures were a very large 40% and 50% respectively. These findings are astounding if one compares them to the general population. While comparable data are not readily available, it is safe to say that far fewer than

⁵ Ogloff (2002) compared the incarceration rates of Canada (110 per 100,000), Australia (110), the United Kingdom (125) and the United States (680). Despite the vast distance between Canada and Australia, the countries share many historical and contemporary similarities. The incarceration rates in both countries are virtually the same and they are somewhat lower than English rates and dramatically lower than American rates. There are many other similarities between the two countries with respect to public mental health and criminal law. As such data obtained from Canada and Australia may be particularly useful for comparative purposes.

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II. Prevalence of Mental Disorder in the Criminal Justice System

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13.5% (1 out of 7) of men and 20% (1 out of 5) of women in the general populations have been admitted to hospital for psychiatric reasons. Moreover, certainly less than 40% (1 out of 2.5) of men and 50% (1 out of 2) of women in the general population ever receive a psychiatric or psychological assessment.

These results indicate not only that the prevalence of mental disorder is high, but that the proportion of those with mental illness is larger among the smaller population of female prisoners than it is for male prisoners (see also Walsh, 2003, for similar conclusions regarding mentally ill females in New South Wales, Australia). This is further supported by Brinded and colleagues (2000), who investigated New Zealand prisoners in what has been described as “one of the most well conducted studies on the prevalence of mental illnesses among inmates ever published.” (Ogloff, 2002, p. 7). They interviewed all female and male remand prisoners in New Zealand, as well as all female and 18% of male sentenced prisoners, with an overall completion rate of almost 80%. They found that, compared to sentenced male prisoners, females had a greater prevalence of mental disorder, particularly major depression and posttraumatic stress disorder, which were both twice as prevalent.

In an attempt to compare the relative number of people in the jails and prisons who are mentally ill with those who are in psychiatric hospitals, Ogloff (2002) extrapolated from existing data concerning the prevalence of inmates with major mental illnesses in jails and prisons. Figures 3, 4, and 5 depict the proportion of prisoners with major mental illnesses in Canada, Australia, and the United States. For comparative purposes, the figures also show the estimated number of patients detained in psychiatric hospitals.

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II. Prevalence of Mental Disorder in the Criminal Justice System

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Figure 3. Comparison of Mentally Ill Prisoners and Patients in Psychiatric Hospitals in Canada

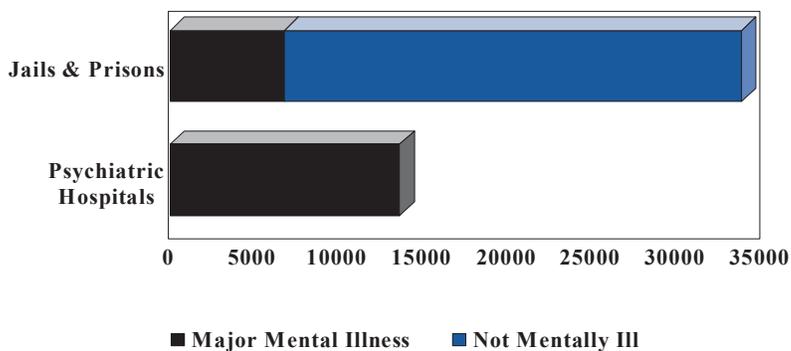
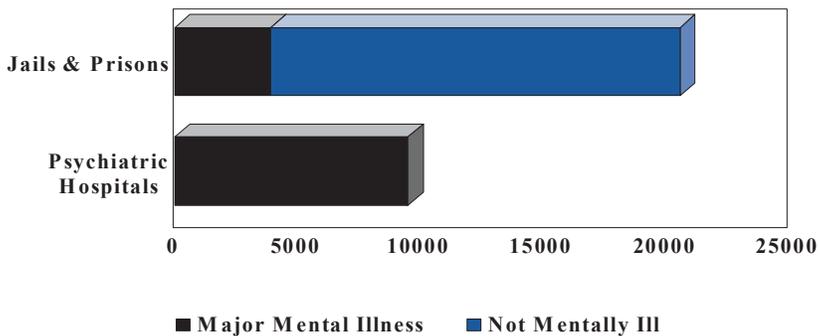


Figure 4. Comparison of Mentally Ill Prisoners and Patients in Psychiatric Hospitals in Australia

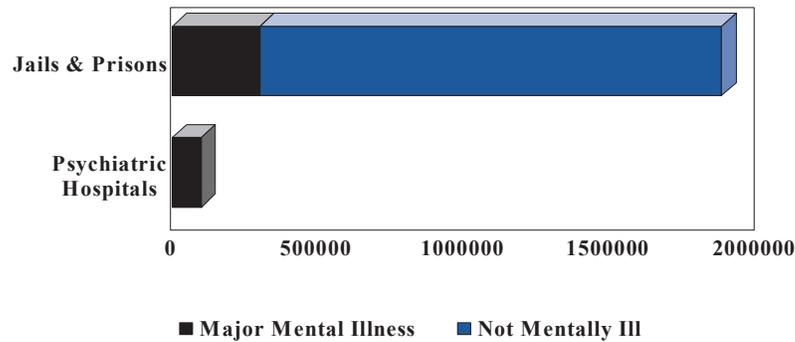


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II. Prevalence of Mental Disorder in the Criminal Justice System

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Figure 5. Comparison of Mentally Ill Prisoners and Patients in Psychiatric Hospitals in the United States⁶



Canadian Federal Prisoners

Research by the Correctional Service of Canada (1990) involved structured interviews of more than 2000 male offenders sentenced federally across Canada. Using the Diagnostic Interview Schedule, they reported a lifetime prevalence of 10.4% for psychotic disorders, 29.8% for depressive disorders, 55% for anxiety disorders, and 24.5% for psychosexual disorders such as sexual dysfunction, transexualism, and ego-dystonic homosexuality. Drug and alcohol use disorders in the absence of antisocial personality were present in 14% of prisoners. Co-occurring antisocial personality, drug, and alcohol problems were present in 37.8% of federal prisoners.

⁶ Figures 1-5 are reprinted from Ogloff, J. R. P. (2002). Identifying and accommodating the needs of mentally ill people in gaols and prisons. *Psychiatry, Psychology, and Law*, 9, 1-33. Reprinted here by permission of the author.

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II. Prevalence of Mental Disorder in the Criminal Justice System

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Recent research by Boe, Nafekh, Vuong, Sinclair, and Cousineau (2003) investigated the changing profile of the federal inmate population over the years 1997-2002. For men, there was a significant increase in the number having a past mental health diagnosis (10%-15%), having a current diagnosis (7%-10%), and being prescribed medication (9%-16%). They also reported that there has been “a significant increase in the proportion of men admitted with a maximum security recommendation” (p. 54). For female inmates there was a significant increase in the number with a past diagnosis (20%-23%), but no significant increases in current diagnoses (13%-16%) or the percent for which medication was prescribed (32%-34%). Overall, these results are somewhat congruent with the trends discussed thus far. There is a large and disproportionate number of mentally ill inmates within the Canadian federal prison system, and this number appears to be increasing over time.

Remand Prisoners

One consistent finding in the literature has been a high level of mental illness among remand prisoners and, when compared, a higher prevalence of mental illness for remand prisoners than for sentenced prisoners. Prins (1995) reviewed numerous studies and concluded that one third of the population of British prisoners required psychiatric treatment, but that this number would be higher among those on remand. Similarly, in Brinded and colleagues' (2001) New Zealand study, the male remand population had higher rates than the male sentenced sample for all categories of mental disorder that were studied. Additionally, Brooke and colleagues (1996) investigated 750 British remand prisoners (9.4% of unconvicted male prisoners) in England and Wales, by means of semi-structured interview and case-note review. They found that 63% of their sample could be diagnosed as having at least one ICD-10 mental disorder. Substance misuse disorders were the highest category (38%), however neurotic illnesses (26%), personality disorders (11%), and psychosis (5%) were quite prevalent⁷.

⁷ Due to considerable co-morbidity, it was impossible to gain a gross estimate of nonsubstance abuse disorders from the results of this study. Indeed, where 63% of the sample was identified as having at least one disorder, adding the individual totals for each disorder equalled 84.4%.

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II. Prevalence of Mental Disorder in the Criminal Justice System

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Parsons, Walker, and Grubin (2001) investigated mental illness among 382 female remand prisoners in the United Kingdom. They found that 59% had at least one *current* mental disorder (*excluding* substance use disorders), including 11% with psychotic disorders. When substance dependence was included in the analysis the level of current mental illness rose to 76%. Lifetime prevalence of mental disorders was 68% (not including substance dependence) and 81% (including substance dependence). Therefore, the higher prevalence of mental disorder among female inmates would appear to exist among the remand population as well.

Overall, these results indicate that not only are large numbers of prisoners suffering from mental illness, even larger numbers of mentally disordered offenders are being remanded prior to trial. A comparative summary of the prevalence of mental illness in different jurisdictions is provided in **Table 1**. The following section will be a more fine-grained analysis of the prevalence of particular mental disorders.

Table 1 Comparison of Rates of Prior Assessment, Past Diagnosis, or Lifetime Prevalence of Mental Disorder

*Comparison of Rates of Prior Assessment, Past Diagnosis,
or Lifetime Prevalence of Mental Disorder*

Country/Study	Male	Female
Canada (federal) - 1997*	10%	20%
Canada (federal) - 2002*	15%	23%
Australia**	40%	50%
U.K. (remand)***	---	68%-81%^

Note. *Boe et al. (2003); **Mullen et al. (2003); ***Parsons et al. (2001);

^ range include rates without and with substance dependence included.

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II. Prevalence of Mental Disorder in the Criminal Justice System

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Schizophrenia and Psychotic Illnesses

The results from various studies indicate that the prevalence of schizophrenia and other psychotic disorders is much higher within the criminal justice system than the general population. The Australian national forensic scoping study that was discussed above estimated that “up to 8% of male and 14% of females in . . . (Australian) prisons have a major mental disorder with psychotic features” (Mullen et al., 2003, p. 17). In regard to schizophrenia itself, Mullen and colleagues estimated that the prevalence was between 2-5% for prisoners, and was likely to be similar for those on community orders.

The estimates of Mullen and colleagues (2003) appear relatively consistent with the literature available from other countries, including Canada. Nevertheless, the estimates for psychotic illnesses are somewhat higher. Mullen and colleagues acknowledge this in their manuscript, and suggest that meta-analyses of psychotic illnesses are predominantly concerned with schizophrenia, rather than the wider range of psychotic disorders.

The particular meta-analysis that Mullen and colleagues (2003) referred to was recently published in *The Lancet* (Fazel & Danesh, 2002). Using data from 49 worldwide studies of psychotic illness (19,011 prisoners), Fazel and Danesh reported an overall prevalence rate of 4% of prisoners having psychotic illnesses. When this was broken down, 4% of male detainees and 3% of male sentenced prisoners were diagnosed with psychotic illnesses (as the preceding discussion would suggest). There was some variability across studies, some (but not all) of which was explained by differences between research that used validated diagnostic procedures (3.5%) and those that did not (4.3%). Studies from the USA also showed higher prevalence rates than elsewhere (4.5% c.f. 3.3%). As may also be expected from the previous discussion, psychosis among female prisoners was slightly higher than that in males (4.0% c.f. 3.7%).

As Mullen and colleagues (2003) suggested, the psychosis section of Fazel and Danesh’s meta-analysis was chiefly concerned with schizophrenia. Thus, their findings are certainly consistent with those provided by Mullen and colleagues. The results are also consistent

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II. Prevalence of Mental Disorder in the Criminal Justice System

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with a Canadian study by Roesch (1995),⁸ which estimated that 4.9% of admissions to the Vancouver Pre-trial Services Centre were diagnosed with schizophrenic disorders. Additionally, the New Zealand study by Brinded and colleagues (2001) found prevalence rates for schizophrenia and related disorders *within the last month* to be 4.2% for women, 3.4% for remanded men, and 2.2% for sentenced men. The results are therefore relatively consistent across settings (see **Table 2**). Considering that the estimated lifetime prevalence rate for the general population is up to 1% (American Psychiatric Association, 1994, 2000), it is clear that the current (i.e., within the past month) prevalence of schizophrenia among prisoners is several times higher.

Table 2 Comparison of Prevalence Rates for Schizophrenia and Psychotic Disorders
Comparison of Prevalence Rates for Schizophrenia and Psychotic Disorders

Country/Study	Male	Female	Total
Worldwide*	3.7%	4%	4%
Canada (pre-trial)**	---	---	4.9%
Australia (schizophrenia)***	---	---	2%-5%
Australia (psychotic, including schizophrenia)***	8%	14%	---
New Zealand (in last month)^	2.2%-3.4%	4.2%	---
General population (lifetime)^^	---	---	0.3%-1.0%

Note. *Fazel & Danesh (2002); **Roesch (1995); ***Mullen et al. (2003); ^Brinded et al. (2001); ^^Ogloff (2002).

⁸ It should be acknowledged that the Canadian study by Roesch (1995) was one of the studies included in Fazel and Danesh's (2002) meta-analysis. The results are provided separately here to indicate the congruence between Canadian data and that from elsewhere.

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Major Depression

Fazel and Danesh (2002) analysed 31 studies involving major depression (10529 prisoners) and found higher rates among females (12%) than males (10%). Somewhat surprisingly, the rates for male sentenced prisoners (11%) were higher than those on remand (9%), but this counterintuitive result did not hold for females (13% remand, 10% sentenced). Marked heterogeneity existed between the studies, particularly for those involving males, where rates of depression were as low as 5% and as high as 14% in some individual studies.

The study by Roesch (1995) found a similar prevalence of 10.1% for major affective disorders, and a further 7.1% for dysthymic disorders (VPSC). Ogloff (1996) found that 15.7% of admissions to the Surrey Pre-trial Services Centre were diagnosed with major depression. Brinded and colleagues' (2001) New Zealand data indicated a point prevalence for major depression of 11.1% for women, 10.7% for remanded men, and 5.9% for sentenced men.

The Mullen and colleagues (2003) study estimated that depressive disorders in Australian prisons were somewhat lower, approximately 5% in males and 7% in females. They acknowledged that these estimates (based in part on "severe" total scores on the Beck Depression Inventory-II) were perhaps pertaining to a more restricted range of affective disorders than that described by Fazel and Danesh (2002). They also surmised that their estimates did not take account of the "chronically miserable who...are relatively common in prisons" (p. 27).

Nevertheless, the figures from this range of studies are considerably higher than what would be expected in the general population (see Table 3). The point prevalence of major depression is estimated to be 5-9% for females and 2-3% for males (American Psychiatric Association, 2000). The meta-analytic results of Fazel and Danesh (2002) are 2-3 times higher.

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Comparison of Prevalence Rates for Major Depression

Country/Study	Male	Female	Total
Worldwide*	10%	12%	5-14%
Canada (pre-trial – major depression)	---	---	10.1%**- 15.7%***
Canada (pre-trial – dysthymia)**	---	---	7.1%
Australia^	5%	7%	---
New Zealand (in last month)^^	5.9%-10.7%	11.1%	---
General population^^^	2-3%	5-9%	---

Note. *Fazel & Danesh (2002); **Roesch (1995); ***Ogloff (1996); ^Mullen et al. (2003);

^^Brinded et al. (2001); ^^^American Psychiatric Association (2000).

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Table 3 Comparison of Prevalence Rates for Major Depression

Substance Use Disorders

As noted earlier, substance use disorders are among the most prevalent “mental disorders” in the criminal justice system.⁹ Roesch (1995) found that 85.9% of admissions to the Vancouver Pre-trial Services Centre in British Columbia received a substance use disorder diagnosis (77.6% alcohol abuse/dependence, 63.7% drug use disorders). Ogloff (1996) reported a prevalence of 60.9% of admissions to a similar correctional centre (Surrey Pre-trial Services Centre). Alcohol disorders were the most prevalent in Ogloff’s study (24%), followed by cannabis (16.5%) and cocaine (10.2%). Polydrug use disorders were relatively common (15%).

Brinded and colleagues’ (2001) study of New Zealand inmates also found high rates of substance-related disorders. Lifetime rates of alcohol abuse and dependence (39% and 35.6% respectively) and cannabis abuse (32.2%) were quite prevalent among remanded men. Among sentenced men substance use was also high (alcohol abuse, 40.6%; alcohol dependence, 35.3%; cannabis abuse, 33.2%).

As previously described, co-morbidity in the criminal justice system is perhaps the rule rather than the exception. This has been highlighted by recent research on dual diagnosis (Ogloff, Lemphers, & Dwyer, 2003). Ogloff and colleagues conducted structured interviews (using the structured clinical interview for DSM-IV substance use disorders) of all patients in a secure forensic psychiatric facility in Victoria, Australia (including mentally disordered offenders, forensic psychiatric patients, involuntarily committed patients, and those on hospital treatment orders). Results showed that 74% “met the criteria for a substance abuse or dependence disorder at some time in their lives,” while 12% met the stricter criteria for a

⁹ Substance use disorders are included among the mental disorders included in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR, 2000).

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current disorder (i.e., within the past month). This lower percentage is partly explained by the fact that the majority of patients had been in hospital or prison for longer than one month, thereby not having access to alcohol or illicit drugs.

The prevalence of dual diagnosis was highest among the offenders in the sample who were involuntarily hospitalised and transferred to the secure psychiatric hospital from prison. Fully 100% of remanded offenders met the criteria for a lifetime diagnosis and 29% met current criteria for substance abuse or dependence. Additionally, 92% of sentenced offenders met lifetime criteria.

Particularly concerning in the study by Ogloff and colleagues was the fact that only 8% (of the entire sample) had formal diagnoses of co-morbidity noted in their clinical files. This indicates that substance use disorders, while highly prevalent, do not seem to be as frequently noted by mental health staff as other illnesses such as psychosis. Such clinical practices are particularly problematic, as it will be seen that co-occurring substance abuse and schizophrenia is a potent risk factor for future violence.

Developmental Disabilities and Low Functioning

The existing studies discussed thus far have not considered intellectual disability. Given the importance of this topic, though, we shall provide an overview of existing data concerning developmental disabilities ($IQ < 70$) and low functioning ($IQ \geq 70$ with adaptation difficulties) among offenders. Varying rates of the intellectually disabled within the criminal justice system have been obtained from a variety of international studies (Brandford, 1997; Brown & Courtless, 1968).

However, it is generally accepted that the prevalence rate of the intellectually disabled within the prison system is higher than the 2-5% prevalence rate found in the general community (Hatton, 1998; Hayes, 1997; Hayes & Craddock, 1992; New South Wales Law Reform Commission, 1996).

A broad conservative estimate based on international studies proposes approximately 10%

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of the criminal justice population has an intellectual disability. This figure is supported by a major review conducted by the New South Wales Law Reform Commission (1996), which found that 2-25% of the prison population had an IQ of less than 70, with approximately 15% being found in the borderline range of intellectual functioning at IQ 70-85.

It should be noted that some studies have produced prevalence rates far less than 10%. For example, Brandford (1997) obtained a low prevalence rate of 0.3-0.37% in the New Zealand prison system. Murphy, Harnett and Holland (1995) found no subjects with an intellectual disability in a study of London remand prisoners. With respect to the low prevalence rates obtained in these studies, it has been proposed that factors such as prison population status (remand or sentenced) and whether or not the borderline intellectually disabled group is included within the current experimental definition of intellectual disability being utilised may affect the data being obtained. It has also been noted that life skills and adaptive functioning are aspects that may or may not be included in an overall assessment of intellectual disability. Whether or not IQ is used as the sole assessment of intellectual disability in a study may yield different outcomes to those studies that also assess whether limitations exist in adaptive skills. Indeed, McBrien (2003) reviewed the varying research methods used to identify intellectually disabled offenders and found that formal IQ assessments were not conducted in many studies. They noted that administrative definitions (i.e., using an intellectually disabled service), psychiatric diagnosis, self-report, previous special schooling, and a range of screening questions regarding school experiences had all been used to classify research participants as intellectually disabled. McBrien argued that these are far from optimal measures. For example, Murphy and colleagues (1995) examined the validity of self-reports of intellectual disability among remand prisoners. As previously noted, none of the participants had an IQ below 70, however 21 of the 157 men selfreported having difficulties. Five of these were found to have an IQ below 75, but so did four of a control group of 21. Therefore, self-reports are prone to errors, particularly false positives,

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but also false negatives when looking at borderline intellectual disability.

In addition, the need for research that also measures adaptive functioning cannot be emphasized enough. McBrien (2003) identified only one study that had measured adaptive behaviour in addition to IQ. This study (Mason & Murphy, 2002a) utilised a short version of the Wechsler Adult Intelligence Scale, as well as the Vineland Adaptive Behaviour Scales. However, McBrien (2003) noted that the Vineland was completed by self-report rather than the standardized administration to a third party. Clearly, valid measures of adaptive functioning are required. One promising new tool that includes an adaptive functioning measure is the Learning Disabilities in the Probation Service screening tool (LIPS), developed by Mason and Murphy (2002b, 2002c). No doubt due to their experimentation with the Vineland scales, the instrument includes aspects of the Vineland, some cognitive measures, self-report and demographic information. Mason and Murphy claim that the cognitive measures have good concurrent validity. Further research with this new tool is clearly warranted, as it purports to assess both cognitive and adaptive functioning in a relatively short period of time.

Focusing specifically on data from Australia, where a considerable amount of the work on the prevalence of intellectually disabled offenders has been conducted, it has been found by Hayes (1997) that in New South Wales an intellectual disability of $IQ < 70$ was assessed in approximately 25% of those attending local courts. By comparison, only approximately 2% of people in the general population would have such a low level of intellectual functioning. This study also noted that additionally over 14% of those attending court fell into the borderline range of intellectual functioning (IQ 70-85). With specific respect to indigenous populations, Hayes (1996) had previously found in the rural courts that approximately 50% of those appearing fell into the intellectually disabled or borderline intellectually disabled categories.

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Hodgins (1992) conducted a retrospective birth cohort study, which provided useful prevalence information from the opposite perspective, that is, the proportion of intellectually disabled people who were registered in Sweden with a criminal offence over 30 years¹⁰. Alarming, she reported that this was so for 44.5% of the males and 14.3% of the females with intellectual disability (see also Crocker & Hodgins; Simpson & Hogg, 2001a). Hodgins (1992) estimated that there was an increased probability of offending among the intellectually disabled of 3.12 for males and 3.72 for females. It should be noted, however, that Simpson and Hogg (2001a) argued that these findings are incongruent with other research that has shown below average offending in the intellectually disabled. If nothing else, such sentiments highlight the difficulties in obtaining consistently reliable information in regard to intellectually disabled offenders.

As may be expected given the high prevalence of co-morbid difficulties in the criminal justice system, the prevalence of psychiatric disorder among the intellectually disabled is considerable. Sansom and Cumella (1995) found that 64% of a sample of 90 people admitted to an English regional secure unit for the intellectually disabled¹¹ had a psychiatric disorder. The most prevalent were personality disorders (43%), followed by schizophrenia (14%), and affective disorders (3%). Other studies have found somewhat lower figures of approximately 20-25%, but these are still considerably higher than that expected in the general population (Simpson & Hogg, 2001b). Notably, Winter, Holland, and Collins (1997) reported that the patterns of psychiatric disorder among 21 British intellectually disabled offenders were not dissimilar to those among a control group of 17 intellectually disabled people who did not offend (slight

¹⁰ Being a retrospective study, Hodgins (1992) identified the intellectually disabled by records of institutionalisation or placement in special classes at school. Thus, the sample likely included many with milder or borderline forms of intellectual disability (see Simpson & Hogg, 2001a, for further discussion).

¹¹ It should be noted that Sansom and Cumella (1995) referred to "learning disability" in their paper. This is the British equivalent of "intellectual disability" or "mental retardation," rather than the North American (and Australian) definition of "learning disorder/disability" that is described in DSM-IV-TR.

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non-significant trends towards increased co-morbidity among offenders). The only significant difference was in regard to drug or alcohol dependence, which was present in five of the 18 offenders (for whom information was available) and none of the non-offenders. Therefore, it can be tentatively concluded that the incidence of mental illness among intellectually disabled offenders is similar to that among offenders in general, and higher than that expected in the general population. However, it may not be would thus appear that substance abuse may be a greater risk factor for offending among the intellectually disabled than is mental illness.

In regard to the types of offences committed by intellectually disabled offenders, Murphy and colleagues (1995) surveyed 157 remanded men in an English prison. Before describing their results, one important caveat must be noted. Murphy and colleagues found that no one in their sample had an IQ lower than 70. As such, their intellectually disabled group consisted of offenders who reported that they had had “reading problems or intellectual difficulties (mental handicap) or had been to a special school” (p. 85), a prevalence rate of 21%. Thus, the sample comprises those with a low functioning or adaptive difficulty rather than intellectual disability per se. Nevertheless, comparing the offences of these remand prisoners with a group of non-intellectually disabled offenders (also on remand) provided interesting results. The highest prevalence offences for the intellectually disabled were burglary (23.8%), assault (14.3%), drug offences (14.3%), sexual offences, robbery, and criminal damage (each 9.5%). The prevalence was higher for the intellectually disabled group than the control group for all of these crimes except assault (c.f. 23.8%) and drug offences (c.f. 38.1%). These results are somewhat congruent with those suggested by Hodgins’ (1992) birth cohort study, in which one-third of men with intellectual disabilities had convictions for theft, one-sixth for violent offences, and one-quarter for traffic offences. Simpson and Hogg (2001a) posited that these congruent results suggest that Hodgins’ (1992) sample was also comprised largely of those with a borderline or mild intellectual disability.

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Whether or not the intellectually disabled are over-represented in the prison system is a secondary issue to the simple fact that they are a group of prisoners with specific needs, which require additional attention with respect to service provision. Any future research must include markers other than IQ alone (such as adaptive living skills) to produce a complete picture of those with intellectual deficits within the criminal justice system. However, a clear picture of the percentage of these prisoners with differing specific needs would help guide future service planning and development.

Brain Injury (Organic or Acquired)

There is a relative paucity of research regarding the prevalence of brain injury in the criminal justice system. This is most unfortunate given the important links between brain injury and aggression. The prevalence of head injuries in the general population has been estimated at approximately 2-5% (Kreutzer, Marwitz, & Witol, 1995; Sarapata, Herrmann, Johnson, & Aycock, 1998). Such estimates are thus comparable to those for many of the mental disorders described previously.

It is perhaps a well-known phenomenon that head injuries are associated with behavioural and emotional difficulties (Hawley & Maden, 2003). For example, Hawley (2001) investigated the sequelae of traumatic brain injury (TBI) in 563 (noncriminal) patients across 10 rehabilitation units in the United Kingdom. They reported that of the 139 patients who returned to driving a car, just under half had experienced difficulties with aggression, anger, and irritability since the injury. Difficulties with memory (64%), concentration and attention (28%) and vision (28%) were also quite prevalent. These findings are particularly significant because the head injuries sustained by the sub-sample of “current drivers” were reportedly less severe than those for patients who had driven pre-injury but not since. Therefore, high levels of aggression and anger were noticeable among the least severely injured (it should be noted, however, that using a sample of TBI patients in rehabilitation units is unlikely to include many with “minor” head injuries). Nevertheless, behavioural problems

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such as temper and abusiveness were reported significantly more often by ex-drivers than those whom had returned to driving (11.2% c.f. 2.2%). There were no significant differences in the frequency of irritability (18.6% c.f. 25.2%), anger management (19.4% c.f. 23%), aggression (7% c.f. 5.7%), or frustration (5.4% c.f. 4.3%). Thus, there is some evidence that the severity of brain injury is related to the frequency of some aggressive and antisocial behaviour, but not all such behaviours. Overall, brain injury *per se*, regardless of the extent of severity, would appear to contribute to subsequent aggression.

Additionally, post-injury aggressive behaviour has been known to increase over time, rather than decrease (Brooks, Campsie, Symington, Beattie, & McKinlay, 1986; Hall et al., 1994; Hawley & Madden, 2003). Brooks and colleagues reported that psychological and behavioural sequelae were the most persistent deficits of severe blunt head injury. They noted that the most frequently reported difficulty for relatives of the injured was ongoing personality change (60% at one year and 74% at five years post-injury). Threats of violence rose from 15% after one year to 54% after five years. Both bad temper and irritability were reported by 64% of relatives after five years.

The existing research on the prevalence of brain injury among offenders that does exist is often based on self-reports of offenders, but it suggests that the prevalence is notably high. For example, Sarapata and colleagues (1998) investigated the prevalence of head injuries among probationers in a prison diversion program in Indiana, USA. The sample comprised 52 non-violent offenders who participated in the program to avoid incarceration. 26 (50%) reported experiencing “any” TBI (i.e., severity unspecified) during their lifetime. These figures were in stark contrast to a control group of 18 college students, where only 1 (5%) reported a head injury.

Due to the small sample sizes, Sarapata and colleagues conducted a followup study to assess the potential replicability of their results. Consistent results were found for the new sample of probationers, with 17 (50%) reporting head injury. A community control group was

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utilised, of which 5 (15%) had sustained a head injury (a higher figure than that reported elsewhere; see Kreutzer et al., 1995). While the generalizability of these results is limited by the small samples, the figures suggest, perhaps unsurprisingly, that the prevalence of head injury in the general community may be somewhat higher than that among college students. Furthermore, the prevalence among non-violent criminals is substantially higher than that in either of these community samples.

Notable additional findings were gathered from interviews with a further group of 23 probationers (most of whom had participated in one of the previous studies). These revealed that 83% of those who reported a head injury noted that it occurred prior to their initial contact with police. Four (27%) had not been arrested until they were in their 30s or older (and after head injury). Therefore, it would appear that for many offenders, non-violent criminal behaviour might begin following a head injury, rather than the competing hypothesis that head injury is a result of engaging in crime or other risky activities.

In regard to the population within prison, Templer and colleagues (1992) surveyed the prevalence of head injury among a variety of samples, including 322 male inmates at a medium security prison in California, USA. They found that 35.7% of the inmates reported experiencing head injury that resulted in loss of consciousness prior to the age of 17. Strangely, however, the prevalence of head injury among male city college students was higher (41.4%) although this comprised a much smaller sample ($n = 58$). Notably, the prevalence of injuries with permanent effects was much higher among the inmates than the college men (47.3% c.f. 18.6%). Perhaps the most important finding from an epidemiological point of view was that the percentage of head injuries causing unconsciousness that received no subsequent medical attention was high across all samples (male and female city college students, university students, professional psychology students and staff, college football players, and male inmates). Among inmates, 27.8% and 31.2% of

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permanent effects injuries received no attention. As such, Templer and colleagues suggested that prevalence rates for TBI, which are often based on hospital records, should be “adjusted in an upward direction” (p. 199).

A higher prevalence of TBI was found by Barnfield and Leathem (1998) in a high-medium security prison in New Zealand. They reported that 86.4% of their sample of 118 men had experienced TBI during their lifetime, with 56.7% reporting more than one injury. These higher figures should be treated with some caution, however, as the nature and severity of TBI was unspecified.

Lower figures were found by Martell (1992) in a random sample of 50 maximum-security forensic psychiatric patients. In this sample, 22% reported TBI with unconsciousness at least once in their life, with at least 8% acquiring head injuries from child abuse. Additionally, Martell’s methodology comprised a review of hospital files as well as neurological examination, and thus they reported far more than just the prevalence of head injuries. Sixteen percent of cases had “organic diagnoses” such as dementia or organic delusional disorder. Forty-six percent of patients had schizophrenia and 12% had an affective disorder. A history of seizures was present in 8% of patients. Eighteen percent showed evidence of cognitive impairment, with 12% in the mentally retarded/intellectually disabled range (i.e., Full Scale IQ < 70) and 4% in the borderline range (Full Scale IQ from 70-79). In regard to neurological signs, a smaller sample of 40 patients consented to a full neurological examination. Seventy-five percent of these showed abnormal neurological findings, with 50% showing two or more soft signs, 65% showing hard signs, and 40% having both soft and hard neurological signs.¹² Based on a wide variety of indicators of abnormal brain functioning, Martell reported that 84% of patients had at least one indicator, with 64% having at least two. These findings indicate that the potential prevalence of brain damage among mentally disordered offenders is far higher than the already-high estimates of traumatic brain injury. In regard to the most extreme of incarcerated offenders, Lewis and colleagues (1986) investigated a variety of psychiatric and neurological characteristics

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among¹⁵ American inmates on death row whom had exhausted most of their appeals. They found that all reported experiencing a head injury during their life. Of these, 11 experienced loss of consciousness. Age of earliest head injury ranged from perinatal to 21 years, however almost all reported being injured at a very young age, with only one inmate describing their first head injury after the age of 13. While one may question the veracity of self-reports among this population, Lewis and colleagues reported corroboration in the form of “scars, indentation of the cranium, specific neurological deficits, hospital records, histories obtained from family members, and, in three cases, CAT scans” (p. 840). Nine inmates were also examined by a neurologist. Five inmates had “major neurological impairments, including seizures, paralysis, and cortical atrophy, and seven others had histories of blackouts, dizziness, a variety of psychomotor epileptic symptoms, and numerous minor neurological signs” (p. 840). Co-morbid psychiatric difficulties were also common, with six “found to be chronically psychotic” (p. 840), a further three suffering episodes of psychosis, and two more meeting criteria for bipolar disorder. Nine (60%) of the inmates had a history of childhood psychiatric disturbance necessitating consultation or “to preclude attendance in a normal classroom” (p. 840). Therefore, the work of Lewis and colleagues indicates that among the extreme end of the offending spectrum (i.e., death row), brain injury is perhaps universal and co-morbid psychiatric disturbance is very common.

Recent research by Slaughter, Fann, and Ehde (2003) investigated the prevalence of TBI among 69 inmates in a U.S. county jail. A large 87% reported lifetime TBI, with 29% in the moderate-to-severe range of injury. There were 36.2% who claimed any TBI in the past year, with 7.2% claiming moderate-to-severe TBI. Slaughter and colleagues (2003) also investigated the psychiatric and neuropsychological functioning of 25 TBI and 25 non-TBI inmates from

¹² Soft neurological signs are “abnormal clinical features that cannot be precisely localized or lateralized within the brain...such as motor overflow, graphesthesia, and stereognosis” (Martell, 1992, p. 881). Conversely, hard signs are those that can be localized in the brain.

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this sample. They found that the TBI group “had significantly worse anger and aggression scores and had a trend towards poorer cognitive test results and a higher prevalence of psychiatric disorders than the group without TBI in the prior year” (p. 731).

In another recent study from the United Kingdom, Hawley and Maden (2003) specifically investigated the prevalence and discharge difficulties of 113 mentally disordered offenders in medium secure units in the UK, who had been discharged to community settings. Five medium secure units were sampled, covering metropolitan, urban, and rural areas with a diverse mix of ethnicity, making this a particularly useful sample for further generalization of results (at least within the UK – although 82.3% of the sample were male). Analysis of medical records revealed that 47 (41.6%) had a previous head injury. Loss of consciousness was noted for 27 patients, with 13 requiring hospital care following TBI. Of greatest concern, perhaps, 17 of the patients had received their TBI prior to the age of 16 years. Somewhat contra-indicated was the finding that non-TBI patients were significantly more likely to have been originally admitted because of violent or aggressive behaviours, or for being non-compliant with treatment. Nevertheless, approximately half of the patients in each group had committed violent crimes.¹³

Of additional interest in the study by Hawley and Maden (2003), there were no significant differences in the psychiatric diagnoses of each group, with schizophrenia or psychosis being prevalent in 61.7% of the TBI group and 68.2% of the non-TBI group. When discharge decisions were analysed, more patients with TBI were considered to pose a “discharge difficulty,” particularly as they were significantly more likely to be considered a “risk to others” (31.1% c.f. 14.3% of non-TBI group). Unfortunately, the study did not follow-up these

¹³ Violent index offences were actually more prevalent among the TBI group (57.4%) than the non-TBI group (47%) although this difference was not statistically significant. Nevertheless, the above figures indicate that the reason for admission to the medium secure unit was not necessarily because of aggression in the community.

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individuals to determine subsequent violence or offending in the community, so these clinical risk assessments cannot be validated.

As can be readily appreciated from this review, the extant research suggests that the prevalence of brain injury among prisoners, and mentally disordered offenders, is incredibly high. Notwithstanding the obvious methodological limitations of relying upon offenders' self-reports, the figures seem almost comparable to those mentioned earlier for substance use disorders. The results of the study by Hawley and Maden (2003) suggest that clinicians perceive these individuals to be at greater risk to others at discharge. Therefore, more research is required that is perhaps more methodologically sophisticated, so that the true prevalence of brain injury, and its utility as a risk factor for violent re-offending, can be more readily understood among offenders. The existing knowledge indicates that anger and aggression may be more prevalent among those with brain injury. Further, the work of Martell (1992) suggests that brain impairment among mentally disordered offenders is perhaps far more prevalent than the already considerable figures reported for brain injury. Thus, it is important that early identification and screening for TBI and other indicators of brain dysfunction be considered in correctional settings (Nicholls, Roesch, Ogloff, Olley & Hemphill, 2003; Slaughter et al., 2003). This is important both to identify and prevent potentially aggressive offenders from acting violently while incarcerated or in the community. Also, it is important to identify those with TBI so that such individuals, if more aggressive, are referred at an early stage for anger management and other interventions for their aggressive behaviour, that are tailored for their likely cognitive difficulties.

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Fetal Alcohol Syndrome/Fetal Alcohol Effects

Fetal Alcohol Syndrome (FAS), Fetal Alcohol Effects (FAE), and other alcohol related birth defects refer to a group of physical and mental birth defects resulting from a woman drinking alcohol during pregnancy. As described by Clarren and Astley (1997),

FAS is a permanent birth defect syndrome caused by maternal consumption of alcohol during pregnancy. The definition of the fetal alcohol syndrome has changed little since the late 1970's when the condition was first described and refined. The condition has been broadly characterized by pre- and/or postnatal growth deficiency, a characteristic set of minor facial anomalies, and evidence of prenatal alteration in brain function such as microcephaly from birth, neurologic problems without postnatal antecedents, or complex patterns of functional disability.

Although FAS was not identified until the early 1970s, FAS is the leading known cause of mental retardation. FAE is similar to FAS, but without the physical symptoms. While it was originally believed that FAS was less serious than FAE, this is no longer the case. The neurological abnormalities, delays in development, intellectual impairments and learning/behaviour disabilities that are associated with FAE are similar, and sometimes more severe, than with FAS (Clarren & Astley, 1997; Fast, Conry, & Loock, 1999).

In FAS/FAE, the primary birth defect involves damage in the central nervous system (CNS) that occurs in utero. The disabilities directly associated to the primary CNS damage are known as primary disabilities. In one of the largest and best controlled studies of FAS/FAE, Streissguth, Barr, Kogan, and Bookstein (1996) examined the primary disabilities associated with FAS/FAE in a sample of almost 500 clients at the Fetal Alcohol and Drug Unit, Department of Psychiatry and Behavioral Sciences, University of Washington School of Medicine. Almost 40% (n=178) of patients were diagnosed with FAS/FAE. Of those, the

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average IQ was 79 (almost two standard deviations below the mean). Similarly, the average reading, spelling, and arithmetic standard scores were 78, 75, and 70 respectively. Finally, the average Adaptive Behavior score was 61 (more than two standard deviations below the mean).

While the capacities of people with FAE (60%, n=295) were somewhat higher than those with FAS, the overall scores were still lower than average. Perhaps most interesting and most important was the fact that while the average IQ score fell at the low end of the normal range (M=90), the Adaptive Behavior scores were not significantly higher for those with FAE (M=67) than they were for those with FAS (M=61). Similarly, while somewhat higher for patients with FAE than FAS, the academic achievement scores were still low (e.g., reading (M=84), spelling (M=81), and arithmetic (M=76)).

Taken together, the above results clearly show that people with FAS have intellectual, academic, and adaptive or functional living capacities far lower than the average. The differences between those with FAE and those with FAS paint an apparently contradictory picture. Of particular importance is the fact that the mean IQ scores for those with FAE were within the normal range, while those for people with FAS were nearing the borderline range. Similarly, people with FAE do not have the physical characteristics of FAS. By their outward appearance and intellectual functioning, then, many people with FAE would not appear different. Their apparent normality would mask the academic and adaptive/functional difficulties that they experience.

Although the primary disabilities associated with FAS/FAE are obviously limiting, more recent work has begun to focus on the secondary disabilities that may be related to FAS/FAE. Where primary disabilities are directly related to the CNS damage found with FAS/FAE, secondary disabilities are believed to arise when the prenatal CNS damage from FAS/FAE is not detected and children are raised with the primary disabilities of FAS/FAE untreated.

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In their impressive study, Streissguth and her colleagues (1996; see also Streissguth & Kanter, 1997) systematically examined the range and nature of secondary disabilities found in their sample of over 400 patients with FAS/FAE. They developed the Life History Interview (LHI) to obtain information across eight main domains of life experiences (i.e., mental health problems, disrupted school experience, trouble with the law, confinement, inappropriate sexual behaviour, alcohol/drug problems, dependent living, and problems with employment). Not surprisingly, the prevalence of secondary disabilities among the sample was very high. Only 8% of adults in the sample were found to live independently without employment difficulties. Some highlights from the findings are as follows: 90% of participants suffered mental health problems, 80% of clients were living in a dependent situation, 80% had problems with employment, 60% had been suspended or expelled from school or dropped out of school, 60% of clients had been charged or convicted of a crime, 50% of the sample had been confined either as an inpatient for mental health or substance abuse treatment or incarcerated for committing a crime, 50% exhibited inappropriate sexual behaviour, and 30% of clients had alcohol and/or drug problems.

FAS/FAE and Criminality. The findings of studies of people with FAS indicate that they may be an increased risk for maladaptive behaviour that may well lead to criminal offences (Famy, Streissguth, & Unis, 1998; Steinhausen, Willms, & Spohr, 1993; Streissguth, Ladue, & Randeis, 1998). In the study discussed above, Streissguth and her colleagues (1996) found that fully 60% (n=240/400) of clients had been charged or convicted of a crime. Despite that finding, surprisingly little research has been conducted to assess the prevalence of FAS/FAE among jailinmates. In fact, there have been only two studies in Canada to identify the prevalence of FAS/FAE among offenders (one with adolescents and one with adults). One complication, of course, is that it is very difficult to accurately assess the prevalence of FAS/FAE in adults, particularly as they begin to age. In one of the two published studies on the matter, Fast, Conry, and Looch (1999) investigated the rate of FAS/FAE among young offenders in British Columbia who were remanded for a forensic mental health assessment.

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II. Prevalence of Mental Disorder in the Criminal Justice System

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Fast and her colleagues assessed all youth who were remanded to the Inpatient Assessment Unit at the Youth Forensic Services in Burnaby, British Columbia between July 1, 1995 and June 30, 1996. They found that 23.3% of the 287 youth remanded during the study period had an alcohol-related diagnosis. Most of the youth (n=64, 22.3%) were diagnosed with FAE. Three youth (1%) were diagnosed with FAE.

In regard to adult offenders, Burd, Selfridge, Klug, and Juelson (2003) surveyed the Canadian corrections systems in all ten provinces and three territories to identify demographic information relevant to FAS. Eleven provinces or territories agreed to take part, with a combined population of 148,797 offenders, 91.2% of whom were male.¹⁴ As may be expected given the previous discussions of substance use in this report, the prevalence rate for substance abuse was 50.5%. Burd and colleagues estimated, assuming that the prevalence of substance abuse substance abusers. They added that many would be “in the 15-45 year old age group and would be high risk to have affected children in the future” (p. 3). They also noted that 37 of the females were pregnant. Thirteen people were identified as having FAS, a prevalence rate of 0.0087%. Nevertheless, it was estimated that this figure may be as high as 2.6% in some provinces or territories. However, the accuracy of these measures cannot be accepted without considerable caution, as only three of the 11 provinces or territories “reported access having access to diagnostic services for FAS” (p. 1), while none had a screening program for FAS. FAE was not a focus of the report; however, it is perhaps likely that in the absence of appropriate screening, and given the high amount of substance abuse, the prevalence of FAE is likely to be much higher than the low figures for FAS. Such an assumption is consistent with the research on adolescents discussed above by Fast et al., (1999).

¹⁴ Of relevance to this report, 13,166 of the Burd et al. (2003) sample were from British Columbia corrections.

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II. Prevalence of Mental Disorder in the Criminal Justice System

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Summary

The preceding review indicates that the prevalence rates of a wide variety of “mental disorders” are disproportionately high in the criminal justice system. It has been found that rates of the major mental illnesses, such as schizophrenia and depression, are many times higher than that expected in the general community. It would also appear that the number of offenders with mental illnesses has also increased substantially during the process of deinstitutionalization (Ogloff, 2002). It must be noted, though, that the increase in the number of mentally ill people in the criminal justice system may be as much or more a product of the increase in the use of substances by people with mental illnesses as it is due to the deinstitutionalization (2003; Wallace, Mullen, & Burgess, in press). Substance use disorders are among the most prevalent mental disorders in the criminal justice system. Indeed, it can be stated without exaggeration that substance use problems are endemic among prisoners, and dual diagnosis (comorbid major mental disorder and substance abuse) is the rule rather than the exception for mentally disordered offenders. Indeed, in a comprehensive assessment of all patients in a secure forensic hospital in Melbourne, Australia, all of the offenders who were transferred to hospital for treatment under the Mental Health Act had a substance abuse or dependence disorder. A requirement of the Mental Health Act is that to be transferred, the offenders must have a major mental illness (Ogloff et al., 2003). Nevertheless, it appears that formal diagnoses of substance abuse or dependence are perhaps overlooked by mental health professionals working in correctional or forensic psychiatric settings. In addition, the prevalence of fetal alcohol syndrome or fetal alcohol effects among offenders is difficult to ascertain due to a surprising dearth of research. Nevertheless, the high prevalence of substance use among offenders suggests that the rates may be higher than envisaged for the community.

Research regarding the prevalence of developmental disabilities (IQ below 70) and low functioning (IQ above 70 with limited adaptive abilities) in offenders is riddled with methodological problems. Many research studies do not use valid IQ measures to identify

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II. Prevalence of Mental Disorder in the Criminal Justice System

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those with an intellectual disability. Nevertheless, it would appear that the rate of intellectual disability is substantially higher than that in the general population in the community. Co-morbid psychiatric disturbances are also very high, and of a similar prevalence to that found among offenders in general.

However, such psychiatric difficulties may not be particularly higher than those among the non-offending intellectually disabled, with the notable exception of substance abuse problems.

There is minimal research in regard to brain injury among offenders; however, the literature indicates that head injuries are clearly related to subsequent aggressive behaviour. The limited research available suggests that the prevalence of head injuries is higher than in the community for not only violent criminals (where head injuries are astonishingly commonplace) but also among non-violent criminals. Despite the high prevalence of head injuries experienced by offenders, the prevalence of abnormal neurological features is even higher, suggesting that various forms of brain injury are widely prevalent in the criminal justice system. Brain damaged individuals also appear to be perceived by clinicians as more dangerous at discharge.

Taken together, the preceding review indicates that most forms of mental illness and associated difficulties are highly prevalent within the criminal justice system, and that research in some areas is particularly lacking. This report will now turn toward an examination of risk and protective factors among the population of mentally disordered offenders.



III. Risk and Protective Factors for Mentally Disordered Offenders: Pre- and Post-Contact with the Criminal Justice System

The preceding review indicates that the wide spectrum of mental disorders is considerably over-represented in the criminal justice system. Some apparent controversy exists in the literature concerning whether mental illness per se is a risk factor for offending or violence. Despite considerable evidence that major mental illness, in particular schizophrenia, is a risk factor for violence, this still remains a topic of some controversy (see Quinsey, Harris, Rice, & Cormier, 1998 for the opposing view). The controversy seems to stem, at least in part, from the comparison groups being considered in the research. In research that compares reoffending or violence rates for offenders with mental illness and offenders who are not mentally ill, the research usually shows that those with mental illnesses have lower re-offence rates (e.g., Porporino & Motiuk, 1993; Quinsey et al., 1998). However, when offence rates or violence between non-mentally ill people in the community (i.e., non-offenders) are compared with people with mental illnesses, the research has typically shown that those with mental illnesses have higher offence rates and higher rates of violence (e.g., Ball, Young, Dotson, Brothers, & Robbins, 1994; Binder & McNeil, 1990; Klassen & O'Connor, 1988a, 1989; McNeil & Binder, 1994a & b; McNeil, Binder, & Greenfield, 1988; Swanson, 1994; Wallace et al., 2003). When stripping away the controversy, what these research findings show is that both mental illness and other risk factors must be taken into account when considering the relative level of risk for offending or violence among mentally disordered offending. While the treatment of the mental disorder alone is necessary, it is certainly by no means sufficient to reduce to a satisfactory level the mentally disordered offender's level of risk for offending or being violent in the future.

While major mental illness is a risk factor for criminal violence (see Douglas & Hart, 1996; Webster, Douglas, Eaves, & Hart, 1997; Wallace et al., in press), the fact remains that most people with mental illness are not offenders. Thus, there exists a plethora of research regarding risk factors for offending, among not only the mentally disordered population, but non-mentally disordered offenders as well.

Risk factors for offending and violence can be broken into the two broad themes of *static* and *dynamic* factors. Dynamic factors are so termed because they are potentially changeable

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III. Risk and Protective Factors for Mentally Disordered Offenders: Pre- and Post-Contact with the Criminal Justice System

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aspects of the individual, and thus provide foci for future treatment and risk management. In the risk literature dynamic factors are often referred to as *criminogenic needs*. These will be discussed in some detail below. Our focus in this section will be on the “static” risk factors or “historical” risk markers, so termed because they are essentially immutable or unchangeable. These provide invaluable information regarding the historical precursors to offending. Furthermore, much of the literature considers historical factors to be paramount in risk assessment (e.g., Quinsey et al., 1998; Webster, Harris, Rice, Cormier, & Quinsey, 1994) or that they should at least “anchor” such assessments (e.g., Webster et al., 1997).

Particularly useful information regarding risk factors for mentally disordered offenders was published by Bonta, Law, and Hanson (1998). They conducted a meta-analysis of the predictors for both general and violent recidivism in 64 unique samples of mentally disordered offenders. The most common diagnoses were schizophrenia (70%) and antisocial personality disorder (15%). The mean base rates were 45.8% for general recidivism and 24.5% for violent recidivism. Bonta and colleagues reported that the best static predictors of general recidivism were juvenile delinquency, adult criminal history, non-violent criminal history, institutional adjustment, family problems, employment problems, and hospital admissions (see the criminogenic needs section below for the best dynamic predictors). Similar results were found for the prediction of violent recidivism, especially juvenile delinquency and adult criminal history.

Results such as those by Bonta and colleagues (1998) reflect the old axiom that past behaviour is the best predictor of future behaviour (Thorndike, 1911; see also Monahan, 1981, for discussion relating to violence prediction). Contemporary risk assessment tools invariably reflect this finding. For example, the Violence Risk Appraisal Guide (VRAG; Quinsey et al., 1998; Webster et al., 1994), an instrument comprised entirely of static factors, includes age at index offence (negatively weighted) and elementary school maladjustment. Similarly, the Historical-Clinical-Risk-20 Risk Assessment Scheme

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III. Risk and Protective Factors for Mentally Disordered Offenders: Pre- and Post-Contact with the Criminal Justice System

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(HCR-20; Webster et al., 1997) incorporates previous violence, young age at first violent incident, and early maladjustment.

With criminal history and juvenile delinquency playing such a large role as static risk factors, it is perhaps worth noting “the median age at onset for the first psychotic episode of schizophrenia is in the early to mid-20s for men and in the late 20s for women” (American Psychiatric Association, 2000, p. 308). Therefore, one of the best predictors of offending among mentally disordered offenders is their offending behaviour prior to being mentally ill. Wallace and colleagues (in press) also found that most people with schizophrenia who offended did so prior to their initial contact with the mental health system. Finally, Arsenault and colleagues (2003) found that early problem behaviour was just as predictive of future offending for a population of adult offenders without mental illnesses as it was for those with schizophrenia. These findings suggest that while mental illness is clearly a risk factor for offending (see below), it likely plays an interactive role with other factors.¹⁵ Mullen (1997) noted that a history of violence when symptom-free can be a risk factor for the mentally ill because “illness adds disabilities but, sadly, rarely removes preexisting difficulties and disadvantages” (p. 168).

Personality factors, particularly antisocial personality disorder and psychopathy, have clearly been implicated as potent risk factors in an abundance of research that is beyond the scope of this manuscript (see Douglas, Ogloff, Nicholls, & Grant, 1999; Hart, 1998a, 1998b; Hart, Hare, & Forth, 1994; Hemphill & Hare, 1999; Quinsey et al., 1998). However, despite its clear association with violence (when present), antisocial personality and psychopathy do not totally account for offending among the mentally disordered, as they are conditions that are present in a small proportion of mentally disordered offenders.

¹⁵ This certainly does not obviate the possibility of particular psychotic symptoms, such as command hallucinations, acting independently as potent risk factors for offending (see the “criminogenic needs” section below).

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III. Risk and Protective Factors for Mentally Disordered Offenders: Pre- and Post-Contact with the Criminal Justice System

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Nevertheless, Mullen (1997) noted that personality factors should also be considered as a possible consequence of mental illness as “in schizophrenia there is all too often an erosion of the personality, which may lead to the emergence of feckless and apparently callous behaviours” (p. 167).

Other static risk factors include prior supervision failure, employment problems, and relationship instability/marital status (negatively weighted; see Bonta et al., 1998; Quinsey et al., 1998; Webster et al., 1997). Somewhat counterintuitively, the Bonta and colleagues’ (1998) meta-analysis indicated that increased levels of violence in the index offence were negatively associated with general recidivism and not associated at all with violent recidivism (see also Quinsey et al., 1998; Webster et al., 1994). The exception was if weapons were used during the crime. This result appears counterintuitive; however, it is understandable in a statistical sense when one acknowledges the fact that the more serious the offending behaviour, the more rare it is. For example, serial killings are very rare. Most people who commit murders do not do so again (and no multiple murderers appear to have been included in the Bonta et al. meta-analysis). Nevertheless, one would not release a known multiple murderer as a low-risk offender on the basis of these results.¹⁶

As far as risk factors for offending post-contact with the criminal justice system, several situational-type variables are described in the literature. As these are often “dynamic” (i.e., readily changeable), they can be considered criminogenic needs (and should be read in conjunction with that section below). The HCR-20 violence risk assessment scheme (Webster et al., 1997) describes five “future” risk factors: a lack of feasible plans, exposure to destabilizers, lack of personal support, non-compliance with remediation attempts, and stress.

¹⁶ See Hart (1998a) for a discussion of the results obtained when applying actuarial risk assessments to serial murderers, including the infamous Paul Bernardo.

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III Risk and Protective Factors for Mentally Disordered Offenders: Pre- and Post-Contact with the Criminal Justice System

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Amidst the considerable zeal to identify risk factors, the literature would seem to be somewhat lacking in serious consideration of protective factors that reduce the likelihood of re-offending. Nevertheless, risk assessment, by definition, includes the identification of those that are not only at high risk, but also those at low risk of offending. A low risk person generally has a lack of identifiable risk factors. Many of these are only risk factors in the way that they are weighted. Merely reversing these risk factors makes them “protective” factors. For example, a childhood comprising a good education, minimal difficulties at home, no delinquency, and lots of good friends clearly comprises a number of protective elements for a risk assessment. A person with one offence under the influence of a psychotic episode at the age of 35 clearly poses less risk than one who has been offending for a solid decade. Furthermore, the HCR-20’s future risk factors are merely reversed protective factors: feasible future plans, minimal exposure to destabilizing influences, lots of personal support, willingness to be compliant with remediation attempts, and avoiding stress, can all be seen as protective factors.

Criminogenic Needs (i.e., Risk Factors Pertaining to Ongoing Offending) for MDOs

What are Criminogenic Needs?

The literature regarding risk factors for ongoing offending is voluminous. As noted earlier, risk factors can be generally divided into static and dynamic factors. Static risk factors are generally historical markers that cannot be changed (e.g., criminal history, age at first offence). These were discussed in some detail earlier. Conversely, dynamic risk factors are potentially changeable aspects of the individual or their situation (e.g., accommodation, employment, education, antisocial attitudes). Both static and dynamic factors have been found to possess predictive validity (Gendreau, Little, & Goggin, 1996; Ogloff & Davis, in press). The term “criminogenic needs” comes from the risk-needs-responsivity model of offender rehabilitation by Andrews and Bonta (2003). They state that in order to reduce recidivism, treatment must focus on the “criminogenic needs” of the individual. It is recognised that while all humans have a range of needs, some are related to offending

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III. Risk and Protective Factors for Mentally Disordered Offenders: Pre- and Post-Contact with the Criminal Justice System

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(i.e., criminogenic needs) and some are not (i.e., non-criminogenic needs). Following from social learning theory, it is posited that when needs are met in an anti-social manner or through anti-social means, the person's criminality develops and is reinforced. For example, if an individual's need for acceptance is met by associating with peers who are antisocial, the person is more likely to become antisocial, thereby leading to increased acceptance by their peers. Andrews and Bonta (2003) consider such needs to be "criminogenic." Criminogenic needs are the subset of dynamic (changeable) risk factors that have been found to relate directly to a risk for reoffending. They are therefore modifiable characteristics, whereby a change in the risk factor equates with a change in the risk of re-offending (Simourd & Hoge, 2000).

To assess criminogenic needs in the individual, Andrews and Bonta (1995) developed the *Level of Service Inventory, Revised (LSI-R)*, which uses *static* and *dynamic* traits/*criminogenic needs* as the basis for offender assessment. The LSI-R consists of 54-items "grouped into the following domains or sub-components (with the number of items in parentheses): Criminal History (10); Education/Employment (10); Financial (2); Family/Marital (4); Accommodation (3); Companions (5); Alcohol/Drug Problems (9); Emotional/Personal (5); and Attitudes/Orientation (4)" (Andrews & Bonta, 1995, p. 2).

Many of the items across the sub-component areas assess criminogenic needs (i.e., dynamic risk factors). By focussing resources on changing the criminogenic needs ("treatment targets"), the chances of an offender succeeding in the community can be increased, and the probability of offending decreased. In a recent meta-analysis, the LSI-R produced an average effect size of 0.39 for recidivism and 0.28 for violent recidivism (Gendreau, Goggin, & Smith, 2002).

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Criminogenic Needs of Mentally Disordered Offenders

As the LSI-R was developed for use with the wider offender population, it could be argued that the areas of criminogenic need for non-mentally disordered addressed in the aforementioned meta-analysis by Bonta and colleagues (1998), which investigated the prediction of both general criminality and violent recidivism across 64 unique studies. Bonta and colleagues concluded “the major predictors of recidivism were the same for mentally disordered offenders as for non-disordered offenders” (p. 123). They further argued that “criminal history variables were the best predictors, and clinical variables showed the smallest effect sizes” (p. 123). Indeed, the best dynamic predictors (i.e., criminogenic needs) of both general and violent recidivism were poor living arrangements, antisocial personality, substance abuse, and employment problems. However, the role played by so-called “clinical” variables should not be disregarded. The “clinical” variables utilised were somewhat limited, comprising information such as hospital admissions, intelligence, mood disorder, and psychosis. Psychosis was a particularly poor predictor of both general recidivism (standardized $r = -.05$ to $.00$) and violent recidivism (standardized $r = -.01$). However, these results are perhaps not too surprising when one notes that 70% of participants in the meta-analysis had a diagnosis of schizophrenia, thereby making “psychosis” incredibly common. It may be argued that psychosis in general is not a particularly useful predictor, but particular *types* of psychotic symptoms may be, and that these are obscured by the use of a generic “psychosis” variable. This may explain the results of Bonta and colleagues as well as the frequent research finding that people with schizophrenia do pose a higher risk for violence than the general population, particularly when comorbid substance abuse is present (e.g., Eronen, Tiihonen, & Hakola, 1996; Humphreys, Johnstone, MacMillan, & Taylor, 1992; Mullen, Burgess, Wallace, Palmer, Ruschena, 2000; Swanson, Holzer, Ganju, & Jono, R., 1990; Tiihonen, Isohanni, Rasanen, Koiranen, & Moring, 1997; Wallace, Mullen, & Burgess, in press; Wallace, Mullen, Burgess, Palmer, Ruschena, & Brown, 1998; Wessely, Castle, & Douglas, 1994).

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III. Risk and Protective Factors for Mentally Disordered Offenders: Pre- and Post-Contact with the Criminal Justice System

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Therefore, the criminogenic needs of offenders in general do appear to translate to the mentally disordered offender population. However, the research findings regarding violence and schizophrenia suggest that it would be wise to also consider schizophrenia as a criminogenic need, particularly when in combination with substance abuse. Just what aspects of psychosis relate to an increased risk of offending are somewhat unclear at present. Several authors have posited that “threat/control override (TCO)” delusions (i.e., beliefs that people want to harm the individual or that outside forces are controlling them) explain the increased violence of those with schizophrenia (Link, Andrews, & Cullen, 1992; Link & Stueve, 1994; Link, Monahan, Stueve, & Cullen, 1999). However, Monahan and colleagues (2001) found a negative relationship between TCO delusions and violence in a civil psychiatric sample. Clinical wisdom has no doubt fuelled suggestions that command hallucinations can result in violence (e.g., McNeil, 1994; McNeil, Eisner, & Binder, 2000). Indeed, Monahan and colleagues (2001) found that hallucinations that commanded violence were related to increased violence in civil psychiatric patients. Still other authors have suggested morbid jealousy (Mullen, 1997), Capgras delusions (Buchanan, 1999), delusions evoking fear or provoking indignation (Mullen, 2001), and ideas of influence (Mullen, 2001) as possible risk factors within psychosis. The search for further “psychotic criminogenic needs” is clearly a question for future research.

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III. Risk and Protective Factors for Mentally Disordered Offenders: Pre- and Post-Contact with the Criminal Justice System

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Risk Factors for the Development of Mental Disorder

The preceding section has covered, in some detail, the static and dynamic risk factors associated with ongoing offending and violence in mentally disordered offenders. It is perhaps prudent at this stage to also briefly examine the potential risk factors for developing a mental disorder. A useful overview of this topic was provided by Singleton, Meltzer, Gatward, Coid, & Deasy (1998) who conducted a study of psychiatric morbidity among prisoners in England and Wales. They examined a range of information regarding life events and suggested that some may be considered risk factors for the development of a mental illness. They wisely noted that these were not necessarily the causes of mental illness, adding that without information regarding the onset of illness in their sample, some factors may be the result of a mental disorder. Nevertheless, they divided these risk factors into five main areas: childhood factors, living arrangements, stressful life events, victimization during prison, and intellectual functioning.

Singleton and colleagues (1998) used multiple logistic regression, a form of multivariate statistical analysis, to examine the individual contribution of each of their potential risk factors for particular mental disorders. In regard to psychotic disorders, attendance at a special school had an odds ratio of 1.65 with subsequent psychosis. Those living alone had twice the odds of psychosis than couples with children. Being unemployed also increased the odds of a psychotic disorder (odds ratio = 1.71). In regard to stressful life events, sexual abuse (thrice the odds), experiencing bullying (twice the odds), homelessness, and the stillbirth of a child were all independently associated with psychotic disorders. Finally, lower scores on a screening test of intellectual functioning called the “Quick Test” increased the odds of psychosis.

In regard to “neurotic” disorders, Singleton and colleagues (1998) reported no association with childhood circumstances or living arrangements. Stressful life events were significantly related to neurosis, such as sexual abuse, having a spouse die, or having a stressful event in the previous six months. Nevertheless, the biggest association with neurotic psychopathology

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III. Risk and Protective Factors for Mentally Disordered Offenders: Pre- and Post-Contact with the Criminal Justice System

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was the number of stressful events experienced. Experiencing 3-4 stressful events had an odds ratio of 2.35, with the odds increasing with each event experienced. Prisoners who reported “11 or more events had an adjusted odds ratio of 18.27” (p. 279). Unsurprisingly, victimization in prison was also related to neurosis, more so for violent threats than stolen property.

These “risk factors” provide useful information about some of the life events experienced by mentally disordered offenders in the British prison system. It is clear however, as acknowledged by Singleton and colleagues (1998), that many of these areas can be envisaged as the results of mental illness. For example, unemployment and homelessness are perhaps classic indications of the social withdrawal characteristic of many people with schizophrenia and other psychotic disorders. Nevertheless, perhaps the real value of these results is that they underscore the substantial difficulties that mentally disordered offenders have experienced in their lives, and thus highlight the need for appropriate mental health care within correctional services.



IV. Service Utilisation Patterns for Mentally Disordered Offenders

Prior to Incarceration

In the excellent and comprehensive New Zealand study reviewed above that was conducted by Brinded and colleagues (2001; Simpson, Brinded, Laidlaw, Fairley, & Malcolm, 1999), 58.2% of female inmates, 56.4% of remanded males, and 68.8% of sentenced males reported that they had received no treatment prior to entering prison. Most who had received treatment had attended a primary and community agency (21.6%, 20.4%, and 14.8% respectively). Prior specialist outpatient (9.9%, 7.8%, and 6.4%) and inpatient treatment usage (9.9%, 15.3%, 9.9%) was quite a bit lower (Simpson et al., 1999).

Singleton and colleagues (1998), in the aforementioned study of psychiatric morbidity among prisoners in England and Wales, found somewhat similar levels of prior “help for mental or emotional problems in the year before coming to prison” (p. 228). The fact that they looked at the year prior to prison should caution any direct comparison with the results of Simpson and colleagues (1999) and Brinded and colleagues (2001). Women were twice as likely to have received help (40% of both remand and sentenced prisoners). Males were considerably lower (21% remand and 18% sentenced). The most common professional help was provided by GPs or family doctors (approximately two-thirds). Singleton and colleagues noted, perhaps unsurprisingly, that those with a mental disorder had higher rates of service usage prior to prison. This was particularly so for those with a psychotic disorder (65% male remand, 58% male sentenced, 79% female remand, 83% female sentenced). Despite the higher rates of those receiving treatment than the non-mentally disordered, the large number of people with psychotic illnesses who were not being treated prior to committing offences is a somewhat alarming statistic.

In Victoria, Australia, a stratified sample of approximately 500 offenders were surveyed concerning their mental health history and assessed to determine mental health problems and illnesses (Ogloff et al., in prep). The offenders were asked if they had ever been assessed or received treatment by a psychiatrist or a doctor for an emotional or mental health problem. Overall, about half (51.4%) of prisoners responded in the affirmative. Of those prisoners who had received treatment or assessment for an emotional or mental health problem,

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IV. Service Utilisation Patterns for Mentally Disordered Offenders

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about a third had been admitted to a psychiatric unit or ward in a hospital as a result. This suggests that around one in six or seven prisoners would have experienced admission to a psychiatric unit or ward. The similarity in percentage across groups is rather striking.

During Incarceration

In regard to those receiving treatment while in prison, Brinded and colleagues (2001) reported varied results for different categories of mental disorder. Those with a lifetime diagnosis of bipolar disorder were most likely to be receiving treatment in the prison (80.8%) followed by obsessive-compulsive disorder (55.3%), major depression (46.4%), and post-traumatic stress disorder (41.4%). Of concern, only 37% of those with schizophrenia, or a related disorder, were in receipt of treatment at the time, although Brinded and colleagues acknowledged that the researchers did not ask prisoners if they had refused treatment that had been offered. Therefore, these figures may exaggerate the concern somewhat. Nevertheless, these do appear to be of some concern and indicate that the treatment opportunities for prisoners with major mental illnesses may be less than optimal.

In the England and Wales prisoner study, Singleton and colleagues (1998) reported that less people were receiving help for mental health problems in prison than they were outside. Nevertheless, the pattern of service usage remained relatively similar, with two-thirds receiving help for mental health problems from the prison doctor. The results showed that more women than men were utilising services, and violent offenders more so than property or drug offenders. Offenders with psychotic disorders were most likely to receive some form of help for emotional problems, however, the numbers were still quite low (47% male remand; 47% male sentenced; 50% female remand; 69% female sentenced). It should be noted that these figures include all forms of helping professional, from the prison doctor (the most utilised) to the chaplain or probation officer. When analyses were restricted to psychiatric health professionals the level of service usage among those with psychosis dropped even further (25% male remand, 35% male sentenced; 38% female remand; 59% female sentenced). Therefore, while not quite at the levels reported by Brinded and colleagues

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IV. Service Utilisation Patterns for Mentally Disordered Offenders

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(2001) for New Zealand, the figures are alarmingly low, further suggesting that treatment opportunities for prisoners with major mental illnesses may be less than optimal.

In the Australian study, Ogloff et al. (in prep.) found that 15% of prisoners surveyed were receiving psychiatric medication while incarcerated. The figure was higher for female prisoners (25.3%) than for male prisoners (11.8%). The most common form of psychiatric medication that prisoners reported taking was antidepressants. Apart from medication, around 40% of respondents reported having received support, counselling or treatment for a mental health problem from a psychologist while incarcerated.

At the other end of the extreme, there is often a small group of offenders with an array of disorders or disabilities that demand a grossly disproportionate portion of the resources. While relatively little research has been conducted with this group, preliminary research in Victoria, Australia suggests that 250 people with “multiple and complex needs” (i.e., mental illness, substance abuse, brain injury, intellectual disability, functional impairment) absorb 56 million dollars in resources annually (Department of Human Services, 2003). The vast majority of these people are either in the criminal justice system or have a history of such contact. Such a profile of cases led to the development of a unique legislative initiative to attempt to deal more effectively and more efficiently with this group (Human Services (Complex Needs) Act, 2003).

Taken together, existing information suggests that in general a relatively poor job is done adequately identifying the needs of mentally disordered offenders prior to the time they enter the criminal justice system (indeed, it has been said, perhaps facetiously, that any need for a forensic psychiatric system arises from a failure of the mainstream mental health system). Then, due to the multiple and complex needs of a small but significant number of very difficult offenders, the fractionalization of the service and justice systems, and other factors, the costs and inefficiencies spiral almost out of control.



V. Intervention Strategies

Given the high prevalence of mental disorder, and their related problems, among people who come into contact with the criminal justice system, one would expect that the literature would be replete with examples of intervention strategies that have been employed with these groups. The reality is that there is an absolute dearth of published work with the various groups of people that comprise the “mentally-disordered” population in the criminal justice system. In this section, we shall review intervention strategies reported at the pre-trial, post-incarceration, and community-reintegration stages.

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V. Intervention Strategies

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Pre-trial Diversions

The term diversion has many applications in criminology and mental health. For example, already incarcerated offenders, or offenders awaiting sentence, may be said to be diverted from prison through various means (probation, parole, electronic monitoring, and house arrest). Additionally, prisoners may be deemed mentally unfit or otherwise requiring mental health care and may be diverted to a psychiatric facility. Pre-trial diversions are used as an alternative to formally processing people charged with committing offences in the criminal justice system. Others have discussed the problems with specifically defining and discussing diversion (Woods & Mason, 1996). Rather than proceeding to trial in the usual manner, pre-trial diversion involves re-directing mentally ill offenders from the courts to other agencies for disposition. It was hoped that diversion programs for mentally ill patients who commit offences would result in keeping the diverted accused out of the criminal justice system, making them less susceptible to committing other offences (see Austin & Krisberg, 1981).

Though the goal of diversion is to keep mentally disordered people out of jail, diversion can occur at any stage in the criminal justice system. Although little systematic research evidence has been conducted, anecdotally it is known that a considerable amount of diversion occurs informally when police decide not to arrest mentally ill people. The police can simply decide not to arrest the person and leave the person without further action. Alternatively, the police can take the person to a psychiatric unit or psychiatric hospital for treatment rather than arresting them. By now several jurisdictions have clinical staff in courts and police lock-ups whose job it is to screen potentially mentally ill people. In addition to identifying the need for further assessment, informal or formal diversion may exist when appropriate services can be identified for the accused.

More recently (as discussed later in this report) some formal mental health courts or drug courts have been developed to, among other things, divert mentally disordered accused into community-based treatment program after arrest and charge (Greenberg & Nielsen, 1997).

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Finally, as will be discussed below, some diversion programs exist that occur post-incarceration, in which mentally disordered offenders are diverted from traditional criminal justice dispositions and prison discharge arrangements (i.e., to assist with transition back into community) (Buchan, 1993).

The movement toward diversion in the criminal justice system began in the United States in the 1960s and in Canada in the 1970s as a result of the increasing number of minor cases being processed by the courts. Also instrumental in the genesis of pre-trial diversion programs was an increasing dissatisfaction with the criminal justice system coupled with the emerging rehabilitative philosophy (Lawrence, 1991). Initially, diversion occurred when prosecutors and courts made informal arrangements with offenders and community agencies in an effort to rehabilitate offenders in order to prevent them from recidivating. Diversion for people with mental illnesses has gained momentum in the last 10 years.

The rationale behind diversion developed out of the criticisms of the criminal justice system in the late 1960s and early 1970s. As such, diversion seeks to provide a more humane alternative to formal court proceedings and dispositions. As Roesch and Corrado (1983) maintain, underlying any diversion program is the assumption that formal contact with the criminal justice system has inherently negative effects. Another assumption is that offenders need treatment or some other form of intervention to transform them into stable, law-abiding, community members (Lawrence, 1991; Roesch & Corrado, 1983). Finally, it is assumed that pre-trial diversion is a more effective means of reintegrating offenders into the community than incarceration (Curran, 1988). All of these rationales are perhaps more likely for mentally ill offenders as compared to other offender groups.

Five specific goals of pre-trial diversion programs flow from the rationale behind pre-trial diversion, and the assumptions that underlie it:

1. to reduce recidivism, thereby lowering the crime rate
(Gottheil & Ghosh, 1983),

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2. to decongest the criminal justice system, thereby improving costeffectiveness and allowing prosecutors and judges to attend to more serious offenders who pose greater threats to the community (Gottheil & Ghosh, 1983),
3. to provide necessary services (e.g., counselling, job training) to individuals to better prepare them for the demands of society (Covey & Menard, 1984),
4. to reduce the coercive, punitive social control of the criminal justice system by removing many less-serious offenders from the system (Lipsey, Cordray, & Berger, 1981), and
5. to avoid the negative stigma and labelling (as a "criminal") that occurs in the formal criminal justice system (Decker, 1985; see also, Palmer, 1979).

Specific pre-trial diversion programs are quite variable in nature; however, the diversion programs referred to here are those stemming from the rehabilitation movement of the 1960s in corrections, diversion programs involved psychological treatment or intervention (e.g., counselling, psychiatric care) for persons charged with offences. Jail diversion programs have been in operation for nearly 30 years, and although programs often attract support, very few have been subject to systematic evaluation and outcome studies (Steadman et al., 1999; Borum, 1999). This is certainly true for diversion programs for mentally ill accused.

Diversion of mentally ill offenders is a necessary element of the criminal justice system as the majority of these individuals – like all other offenders – commit only low-level, non-violent offences (Borum, 1999; Sutton-Mbiowu, 2001). In addition, the summary offences committed by these individuals are may be related to the symptoms of their mental illness and/or substance abuse rather than simply criminogenic needs (Bonta, Law, & Hanson, 1998; Monahan et al., 2001; Wertheimer, 2000). While a positive concept, diversion may have relatively little benefit to mentally ill offenders – let alone those with dual diagnosis or any of the other disorders reviewed in this document – due to the lack of appropriate community-based services generally available. Indeed for diversion to work, those

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being diverted must have something to be diverted to. As Wertheimer (2000) makes clear, to make diversion for mentally ill people work effectively, an integrated services system must exist and be well defined, mechanisms and resources must exist to provide the necessary services required by the candidate being diverted.

In addition to the relative lack of available services and integrated systems for mentally disordered people, the recidivism rates for many, in particular the mentally ill, are high. In a Catch-22, the high recidivism rates for mentally disordered offenders appear to be due, at least in part, to inadequate or non-existent community services (Sutton-Mbiowu, 2001). There has been a paucity of research studies seeking to evaluate long-term outcomes of diversion programs. Greenberg and Nielsen (1997) have noted that future research needs to be promoted to ensure evidenced-based best practice methods for efficient and effective court diversion programs (Greenberg & Nielsen, 1997; Neilsen, 1997).

Steadman et al. (1995) provided a description of the general composition of jail diversion programs. In particular, he and his colleagues visited 18 jail diversion programs in the United States, 12 of which were identified as being highly effective by the local jail administrator. They identified six characteristics, described below, that they found to be associated with the success of diversion programs for mentally disordered offenders (Steadman et al., 1995, pp.1620-21; see also Arons, 2000; Nuffield, 1997):

1. Close cooperation and communication between the criminal justice and mental health system at the local level (i.e., the jail) is required. They also noted that in effective programs, representatives of the judiciary, prosecution, defence, community corrections, and the jail services supervisor (or equivalent), are closely involved with the program.
2. In successful programs, regular meetings are held between representatives of the mental health, justice, and social service system both on the front line and at the administrative level.

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3. While cooperation among the three systems is critical, it is also important that a single person be designated with responsibility for establishing liaison among the three systems.
4. Strong leadership must be available to turn informal cooperation between the systems into formalized agreements that ensure that the agencies work together for the purposes of diversion.
5. To be effective, mentally disordered offenders must be assessed as early as possible in the process – an initial medical assessment within one day of arrest and a more in-depth mental health assessment within two days was identified as being most effective.
6. Effective programs also had case management at all stages from intake through release, with a mechanism to ensure that there is linkage to community-based services. Case management should include monitoring intake, court liaison, monitoring of service delivery, client advocacy and providing direct services to clients.

Diversion of the mentally ill from the criminal justice system can occur at all stages of contact with CJS: pre-booking (crisis intervention etc), mental health courts (divert into community based treatment program after arrest and charge), and postincarceration (transition back into community) (Buchan, 1993). Unfortunately, contrary to their purpose, many mental health diversion programs often result in a lengthier and more intensive intervention than that which results from more traditional criminal justice processes (Nuffield, 1997, pp.1). Certainly, anecdotal evidence suggests that people who are mentally ill, or who otherwise have associated problems, are sometimes sentenced to periods of incarceration of community sentences so that they may receive “help.” While generally beneficent in purpose, widening the criminal justice net to include those who are mentally disordered to provide treatment or services that are otherwise not available identifies systemic problems with extant services.

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In a review of diversion programs for adults, Nuffield (1997) found that diversion programs have not generally been found to reduce justice system costs. By contrast a Mental Health Deputy Program in Texas, involving special mental health deputies on call twenty-four hours per day, seven days per week, was found to have reduced psychiatric hospitalisations by 52% and saved the county an estimated \$2 million in correctional costs in 1995 (Borum, 1999, pp.10). How the cost-estimates were arrived at was not indicated.

Although very little relevant research had been conducted, the results reported by Nuffield (1997) indicated that diversion programs generally affect a very small proportion of defendants, and some studies have actually found that diverted offenders experience the same number of court appearances over time as controls. However, as Nuffield noted, the lack of significant findings may be due to intensive case monitoring of diverted persons who are monitored much more closely than would typically be the case.

Reflecting on the lack of appropriate outcome studies, Arons (2000) noted that “although jail diversion programs appear to have widespread support, few outcome studies have systematically examined the effectiveness of diversion programs using client outcome data. The literature offers little information on whether current programs benefit the targeted recipients in terms of symptom stabilization, reduced jail time, higher level community adjustment, and stable participation in community mental health services” (p. 3).

Pre-trial diversion programs may be further divided into pre-charge or prebooking diversion (i.e., prior to formally charging the individual) and post-charge or post-booking diversion (i.e., after one is arrested). The police officer is the principle decision maker at this juncture. Three major categories of pre-booking diversion programs: police-based specialised police response, police-based specialised mental health response and mental health based specialised response. Postbooking diversion programs occur after arrest and formal charges, although the precise point of diversion is subject to alteration (Borum, 1999, p.1).

Although most diversion from the criminal justice system with mentally ill people is conducted by the police either on an informal or formal basis, there has been surprisingly

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little attention paid to formally researching such initiatives. To our knowledge, only three studies exist internationally of pre-charge diversion programs – two in the United States and one in the United Kingdom. These will be presented and reviewed below.

Lamb and colleagues (Lamb, Shaner, Elliott, DeCuir, & Foltz, 1995) described a program in Los Angeles County, California. The diversion program involved identifying and diverting people with mental illnesses from being arrested and processed in the criminal justice system. Emergency outreach teams that included police and mental health professionals setting out to assess and make appropriate disposition decisions for cases of people undergoing a psychiatric crisis in the community that involved a threat of violence or actual violence. The modest review consisted of a six-month follow-up of all (N = 85) people who had been referred to the program. Of those diverted, 22% were arrested during the follow-up and 42% had been re-hospitalised during the same period. Only two of the clients were jailed during the follow-up period.

James (2000) presented a report on a diversion scheme operating from three police stations in London. The research report provided information on the first 31 months that the program operated. Two community psychiatric nurses (CPN) who were part of the local community mental health and social service teams worked in the program. The CPNs also had access to local forensic services for advice and support. The project was overseen by a steering committee with representation from the police, forensic mental health services, and from local health and social services. The goal of the project was to identify and divert from the criminal justice system minor offenders with mental illnesses.

Some 1% of all custody cases at the three police stations were assessed. Results showed that the CPNs were successful in identifying people with serious mental illnesses who would otherwise have fallen through the assessment/diversion net. The 712 cases seen represented a group of mentally ill people who were in the need of services. Patients in the police station

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diversion program were also compared to those in a local court diversion program. While both groups were ill, the police station diversion group had committed less serious offences. No data were available for long-term follow-up to review re-arrest or hospitalization rates.

Borum, Deane, Steadman and colleagues (1998) studied a pre-booking diversion in two sites (i.e., Community Service Officer Program, Alabama and the Crisis Intervention Team, Tennessee). The programs were compared to a traditional mental health emergency team, also located in Tennessee. The purpose of all of the programs was to identify people with mental illnesses and to divert them from going to jail. Although there was considerable variability among programs, across all sites, only 6.7% of ‘mental disturbance’ calls resulted in arrest. In half of the cases, mentally ill patients were either transported or referred for treatment. In one-third of cases, onsite crisis support intervention was undertaken by mental health professionals. Unfortunately, no long-term follow-up data were available.

In the only published Canadian study on pre-trial diversion of offenders with mental illness, Swaminath, Mendonca, Vidal, & Chapman (2002) found that the pretrial diversion of offenders with mental illnesses is feasible in both urban and rural settings. In the article, the authors studied the outcomes of two pre-trial diversion programs in Ontario – one urban and the other rural. For the purposes of the programs,

“diversion is defined as a pretrial procedure where crown counsel uses his or her discretion, on a case-by-case basis, not to prosecute an accused. Instead, the accused is referred to a person, service, or hospital with the intent of having the accused embark on a treatment program to address his or her particular treatment needs” (Ministry of Attorney General, 1995).

The programs were developed by a joint committee comprised of crown counsel, directors of community services, directors of psychiatric hospital outreach services, and the regional forensic service. Police were provided with training on mental illness and mentally ill offenders.

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The results of the evaluation showed that a limited number of diversions were made to mental health services and that the recidivism rate was very low for clients who were diverted (2% to 3%). Clients who were diverted were characterised as having a prior history of psychiatric treatment as compared to those who were not diverted – and who were more likely to have had a criminal history. Clients in the urban centre (London, Ontario) were suffering from psychosis and mood disorders and had been charged with committing minor offences. In the rural setting (Elgin County), diversion was also offered to people accused of serious offences. No longterm follow-up data are available.

Although other examples of diversion programs are available, they similarly are generally descriptive in nature and do not provide useful long-term follow-up information. Taken together, the findings available tend to show that it is possible to identify and divert accused with mental illnesses. More research is required to determine whether and to what extent those individuals who are diverted have a more positive long-term outcome than if they had been processed in the criminal justice system according to the status quo.

Post-Incarceration Programs

By contrast to the diversion programs, post-incarceration programs have as their aim the reintegration of mentally ill offenders into the community following discharge incarceration. Given the high rate of mental illness among prisoners, and the fact that many prisoners receive mental health services while incarcerated, there is often a need to ensure that prisoners receive mental health services in the community upon release (Roskes, Feldman, Arrington, & Leisher, 1999). Effective services are also required for people with mental illnesses who are on parole (Lurigio, 2001). It has been observed that

“inadequate transition planning puts people with co-occurring disorders who entered the jail in a state of crisis back on the streets in the middle of the same crisis. The outcomes of inadequate transition planning include the compromise of public safety, an increased incidence of psychiatric symptoms, hospitalization, relapse to substance abuse, suicide, homelessness, and rearrest” (Osher, Steadman, & Barr, 2002, p. 3).

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Perhaps surprisingly, given the fact that one would think that transition planning would be widespread and common, there are simply “no outcome studies to guide evidence-based transition planning practices” (Osher et al., 2002, p. 3). Drawing from extant research on jail mental health services and related information, Osher and colleagues (2002) reported on a model developed to facilitate the transition of dually-diagnosed prisoners (i.e., those with a mental illness and cooccurring substance abuse or dependence disorder) back to the community. The model is appropriate for prisoners with mental illnesses who do not have a cooccurring substance use disorder. The APIC model is an acronym based on the components of the model: Assess, Plan, Identify, and Coordinate.

While still in prison, the APIC model requires that the inmate be assessed to identify his or her clinical and social needs as well as any public safety risks they represent. Once assessed, the inmate requires planning to address the treatment needs identified in the assessment. The next step involves the identification of programs in the jail or community that are required to meet the inmate’s post-release needs. Finally, once the inmate is released, coordination is required to ensure that the transition plan is implemented and that the inmates obtain the required programs and services in the community.

Despite the lack of general evaluative research, we focus here on two separate studies that highlight the importance of case management of mentally ill offenders released from prison and the need for intensive case management of particularly needy or difficult patients. The first study investigated the utility of a case management program for mentally ill offenders released from a jail in Toledo, Ohio (Ventura, Cassel, Jacoby, & Huang, 1998).

The aim of the case management model employed focused on linking the client to appropriate services in the community to both foster independence and to reduce the likelihood that the client re-offends or requires psychiatric hospitalization. The program entails a team of case managers from the community mental health centres commencing discharge/transitional planning with mentally ill inmates prior to their discharge. Beyond just contact with the

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clients, the case managers also educate those in the criminal justice system about the clients' needs and disabilities.

The evaluation of the program involved describing and following all jail inmates who were part of the program for a one-year period from 1989 to 1990. Inmates were followed for three years. Just over 200 inmates received case management services in jail. The median amount of time spent with inmates was 40 minutes. During the follow-up period, only 29% (75) of clients received any community case management. This was a function of both clients' receptiveness to services (receipt of case management services was voluntary) and the program offering services. Not surprisingly, the percentage of clients receiving casemanagement services declined over time from 29% in the first year to 15% in the second year, and 10% in the third year. Perhaps most reassuring, though, is that "jail inmates with the most severe mental disorders – those most in need of mental health treatment – were more likely to receive community case management, and to receive more of it" (p. 1337).

Clients who received case management services in jail were just as likely as those who did not receive such services to be arrested for any offence (72% for each group) and for a violent offence (65% and 67% respectively). Those clients who received case management in the community, however, were significantly less likely than those who received no such services to be arrested for any offence (60% versus 77%) or a violent offence (52% versus 71%).

Wilson, Tien and Eaves (1995) reported on the Inter-Ministerial Project (IMP) that operates in Vancouver. The program is an assertive case management program "designed to assist incarcerated, multi-problem offenders who have psychiatric, behavioural, and/or psychosocial problems to reintegrate successfully into the community" (p. 62). The IMP program was established in 1987 jointly by the BC Forensic Psychiatric Services Commission, the BC Corrections Branch, and the Greater Vancouver Mental Health Service. The program employs IMP workers who assist clients to obtain existing services in the community, including financial assistance, housing, administration of medication, attendance at therapy, and maintenance of proper nutrition and hygiene. The program operates on an assertive outreach

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model in which IMP workers adopt a hands-on approach in dealing with clients. They literally go to the clients' homes, and even find them on the streets, to provide them with services.

Wilson and colleagues (1995) conducted a long-term follow up of IMP clients and compared them to people in a comparison group. Clients were initially assessed in the correctional centre and were tracked and assessed upon release for a period of up to three years. The characteristics of IMP clients did not differ significantly from those offenders in the control group (i.e., demographic characteristics, substance abuse, and mental illness). During the follow-up, IMP clients spent fewer days in correctional institutions at 6, 12 and 18 month follow-up period. They also spent significantly more days in the community before coming into contact with CJS.

Court Programs

A variety of court programs exist that serve to reduce the number of mentally ill people going to prison, particularly when they have not committed serious offences. Some of these programs are essentially court diversion programs where courts have in place systems to identify and divert mentally ill people from the criminal justice system. In addition, courts have implemented programs in which mental health staff are employed or housed in the courts to liaison with services required by mentally ill defendants. Finally, there has been a movement to develop specialized courts to deal with mentally ill defendants. Each of these approaches will be described and discussed below.

Court Diversion

Like the other diversion programs discussed above, that occur at different junctures in the criminal justice system, programs have been implemented in some courts that serve to specifically identify and divert mentally ill offenders from the criminal justice system. Simply stated "court diversion means diversion from the criminal justice system towards treatment in mental health facilities" (Greenberg & Nielsen, 2002). Further, while court diversion can occur at any stage of the proceedings before the court, Greenberg and Nielsen report that most often diversion occurs prior to conviction.

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While many of these programs exist, very few have been evaluated. Greenberg and Neilsen (2002) provided a description of a court diversion program established in New South Wales, Australia for people with mental health problems and disorders. While they have not evaluated the program, the service operates in a manner that is similar to those available in other jurisdictions. This program, the Statewide Community and Court Liaison Service (SCCS), was established in 2001 as a new initiative. The SCCS operates as a pre-trial service that is available to people who are charged with minor offences who are appearing before the local Magistrate's Courts. The program operates in approximately 12 courts across New South Wales. The SCCS is operated by the Corrections Health Service and is managed by a clinical director, who is a psychiatrist.

In the SCCS, defendants who are suspected of having a severe mental health problem are referred to the program. Referrals are routinely made by police, solicitors, and corrections officers. The psychiatric assessment is conducted by either a psychiatrist or a psychiatric nurse. Where the person is found to have a major mental illness, the SCCS negotiates appropriate care plans with mental health services as an alternative to incarceration. If such services are not available or cannot be properly arranged, the court liaison officer works with corrections staff to help ensure that appropriate care will be provided through the correctional system.

In one evaluation of court diversion programs that was conducted in Manchester in the United Kingdom, Shaw, Tomenson, Creed, and Perry (2001) conducted a follow-up of all patients diverted by a court diversion program. The diversion scheme evaluated was established in 1993 and is staffed by psychiatrists and forensic psychiatric registrars (i.e., residents). Referrals are made by the courts and police. The evaluation consisted of reviewing the files for all referrals made to the diversion program between October 1993 and October 1995 ($N = 235$). Of all referrals, approximately one-quarter were found to have schizophrenia and a similar percentage had a primary diagnosis of substance abuse or dependence. Those cases for which the court psychiatrists recommended psychiatric

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assessment and/or treatment were followed up. During the follow-up, 34 defendants were admitted to inpatient care (25 from the court). At the 12 month follow-up period, 20 were still outpatient services after the court hearing, five of whom were admitted to hospital. Taken together, of the 39 patients who received inpatient or outpatient care, 15 were not receiving psychiatric care after 12 months. Of those 15, four patients had been discharged by psychiatric services, one absconded from hospital, and the other 10 failed to attend follow-up appointments. The authors reviewed the factors that were found to be associated with an increased likelihood of continuing to receive services. The only significant factor identified was that “those who were in contact with services at the time of the offence were more likely to remain in contact at 12 months” (Shaw et al., 2001, p. 208).

Clearly the above results are mixed. Furthermore, the authors reported that the results do not compare favourably with available data from mainstream psychiatric services. The main shortcoming of the service was the relative lack of follow-up services. As such, the authors suggested that it would be helpful perhaps for some outreach service to be provided by the courts to help ensure that follow-up services are obtained.

Liaison Programs

Although similar to court diversion programs, court liaison programs for defendants with mental illness essentially act as service brokers to identify and provide appropriate mental health services. In such programs, while diversion from the criminal justice system to the mental health system may occur, the focus of the program is on the identification of mentally ill accused and the provision of appropriate mental health services to them. There has been a trend internationally to develop court-based liaison programs for individuals with a mental disorder such programs have been adequately evaluated.

In a 1997 paper, Steadman and Veysey (1997) provide a brief description of three court liaison programs in the United States (i.e., Hampshire County, Massachusetts; Pinellas County, Florida; Shelby County, Tennessee) although no outcome or evaluative data are available. Although the programs vary in nature and direction, all strive to identify accused who

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require mental health services. The Massachusetts program is run by the State's Forensic Mental Health service. Services available include conducting forensic evaluations, counselling inmates, and providing psychiatric medication to prisoners on a voluntary basis.

The liaison program in Florida is operated under an agreement between the Mental Health Board and members of the legal profession (i.e., prosecutor, defence counsel, judges). Essentially the court liaison worker identifies defendants with serious mental illnesses who have been charged with committing misdemeanours. Rather than being processed in the criminal justice system, a civil commitment hearing is held to determine whether the defendant can be involuntarily committed to psychiatric treatment. If the person is involuntarily committed to hospital, the criminal charges are dropped and the individual is processed in the mental health system in accordance with the state's mental health act.

In yet another form of court liaison program, the Tennessee service involves a multi-agency arrangement with partner agencies agreeing to employ staff that act as liaison with all other agencies. When mentally disordered accused are identified, the liaison staff work together to identify appropriate services and to move up court dates to assist with the appropriate disposition of these cases. The liaison workers also meet regularly with members of the judiciary to inform them of the nature of services that are available to people with mental illnesses coming into contact with the criminal justice system.

As the above examples show, there is a large variety of services that fit within the designation of "court liaison programs." Sadly, more work is required providing systematic evaluations of such initiatives.

Brinded, Malcolm, Fairley, and Doyle (1996) described a promising court liaison system that was established in the capital city of New Zealand, Wellington, in 1992. While they provided in-depth descriptive data, that certainly provided strong support for the need of the program, no outcome data were available. Given the relative similarity in legal and mental health systems – not to mention population size – between New Zealand and British

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Columbia, a description of the program is warranted here. The court liaison service is a product of the nation-wide development of forensic mental health services. In addition to the court liaison program in Wellington, consistent programs are available in other centres in New Zealand.

The program provides a court liaison nurse who is available every day that the court is in session. The nurse receives referrals from the police to see defendants who they believe may be mentally ill. Referrals are also received from counsel and from the court itself. The nurse prepares a brief report that recommends appropriate action by the court. For example, where appropriate, the nurse may recommend that the person be remanded for a psychiatric assessment. Alternatively, recommendations may be made for the person to receive services in the community by the forensic mental health service or by other mental health services as appropriate.

As described by the authors, “the main advantages [of the program] appear to be that:

1. An experienced mental health professional is present throughout court sitting time, being available to police, lawyers and the judge should there be questions regarding the mental state of persons appearing in the court;
2. The mental health professional (usually a registered psychiatric nurse) is part of the overall forensic psychiatry service and is therefore able to access all aspects of the service rapidly if required. Psychiatrists are not used in the initial assessment process;
3. The availability of such a person facilitates the request for an initial assessment of a person before the court without necessarily having to arrange for a remand period;
4. The court is able to use a member of the forensic service to assist in the deliberations over whether a person should be remanded for a psychiatric assessment [under the criminal justice act] and if so where the assessment is best performed;

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5. When remand reports are not requested, the court liaison worker is available to assist mentally ill persons before the court to access other aspects of the mental health system;
6. Where examination by a psychiatrist is considered urgent, this can be arranged rapidly through the court liaison worker” (Brinded et al., 1996, p. 169).

With respect to descriptive data from the Wellington program, 93.8% of assessments resulted in referrals for ongoing treatment. Of those, only 19.3% of individuals were actually diverted away from the criminal justice system and into the mental health system. Nonetheless, the majority of people were seen to have received appropriate mental health services (Brinded et al., 1996, pp.171-175).

Mental Health Courts/Drug Courts

The advent of mental health courts and other specialty courts, including drug courts, has been one of the most dramatic developments in the area of mentally disordered offenders in recent times. The first mental health court was established in Los Angeles some 30 years ago. Since that time, mental health courts have been established in several jurisdictions around the United States and in other countries, including Canada (i.e., Toronto). Although perceived by some as a panacea, the reality is that relatively little is still known about the efficacy of the alternative court programs. Indeed, early descriptions and studies of mental health courts discuss the problems with comparison groups and note the complexity of identifying and measuring outcomes for the program (McGaha, Boothroyd, Poythress, Petrila, & Ort, 2002). Moreover, despite their promise, authors have pointed out that many important questions – including their efficacy, however measured – are still unknown (Steadman, Davidson, & Brown, 2001).

In January 2003, the Judge David L. Bazelon Center for Mental Health Law in Washington, DC – a respected agency – published a commentary on the role of mental health courts in system reform. Based on a review of information relating to 20 mental health courts and an

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intensive study of 12 additional mental health courts, the Bazelon Center drew the following conclusions:

- “There is no single ‘model’ of a mental health court; each court operates under its own, mostly unwritten, rules and procedures and has its own way of addressing service issues.
- Many of the existing courts include practices that are unnecessarily burdensome to defendants, that make it harder for them to reintegrate into the community and that may compromise their legal rights.
- Few of the courts are part of any comprehensive plan to address the underlying failure of the service system to reach and address effectively the needs of people at risk of arrest. Substantial numbers of mental health court participants are people who should not have been arrested in the first place, although some courts are beginning to accept defendants who are more appropriate for such a program – e.g., people who have committed serious felonies.
- Addressing the issues raised by the escalating number of contacts between individuals with serious mental illnesses and the criminal justice system requires a broad and comprehensive approach that should include mechanisms giving all police, prosecutors and judges effective options for alternatives to incarceration. These options should be available to offenders with mental illnesses just as they are available to all other offenders, with reasonable accommodations provided as necessary to ensure fair access and improve opportunities for their successful completion when deciding these cases.
- No program of alternative disposition – whether prosecutor-driven, courtbased, within law enforcement or jail-based – can be effective unless the essential services and supports that individual with serious mental illnesses need to live in the community are available.

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Moreover, it is critical that these services exist in the community for everyone, not just offenders, and that supports not be withdrawn from others in need and merely redirected to those who have come into contact with the criminal justice system. Additionally, specialized resources and programs are needed to reduce the risk of arrest for people with mental illnesses and the recidivism of those who have come into contact with the criminal justice system” (pp. 3-4).

While lengthy, the above points are an accurate reflection of the situation and available data. It should be noted with some degree of caution, though, that the perspective of the Bazelon Center is perhaps more rights-based than is the case in many jurisdictions.

In a recent paper, Cosden, Ellens, Schnell, Yasmini-Diouf, and Wolfe (2003) presented an evaluation of a mental health court in Santa Barbara, California that has an assertive community treatment model of case management. Unique among descriptions and evaluations of mental health courts, the authors employed an experimental design to evaluate the program. Offenders were referred to the program either pre-plea or post-adjudication. All offenders who were admitted to the jail, were diagnosed as having a major mental illness by a psychologist or psychiatrist, and who met inclusion criteria (i.e., pre-plea ➔ no prior offences involving serious acts of violence; post-plea ➔ no longer posing a threat of danger to others, even if they have a prior history of violence) were eligible for admission to the program.

The program was developed by a committee including people from the criminal justice system (judges, district attorney, public defender, probation officer, and sheriff) and chief administrators from alcohol, drug, and mental health services. After entering the program, decisions about their disposition were made by the treatment team that met before each court session to review the client’s progress. The judge also spoke with clients. The community treatment component involved assigning a case manager within the intensive care team. Case managers worked closely with clients to assist them in obtaining services (i.e., treatment, housing, vocational training, substance abuse treatment, group skills

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training, and transportation to services). Services were provided for up to 18 months since the program was funded by a grant. If needed, clients could be transferred to long-term mental health treatment in the county mental health service. The mental health court group were compared to a treatment as usual group that participated in traditional adversarial legal proceedings and received typical mental health care in the county mental health services. Traditional clients were also eligible for housing vouchers.

There were 235 participants who were randomly assigned to either the mental health court or treatment as usual group (137 in the mental health court and 98 who were treated as usual). A twelve month follow-up was conducted on 150 available participants (85 mental health court and 65 control group). Most participants who were unavailable (59) could not be located for follow-up, two died (1 in each group), and 24 had not reached the 12 month follow-up period at the time of the follow-up. Given the large number of unavailable participants, statistical comparisons were made to determine whether any systematic differences existed on available measures for those clients who were follow-up and those who were not. No significant differences were revealed.

Results revealed that clients in both groups improved in life satisfaction, psychological distress, independent functioning, and drug problems. Participants in the treatment court showed significantly better improvement in both the development of independent living skills and drug problems. Most participants in both groups had no new arrests or convictions. Participants in both groups were equally as likely to spend time in jail during the follow-up period; however, their reasons for arrests differed. Significantly more (60%) of participants in the treatment as usual group were convicted of a new crime than those in the mental health court group (47%). Just over half of clients in the mental health court group (51%) were convicted of a probation violation compared to 35% of clients in the treatment as usual group. This indicates that a larger number of treatment as usual clients were convicted of more serious charges than was the case for clients in the mental health court program. Also clients in the mental health court group were more likely to be charged for an

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offence during the follow-up but less likely to be convicted. Clients in the treatment as usual group were more likely to have committed, and to have been convicted of, new crimes than those clients in the mental health court program.

Taken together, this study found that in a carefully controlled experimental study, the clients in the mental health court program with assertive community treatment showed greater improvement than clients who received treatment as usual. In addition, the re-offence rate was lower for clients in the mental health court program. Interestingly, while it is impossible to determine the extent to which the assertive community treatment component added value above the mental health court component alone, the findings are consistent with research on assertive community treatment programs alone (Clarke et al., 2000; Hamernik & Pakenham, 1999).

Although somewhat outside the scope of this review, it is important to provide a brief overview of research on drug courts. Drug courts have proliferated, particularly in the United States where, as of 2001, there were some 688 courts operating. The first drug court was established in Dade County, Florida in 1989. The growth in drug courts in the United States roughly parallels the so-called war on drugs. Drug courts respond to the need for rehabilitation and treatment services for offenders with substance abuse or dependence disorders.

In an excellent review of research on drug courts, Belenko (2001) provided a critical review of 37 published and unpublished evaluations of drug courts that were produced from 1999 to 2001. The highlights of the review are excerpted below:

- “drug courts have achieved considerable local support and have provided intensive, long-term treatment services to offenders with long histories of drug use and criminal justice contacts, previous treatment failures, and high rates of health and social problems.

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- Program completion rates are generally consistent with previous findings, with an average of 47% of participants graduating.
- Drug use and criminal activity are relatively reduced while participants are in the program
- Less clear are the long-term post-program impacts of drug courts on recidivism and other outcomes...four of the six studies that examined one-year post-program recidivism found a reduction, but the size of the reduction varied across courts.
- None of the studies reported post-program drug use, employment, or other outcomes for all drug court participants, so these impacts remain largely unknown.
- Three studies used random assignment to drug court or control conditions and all found a reduction in recidivism for the drug court participants; however, none of these studies distinguished between inprogram and post-program rearrests, and sample sizes were small in two of the studies.
- Several studies that examined program costs found that average perclient drug court costs are lower than standard processing, primarily due to reduced incarceration. However, straight diversion may be less expensive and intrusive for low-risk offenders and achieve similar outcomes as drug courts.
- This review suggests a continuing need for better precision in describing data sources, measures, and time frames for data collection. Data quality and information systems problems continue to affect the quality and utility of drug court evaluations.
- The findings from several evaluations that drug court clients have high rates

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of mental health problems suggest that programs need to consider inclusion of services for co-occurring disorders” (Belenko, 2001, pp. 1-3).

Overall, both mental health courts and drug courts provide some positive outcomes, yet relatively little good outcome data are available even now that the number of programs has increased. Moreover, virtually no data exist to compare mental health courts to other alternative service systems. Finally, the available information on mental health treatment and mental health courts suggests the importance of assertive case management of accused who participate in mental health court systems.

Staff Education and Professional Training

A major shortcoming in the mentally disordered offender field is the general lack of systematic staff education and professional training available. Correctional officers have been found to view mentally disordered offenders as being more difficult to work with than other inmates, and feel the need for training in identifying and managing them (Kropp, Cox, Roesch, & Eaves, 1989). Dvoskin and Spiers (2004) have recently noted that many roles and duties that have traditionally been reserved for clinicians can and should be performed by correctional staff as well as mental health professionals. Certainly, as the number of inmates with significant mental health problems and other mental disorders is so large, it is critical that frontline correctional staff and community corrections staff be well informed and skilled in the area of communicating with inmates. The only successful correctional mental health programs are those that have collaboration between correctional staff and mental health staff.

Lovell and Rhodes (1997) present information about a mobile consultation project that occurred in the Washington Department of Corrections that made use of interdisciplinary teams, drawn from across institutions. Fifteen mobile teams were established that consisted of four mental health professionals, two nurses, three supervisors (two from mental health and one from corrections), and six front-line custody staff members. Each team consisted of four people from the pool. Teams obtained referrals from partner institutions and provided

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consultation as appropriate. Such a model provides an excellent example of the benefits that can be realised from true interdisciplinary collaboration.

There is a general perception shared by jail health care administrators and jail mental health professionals that the number of persons with mental illness entering jails has increased over the years. Sixty-nine percent of jail administrators responding to a survey prepared by Torrey (1992) reported that the number of persons with mental illness who were entering jail had increased over the course of 10 years. Moreover, a number of commentators claim that the proportion of mentally disordered jail inmates is increasing (Gove, 1982; Johnson, 1983; Morgan, 1982; Teplin, 1983; Torrey, 1992). Upon reviewing the relevant literature over a decade ago, Teplin (1983) concluded, "research literature, albeit methodologically flawed, offers at least modest support for the contention that the mentally ill are (now) being processed through the criminal justice system" (p. 54).

The issue of inmates with mental disorders is a major concern among jail administrators and mental health professionals familiar with jails. Gibbs (1983) surveyed 39 jail managers and social service providers working in jails around the nation and found that mentally disordered inmates were their second most significant concern, jail-overcrowding being the first. Jail administrators believe that persons with mental illness to be at significantly increased risk for suicide, violence, and abuse at the hands of others inmates than inmates without mental disorder. Jail administrators also see inmates with mental illness as requiring more attention from jail staff and much more likely to disrupt jail activities than their non-disordered counterparts.

Those correctional officers who are in frequent contact with inmates should be trained to recognize signs of mental disorder (Kropp & Cox, 1989). Correctional officers should be in a position to detect early signs of mental health problems, to assist the offender with his or her immediate concerns, and to refer these problems to mental health professionals as appropriate. Because training correctional officers to detect symptoms of mental disorder is

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inexpensive ongoing screening and evaluation is feasible in all jails (Dvoskin & Steadman, 1989). However, once officials detect mental illness, mental health professionals must be available for further assessment and treatment.

In addition to corrections officers, all other staff, particularly chaplains, teachers, and others should be drawn upon to assist with monitoring inmates who have been identified with mental disorders. Similarly, police officers require similar training and experience. Moreover, they also should help with the identification of inmates who have not yet been identified as being mentally ill or disordered, but who may develop problems during incarceration.

Economic Analyses

The purpose of cost-effectiveness analysis and cost-benefit analysis is to develop an evaluative framework to ensure the most efficient delivery of human services. The purpose of efficiency will be to deliver human services to the largest number of people in need, given the resource constraints. Where possible, information from such analyses is provided in a monetised form. However qualitative information may also be usefully provided to assist in the evaluation process.

Generally speaking, few scholarly articles exist to evaluate the cost-benefit analysis and cost-effective analysis of therapeutic programs in prisons and, to our knowledge, no such published articles exist examining the economic analysis of services for mentally disordered offenders. With respect to correctional intervention generally, Welsh and Farrington (2002) reported on the methodology for developing economic analyses in crime prevention. They were only able to identify seven published studies that have presented information on monetary costs and benefits in criminal justice programs and, again, not one in the area of services for mentally disordered offenders. Welsh and Farrington (2002) found that “for the seven studies, the benefit-cost ratios ranged from a low of 1.13 to a high of 7.14, meaning that, for each dollar spent on the programs, the public (government/taxpayer and crime victim) received in return \$1.13 to \$7.14 in various savings” (p. 127).

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In one study missed in the review by Welsh and Farrington (2002), Griffith, Hiller, Knight and Simpson (1999) conducted a cost-effective analysis of prisonbased treatment and after-care, controlling for the risk of recidivism. The findings revealed that “the completion of in-prison treatment and aftercare is a cost-effective alternative when compared with incarceration without treatment” (p. 362). The findings were strongest for those offenders who were identified as being high-risk parolees.

In the only published cost-effective analysis available, McCollister, French, Prendergast, Wexler, Sacks and Hall (2003) performed a cost-effectiveness analysis on a prison-based therapeutic program and an aftercare program for offenders in California with substance abuse disorders. The results showed that the cost of treatment for the average treatment participant was \$4112. This led to a reduction in length of incarceration of 51 days (i.e., 36% less time incarcerated) for offenders in treatment as compared to those in the control group. The results suggest that treatment reduced recidivism at a cost of \$80 for each day of incarceration for the average offender. For those offenders who received both in-prison and aftercare services, an additional day of incarceration was avoided at a cost of \$51 per day compared to those who received treatment in prison only.

As the above studies show, there is good evidence that in-prison and community-based offender programs are cost-effective and have a relative cost-benefit. Such analyses are necessary for programs directed toward mentally disordered offenders. Cost-effectiveness analysis will investigate whether or not service programs are being conducted at lowest per unit cost and if resources are being put to their best uses. Both cost-effectiveness analysis and cost-benefit analysis will allow for an evaluative framework which addresses the following questions:

- What is the true cost of a particular health service program?
- Does the outcome justify the resources used?

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- Was the outcome achieved at lowest per unit cost?
- How should additional resources be utilized in future?

Cost-effectiveness analysis and cost-benefit analysis will involve identifying and valuing additional inputs (human, physical and financial), and anticipated outcomes and organizing them in a single comparative framework. Moreover inputs will be valued in terms of their true economic cost (or opportunity cost), which is simply the true market value of an input or its value in the next best use. Specific additional inputs (resources) to be measured for human services programs can include:

- Time spent by change agents (e.g., therapists) (using an operations valuation strategy). Information of agents' actual salaries and time utilized towards a particular service program will be collected via survey method;
- The measurement of spatial resources (e.g., clinics) where health and human services for particular programs are provided). The value of this resource can be calculated according to rent or lease rates. Where buildings are donated or government-provided, then the opportunity cost method will be used looking at the rental rate of a similar building/space. Related expenses including electricity supply, gas supply, phone services, security and fire systems will also be apportioned appropriately;
- Equipment and furniture (e.g., computers, chairs tables, etc);
- Supplies such as therapeutic drugs or other client relevant consumables; and
- Psychological resources (using rating scales). To assess these resources surveys would be conducted on clients to rate a particular service program. (service program) is measured in terms of their importance and weighted accordingly.

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The following outcomes can be used to measure the benefits associated with particular service programs.

- Number of clients obtaining gainful employment and the net income of those clients.
- The cost savings associated with a reduction in the number of substance abuse-related crime of clients (associated with drug-rehabilitation programs).
Value or benefit of a service program = number of crimes avoided (due to program) x cost of those crimes avoided.
- Number of clients in stable housing (this benefit can be measured by the cost saving on society of not having to house an individual client of particular service program/s).
- Number of clients in transitional care. Cost-saving benefits of specific treatments of service programs (e.g. treatment of Schizophrenia using transitional housing versus inpatient care)
- Reduced use of clients of sheltered workshops, counseling services, and transportation services.

All inputs (costs) and outcomes (benefits) measured will be adjusted (where relevant) according to:

- inflation for actual costs and benefits (using the current year of analysis as the base year); and
- the standard real government discount factor for expected costs and benefits in the future (need to establish present values).

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