Myth and Reality: the Relationship between Mental Illness and Homicide in New Zealand

Dr Alexander Simpson
Brian McKenna
Dr Andrew Moskowitz
Dr Jeremy Skipworth
Dr Justin Barry-Walsh

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About the Authors

Dr A I F Simpson, MBChB, BmedSci, FRANZCP,
Academic Forensic Psychiatry Unit, Division of Psychiatry, Faculty of Medicine and Health Sciences, University of Auckland
Clinical Director, Auckland Regional Forensic Psychiatry Service

Brian McKenna, RCpN, BA, MHSc (Hons).
Senior Lecturer, School of Nursing, Faculty of Medicine and Health Science, University of Auckland.
Nurse Advisor, Auckland Regional Forensic Psychiatry Service

Dr Andrew Moskowitz, PhD
Lecturer, Department of Psychology
University of Auckland

Dr Jeremy Skipworth, MBChB, MMedSci (Hons), FRANZCP
Clinical Senior Lecturer, Wellington School of Medicine, University of Otago
Consultant Forensic Psychiatrist
Central Regional Forensic Psychiatry Service
Capital and Coast District Health Board

Dr Justin Barry-Walsh, MBChB, FRANZCP
Consultant Forensic Psychiatrist
Central Regional Forensic Psychiatry Service
Capital and Coast District Health Board

Please address correspondence to Dr Sandy Simpson, Auckland Regional Forensic Psychiatry Service, Private Bag 19986, Avondale, Auckland, New Zealand.

Email: sandy.simpson@waitematadhb.govt.nz

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Abstract

Although homicide perpetrated by someone suffering from a serious mental illness (SMI) is rare compared with the total number of people with mental illness living safe and healthy lives, such tragedies understandably attract intense media and public scrutiny. Public concern is raised by a construction of mental illness as dangerous in the media portrayals. However, whether it is true that the rate of homicide committed by people with serious mental illness is increasing, either in absolute terms, or as a proportion of total homicide in the community, is unclear.

The study of Taylor and Gunn (1999) found that there was no rise in the absolute numbers of people with mental illness committing homicide. Further, there was found to be a decline in the proportion of homicides committed by people with mental illness in England and Wales over the preceding 40 years. They concluded that the prevalence of such homicide did not justify widespread public fear of those with SMI. To determine whether this is true of New Zealand, the Mental Health Research and Development Strategy commissioned a similar study.

This study addresses four questions:

- What is the proportion of all homicides that is committed by people with a SMI?
- Are there discernible trends through time of that proportion of the total homicide rate?
- Of those with a mental illness, what proportion were using mental health services at the time of the offence?
- What are the characteristics of victims of those with a SMI?

To answer these questions, a retrospective study of all people committing homicide in New Zealand from 1970 to 2000 was performed using a variety of Governmental datasets. Homicide perpetrators who had a SMI at the time the offence are defined in this study as those found unfit to stand trial of homicide, those found not guilty by reason of insanity (NGRI) of a charge of homicide, and those convicted of infanticide. The total population of homicide perpetrators included the above plus all those convicted of culpable homicide, namely murder or manslaughter and those who perpetrated murder-suicide.

The datasets employed were:

- The Police Homicide Monitoring Database
- The Law Enforcement System records held by the Ministry of Justice
- The Ministry of Health records of all special patients
- The New Zealand Parole Board records of all people convicted of murder

- Case files of the Coronial Services, Tribunal Division of the Department for Courts and Archives New Zealand

- NZ Herald archives of articles on homicide cases

- NZ Health Information Service re admissions to hospital

- New Zealand Year Book.

All offences of homicide committed in NZ from 1970 to 2000 were identified. Subjects' age, gender and ethnicity were sought. Details of the offence and victim(s) were recorded, as was legal outcome by category of offender. A history of and diagnosis of SMI was sought in all cases, including proximity of illness to the time of the offence. We sought to describe the prior mental health treatment history of those offenders with SMI.

Results indicate that mentally abnormal homicide comprised 8.7% of all homicides in New Zealand over the study period. Psychotic illness is present more often than expected on a population rate basis, confirming that homicide is a rare but recognised complication of SMI.

Across the period studied, mentally abnormal homicide has fallen as a proportion of total homicide from approximately 19% in 1970 to 4% in 2000, or an annual reduction of 4.2% in the proportion of homicide committed by people with SMI.

The absolute numbers of mentally abnormal homicide each year have remained static over the period 1970-2000. The population rate of mentally abnormal homicides perpetrators has been constant at 0.13 per 100,000 population/year with a 95% confidence interval of 0.10 - 0.16.

Of those with SMI who committed homicide, 28.6% had no prior contact with mental health services, and 10.3% had been admitted within the month preceding the homicide.

Victims of those with SMI were most commonly family or the partner of the perpetrator (74%), more commonly so than mentally normal homicide perpetrators (22%). Of the 84 people killed by strangers between 1988 and 2000, 2 were killed by someone suffering from SMI.

Whilst any event when someone loses their life must be carefully reviewed, the results of this study do not support widespread public concern regarding the integrity of mental health services, as measured by the rate of mentally abnormal homicide. These rare and tragic events are declining in terms of their relative contribution to societal risk and may be dropping in terms of population rate, despite greater public exposure to people with SMI since deinstitutionalisation. From the public's perspective, the study concludes that services are just as safe, or safer than they were in 1970, with rates of mentally abnormal homicide unchanged, and the public are at relative lower risk from those with SMI.

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Chapter 1: Introduction

The belief that mentally ill persons are prone to violence has been espoused at least since the time of the ancient Greeks, and across a wide range of cultures (Monahan, 1992b). In recent times, this belief has been fanned by the media and television programmes, which, it is estimated, link mental illness to violence between 62-86% of the time (Gerbner, Gross, Morgan, & Signorelli, 1981; Philo, Henderson, & McLaughlin, 1994; Shain & Phillips, 1991). High-profile killings by people with a serious mental illness[1] (SMI) are given wide coverage in the press, creating an impression than the general public is at danger from unsupervised violent mentally ill persons wandering the community at will. But how great is the contribution of serious mental illness to homicide? Are people with SMI and the public being let down by services that are not meeting their needs resulting in homicide? And who is most at risk? These questions have been rarely investigated systematically.

Mental health professionals are taken to task for not adequately supervising such patients, or precipitously releasing them from inpatient facilities. Indeed, several countries, including the UK, now require mandatory inquiries following all homicides committed by mentally ill persons (Shaw et al, 1999). The effect of the media coverage and subsequent inquiries has been to mobilise some parties to pressure governments to reverse de-institutionalisation and re-hospitalise people with serious mental illness on the chance that some of them may later be violent (Coddington, 2001; Dixon, 1999).

In New Zealand, inquiries have been varied in form and outcome (Simpson, Allnutt, & Chaplow, 2001), but are now required in serious incidents involving people who have been in contact with mental health services. Governmental responses have varied, with increasing powers of compulsory outpatient treatment being one policy response (Appelbaum, 2001; Torrey & Zdanowicz, 2001), and a number of research studies have been commissioned to address the relevant issues.

One of the most important research projects in this area, for the purposes of this current study, is that conducted by Taylor and Gunn, published in 1999 in an article entitled 'Homicides by people with mental illness: myth and reality' (Taylor & Gunn, 1999). Taylor and Gunn examined data on homicides committed in England and Wales between 1957 and 1995, a period during which de-institutionalisation policies were established, and concluded that there had indeed been a 3% annual proportional <u>decline</u> in homicides committed by persons with mental illness over the time period and that the general public (that is, strangers) were at <u>lower</u> risk from offenders with SMI than from non-mentally ill MI offenders (Taylor & Gunn, 1999). In relation to people with SMI in the community, they conclude that

> *"there is no evidence that it is anything but stigmatising to claim that their living in the community is a dangerous experiment that should be reversed." (page 9).*

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[1] Serious mental illness is referred to throughout this paper as SMI. By this we mean major mental disorders that are associated with, at times of acute relapse, a lowering of competence to understand the nature of one's environment and make rational judgements about one's actions. It covers schizophrenia and related disorders, bipolar affective disorder, and major depression. There is also a small number of people who do not have one of these conditions, but intellectual disability or an acquired organic brain disorder who also meet the legal definitions employed in this study, and they are included. People with a primary substance use disorder or personality disorders are not defined as having an SMI, but these problems are common secondary diagnoses amongst people with SMI who offend.

As similar issues and concerns have been raised in New Zealand, the Mental Health Research and Development Strategy of the Mental Health Commission and the Ministry of Health commissioned a similar study to address the following questions (Health Research Council of New Zealand, 2002):

1) Are people with SMI at greater risk of committing homicide than people who do not have a SMI?

2) Has the proportion of homicide attributable to people with SMI increased over time, and, if so, can it be attributable to policies of de-institutionalisation?

3) What proportion of homicide offenders with SMI was receiving treatment prior to committing their offence?

4) Who is at greatest risk of homicide committed by people with SMI?

To address these questions, we will first briefly review the research relevant to these areas, including some of the methodological problems inherent in this work. Second, we describe the methods we have used, the datasets employed and their quality. Third we present the results of the study in relation to these 4 questions and conclude with a discussion of the quality and significance of these findings.

Chapter 2: Literature Review

2.1 Mental Illness and Violence

Despite long-standing public perceptions, most mental health professionals, until the late-1980s or so, did not believe that people with SMI were at any higher risk for perpetrating violent behaviour than was the general public (Monahan, 1981). The reasons for this position are summarised by Monahan (Monahan, 1992a), who was one of the chief proponents of this 'no-relationship' position, but famously reversed himself in the early 1990s. Monahan argues that the earlier position was largely due to researchers incorrectly controlling for factors associated with both SMI and violence, primarily social class and institutionalisation, thereby inappropriately attenuating the relationship between SMI and violence. More recent methodologically superior studies have demonstrated a small but significant relationship between SMI and violence. Monahan (and others) divide the relevant studies into those that assess: a) the frequency of violence amongst identified (usually hospitalised) people with SMI, b) the prevalence of mental illness in offender, violent, or homicidal populations, and c) the correspondence of violence and mental illness in community or birth cohort samples (Monahan, 1992a; Mouzos, 1999; Walsh, Buchanan, & Fahy, 2002). The first approach identifies people who have come into contact with the *mental health system* and assesses them for level of *violence.* The second approach identifies people who have come into contact with the *criminal justice system*, and assesses their prevalence of *mental illness*. The third approach uses *community-based epidemiological* studies to assess the prevalence of both violent behaviour and SMI, and their relationship, in people who may have had no contact with either the mental health or the criminal justice systems. As the first and third approaches generally deal with non-homicidal violent behaviour, findings from studies adopting such approaches will only be briefly reviewed here. Studies utilising the second approach, that of assessing the prevalence of SMI in violent offenders, will be discussed in more detail in a later section, as that is the approach taken in this project.

2.2 The prevalence of violence in mentally ill populations

Studies that have assessed the prevalence of (generally non-homicidal) violence in people with SMI vary considerably along a number of crucial methodological dimensions. Several studies found rates of violence 4-5 times higher in their SMI samples compared to community controls (Lindqvist & Allebeck, 1990; Modestin & Ammann, 1996; Wallace et al., 1998). Some studies include threats as violent behaviour, or use only court reports as a measure of violence, which have been shown to provide a substantial underestimate of violent behaviour (Steadman et al., 1998).

A more recent, well-designed prospective study, the MacArthur Violence Risk Assessment Study (Steadman et al., 1998) addressed these issues by using multiple sources of data for violent incidents – court and psychiatric records, self-report, and collateral informants, multiple assessment periods over the course of one year, and comparison with controls from the same neighbourhoods as the patients. The authors found the highest rates of violence in patients with both substance abuse disorders and personality disorders, significantly higher than those found in the matched community sample. High rates were also found for those with SMI with co-morbid substance

abuse, but not for similar patients who did not abuse substances, whose rates of violence over the one-year follow-up were indistinguishable from community rates (though they were greater during the first few months of the follow-up period) (Steadman et al., 1998). Several other studies also found co-morbid substance abuse to significantly increase violent behaviour in psychiatric patients (Tiihonen, Isohanni, Raesaenen, Koiranen, & Moring, 1997; Wallace et al., 1998). Importantly, another recent study found significantly higher rates of violence in patients with SMI with comorbid personality disorders than in patients without such co-morbidity (Moran et al., 2003).

2.3 The relationship between violence and psychiatric disorders in community samples

While psychiatric population-based studies such as the MacArthur study (Steadman et al., 1998) have produced important results, they have limitations. These include the biases inherent in focussing on SMI populations admitted to hospital, when one of the criteria for entry to hospital, especially in the United States, is risk to others. In contrast, community-based epidemiological studies identify subjects as violent and/or having an SMI who may not have come into contact with either the mental health or criminal justice systems, do not face the same potential biases. The Epidemiological Catchment Area survey (Swanson, Holzer, Ganju, & Jono, 1990) involved psychiatric interviews with over 10,000 respondents in three geographical areas; in the course of those interviews, respondents were asked about recent violent behaviours (Swanson et al., 1990). Rates of violence 5-6 times higher than non-mentally ill people were reported in those with SMI. As in other studies, substance abuse disorders substantially increased rates of violence above those with SMI. Further, rates of violence increased with the level of co-morbidity; subjects who met diagnostic criteria for SMI, personality disorder and substance abuse reported rates of violence over three times as high as individuals with only one diagnosis (Swanson et al., 1990).

Another community-based epidemiological study of over 2,600 young adults in Israel found rates of reported fighting and weapon use 3.3 and 6.6 times higher, respectively, in respondents with bipolar disorder or schizophrenia than in non-mentally-ill respondents, even after controlling for substance abuse, antisocial personality disorder, and demographic characteristics (Stueve & Link, 1997). Importantly, in a later analysis, these differences were found to be explained by the presence of certain psychotic symptoms (Link, Stueve, & Phelan, 1998). Similar results were obtained in a re-analysis of the ECA data (Swanson, Borum, Swartz, & Monahan, 1996), but not in the MacArthur study (Appelbaum, Robbins, & Monahan, 2000).

Finally, a number of studies used mental health and criminal justice databases to follow birth cohorts over a period of time, to determine linkages between psychiatric disorders and violence. Three studies, using cohorts from Denmark, Sweden, and Finland, ranging in size from 12,000 to 320,000, found rates of violence in men with SMI (i.e., requiring hospitalisation) from 4.2 to 7.2 times higher than in non-mentally ill men (Hodgins, 1992; Hodgins, Mednick, Brennan, Schulsinger, & Engberg, 1996; Tiihonen et al., 1997). The rates of violence in women with SMI were significantly higher, ranging from 8.7 to 27.4 times higher than the rate of the general female population.

2.4 Mental illness and homicide

There are significant methodological advantages to exploring the relationship between mental illness and violence by focussing on homicide. Homicides are reported and solved more often than other violent crimes; Finland, for example, claims to have solved 97% of their reported homicides (Eronen, Tiihonen, & Hakola, 1996). A second advantage is that the defendant's mental state at the time of the crime is carefully considered after many homicide events, and psychiatric evaluations are often ordered. For example, in Finland, the majority of homicide defendants are screened by a psychiatrist and many receive a full forensic evaluation (Eronen, Hakola, & Tiihonen, 1996). Even in cases in which the homicide offender suicides, the presence of a salient mental disorder can at times be established through the required coronial investigation.

Even so, there are some methodological difficulties inherent in this approach as well, which could inflate the reported rates of mental disorder. There is some indication that people with SMI are more likely to be apprehended or convicted than people without SMI (Robertson, 1988; Taylor & Gunn, 1984). Further, homicides that go unreported or unsolved, such as those committed by professional 'hit men' or organised crime figures, are less likely to involve persons with SMI (Mouzos, 2002). A further problem is the definition of mentally 'abnormal' homicides. While most jurisdictions would include infanticide and findings of not guilty by reason of insanity, the question of what to do with defendants found incompetent or unfit to stand trial is somewhat thornier – while the issue of mental illness is established, the person's responsibility for the homicide is not. Of note, some studies, such as the UK's National Confidential Inquiry into Suicide and Homicide by People with Mental Illness, excluded all three categories (Shaw et al, 1999), while the Taylor and Gunn study included all these groups (Taylor & Gunn, 1999). In that study, the small number of defendants found unfit to stand trial was included in the group of mentally-abnormal homicides.

A problem of a different sort lies in interpreting the overall prevalence of mentally-abnormal homicide in various countries. A 1983 review of 15 studies conducted in 10 countries found fairly uniform rates of mentally-abnormal homicide – ranging from .08 to .22 per hundred thousand per annum (Coid, 1983). However, the overall homicide rate varied considerably, from .39 per hundred thousand in England and Wales (in 1950-1959) to 6.1 per hundred thousand in Philadelphia, USA (in 1948-1952). As a result, the proportion of mentally-abnormal homicides varied as well – from a low of 2.7% in the Philadelphia study to a high of 26.5% in England and Wales. It follows that countries such as the UK, with relatively low homicide rates and therefore proportionally higher rates of mentally-abnormal homicides, would face stronger public concern about such homicides than in higher homicide rate countries such as the United States.

2.5 The prevalence of homicides committed by persons with serious mental illness (SMI)

Assessing the prevalence of homicides committed by persons with SMI is complicated, as it involves the consideration of several different phenomena – convicted homicides, persons found not guilty by reason of insanity, persons found unfit to plead, and

homicide-suicides. We start with the last, where the presence and role of SMI is the most difficult to determine.

2.5.1 Homicide-suicides

It is typically believed that a considerable portion, some say as many as 75%, of persons who kill themselves after killing another person are mentally-disordered (primarily with depression) (Lecomte & Fornes, 1998; Rosenbaum, 1990). Accurately assessing this may be quite difficult, particularly for people who may have had no contact with mental health services before they died. For example, Taylor and Gunn (1999), on which this study is based, acknowledged that it is likely that the majority of such offenders suffered from a mental disorder but excluded them from further analysis because such cases never go to trial. While the vast majority of homicide perpetrators who kill themselves do so almost immediately after the homicide, there are some who commit suicide some time after the homicide. One recent study used a maximum of three days between homicide and suicide (Barraclough & Harris, 2002), but others have allowed suicides as long as three months after the homicide (Allen, 1983). Marzuk et al, in an authoritative review, argue for a maximum of one week (Marzuk, Tardiff, & Hirsch, 1992).

It has been argued that homicide-suicides are different from both homicides and suicides, occupying a "distinct epidemiological domain", which nonetheless has similarities with both homicide and suicide (Marzuk et al., 1992). Unlike homicide, which as already noted demonstrates significant variation between countries, homicide-suicide rates vary little, from .07 to .40 per hundred thousand, across a wide range of primarily Western countries (Coid, 1983). Recent studies conducted in the UK, Australia, France, and Canada found that perpetrators were 85-95% male, and victims overwhelmingly female, typically their current or past partners and/or their children (Barraclough & Harris, 2002; Buteau, Lesage, & Kiely, 1993; Felthous & Hempel, 1995; Lecomte & Fornes, 1998; Milroy, 1993; Milroy, Dratsas, & Ranson, 1997). While women also kill their partners (indeed, just under half of all spousal homicides in the United States are committed by women (Mercy & Saltzman, 1989)), they are far less likely to kill themselves afterward than men, who do so at a rate approaching 25% (Marzuk et al., 1992). These men are typically depressed, but not usually psychotic (Rosenbaum, 1990) although they may experience delusional jealousy (Marzuk et al., 1992). There is some suggestion of less alcohol use in comparison with other homicides (Felthous & Hempel, 1995). Rates of mental illness, primarily depression, have been estimated from 20% (Allen, 1983; Milroy et al., 1997) to 75% (Lecomte & Fornes, 1998; Rosenbaum, 1990). Coid (1983) while finding considerable consistency in homicide-suicide rates across countries, noted that there was nonetheless twice the variation as that seen in the rates of mentally-abnormal homicides, and speculated that this could be due to homicides-suicides being a 'hybrid' of mentally 'normal' and 'abnormal' homicide.

Male partners or ex-partners, perpetrating what some have termed 'consortial' or 'spousal' homicide-suicides (Felthous & Hempel, 1995), make up the largest group of homicides-suicides (estimated to be one-half to three-quarters of all those committed in the United States (Marzuk et al., 1992)). There are other 'types' of homicide-suicides, primarily familial, but also 'extra-familial', which vary as to the presence of mental illness (Felthous & Hempel, 1995; Marzuk et al., 1992).

2.5.2 Infanticide

The defence of infanticide derives from the belief that women who kill their infants, generally less than one year old (though in New Zealand it is less than 10 years old (Lambie, 2001)), are psychologically impaired by virtue of not having recovered fully from the effects of childbirth or lactation, demonstrate diminished responsibility for their actions. It is one form of the broader category of filicide, the murder of a child by its parent, and is sometimes distinguished from neonaticide, the killing of an infant within one day of birth (Stanton & Simpson, 2002). Research suggests that mental illness is considerably less common in women who commit neonaticide, which often involves unwanted babies, than in infanticide, the killing of a child or infant older than one day (Stroud & Pritchard, 2001). Infants under one year old, particularly under six months old, are at significantly greater risk for filicide than infants between 1 and 4 (Bourget & Labelle, 1992; Stanton & Simpson, 2002; Stroud & Pritchard, 2001). Similar to homicide-suicide, and mentally-abnormal homicide in general, rates for infanticide have been steady for 20 years in the United States (Bourget & Labelle, 1992), and are reported to be 2.4 per hundred thousand in the US, and 0.5 per hundred thousand in the UK, per annum (Stroud & Pritchard, 2001). In Canada from 1991 to 1997, maternal filicides were 3.5% of the overall solved homicides (Laporte, Poulin, Marleau, Roy, & Webanck, 2003); estimates from an earlier period in Canada put 30% of the child victims at under one year of age. One study found that only 16% of women who killed their children were *not* mentally ill; 43% were found to have a personality disorder, 21% "reactive" depression, and 16% psychosis (d'Orban, 1979).

Even in jurisdictions in which infanticide is available as a verdict, there is considerable variation in how frequently it is used. Thus, in the Canadian study referred to above, only 3 out of 9 women who killed an infant were given the verdict of infanticide; presumably, some of the others were found not guilty by reason of insanity, a verdict returned in 13 out of 32 filicide cases (Laporte et al., 2003). This contrasts with the UK, which has higher percentages of infanticide and diminished responsibility, and low percentages of NGRIs (Taylor & Gunn, 1999).

2.5.3 Rates of mentally abnormal homicides

There is enormous variation across studies in the rates of SMI found amongst homicide offenders, some of which can be attributed to methodological differences. Findings ranged from a low of 4.4% mentally-abnormal offenders in an Australian study (Mouzos, 1999) to 69% in an American study (Wilcox, 1985). However, the latter utilised a very broad definition of mental illness, which included organic conditions such as temporal lobe epilepsy and dementia, and drug-induced psychosis. The former figure of 4.4%, which is *lower* than the base rate of mental disorders amongst Australians, is based on recordings in police reports of evidence of mental disturbance in the offender *at the time of the crime*, and as such is likely to be an underestimate (Mouzos, 1999). Other well-designed studies in the UK and Canada found rates of mental disorder in homicide offenders of 11% (schizophrenia only) (Taylor & Gunn, 1984), and 12.6% (Cote & Hodgins, 1992).

In some studies, the prevalence of offenders having prior psychiatric contact of any sort is recorded as a measure of mental disorder. The UK Confidential Inquiry (Shaw et al, 1999) found evidence of prior psychiatric contact in 14% of homicide offenders (excluding those found NGRI, unfit to plead, infanticides, and homicide-suicides), 36%

of whom (4% of the overall sample) were diagnosed with schizophrenia. An Australian study, utilising 'case linkage' between convictions for homicide and a well-established psychiatric register, found evidence for prior psychiatric contact in almost 37% of those convicted of murder or manslaughter, or found NGRI (Wallace et al., 1998).

Rates are sometimes reported as 'odds ratios', that is the extent to which having a diagnosis of a mental disorder increases the probability of a homicide having been committed. A diagnosis of schizophrenia has been found to increase one's likelihood of being convicted of a homicide approximately 8-10 times (Eronen, Hakola et al., 1996; Eronen, Tiihonen et al., 1996; Wallace et al., 1998), while schizophrenia with comorbid alcoholism (for men) produces an odds ratio of 17 (Eronen, Tiihonen et al., 1996). A Finnish study found that men with prior criminal offences (primarily violent) who had schizophrenia had a 53 fold increase risk of homicide when compared to the general public. In comparison, a diagnosis of a personality disorder is associated with odds ratios of between 12 and 29 (Eronen, Hakola et al., 1996; Wallace et al., 1998)

2.5.4 Is the prevalence of mentally-abnormal homicide increasing?

As noted at the beginning of this review, public perceptions and media coverage in many countries have led to the belief that homicide by people with SMI is on the increase, and can be attributed to de-institutionalisation. De-institutionalisation is a term that refers to public policies which shifted the emphasis and resources from institutional-based treatment for those with SMI to community-based treatment. This shift occurred in most Western countries in the 1960s, 70s or 80s, and is generally attributed to a number of factors, including the advent of psychiatric medications, which allowed shorter hospital stays, and the anti-psychiatry movement, which emphasised the de-humanising and debilitating aspects of long-term institutionalisation (Haines & Abbott, 1985). De-institutionalisation can be measured in several ways, including the number of psychiatric inpatient beds per capita, and the absolute number of such beds. In New Zealand, while the rate of inpatient beds per hundred thousand population began declining in the mid-1940s, this decline increased significantly through the 1970s (Haines & Abbott, 1985). By the early 1980s, there were only 225 beds per hundred thousand, down from 500 per hundred thousand in the 1940s. However, the actual number of psychiatric beds only began declining in the late 1960s (Haines & Abbott, 1985).

There have been relatively few studies that have directly addressed the issue of trends over time in homicides committed by persons with SMI. One study that indirectly addressed this issue was conducted by Mullen et al (Mullen, Burgess, Wallace, Palmer, & Ruschena, 2000), who looked at convictions for a variety of crimes, including violent crimes (which would have included homicide convictions), in persons diagnosed schizophrenic in Victoria, Australia over two time periods coinciding with de-instutionalization. Of relevance to our study, Mullen discovered that whilst violent crime increased among persons diagnosed with schizophrenia from 1975 to 1985, those increases were paralleled by the increased violent crime committed by controls matched on age, gender, and area of residence. The authors concluded that there were no changes in crimes committed by persons with SMI attributable to de-institutionalisation.

There have, however, been studies that have directly addressed trends in homicide over time. The most important for our purposes are Gottlieb, Gabrielsen, and Kramp,

covering Copenhagen from 1959 to 1983 (Gabrielsen, Gottlieb, & Kramp, 1992; Gottlieb, Gabrielsen, & Kramp, 1987), Taylor and Gunn, covering England and Wales from 1957 to 1995 (Taylor & Gunn, 1999), and Erb et al, covering the German state of Hessen from 1955-1964, and 1992-1996 (Erb, Hodgins, Freese, Mueller-Isberner, & Joeckel, 2001). Importantly, all studies span the period of time in which de-institutionalisation was instituted as a health care policy.

The Copenhagen studies included the 251 homicide defendants who underwent a psychiatric evaluation during the years 1959 to 1983, 56% of the population of individuals charged with homicide (those not evaluated were assumed unlikely to have been mentally ill) (Gottlieb et al., 1987). Twenty-three percent of those evaluated were considered psychotic at the time of the crime. Gottlieb et al (1987) reported that, of the 16 homicide defendants diagnosed with schizophrenia, thirteen (81%) came from the period 1973-1983. They speculated that such apparent increases could be due to the decreased number of psychiatric inpatient beds, which were reduced from 33/10,000 in 1970 to 23/10,000 population by 1983 (Gottlieb et al., 1987), though it also occurred over a period when the total numbers of homicides increased. In a subsequent paper, the team undertook an analysis of the components of the apparent increase in total homicide, and concluded that there were three: 1) an increase in substance abuse and substance-abuse related homicides, 2) an increase in the number of non-psychotic, extra-familial homicides, and 3) an increase in the number of psychotic, intra-familial homicides (Gabrielsen et al., 1992). They concluded that this latter trend could be attributed to:

> … a change in the treatment system that … took place through a shift of resources from in-patient to out-patient treatment. Thus it might be argued, that the rate of schizophrenic homicide to a certain degree reflects the policy behind the current treatment system (p. 112).

Taylor and Gunn (1999) take a different tack, examining official homicide records (exclusive of deaths involving driving) from the Home Office of England and Wales, during the years 1957 through 1995 (Taylor & Gunn, 1999). They considered mentally-abnormal offenders to be those convicted of manslaughter on grounds of diminished responsibility (a defence not available in New Zealand), women found guilty of infanticide, those found not guilty by reason of insanity and those found unfit to plead. The percentage of homicide offenders who were considered mentally-abnormal varied from highs of 24-48% in the 1960s, to 11-18% in the 1990s, averaging a 3% decline per year. While this in part reflects the increased overall rate of homicide in England and Wales over this period, it is noteworthy that the actual number of mentally-abnormal homicide offenders also decreased from a peak of 120 in 1979, to 60 in 1995, a figure approaching the 1960s figure (Taylor & Gunn, 1999). Taylor and Gunn concluded that there was no evidence to suggest that mentally-abnormal homicide was increasing coincident with de-institutionalisation.

Finally, Erb et al (2001) calculated odds ratios for persons with schizophrenia who had committed or attempted homicide during a pre-deinstitutionalisation (1955-1964), and a post-deinstitutionalisation time period (1992-1996) (Erb et al., 2001). The odds ratios calculated, 12.7 and 16.6, respectively, were not statistically different. Erb et al concluded that there was no evidence that de-institutionalisation had increased the risk for homicide from persons diagnosed with schizophrenia.

2.5.5 What proportion of SMI homicide offenders were in treatment prior to committing their offence?

This question is premised on the notion that psychiatric treatment should be able to predict violence reasonably well in people with SMI, and provide treatment designed to reduce the risk of violent behaviour. However, there is a proportion of homicide offenders with SMI whose mental illness becomes recognised, or only first manifests itself, during and/or after the homicide. This figure is not inconsequential. For example, Leong and Silva (1995) found 76% of a small sample of psychotic defendants accused of murder had no prior history of criminal or violent activities, and 48% had had no prior contact with mental health services (Leong & Silva, 1995). Likewise, Shaw et al (1999), using data from the UK Confidential Inquiry covering homicides committed during an 18-month period from 1996-1997 (Shaw et al, 1999), found that only 30% of those who had psychiatric symptoms at the time of the crime had ever been psychiatrically treated, and only 20% had received treatment in the past year. Only 17% had previous convictions for violence. While these figures exclude those who were found NGRI, this disposition is rarely used in the UK, representing fewer than 5% of those convicted of manslaughter under diminished responsibility (Taylor & Gunn, 1999).

2.5.6 Who is at greatest risk of homicide committed by people with SMI?

One of the most consistent findings in this literature is that homicide offenders with SMI are at greater risk of killing family members, and at lower risk of killing strangers. Gottlieb, Gabrielsen, and Kramp (1987), in their Copenhagen study, found only 4% of their male homicide offenders with SMI to have killed strangers, in comparison to 22% of non-psychotic homicide offenders (Gottlieb et al., 1987). Likewise, Shaw et al (1999) found rates of stranger homicide to be 7% for mentally-abnormal offenders compared to 25% for non-mentally disordered offenders. Based on their study, Taylor and Gunn concluded that there was no evidence to suggest that mentally-abnormal offenders were any more likely to kill strangers than they were before de-institutionalisation (Taylor & Gunn, 1999).

Chapter 3. Methodology

3.1 Aims

This research project is part of the New Zealand Mental Health Research and Development Strategy. The purpose of this strategy is the development of targeted research to improve the planning and delivery of mental health services in New Zealand. All research contracted within this strategy must be consistent with the Treaty of Waitangi and cognisant of the needs of mental health consumers and other stakeholders. Research contracted within the strategy is funded by the Ministry of Health, supported by the Mental Health Commission, and administered by the Health Research Council of New Zealand.

The aim of this project is to obtain information on homicide committed by people who experience mental illness over the time in which de-institutionalisation has occurred in New Zealand. The project has four specific objectives:-

- To determine the prevalence of homicide committed by people who experience a serious mental illness

- To determine the percentage of people within the above group accessing mental health services at the time of the offence

- To determine if there is evidence that the rate of homicide committed by persons with a serious mental illness has changed in parallel with the changes in delivery of mental health services (i.e. with the trend towards community care)

- To describe the characteristics of those people at risk of becoming victims of such homicides.

3.2 Operational definitions used in the study

3.2.1 Homicide Defined

For the purposes of this study homicide refers to events of culpable homicide involving murder, manslaughter, or infanticide as defined in the Crimes Act 1961. It excludes death caused through self-defence or other legal excuse, or that caused by dangerous, reckless, careless, or excess alcohol-related driving. In most cases, culpability for these acts is determined by the courts. In a small number of cases, suicide of the suspect occurs before culpability can be determined (murder-suicide).

Acts that would otherwise have resulted in conviction for murder or manslaughter, but were committed by a person suffering from a serious mental illness (SMI) may receive specific defences or mental health disposition through the courts. There are four such dispositions, namely:

- unfit to stand trial (Section 115(1)(a) of the Criminal Justice Act 1985 (CJA)),

- not guilty by reason of insanity (Section 115(1)(b) of the CJA),
- convicted of murder or manslaughter but receive an order of committal because evidence of mental illness treatment needs justify such a disposition (Section 118 of the Criminal Justice Act 1985),
- conviction for infanticide - a defence available to a woman who has killed her own child, whilst suffering from mental disturbance as a result of the effects of child birth or lactation (Section 178 of the Crimes Act 1961)

In this study, these four groups of offenders with serious mental illness are collectively referred to as 'mentally abnormal offenders'.

In this study, the total population of homicide perpetrators is comprised of all groups in the above paragraphs. Events of unsolved murder or manslaughter could not be included in this study.

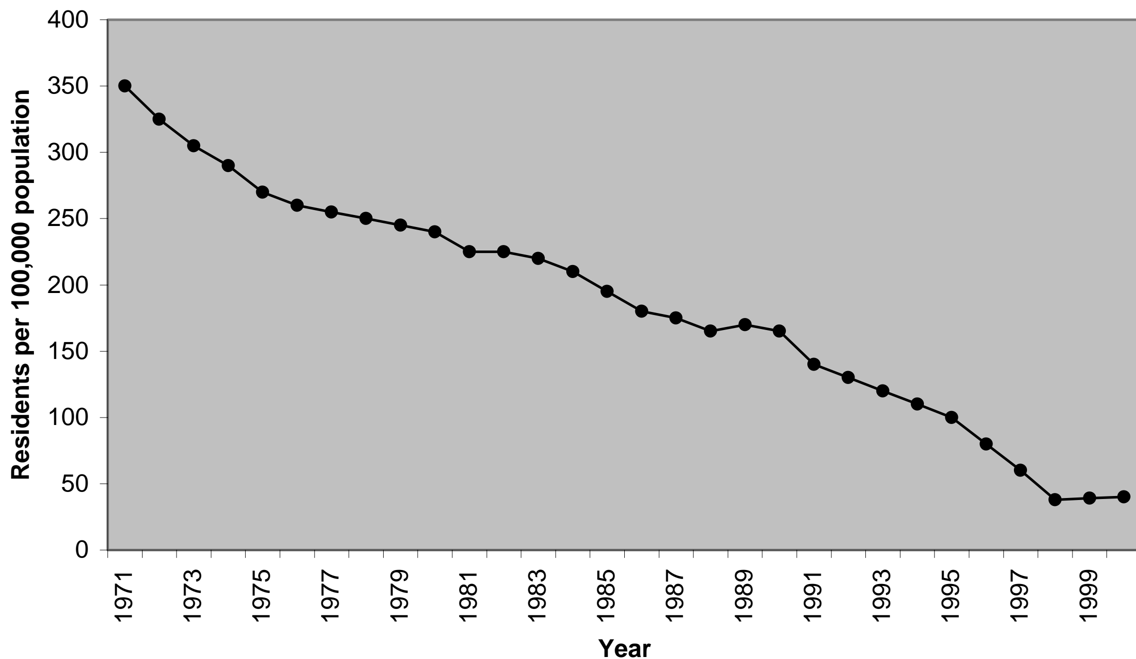
3.2.2 Serious mental illness (SMI)

SMI refers to diagnoses of psychotic illness predominantly schizophrenia and schizoaffective disorder; bipolar affective disorder; major depression; and organic mental disorders. Data was also gathered on alcohol and substance abuse and dependency, and the Axis II diagnoses of intellectual disability and personality disorder.

3.2.3 De-institutionalisation

De-institutionalisation refers to the process of the closure of large psychiatric hospitals and the provision of treatment into small psychiatric units attached to general hospital sites and community care options. This international trend commenced in the 1950s and gained momentum in New Zealand in the 1970s and 1980s. Figure 1 tracks the associated trend in decreased mental health hospital beds since the commencement of de-institutionalisation.

Figure 1. Residents in psychiatric hospitals, 1970-2000



1. Sources for the figure were difficult especially after 1992, when data ceased to be held centrally in psychiatric hospital bed numbers.

For the purposes of this study it would be ideal if trends were tracked before the commencement of de-institutionalisation from 1960 through until the present time. However, the quality of data on homicide is poor prior to 1970 and diagnostic classifications were not consistent. Furthermore, within the judicial system, due process can mean that the culpability of some acts of homicide can take a considerable amount of time to be determined. In order to obtain complete sets of annual aggregate statistics of homicide, a cut-off point of the end of 2000 was considered appropriate for this study. Therefore, a time framework from 1970 to 2000 was decided upon. This decision does not significantly limit the ability of the study design to address the questions set, as the 30 years of data collected covers the major period in which de-institutionalisation was occurring.

3.3 Research Design

A retrospective database of historical events is required to address the objectives of this research project. However, there is no comprehensive national database from which the information can be obtained. Although this information exists as public information, it is in secondary databases in a variety of Government agencies. This information varies in quality through time. The basic law surrounding homicide has not fundamentally changed over the period of de-institutionalisation. The insanity test, test for fitness to stand trial and definition of infanticide have not fundamentally altered since the 1960s. Diagnostic categories have undergone considerable revision over the last 30 years with the introduction of DSM III (American Psychiatric

Association, 1980), DSM III-R (American Psychiatric Association, 1987) and DSM IV (American Psychiatric Association, 1994). In order to maintain consistency in diagnostic categorisation over the study period, documented presentations were reviewed by a psychiatrist (J B-W) who recorded the diagnoses using DSM IV criteria.

3.3.1 Sources of data

3.3.1.1 The Homicide Monitoring Database (HMDB)

The Office of the Commissioner of Police developed the Homicide Monitoring Database (HMDB). This detailed schedule records all homicide events from 1988. The data is catalogued by the year in which the homicide took place. It records information regarding the event, the victim(s) and the suspect(s) charged with the offence, completed by the investigating police team.

Some variables within the database require subjective interpretation by the investigating police completing the schedule, including ethnicity. Such subjectivity was clarified by cross-reference to other databases holding information about the event.

A research agreement was signed with the Commissioner of Police for access to the HMDB for the purposes of this study.

3.3.1.2 The Law Enforcement System (LES)

The Law Enforcement System (LES) holds a national database of criminal prosecutions. The system (originally called the Wanganui Computer) commenced in the late 1970, with 1979 being the first year for which a complete calendar year of reliable data was available. Information recorded on LES includes standard demographic data (date of birth, gender and ethnicity), the date of the offence (from the mid 1980s), the outcome of the court process, (e.g., conviction, acquittal on certain grounds), the sentencing date and court. Victim information is not generally collected in LES.

Access to LES data on murder, manslaughter and infanticide convictions and mental health dispositions occurred through the Ministry of Justice. The Ministry of Justice was a joint research partner with HRC for this project. A research agreement was signed with the Ministry of Justice to obtain an identified list of names from LES from 1979 to 2000 for cross-reference and validation purposes to other databases.

3.3.1.3 Ministry of Health files

The files of all people who receive a mental health service disposition as an outcome of homicide events are stored by the Ministry of Health. These are the files of patients found unfit to stand trial, found not guilty by reason of insanity, or those persons convicted of an offence who are ordered by the Courts to reside in a hospital because of evidence of mental illness which is a threat to self or others. It does not systematically include infanticide.

These files exist as paper documents though there has been the development of an electronic database from 1990. The paper files cover the complete time span of this study. Although they comprise a reasonably complete dataset, older records are patchy in terms of data on service contacts, victim types and diagnostic approaches used. The files are a rich data source of the best clinical quality, and provided the greatest accuracy and comprehensive data on individual cases.

Permission to access these files was obtained from the Director of Mental Health, Dr David Chaplow. This access was subject to ethics approval for the research.

3.3.1.4 New Zealand Parole Board

The New Zealand Parole Board has a database of persons convicted of murder dating from 1900. This contains the name, sentencing date and information on the discharge of the sentence (e.g. information on deportation or death in prison including suicide). Infanticide and manslaughter are not included.

The request for access to this database was considered under the Official Information Act 1982 and was granted as it was decided that the potential public interest from the research outweighed the offenders' privacy rights under section 9 (2) (a) of the Official Information Act. The data was released with the express condition that offenders names would not be identifiable in any resulting publication in accordance with principle 11 in section 6 of the Privacy Act 1993.

3.3.1.5 New Zealand Health Information Service

The New Zealand Health Information Service has developed a database that records admission/discharge details including the dates of hospitalisation and diagnosis for all New Zealanders. The database was first introduced in 1980, but prior to 1988 it was optional for services to submit data. To identify the mental health histories of those who perpetrated homicide, we sought admission dates and diagnosis on all subjects.

Names of offenders were married to appropriate file numbers on the National Health Index. This number was then used to access the information available. The New Zealand Health Information Service was contracted to complete this task

3.3.1.6 Coronial Services files, Tribunal Division, Department for Courts

The Coroner's Court investigates the deaths of victims of homicide or suicide. The name of the perpetrator may be given but detail concerning the event is variable. An electronic database of the information was created in 1999. Prior to this period information is stored in a variety of locations within the Coronial Services facilities. Files prior to 1979 are held by Archives New Zealand in Wellington. Access to these files was subject to the study having ethical approval.

It is theoretically feasible to gain information about each victim and the perpetrator of murder-suicides, though there is no indexing that makes this information readily available. The names of murder-suicide perpetrators were accessed from other databases and then searched from the Coronial Service files. However diverse information of varying quality was obtained from individual files.

3.3.1.7 New Zealand Herald index

The New Zealand Herald has an index of homicide cases covered by the newspaper over the time frame of this study. These cases are indexed by year and the more significant cases have their own individual file. These files contain the names of both offenders and victims. These files were systematically searched for names of perpetrators and victims for the years 1970-1990 in order to determine their eligibility for this study.

3.3.1.8 New Zealand Official Yearbook data

The New Zealand Official Yearbook is published annually by Statistics New Zealand (formally the Department of Statistics). The Department of Statistics was responsible for assembling and publishing justice statistics up until 1990, when the Department of Justice, and subsequently the Ministry of Justice took over this role. Although the Yearbook does have annual statistics on the total number of convictions for murder and manslaughter, shifts in the criteria for the collation of these statistics means that the data does not accurately reflect trends over time. However annual aggregate data of murder and manslaughter were obtained from the New Zealand Official Yearbook for the purposes of this study to cover the very early time period when other data sources were not developed.

3.3.1.9 Other data sources

Another possible avenue of information on homicide events is the files on individual cases held by the High Courts (and in a limited number of cases District Courts) in New Zealand. There is an index in each court in the country called the Record of Prisoners Tried (ROPT) that reports the outcomes of homicide trials. However these documents are not centralised, with each locality having its own storage system. The diverse locality of the documents and the hand searching required in each area excluded this process within the time and budgeting constraints of this project.

There are electronic databases on the judgments of the High Court and Court of Appeal going back to 1983, available through fee for service agencies such as Brookers, and LexisNexis Butterworths. However, these records are not comprehensive, and were not used for the purposes of this study.

3.4 Data Collection

3.4.1 Dataset coverage and combination

Because no single data source was sufficiently comprehensive for this study, a variety of data sources were accessed and merged for different aspects of the study. Datasets were cross-checked where there were points of variation. As can be seen, some employ date of event (e.g., HMDB) and others date of conviction (NZ Parole Board, Yearbook and LES), times that can be over a year apart. Further, different amounts of data are recorded in each, or within a dataset through time. In order to maximise data coverage and quality, we have gone to the dataset that is most comprehensive for each. The sources of information for each category is shown in Tables 1 and 2:

Table 1. Data by Offender Type derived from Individual Databases

Time period	Murder	Manslaughter	Infanticide	NGRI or Unfit to stand trial	CJA Section 118	Murder - Suicide
1970- 1978	Parole Board	NZ Yearbook	NZ Yearbook, NZ Herald	MoH	MoH	NZ Herald, Coronial records
1979-1987	Parole Board, LES	LES	LES	MoH, LES	MoH, LES	NZ Herald, Coronial records
1988-2000	HMDB, LES	HMDB, LES	HMDB, LES	MoH, HMDB, LES.	MoH, HMDB, LES,	HMDB, Coronial records

Key: Coronial Records: files contained in Coronial Offices and Archives New Zealand
HMDS: Homicide Monitoring Database of NZ Police
LES: Law Enforcement System records held by the Ministry of Justice
MoH: Ministry of Health Special patient records
NZ Herald: New Zealand Herald Index
Parole Board: dataset of all people convicted of murder

Table 2. Data on Offender Characteristics and SMI derived from Individual Databases

Time period	Murder	Manslaughter	Infanticide	NGRI or Unfit to stand trial	CJA Section 118	Murder - Suicide
1970- 1978			NZ Herald	MoH	MoH	NZ Herald, Coronial records
1979-1987	NZ Herald, LES, NZHIS	NZ Herald, LES, NZHIS	NZ Herald, NZHIS	MoH, NZHIS	MoH, NZHIS	NZ Herald, Coronial records, NZHIS

1988-2000	HMDB, LES, NZHIS	HMDB, LES, NZHIS	HMDB, LES NZHIS	HMDB, MoH, NZHIS	HMDB, MoH, NZHIS	HMDB, Coronial records, NZHIS

Key: Coronial Records: files contained in Coronial Offices
HMDS: Homicide Monitoring Database of NZ Police
LES: Law Enforcement System records held by the Ministry of Justice
MoH: Ministry of Health Special patient records
NZ Herald: New Zealand Herald Index
NZHIS: New Zealand Health Information Service
Parole Board: dataset of all people convicted of murder

As can be seen, the earlier the data in time period, the poorer and less comprehensive is the data. Indeed, we have used grouped annual aggregate data only for the infanticide and manslaughter cases in the period prior to the commencement of LES. Even though the LES includes some demographic data, we matched Yearbook aggregate data with Parole Board data and LES to ensure the completeness of the Yearbook data for a 3 year overlap period. Detail on offence characteristics could not be comprehensively gathered until the HMDB was established. Further, comprehensive admissions and diagnostic data from the NZHIS was only available in a reliable manner post 1990. As was stated above, we overlapped datasets whenever possible to test them for coverage. For instance we reviewed the NZ Herald dataset until 1990, overlapping with the HMDB for 2 years, to check how comprehensive the NZ Herald archives were in detecting cases of murder-suicide. Similarly, we overlapped the Yearbook numbers of grouped offences to the LES data over a 3 year period to ensure comparability between the 2 databases. Once the LES was established, we had one comprehensive offender dataset, except for the murder-suicide group; however this dataset lacked detail of the offence itself. The detail of offending was gathered from the HMDB and coronial files.

In this manner, it was possible to categorise all events of homicide with reasonable accuracy and comprehensiveness over the entire study period. Detail of offences is however, only well described since the commencement of the HMDB in 1988, and admissions for and diagnosis of SMI only available from 1988 onwards.

3.4.1.1 Murder

The aggregate annual murder convictions from 1979 to 2000 were determined by cross-referencing the LES and the Parole Board databases. Between the LES and the Parole Board databases there were slight variations on annual aggregate numbers of one or two cases. Different Government Departments historically formed charges into distinct cases on different criteria, and the dates recorded for cases being finalised also sometimes differed. For instance, the determination of a case for the Ministry of Justice is determined by the completion of the appeals process rather than the conviction date. Furthermore some earlier databases were assembled by manual returns from courts. This process was gradually supplemented and eventually superseded by computerised sources provided initially by the Wanganui Computer. The varying time framework in which this transition occurred within different Government Departments responsible for the databases also accounts for slight variation (personal communication, Philip Spier, Senior Research Adviser, Ministry of Justice).

The Parole Board database only contains murder subjects. In order that there was consistency in the same database being used for both murder and manslaughter, the LES was used to determine the aggregate annual figures from 1979 to 2000. To determine the figures from 1970 to 1978, the New Zealand Official Yearbooks were consulted. Initially figures were obtained from 1970 to 1981. In the three years overlap from 1979 to 1981, there was only slight variation of one or two cases between the Yearbooks, the LES and the Parole Board databases. On this basis, the Yearbook figures were relied on for 1970 to 1978.

3.4.1.2 Manslaughter

Manslaughter aggregate annual figures were determined by a similar process. As the Parole Board database only covers murder figures, the LES annual figures were accepted in total from 1979 to 2000. Again there was only a slight variation between the New Zealand Official Yearbooks and the LES in the overlapping years of 1979 (2 cases), 1980 (0 cases) and 1981 (4 cases). Therefore the New Zealand Yearbooks were used to determine the aggregate annual manslaughter numbers from 1970 to 1978.

3.4.1.3 Murder Suicide

The HMDB records events of murder-suicide from 1988 to 2000. Each event requires a coronial inquest and it is reasonable to assume that a file of both a deceased perpetrator and a deceased victim(s) would exist in Coronial Services. Coronial Services has no index to allow for the location of murder-suicide cases from its filing system. In order to locate these files it was necessary to find the names of those involved. Given that murder-suicide is both a rare and dramatic event, it was speculated that the incidents would be recorded in the media. A search of the New Zealand Herald files of homicide from 1970 to 1990 located 40 cases. We found perpetrator and/or victim(s) files in Coronial Services on 36 of these cases. However there may have been cases that the Herald had not covered but files of which were housed in Coronial Services. To test this hypothesis we considered a cross-reference of three years overlap between the cases found through the above mentioned process and the cases of murder-suicide in the HMDB. In 1988 there were 4 cases that were determined via the New Zealand Herald but the HMDB signalled 8 cases. In 1989 both sources highlighted 3 cases. In 1990, the figure in the HMDB was again double that of files determined through the process involving the New Zealand Herald (4 as opposed to 2). These findings indicate that the figures of murder-suicide from 1970 to 1988 are conservative. There may be a small number of missed cases that are unlikely to be significant in a population of mentally normal homicide in excess of 1300.

It cannot be assumed that those who perpetrated murder suicide suffered from a mental illness at the time of the offence. Coronial records were searched for evidence that the person was suffering from a mental illness, but it was not possible to retrospectively make this determination in all cases. For this reason, murder-suicides have been categorised as mentally normal events, though it is accepted that in some cases they may be the result of a mentally abnormal process. This issue is traversed in more detail in the discussion section.

3.4.1.4 Infanticide

Those convicted of infanticide usually do not receive a mental health disposition. Therefore there were no Ministry of Health files on these offenders. The LES provided detail on the number of convictions for infanticide from 1979 to 2000. Earlier aggregate data was not found in any Government sources of information including the New Zealand Official Yearbooks. As infanticide is a rare event, it is reasonable to assume that convictions for these events would attract media attention. Therefore a search for such events was undertaken in the NZ Herald index of homicide from 1970 to 1978. This search located four events in 1973, 1975 and 1976. Coronial Services files of the victims of these events verified three of these cases but all four of the events were kept in the database. These files contained little detail of the offences.

3.4.1.5 Not Guilty By Reason of Insanity (NGRI) and Unfit to Stand Trial

The Ministry of Health maintain files on all persons found NGRI as special patients in terms of Section 115 of the Criminal Justice Act 1985. From 1979 all such cases were also recorded on the LES, and from 1988 incidents were recoded on HMDB. Thus the Ministry of Health data was cross-checked against these other data sets. No cases were missing from the Ministry of Health data set. Some special patients who were initially found to be under disability later became fit to stand trial. These persons were classified according to their final legal disposition following criminal trail.

3.4.1.6 Criminal Justice Act Section 118

Conviction and disposal to a forensic hospital under Section 118 of the Criminal Justice Act 1985 is a rare legal outcome for homicide offences. One case was found in the LES from 1978 to 2000. There was no other database by which we could clarify these cases or determine the number of cases between 1970 and 1978.

3.4.1.7 Victim Characteristics

Victim details from the years 1988 to 2000 were gathered from the HMDB. Victim details for the period 1970 to 1987 are theoretically available from Coronial Services. However to locate these files the names of the victims are required as there is no process in Coronial Services that enables homicide files to be specifically identified. For the victims of mentally abnormal offenders, the Ministry of Health files were considered. However mention of victims was sporadic. The New Zealand Herald index was also used in an attempt to find the names of victims. Again major deficits in the recording of victims' names were found. Therefore it was only possible to consider the issue of who is at risk of homicide for the 13 year period between 1988 and 2000, except for the murder-suicide cases, where some data could be extracted from coronial files.

3.4.2 Data collection schedule

The most comprehensive database on homicide events is the HMDB. Other databases fall short of the specific detail gathered in the HMDB. Therefore the data collection schedule developed for this project (**Appendix 1**) was based on the variables collected

on the event, suspect/offender and victim in the HMDB Data Collection Form of the NZ Police. Further fields were added to enable the gathering of data specific to those persons receiving a mental health service disposition.

3.4.3 Data Collection Process

The databases listed above were accessed and an exhaustive search undertaken by a research assistant acting under the supervision of the research investigators. Given that detail on either the perpetrator or victim required accessing several databases, information was recorded on a paper version of the schedule. The data gathered by the research assistant was audited by one of the investigators on the basis of a 10% random selection of the cases in each database. Adequate agreement was found on all fields.

Data on older cases fell short of the detail that could be gathered using the later databases. For all offenders however, the following core data was sought: age, gender, ethnicity and history of contact with mental health service prior to the homicide. For victims - age, gender, ethnicity and relationship to offender constituted the essential variables. For homicide involving those patients with SMI, additional data was gathered on diagnosis.

Detailed analysis of those offenders with SMI addressed whether they had a prior mental health treatment history and whether they were in receipt of such treatment at the time of the offence. Victim characteristics could not be systematically recorded until after 1988. Results are only presented since that time.

This data was entered into SPPS version 11 (SPSS Inc, Chicago, 2002) for analysis at the completion of the data collection.

3.4.4 Statistical analysis

Statistical advice was provided by Mr Alistair Stewart, Division of Public Health, University of Auckland. Results are presented as raw frequencies and the percentage of total homicide perpetrated by those with SMI are presented in 'by year' groupings. The analysis of the change in proportion of people with a SMI committing homicide through time uses a Poisson regression model. This model accounts for the change in proportion, locus of care and any factor relevant to the trends of homicide over the 30 year period. This analysis allows the estimation of the percentage change per annum. The power to detect a change depends on the total numbers of homicides, the variation in numbers per year, the proportion committed by mentally ill people at the beginning of the period of study and the fluctuation in this proportion over time.

3.4.5 Ethical considerations

Ethical approval for this study was granted by the Auckland Ethics Committee as a multicentre study (study number AKY/02/00188). Auckland was the host ethics committee with approval gained through the Bay of Plenty, Canterbury, Hawkes Bay, Manawatu/Whanganui, Nelson/Marlborough, Otago, Southland, Tairawhiti, Taranaki, Waikato, Wellington, and West Coast Ethics Committees. Research

agreements were made with each Government agency as described for access to individual datasets.

Consultation processes were established with a consumer consultant throughout the project. Fortnightly discussion on the progress of the research was undertaken with Pauline Hinds, Consumer Consultant for the Wairarapa District Health Board who at the beginning of this research was employed in the same capacity by the Waitemata District Health Board.

3.4.6 Treaty of Waitangi Obligations

The research project required data to be analysed in terms of ethnicity. Although this study did not involve collection of data directly from Maori, the secondary data material reflected incidents involving Maori. Furthermore, Maori statistically feature prominently in both offender and mental health statistics, and the implications of the findings of the research could affect whanau, hapu and iwi throughout the country. We also acknowledge that Maori are justifiably sensitive to research that portrays "a problem", at a time when Maori are focusing on the positive resolution of issues, of which they are well aware.

For the above-mentioned reasons it was imperative that the research was conducted in accordance with the principles of the Treaty of Waitangi. A Maori reference group with both expertise concerning offending and mental health issues was required. The Taumata Rangatira of the Auckland Regional Forensic Psychiatry Services of the Waitemata District Health Board was approached. Our reference people within this group were Erika Edwards (Ngapuhi /Ngati Whatua), Kaumatua, Charles Joe (Tainui), Manager of the Kaupapa Maori Services, Whaea Mihiarangi Karaka (Ngapuhi) Bachelor of Arts (Maori & Education). All are senior Maori staff of the Mason Clinic Taumata, (Kaupapa Maori Governing Body) along with other Maori mental health practitioners. They in turn have access to the Waitemata District Health Board Maori Research Advisory Group headed by the General Manager of Maori Health.

The negotiated process involved fortnightly reporting of research progress to representatives of the Taumata Rangatira throughout the duration of the project. At these times any issues were aired and resolved accordingly.

Chapter 4: Results

This chapter is structured according to the questions in the aims of the study, with minor modifications. First we describe the proportion of all homicide that is perpetrated by those with SMI. Second, we analyse the absolute number, rates and time trends of mentally normal and abnormal homicide over the time period 1970-2000. Third, we describe the characteristics of those with SMI who commit homicide, and their contact with mental health services prior to the offence. We conclude with an analysis of the victim characteristics of mentally normal and abnormal homicide.

4.1 What is the proportion of all homicides that is committed by people with a serious mental illness?

Table 3 shows the total number of homicides by each category from 1970 to 2000. The total number of homicide perpetrators in the study period is 1498. Mentally abnormal homicide perpetrators were 130, or 8.7% of all homicides, with the majority of those being people found NGRI. There were 23 women convicted of infanticide, and 23 offenders whose final disposition was to be found unfit to stand trial. One offender was convicted for manslaughter and received a disposition under Section 118 of the CJA. Manslaughter conviction was the most common outcome, at 47.7% of all homicides, followed by murder conviction at 38%. Murder-suicide (5.4% of all homicide perpetators) occurred at approximately the same frequency as NGRI findings (5.5% of all homicide perpetrators).

Table 3: Homicide by Type, 1970-2000

Type of Homicide	Number	Percentage of all homicide
Murder conviction	569	38.0
Manslaughter conviction	714	47.7
CJA Section 19 Discharge	4	0.3
Murder- Suicide	81	5.4
Total mentally normal homicide	1368	91.3
Infanticide conviction	23	1.5
CJA Section 118	1	0.1
NGRI	83	5.5
Unfit to Stand Trial	23	1.5
Total mentally abnormal homicide	130	8.7
Total	**1498**	**100**

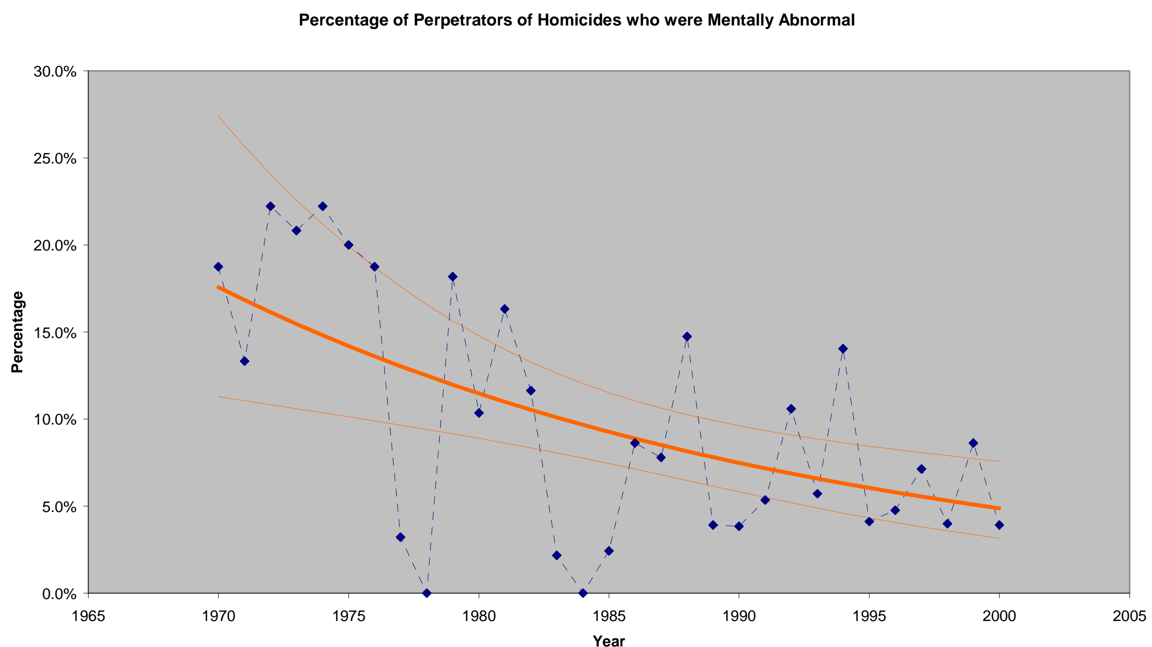
4.2 Are there discernible trends through time of that proportion of the total homicide that is perpetrated by people with SMI?

This question required determining the total number of homicide perpetrators per annum, and defining the proportion of those who had a SMI contributing to the offence. The annual percentage of all homicides perpetrated by mentally abnormal people is shown in Table 4.

The results indicate that mentally abnormal homicide has not altered significantly in absolute numbers since 1970 (Figure 4). The number of such cases each year has varied between 0 (in 1984 and 1978) and 9 (in 1976, 1988 and 1992) but has been no more than 5 in any one year since 1995. The mean number per annum is 4.2. As a proportion of total homicide, mentally abnormal homicide has reduced from 19.5% of all homicide in the first 5 years of the study to an average of 5.0% in the last 5 years of the study (Figure 2).

Figure 2 displays graphically the percentage of perpetrators of homicide in the years 1970 to 2000 who were classified as mentally abnormal. A Poisson model was fitted to the percentage of mentally abnormal homicide and the predicted values are shown in the figure. The line shown represents a decrease in proportion of 0.042 mentally abnormal perpetrators/year. As a percentage this is a decline of 4.2% per year with a 95% Confidence Interval of 1.7%-6.6%.

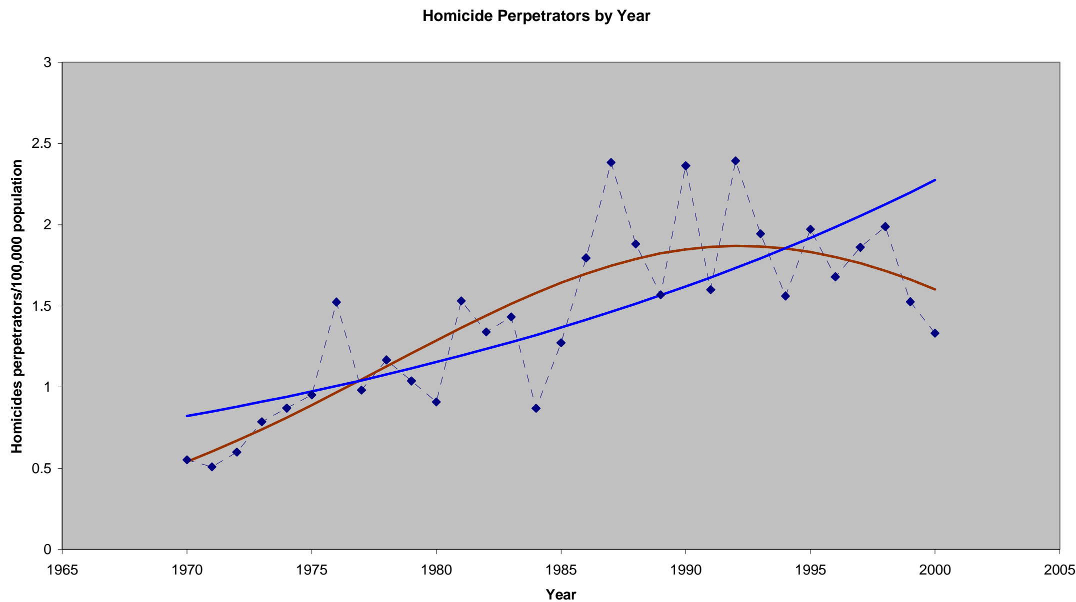
Figure 2. Percentage of Perpetrators of Homicides who were Mentally Abnormal



We then examined the total number of perpetrators of homicides per 100,000 population in the time period 1970 to 2000 (Figure 3). Modelling this data using a Poisson model showed overdispersion so a negative binomial model was used. Using a simple model of a constant percentage change per year over the 30 year time span

gives an increase of 3.5% in the number of all perpetrators of homicides per year with a 95% Confidence Interval of 2.3%-4.6%. This change is shown by the dotted line.

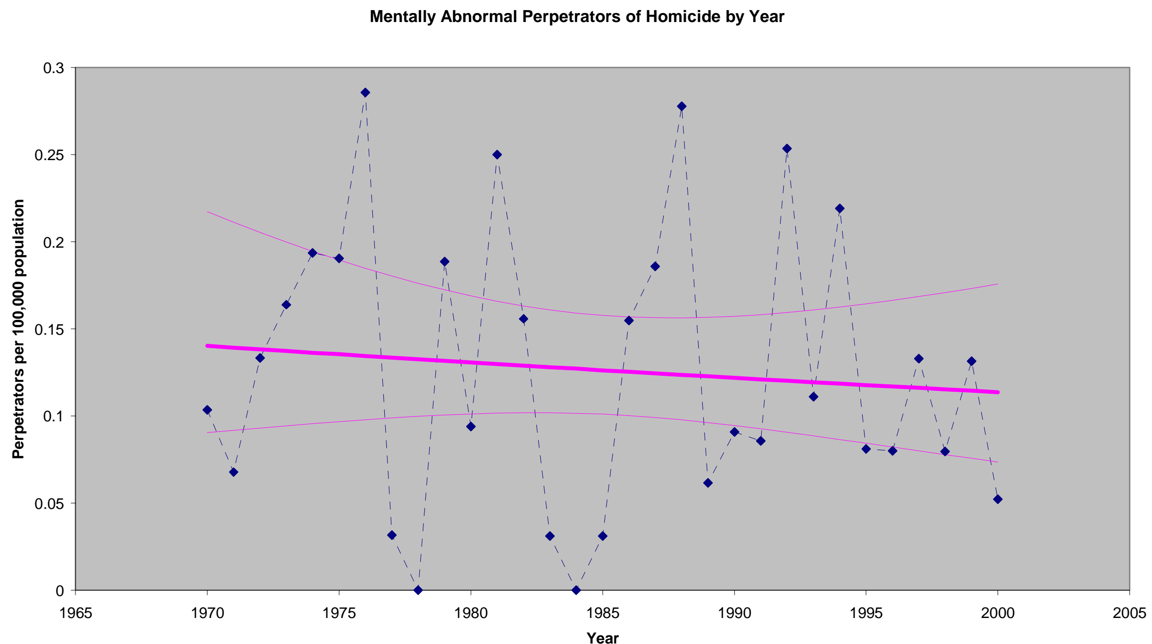
Figure 3. Homicide Perpetrators by Year



Inspection of the figure indicates that a quadratic function may fit the data better, that is, that there may have been a plateauing of the homicides rate from the late 1980s onwards. Using the negative binomial model again and incorporating a linear and quadratic term for year gives a much better fit to the observed data. This can be seen from the red line. The slope of this line is dependent on time and is complex. The modelled rate of change between 1970 and 1979 is 11.6%, between 1980 and 1989 is 6.1% and 1990 and 1999 is 0.8%. This model indicates that the number of perpetrators of homicides per 100,000 population began to drop from 1992 onwards. This pattern is very similar to the change through time of the suicide rate of men aged 15-24 (Ministry of Health, 2003). It shows a steady increase commencing in the early 1970s, and peaking in the mid 1990s, and reducing in the last 5 years.

Next we considered the rate of mentally abnormal homicide per 100,000 population from 1970 to 2000. Modelling the number of mentally abnormal perpetrators of homicides as a proportion of the total population shows no change with time. Figure 4 shows this data. Small numbers result in a considerable spread from year to year, but no increase in population rate over the period of de-institutionalisation can be discerned. The rate of mentally abnormal homicide perpetrators over the time period 1970 to 2000 has been constant at 0.13 per 100,000 population/year with a 95% confidence interval of 0.10 to 0.16. Although the population increased by approximately 1/3 during the time period of the study and the absolute numbers of mentally abnormal homicide perpetrators were the same in the first and last 5 year periods of the study, the effect of the population increase is small in relation to the natural variation from year to year, meaning that there has been no trend in the rate through time.

Figure 4. Mentally Abnormal Perpetrators of Homicide by Year



Thus the absolute number of mentally abnormal homicides has remained relatively static, but the contribution of SMI to total homicide has progressively decreased across the period of the study, reducing as a proportion of total homicide at a rate of 4.2% (95% CI 1.7-6.6) each year.

Table 5 shows the time trends for individual types of mentally abnormal homicide from 1970-2000 and Table 6 shows the subtypes of mentally normal homicide for the same time period. As in the total time period, there are no discernable trends in sub-groups of mentally abnormal homicide. Murder and manslaughter conviction, being the predominant homicides, are the major contributors to the rise in total homicide.

As noted, murder-suicide could not be studied systematically until the Police HMDB was initiated in 1988, and prior to that incomplete newspaper records and difficult to access coronial records were relied upon. As we found more cases in the HMDB than in the newspaper records, it is possible we missed a small number of earlier cases, although this is unlikely to have been more than 10-15. In the 81 coronial records of murder-suicide cases studied, 9 had evidence of prior mental health contact from NZHIS records. Murder-suicides were generally domestic tragedies with evidence of immense turmoil and distress, but uncommonly with evidence of mental illness.

Table 4. Total annual numbers of homicide offenders

Year	Mentally normal homicide offenders[1]	Mentally abnormal homicide offenders[2]	Total numbers of homicide offenders	Abnormal homicide as a percentage of total homicide (%)
1970	13	3	16	18.8
1971	13	2	15	13.3
1972	14	4	18	22.2
1973	19	5	24	20.8
1974	21	6	27	22.2
1975	24	6	30	20.0
1976	39	9	48	18.8
1977	30	1	31	3.2
1978	37	0	37	0
1979	27	6	33	18.2
1980	26	3	29	10.3
1981	41	8	49	16.3
1982	38	5	43	11.6
1983	45	1	46	2.2
1984	28	0	28	0
1985	40	1	41	2.4
1986	53	5	58	8.6
1987	71	6	77	7.8
1988	52	9	61	14.8
1989	49	2	51	3.9
1990	75	3	78	3.8
1991	53	3	56	5.4
1992	76	9	85	10.6
1993	66	4	70	5.7
1994	49	8	57	14.0
1995	70	3	73	4.1
1996	60	3	63	4.8
1997	65	5	70	7.1
1998	72	3	75	4.0
1999	53	5	58	8.6
2000	49	2	51	3.9
Total	**1368**	**130**	**1498**	**8.7**

1. Composed of murder convictions, manslaughter convictions, Section 19 of the Criminal Justice Act discharges and murder-suicide.

2. Composed of not guilty by reason of insanity, those found unfit to stand trial, Section 118 of the Criminal Justice Act and infanticide convictions.

Table 5. Subtypes of mentally abnormal homicide offenders

Year	Infanticide[1]	Sec 115(b) CJA NGRI[2]	Sec 115(a)CJA Unfit to plead[3]	Total mentally abnormal offenders[4]
1970	0	2	1	3
1971	0	2	0	2
1972	0	3	1	4
1973	1	3	1	5
1974	0	4	2	6
1975	2	3	1	6
1976	1	5	3	9
1977	0	0	1	1
1978	0	0	0	0
1979	0	2	4	6
1980	0	3	0	3
1981	2	5	1	8
1982	1	4	0	5
1983	0	1	0	1
1984	0	0	0	0
1985	0	1	0	1
1986	1	2	2	5
1987	2	3	1	6
1988	1	8	0	9
1989	0	2	0	2
1990	2	1	0	3
1991	2	0	1	3
1992	3	6	0	9
1993	1	3	0	4
1994	2	6	0	8
1995	0	3	0	3
1996	0	2	1	3
1997	1	4	0	5
1998	0	2	1	3
1999	1	2	2	5
2000	0	1	0	2
Total	**23**	**83**	**23**	**130**

[1] Four male cases of infanticide were detected in the LES database in 1988 and 1989. Clarification with the Ministry of Justice indicated that these had been incorrectly entered into LES and were removed.

[2] The final court date was missing in 8 cases of NGRI. For each the date of the offence was known. One year was added to this date to predict the year of the determination of a court outcome.

[3] People in five cases who were initially found unfit to plead but were later returned to court to face trial. These cases were not included under Sec 115(1)(a) of the CJA, but rather as their final court determination.

[4] Includes one Section 118 of the CJA case. No records were available to determine the number of Section 118 of the CJA outcomes or their equivalent in previous legislation between the years 1970-1978.

Table 6. Sub types of 'mentally normal' homicide offenders

Year	Murder convictions	Manslaughter convictions	Murder-Suicide perpetrators [1]	CJA Section 19 discharge [2]	Total mentally normal homicide offenders
1970	7	6	0	0	13
1971	5	6	2	0	13
1972	2	12	0	0	14
1973	9	10	0	0	19
1974	5	15	1	0	21
1975	8	15	1	0	24
1976	13	25	1	0	39
1977	13	16	1	0	30
1978	14	21	2	0	37
1979	11	14	2	0	27
1980	6	19	1	0	26
1981	15	24	2	0	41
1982	4	33	1	0	38
1983	16	25	2	2	45
1984	8	19	1	0	28
1985	13	21	6	0	40
1986	32	20	1	0	53
1987	35	33	3	0	71
1988	22	20	9	1	52
1989	21	25	3	0	49
1990	34	36	5	0	75
1991	23	27	2	1	53
1992	34	36	6	0	76
1993	26	37	3	0	66
1994	22	22	5	0	49
1995	28	36	6	0	70
1996	27	28	5	0	60
1997	38	24	3	0	65
1998	26	43	3	0	72
1999	24	28	1	0	53
2000	28	18	3	0	49
Total	**569**	**714**	**81**	**4**	**1368**

[1] Murder-suicide excludes one case in 1976 and 3 cases in 1977 that were identified in the Herald files but not located in Coronial Service files. Murder-suicide includes 2 cases where the perpetrator was shot by the police at the time of the homicide. Murder-suicide also includes 5 cases where the perpetrators died by suicide in police cells following arrest. Only in one case was the date identified of the suicide. This date was 48 days following the offence date.

[2] Section 19 of the CJA permits in exceptional circumstances the courts to discharge without conviction a person who pleads guilty or is found guilty. This means the person does not have a criminal conviction recorded against them.

4.3 Of those with a mental illness, what are their characteristics, and what proportion was using mental health services at the time of the offence?

To answer these questions, we describe those people with SMI who committed homicide, compared where possible with mentally normal homicide perpetrators, and study their contact with mental health services.

Table 7 shows the demographic profile of people with SMI who committed homicide. They were predominantly male (68%) and their mean age was 33.4 years (SD=13.2). Ethnicity was frequently not recorded, especially in the early records. With 40% missing data, few conclusions can be drawn regarding ethnicity. Further, in the early years the importance of ethnicity data being self-identified was not appreciated, so its reliability, when present, cannot be assumed. It was only in the later years that self-reported ethnicity identification was recorded in health records. The approximately equal numbers of Maori and European people is similar to surveys of forensic populations. Martial status was poorly recorded with almost half having missing data.

People with SMI who committed homicide had 2 major types of mental illness. Psychotic illnesses comprise 59% of all diagnoses made, followed by major depression (10%). The latter was the predominant diagnosis amongst those convicted of infanticide. There was a variety of less common disorders including organic brain disorders and bipolar affective disorder present in small numbers. Nine offenders had an intellectual disability and 11 a primary or co-morbid personality disorder. International studies have frequently found significant comorbidity of psychotic disorder with personality disorders and substance misuse. As these problems were not systematically recorded in this data the personality and substance misuse problems are almost certainly under-estimates of the true prevalence of these disorders.

Table 8 compares the socio-demographic characteristics of mentally normal and mentally abnormal offenders for a shorter time period of 1979-2000. The shorter time period was required because there was very limited demographic detail of mentally normal offenders prior to the LES database in 1979. Mentally abnormal offenders were significantly more likely to be female (33% verses 9%, Pearson Chi-square $\chi^2 = 52.1$, *d.f.* = 1, $p<0.001$). The mean age of mentally normal offenders was significantly younger at 27.8 years (range 14-87, SD 9.7) than for mentally abnormal offenders at 33.1 years (range 16-71, SD 12.4) (*t* test $t = -3.94$, d.f. = 96.8, $p<0.001$). Ethnicity could not be compared because of the significant number of missing data, but appears grossly similar. Marital status was not recorded for 66% of mentally normal offenders and 49% for mentally abnormal offenders, so results are not presented.

Table 9 shows the prior contact with mental health services of the mentally abnormal homicide perpetrators. Approximately half had prior psychiatric hospital admissions, 28.6% no prior admissions and no information was available for 19.8%. Of those with prior admissions, 13 (10.3% of all mentally abnormal offenders) had been admitted within the last month and 25 (19.8%) within the last year. Most people who had been admitted had only been admitted on 1-2 occasions in the last 5 years.

Table 7. Demographic and clinical characteristics of mentally abnormal homicide offenders, 1970-2000

Characteristics	Mentally abnormal offenders (N = 126)[1]	
	n	%
Gender		
Male	86	68
Female	40	32
Age[2]		
14-19	6	5
20-29	50	40
30-39	33	26
40-49	16	13
50-59	9	7
60+	7	6
Unknown	5	4
Ethnicity		
European	34	27
Maori	28	22
Pacific Peoples	11	9
Asian	1	1
Other	1	1
Unknown	51	40
Marital status		
Never married	28	22
Married/defacto	37	29
Separated/ divorced	4	3
Widow	2	2
Unknown	55	44
Diagnosis[3]		
Schizophrenia/ Schizo-affective disorder	55	44
Other psychotic illness [4]	19	15
Bipolar affective disorder	5	4
Major depressive disorder	13	10
Alcohol abuse/ dependency	5	4
Substance abuse/ dependency	5	4
Head injury	3	2
Other organic brain condition[5]	6	5
Other[6]	1	1
Unknown	8	6
Axis II Diagnosis		
Personality disorder [7]	11	9
Intellectual disability	9	7

1 Excludes 4 cases of infanticide pre-1979 for which there was no detail available.
2 Age range 14 - 71, *M* = 33.4 *SD* = 13.2.
3 Multiple responses possible. This is the initial diagnosis at admission. It excludes a diagnosis for infanticide which is inferred by definition (n=23). Percentage of mentally abnormal offenders (n=126) for each category.

[4] Toxic psychosis; Psychotic depression (n = 5); Depressive psychosis (n = 2); Childhood schizophrenia; Organic psychosis; Reactive situational psychosis; Folie a deux (n = 2); Post partum psychosis; Delusional disorder.
[5] Huntington's chorea; Epilepsy; Organic brain impairment; Traumatic brain injury – shot self in offence (n = 2); TIA.
[6] Adjustment disorder
[7] Paranoid personality disorder; Schizoid personality disorder; Obsessive-compulsive personality disorder; Anti social personality disorder

Table 8. Demographic characteristics of homicide offenders 1979-2000

Characteristics	**Mentally normal offenders (n = 1154)**		**Mentally abnormal offenders (n = 93)**		***P* value**
	N	**%**	**N**	**%**	
Gender					
Male	1050	91	62	67	<.001[1]
Female	104	9	31	33	
Age					
14-19	225	20	2	2	<.001[2]
20-29	509	44	41	44	
30-39	257	22	23	25	
40-49	94	8	13	14	
50-59	33	3	7	8	
60+	9	1	3	3	
Unknown	27	2	4	4	
Mean	27.8 (SD = 9.7). Range 14-87		33.1 (SD = 12.4) Range 16-71		<.001[3]
Ethnicity[4]					
European	460	40	25	27	
Maori	505	44	27	29	
Pacific Peoples	135	12	10	11	
Asian	21	2	1	1	
Indian	8	1	0	0	
Unknown/other	24	2	30	32	

[1] Pearson Chi-square $\chi^2 = 52.1$, $d.f. = 1$
[2] Pearson Chi-square $\chi^2 = 30.4$, $d.f. = 6$.
[3] t test t = -3.94, d.f. = 96.8
[4] Chi –square not undertaken because of the number of unknowns and differing means of determining ethnicity in different databases

Table 9. Access to mental health services by mentally abnormal homicide offenders

	Mentally abnormal offenders ($N = 126$)[1]	
	n	**%**
Admission prior to offence.		
Yes	65	51.6
No	36	28.6
Unknown	25	19.8
Admissions to psychiatric hospital in the month prior to the offence [2]		
Once	10	7.9
Twice	2	1.6
Four times	1	0.8
Admissions in year prior to the offence[2]		
Once	20	15.8
Twice	4	3.2
Four times	1	0.8
Admissions in 5 years prior to the offence[2]		
1-2	30	23.8
3-4	4	3.2
5-6	3	2.4
7-8	1	0.8

1 Taken from NZHIS and Ministry of Health data. Excludes 4 cases of infanticide pre-1979 for which there was no detail available.
2 Percentage of mentally abnormal offenders ($n = 126$) for each category.

4.4 What are the characteristics of victims of mentally abnormal homicide?

Victim characteristics could only be studied systematically from the time of establishment of the HMDB in 1988. This was because we were unable to detect multiple offenders being involved in the same offence prior to 1988.

The characteristics of the victims of mentally normal and abnormal perpetrators are shown in Table 10. Calculations of age, gender and ethnicity of victims is impaired by the high number of unknown data.

Relationship to the offender could be assigned to all victims of mentally abnormal offenders, though there was a high number of unknown relationships for the victims of mentally normal offenders. Family members or partners of the perpetrators were more commonly the victims of mentally abnormal perpetrators (74%) than the victims

of mentally normal homicide perpetrators (22%). Strangers were more commonly the victims of mentally normal perpetrators (82 victims, or 9%) whereas only 2 (3%) of the people who lost their lives to mentally abnormal offenders were strangers. Put differently, of the 84 strangers killed in New Zealand from 1988-2000, only 2 were killed by people suffering from an SMI.

This effect is also evident when considering with whom the victim was residing. Half of the victims of mentally abnormal perpetrators were residing with the offender, whilst only 16% of the victims of mentally normal perpetrators resided with the offender.

Table 10. Victim characteristics of mentally normal and mentally abnormal homicide, 1988 to 2000

Characteristics of victim[1]	Victims of mentally normal offenders (*n* = 842)		Victims of mentally abnormal offenders (*n* =73)	
	n	%	***n***	%
Gender				
Male	317	38	32	44
Female	189	22	29	40
Unknown	336	40	12	16
Age				
0 – 9	49	6	15	21
10-19	55	7	2	3
20-29	146	17	3	4
30-39	98	12	5	7
40-49	62	7	11	15
50-59	42	5	5	7
60-69	44	5	12	16
Unknown	346	41	20	27
Ethnicity				
European	264	31	25	34
Maori	144	17	21	29
Pacific Peoples	35	4	4	6
Asian	11	1	1	1
Indian	8	1	0	0
Other	9	1	2	3
Unknown	371	44	22	27
Relationship to offender[2]				
Partner – past or present	105	12	12	16
Family member	89	10	43	58
Friend	27	3	3	4
Acquaintance	179	20	14	19
Stranger	82	9	2	3
Unknown	456	50	0	0
Total	911	100	74	100
Residing in the same house at the time of the homicide				
Yes	132	16	36	50
No	305	36	17	23
Unknown	405	46	20	27

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[1] Statistical comparisons between mentally normal and mentally abnormal offenders victims were not undertaken due to the high rate of missing data. The total number of victims is considered as individual cases for age, gender, ethnicity and residence, but for relationships with the offender each victim may have multiple relationships if they were a victim of multiple perpetrators. The period 1988 to 2000 was the only time in which it was possible to determine the number of perpetrators for a specific homicide event.

[2] Relationship was established for each victim to each perpetrator. Because there are cases of multiple perpetrators, the total number of potential victim-perpetrator relationships was 911 for the victims of mentally normal perpetrators and 74 for the victims of mentally abnormal perpetrators. In relation to mentally normal offenders there were 41 incidents involving 2 perpetrators; 15 involving 3 perpetrators; five involving 4 perpetrators; 2 events involving 5 perpetrators and one event involving 6 convicted perpetrators. In relation to mentally abnormal offenders there were two incidents that involved 2 perpetrators. One involved 2 mentally abnormal perpetrators and one involved one mentally normal and one mentally abnormal perpetrator. The latter case has relationships in both mentally normal and abnormal columns.

It was also possible to determine multiple victims of homicide events during this period. With mentally normal offenders there were 14 events involving 2 victims; 5 events involving 3 victims; one event involving 5 victims; 2 events involving 6 victims; one event involving 8 victims and one event involving 13 victims. With mentally abnormal offenders there were 5 events involving two victims; 2 events involving 3 victims and 1 event involving 6 victims.

Chapter 5: Discussion

5.1 Key findings

The four questions asked, can be answered as follows:

- What is the proportion of all homicides that is committed by people with a serious mental illness (SMI)?

  The answer to this question is 8.7% from 1970 to 2000. There is only one community study of the prevalence of mental disorder in the New Zealand community performed in Canterbury in the late 1980s (Wells et al, 1989). They found a lifetime prevalence of schizophrenia of 0.3%, bipolar disorder of 0.7% and major depression of 16.3% of women and 8.8% for men, although the more severe form of major depression associated with major acts of suicidal behaviour is much less common. The applicability of this study is limited, but it continues to be the best data available. If we consider the schizophrenia and bipolar disorder prevalence data only, these disorders total 1% lifetime prevalence. Of all homicide perpetrators with SMI, 60/126 had one of these 2 diagnoses, giving a percentage of approximately 4.3% of all homicides being perpetrated by people with these diagnoses. Therefore, this may be an approximate fourfold increase in the rate of homicide over the general population that can be explained by the presence on one of these 2 SMIs.

- Has the proportion of homicide attributable to people with SMI increased over time, and, if so, can it be attributable to policies of de-institutionalisation?

  The absolute number of mentally abnormal homicides per year has remained relatively static, whilst the rate of mentally normal homicide has increased (at a rate of about 3.5% per annum). Thus the contribution of SMI to total homicide has progressively decreased across the period of the study, reducing as a proportion of total homicide at a rate of 4.2% (CI 1.7%-6.6%) each year. The absolute numbers have remained static, as has the population rate at 0.13 per 100,000 population/year (with a 95% confidence interval of 0.10- 0.16).

- Of those with a mental illness, what are their characteristics and what proportion was using mental health services at the time of the offence?

  Mentally abnormal homicide perpetrators are older and more likely to be female than mentally normal homicide perpetrators. According to the NZHIS and Ministry of Heath records, 51.6% of mentally abnormal homicide perpetrators had prior admissions, but only 10.3% were admitted in the month prior to the offence and 28.6% had no prior contact or admissions at the time of the offence.

- What are the characteristics of victims of those with a SMI?

  Victims of the two types of homicide differed. Family members and partners were more likely to be victims of mentally abnormal homicide perpetrators than of mentally normal perpetrators, and were more likely to be cohabiting with a mentally abnormal perpetrator. Strangers were overwhelmingly more

likely to be the victims of mentally normal perpetrators than mentally abnormal perpetrators.

5.2 Methodological issues and data quality

Any study of this type is limited by the fact that original data in the files was gathered by non-researchers for a purpose other than clinical research. Thus whilst it will record the most obvious and likely cases of mentally abnormal homicide, it does not provide data of as much quality as a detailed clinical interview of each homicide perpetrator would provide; however, it is comparable with other population-based studies relying on secondary data sources. The data must be considered 'high level'. This type of study is likely to detect most major psychotic illness, but may well underestimate personality, substance and depressive disorder contributions. Shaw et al (1999), for instance, found that 8% of those who committed mentally normal homicide in the UK had been in contact with mental health services in the year prior to the event, but mainly for problems of personality disorder. Similarly, a high prevalence of mental disorder is noted amongst prisoners (Simpson et al, 1999; Fazel and Danesh, 2002). Further, we relied on legal outcomes, which may be subject to many issues (such as people being found NGRI, who perhaps should not, and vice versa). Such effects are however likely to be relatively small.

As already mentioned, people with SMI may be more likely to be caught than some types of mentally normal offenders. New Zealand has a clearance rate for homicide that averages 74% for the last 8 years (Office of the Police Commissioner, 2003) which is relatively high in international terms, though not as good as the 97% of Finland (Eronen et al, 1996). Had the 26% of unsolved cases been solved, it is possible that the proportion of those with SMI might be lower.

Specific datasets have particular limitations as well. Early clinical diagnostic terminology (prior to 1980) required translation into modern diagnostic schema; and ethnicity, along with other socio-demographic variables, was poorly and incompletely recorded. Whilst the more recent versions of the datasets are much more full and make possible more detailed research post 1988, examination of the time trends requires a longer time interval which necessitates using less complete datasets.

We have employed overlapping datasets to attempt to develop a full picture. For instance, we are forced to rely on 2 different data sources for manslaughter (Year Book and LES data), infanticide (NZ Herald and LES data) and murder (Parole Board and LES data) over the 30 year period. The NZ Herald data cannot be relied on as having the same accuracy as LES data, but it appears as accurate as can be achieved within the bounds of this study. Similar problems emerged in attempting to assess the murder-suicide group that relied on 3 datasets (NZ Herald, coronial and Police HMDB data sources). As this data was not held by any single data source over the period of the study, employing multiple and overlapping techniques should have identified most cases, but we cannot be certain to have detected all cases. We believe any missing cases are liable to be few in number and make a limited contribution to the overall finding.

The inclusion of the murder-suicide group in the mentally normal part of the sample is arguable. However the numbers are relatively low, and their pattern of prior service usage (9/81 with prior admissions) did not suggest that they primarily suffered from SMI. The researchers who read the Coronial files (BM and JS) were not struck that

these were primarily offences driven by the symptoms of illness. For these reasons, they appeared to be in general most similar to domestic homicide, and were grouped in the mentally normal group. Further, no judicial process had found that they lacked criminal responsibility for their actions, so they were presumed to be criminally responsible. Given that they are 5.9% of all mentally normal homicide, their effect on that group is relatively small. Their inclusion in the mentally normal group might reduce the differences between the 2 populations, but a similar effect would occur had they been included in the mentally abnormal group. For these reasons, their inclusion in the mentally normal group was felt the more appropriate.

The statistical techniques employed are descriptive in the main and limited in their use also by missing data. In terms of time trend calculations, the model of fit for the percentage and rate of mentally abnormal homicide is relatively simple. For the time trend in total homicide, the use of a quadratic model carries risk. Fitting a model that looks like it will fit well very much increases the chances of finding a significant association, and thus applying the quadratic model requires some support from related trends. As mentioned, the quadratic model suggests a plateauing and recent decline in homicide after a steady rise through the 1970s and 1980s. This parallels suicide rates for young men, who make up the majority of homicide perpetrators (Ministry of Health 2003). Most crime has shown a similar pattern of plateauing in the last 6-8 years (Office of the Police Commissioner, 2002).

5.3 Results in an International Context

International studies find rates of mentally abnormal homicide between 1.6% (Ceylon) and 53% (North Sweden) (Mouzos, 1999). Countries with a relatively low homicide rate have higher percentages of homicide associated with SMI in the range of 8-11% (Taylor and Gunn, 1999). For instance, the USA with its high homicide rate generally has a lower rate of mentally abnormal homicide. As noted, the best designed studies in the UK (Taylor and Gunn, 1984) and Canada (Cote and Hodgins, 1992) reveal rates of mental disorder in the range of 11% to 12.6%, although these are survey methodologies with clinical interview, and would be expected to detect higher rates than the present study based on legal criteria for outcome. Coid's (1983) review of earlier studies found a range of 2.6% – 21.2% across 15 studies. The finding of 8.7% in the current study is therefore very similar to international studies of the proportion of homicide perpetrators who suffer a SMI. This finding places in NZ in the typical rate for a low homicide rate country. Australia is apparently lower at 4.4% (Mouzos, 1999) but this may be an artefact of the methodology employed in that study.

The population rate of mentally abnormal homicide is less frequently published. Where it is, our rate of mentally abnormal homicides perpetrators of 0.13 per 100,000 population/year is at the lower end of those published internationally. In Coid's (1983) review, the rate varies between the 15 studies in the range of between 0.08 and 0.22 per 100,000 population per year. In more recent studies, Boscoredon-Moe et al (1997) in Southern France cite a rate that varied between 0.23 and 0.30 from 1838-1995. Gabrielsen et al (1992) in one part of Germany found a rate of 0.11, rising to 0.25 per 100,000 population per year thereafter.

Three previous studies (Gabrielsen et al, 1992; Taylor and Gunn, 1999; Erb et al, 2001) have failed to find any convincing evidence of increasing frequency of mentally abnormal homicide since de-institutionalisation, although Gabrielsen et al suggested there might be a small effect. Our study can join those others in finding no increase in

the number or population adjusted rate of mentally abnormal homicide with de-institutionalisation. Like Taylor and Gunn (1999) we found a reduction in the contribution of SMI to total homicide at a rate of 4.2% per annum, whilst Taylor and Gunn (1999) found a reduction of 3% per annum.

Total homicide rate shows similar trends in England and Wales and New Zealand. As in this study, Taylor and Gunn (1999) found little change in the absolute numbers of mentally abnormal homicide over time (1957-1995) but total homicide increased steadily until the early 1980s, and has remained relatively static in absolute numbers since that time. We found a similar increase in the total homicide rate, averaging 3.5% per annum over the whole time period, but with most of that increase occurring in the 1970-1990 period, and plateauing since that time.

The characteristics of mentally abnormal homicide perpetrators were very similar to the findings of prior studies. That the proportion of women to men is higher than for their mentally normal counter-parts and that they are older is entirely in keeping with prior comparative studies. Mouzos (1999) found similar age and gender differences (M:F ratio of 70:30 in the mentally abnormal group) and found that the mentally normal group were 5 years younger than the mentally abnormal group (mean age 35 verses 30). She also found 5.4% of the mentally abnormal population suffered from an intellectual disability, whilst we found 7%.

The finding of victim type being predominantly those known to the perpetrator in the mentally abnormal group is also in keeping with the findings of Mouzos (1999) in Australia, Gottleib et al (1987) in Finland and in Nestor and Haycock's case control series in the United States (Nestor and Haycock, 1997). Strangers were very unlikely to be the victim of someone with an SMI in our series, even lower than the 10.2 % of the Australian series (Mouzos, 1999). Lack of prior contact with mental health services is a common finding. This finding in 28.6% of our mentally abnormal sample is similar to the findings of Shaw et al (1999).

5.4 Implications for Service and Public Policy

As with prior work, the mental illness most associated with violence is psychotic illness. It is the presence of delusions and hallucinations that is associated most commonly with violence, and less commonly affective disorders and organic disorders (Link et al, 1998; Swanson et al, 1996; Taylor and Gunn, 1984). People with intellectual disability make up a small proportion of perpetrators of homicide. But this proportion, in relation to the large number of the population (perhaps 3% of 4 million people) who suffer from similar difficulties is very small. If perhaps 5 people with an SMI will commit a homicide per annum, the remaining 119,995 people with an SMI who live in New Zealand will not. Detecting who will from who will not so offend is clearly a very difficult task, particularly as for 28.6% of them (perhaps one of the 5) he or she is unlikely to have had past contact with mental health services. As Appleby (2000) comments, homicides by those with SMI are few, victims are family members most often, and many are not failures of the mental health services because they have never been in contact with such services. But better services will be safer services if they attend to the treatment needs of people with effective, acceptable and appropriate care that is informed about issues of risk.

Public policy must involve education of the public and policy makers about the true public health risks of this rare but very severe problem of mentally abnormal

homicide. It argues for good and effective services (Health and Disability Commissioner, 2002). Homicide is a rare but recognised complication of SMI, and as mentioned, certain warning signs should be carefully considered if present.

There is no support from these data for re-institutionalisation. The rates of SMI related homicide have remained unchanged over the recent decades, during which homicide as a whole has risen sharply as have crime rates more generally, before plateauing in recent years. Difficulties have been encountered in the provision of mental health care to people who may have co-morbid substance use and lack social support necessary for effective recovery from SMI. The last 10-15 years have been notable for the introductions of the expansion of community support, increase in the resources to community mental health care, introduction of recovery based and family friendly mental health policies, effective forensic mental health services, new and more effective anti-psychotic medications, and the possibility of compulsory care in the community if a person is unable to consent to treatment. How much these (or any other) policies have contributed to the stable rate of mentally abnormal homicide cannot be determined from this work. However, providing best quality care to that small number of people with SMI who are at significant risk to others and supporting general mental health services in their care remain very important functions. This is supported by the findings of Erb et al (2001) who found the factors that were associated with mentally abnormal homicide in Germany to be lack of proper services for chronic high-risk patients and non-use of services by first episode patients.

The provision of these services to ensure effective treatment for people with psychotic illness in a manner that encourages early presentation, including from the 28.5% whose offence is their first episode of illness, are the initiatives most likely to create a climate and a context in which such events remain rare, or become even more rare. Individual cases of tragedy still require review to ensure that standards are being adhered to and policy, provision and standard of care is delivered to an appropriate level. The implication that society has much to fear from homicide by people with SMI is not supported by this study.

5.5 Further Research

The strengths of this study are that it is a national study of the best available data that can be drawn, in a country with a relatively efficient police force who are able to resolve most homicides detected. However, to gain an in-depth understanding of detailed and more complex interaction of issues it has limitations. First, a number of missing pieces of data in the area of demographic data and situational material relevant to understanding the patterns of homicide is lacking. Second, the use of data gathered for non-research purposes (such as not defining ethnicity as self-identified) limits the ability to analyse these factors in detail. Third, the lack of a consistent approach to diagnosis almost certainly under-diagnoses problems such as substance misuse, and may miss people with an SMI who are undetected amongst the perpetrators found to be legally responsible for their actions. Survey methodologies have found higher rates of SMI amongst homicide perpetrators than noted here (Cote and Hodgins, 1992). A different research methodology would be required to address these methodological shortcomings.

As it is clear that the contribution of SMI to total homicide is decreasing proportionately and is static as a population rate, why is it that the public perception is that they are being failed by increasingly unsafe and neglectful services? Do the

answers for this lie in media coverage, the greater desire of the public for accountability from professionals combined with greater expectations for successful treatment that comes from the hope of recovery models and community treatment? Of the small number who do commit homicide, what can be done to detect them and provide them with effective treatment and support before they commit homicide? These questions are raised but not answered by this work. Further research and reflection, not only by the mental health professionals and policy makers, but also by the media and politicians, is required if the lessons from this study are to be understood.

Chapter 6: Conclusion

Mentally abnormal homicide represents a small proportion of total homicide (a mean of 8.7% across the 3 decades studied) but psychotic illness is present more often than expected on a population rate, confirming that homicide is a rare but recognised complication of SMI.

Mentally abnormal homicide has fallen as a proportion of total homicide from approximately 19% of all homicide to 4% in the last 30 years, or an annual reduction of 4.2% relative risk.

The absolute numbers have remained static, as has the population rate at 0.13 per 100,000 population/year.

Of those with SMI who committed homicide, 28.6% had no prior contact with mental health services, and 10.3% had been admitted within the last month.

Of the 84 people killed by strangers between 1988 and 2000, 2 were killed by someone suffering from SMI. Victims of those with SMI were most commonly a family member or the partner of the perpetrator, more commonly so than mentally normal homicide perpetrators.

Whilst any such tragedy must be carefully considered, there is no evidence that services have become less safe since de-institutionalisation. Quite the opposite. Services are safer, rates of mentally abnormal homicide unchanged, and the public are at relatively lower risk from those with SMI than they were in 1970.

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Appendix 1

THE RELATIONSHIP BETWEEN MENTAL ILLNESS AND HOMICIDE IN NEW ZEALAND

DATA COLLECTION FORM 2002

Please place a tick ✓ *in the box or by writing the details in the spaces provided*

HOMICIDE EVENT CHARACTERISTICS *(For multiple offenders please put the same statistics in for each offender)*

1. **Name of offender** __________________________
2. **Offender code** __________
3. **Name of victim** __________________________
4. **Victim code** ___________
5. **Homicide event code (will be the same for multiple offenders)** ______
6. **Source of data**

   1 ❑ HMDB 2 ❑ LES 3 ❑ Courts 4 ❑ Parole Board

   5 ❑ Health index 6 ❑ Coronial services 7 ❑ Ministry of Health 8 ❑ Herald

7. **Number of offenders** ____________
8. **Number of offenders killed during or as a result of the homicide** ____
9. **Number of Victims** _________________
10. **Date of Homicide** _________________
11. **Year of Homicide** _________________
12. **Year of conviction** _________________

13. District in which homicide occurred

- 1 ❑ Northern
- 2 ❑ Northshore/ Waitakere
- 3 ❑ Auckland City
- 99 ❑ Missing value
- 4 ❑ Counties/ Manukau
- 5 ❑ Waikato
- 6 ❑ Bay of Plenty
- 7 ❑ Eastern
- 9 ❑ Central
- 10 ❑ Wellington
- 11 ❑ Tasman
- 12 ❑ Canterbury
- 13 ❑ Southern

14. Location of Homicide

- 1 ❑ Victim's home
- 2 ❑ Suspect/offender's home (if different from above)
- 3 ❑ Other home
- 4 ❑ Other residential premises (hostels etc)
- 5 ❑ Shop
- 6 ❑ Shopping mall
- 7 ❑ Pub, club or disco
- 8 ❑ Immediate environs of pub or club
- 9 ❑ Car park or public garage
- 10 ❑ Street
- 11 ❑ Sports venue
- 12 ❑ Beach
- 13 ❑ Public transport
- 14 ❑ Taxi
- 15 ❑ Other motor vehicle
- 16 ❑ Railway station
- 17 ❑ Immediate environs of railway station
- 18 ❑ Bus stop
- 19 ❑ Taxi rank
- 20 ❑ Public park
- 21 ❑ Bushland/deserted open area
- 22 ❑ Theatre/cinema/place of entertainment
- 23 ❑ Police prison custody
- 24 ❑ Institution – Specify……………
- 25 ❑ Bank or similar
- 26 ❑ Other – Specify…………….
- 27 ❑ Unknown

15. Method (more than one method may be recorded):

- 1 ❑ Firearm
- 2 ❑ Knife or other sharp instrument held in hand
- 3 ❑ Blunt instrument held in hand
- 4 ❑ Assault (hands and feet)
- 5 ❑ Strangulation/suffocation
- 6 ❑ Explosion
- 7 ❑ Poison
- 8 ❑ Fire
- 9 ❑ Drowning
- 10 ❑ Neglect
- 11 ❑ Other - Specify……………
- 12 ❑ Unknown

16. In the view of the Police did any of the following factors precipitate the homicide?

- 1 ❑ Suicide pact
- 2 ❑ Suspect/offender's psychiatric condition
- 3 ❑ Suspect/Offender's disability
- 4 ❑ Missing value

OFFENDER (For multiple offenders please use the next offender code and complete the section below for each. The above section will be the same for each multiple offender)

1. Sex

1 ❑ Male 2 ❑ Female 3 ❑ Unknown

2. Age at time of offence………

3. Country of birth……………………….

4. Usual Occupation

- 1 ❑ Professional/managerial Specify…………..
- 2 ❑ Clerical/skilled worker Specify…………..
- 3 ❑ Retail/Sales/Service worker Specify…………..
- 4 ❑ Agriculture and Fisheries worker Specify……..……..
- 5 ❑ Unskilled
- 6 ❑ Home duties
- 7 ❑ Student
- 8 ❑ Retired
- 9 ❑ Non labour force/Not applicable
- 10 ❑ Unknown
- 99 ❑ Missing value

5. Employment status at time of homicide

1 ❑ Employed 2 ❑ Unemployed 3 ❑ Unknown 4 ❑ Not applicable

99 ❑ Missing value

6. Ethnicity

- 1 ❑ NZ European/Pakeha
- 2 ❑ Maori
- 3 ❑ Polynesian – Specify……..………
- 4 ❑ Asian
- 5 ❑ Indian
- 6 ❑ Other European
- 7 ❑ Other Specify……..………
- 8 ❑ Unknown
- 99 ❑ Missing value

7. Marital Status

- 1❑ Never married/single
- 2❑ Married
- 3❑ Defacto
- 4❑ Separated – married
- 5❑ Separated - defacto
- 6❑ Divorced
- 7❑ Widowed
- 8❑ Other
- 9❑ Unknown
- 99❑ Missing value

8. Did this person have a documented <u>medical</u> history of psychiatric/psychological disorder?

1❑ Yes Specify……..…….. 2❑ No 3❑ Unknown

9. In the view of the Police was this person <u>under the influence</u> of alcohol <u>at the time</u> of the homicide?

1❑ Yes 2❑ No 3❑ Unknown

10. In the view of the Police was this person <u>under the influence</u> of other substances <u>at the time</u> of the homicide?

1❑ Yes 2❑ No 3❑ Unknown

11. Was this person known to the Police as a <u>regular/heavy user</u> of alcohol leading up to the homicide

1❑ Yes 2❑ No 3❑ Unknown

12. Was this person known to the Police as a <u>regular/heavy user</u> of any other substances leading up to the homicide

1❑ Yes 2❑ No 3❑ Unknown

13. Was the person on bail or probation/parole at time of homicide?

- 1❑ Yes bail
- 2❑ Yes probation/parole
- 3❑ No
- 4❑ Not applicable
- 5❑ Unknown

14. Suspect/offender charged with

- 1 ❑ Murder
- 2 ❑ Manslaughter
- 3 ❑ Infanticide
- 4 ❑ Other
- 5 ❑ Not applicable – suspect dead
- 6 ❑ Not applicable – suspect not apprehended
- 7 ❑ Unknown

15. Outcome of court proceedings

- 1 ❑ Convicted
- 2 ❑ Section 19 discharge
- 3 ❑ Section 115
- 4 ❑
- 5 ❑ Section 118

16. Suspect/offender deceased during or following the homicide

- 1 ❑ Death by legal intervention
- 2 ❑ Killed by other
- 3 ❑ Killed by accident
- 4 ❑ Successful suicide prior to arrest
- 5 ❑ Successful suicide following arrest
- 6 ❑ Natural causes
- 7 ❑ Unknown
- 8 ❑ Not applicable

17. Suspect detail (homicide-suicide only)
(Cause of death of the suspect – by suicide)

- 1 ❑ Poisoning with solids/liquids
- 2 ❑ Domestic gases
- 3 ❑ Other gases (including vehicle exhaust)
- 4 ❑ Hanging
- 5 ❑ Submersion
- 6 ❑ Firearms
- 7 ❑ Explosives
- 8 ❑ Cutting/piercing
- 9 ❑ Jumping
- 10 ❑ Other
- 11 ❑ Unknown
- 12 ❑ Not applicable
- 99 ❑ Missing value

18. Intervals between victim and suspect death

- 1 ❑ Suicide prior to victim's death
- 2 ❑ Simultaneously
- 3 ❑ Less than 24 hours
- 4 ❑ 24 - 48 hours
- 5 ❑ >48 – 72 hours
- 6 ❑ 3 – 7 days
- 7 ❑ Other – specify in days..............
- 8 ❑ Unknown
- 9 ❑ Not applicable

19. Diagnosis of mental illness (may tick more than one)

1❑ Schizophrenia/schizoaffective disorder
2❑ Other psychotic illness
Specify..............
3❑ Bipolar affective disorder
4❑ Major depressive disorder
5❑ Other affective disorder
Specify..............
6❑ Alcohol abuse/dependency
7❑ Substance abuse/dependency
8❑ Head injury
9❑ Other organic brain condition
Specify..............
10❑ Other
Specify..............

20. Axis II diagnosis

1❑ Personality Disorder
Specify..............
2❑ Intellectual Disability
3❑ Unknown

21. Contact with mental health services prior to the homicide. (Mental Health Index)

1❑ Yes 2❑ No 3❑ Unknown

22. Number of times in month prior to offence _________

23. Number of times in year prior to offence _________

24. Number of times in five years prior to offence _________

25. Contact with mental health services after the homicide

1❑ Yes 2❑ No 3❑ Unknown

MINISTRY OF HEALTH DATA

(For those with a mental health disposition)

1. Legal status at time of offence

- 1❑ Under the Mental Health Act – inpatient
- 2❑ Under Mental Health Act – outpatient
- 3❑ Not under Mental Health Act
- 4❑ Special Patient
- 5❑ Not known
- 99❑ Missing value

2. Mental health disposition

- 1❑ Not guilty for reason of insanity Section 115 (1)(b)
- 2❑ Unfit to plead Section 115(1)(a)
- 3❑ Section 118
- 4❑ Infanticide
- 5❑ Other Specify..............

3. Diagnosis of mental illness at time of admission (initial) (may tick more than one)

- 1❑ Schizophrenia/schizoaffective disorder
- 2❑ Other psychotic illness Specify..............
- 3❑ Bipolar affective disorder
- 4❑ Major depressive disorder
- 5❑ Other affective disorder Specify..............
- 6❑ Alcohol abuse/dependency
- 7❑ Substance abuse/dependency
- 8❑ Head injury
- 9❑ Other organic brain condition Specify..............
- 10❑ Other Specify..............

4. Axis II diagnosis

- 1❑ Personality Disorder Specify..............
- 2❑ Intellectual Disability
- 3❑ Unknown

5. Diagnosis of mental illness most recent (end of 2000) (may tick more than one)

- 1❑ Schizophrenia/schizoaffective disorder
- 2❑ Other psychotic illness Specify..............
- 3❑ Bipolar affective disorder
- 4❑ Major depressive disorder
- 5❑ Other affective disorder Specify..............
- 6❑ Alcohol abuse/dependency
- 7❑ Substance abuse/dependency
- 8❑ Head injury
- 9❑ Other organic brain condition Specify..............
- 10❑ Other Specify..............

6. Axis II diagnosis most recent (end of 2000)

1❑ Personality Disorder Specify…………… 2❑ Intellectual Disability 3❑ Unknown

7. Therapeutic engagement at time of offence
Compliance with medication

1❑ Yes 3❑ Unknown
2❑ No 4❑ Not applicable

8. Therapeutic engagement at time of offence
Compliance with supervision

1❑ Yes 3❑ Unknown
2❑ No 4❑ Not applicable

9. How often admitted in the month prior to the offence? ________

10. How often admitted in the year prior to the offence? _________

11. How often admitted in the five years prior to the offence? _________

12. Date of special patient order? _________

13. Date of cessation of special patient status? _________

14. Date when ministerial long leave was granted __________

15. Time in months – from commencement to ministerial long leave _________

16. Time in months – from ministerial long leave to status ceased __________

17. Time in months – as a special patient from commencement to cessation _________

18. Has the person since died

1❑ Yes 2❑ No If yes, specify cause……………

19. Hospital admitted to

- 1 ❑ Oakley
- 2 ❑ Carrington
- 3 ❑ Kingseat
- 4 ❑ Tokanui
- 5 ❑ Porirua
- 6 ❑ Sunnyside
- 7 ❑ Cherry Farm
- 8 ❑ Templeton
- 9 ❑ Lake Alice
- 10 ❑ Mason Clinic
- 11 ❑ Waakari
- 12 ❑ Henry Bennett Centre
- 13 ❑ Stanford House
- 99 ❑ Henry Bennett Centre
- 15 ❑ Other Specify..............
- 99 ❑ Unknown

20. Hospital discharged from

- 1 ❑ Oakley
- 2 ❑ Carrington
- 3 ❑ Kingseat
- 4 ❑ Tokanui
- 5 ❑ Porirua
- 6 ❑ Sunnyside
- 7 ❑ Cherry Farm
- 8 ❑ Templeton
- 9 ❑ Lake Alice
- 10 ❑ Mason Clinic
- 11 ❑ Waakari
- 12 ❑ Henry Bennett Centre
- 13 ❑ Stanford House
- 14 ❑ Henry Bennett Centre
- 15 ❑ Other Specify..............
- 99 ❑ Unknown

21. Spent time in the National Secure Unit

- 1 ❑ Yes
- 2 ❑ No
- 3 ❑ Unknown
- 4 ❑ Not applicable

CHARACTERISTICS OF THE VICTIM IN THE HOMICIDE

(To be completed in respect of each victim)

1. Sex 1❑ Male 2❑ Female 3❑ Unknown

2. Age at time of the offence______

3. Country of birth ________________

4. Usual Occupation

1❑ Professional/managerial
Specify…………..
2❑ Clerical/skilled worker
Specify…………..
3❑ Retail/Sales/Service worker
Specify…………..
4❑ Agriculture and Fisheries worker
Specify…………..
5❑ Unskilled
6❑ Home duties
7❑ Student
8❑ Retired
9❑ Non labour force/Not applicable
10❑ Unknown
99❑ Missing value

5. Employment status at time of homicide

1❑ Employed 2❑ Unemployed 3❑ Unknown 4❑ Not applicable

6. Ethnicity

1❑ NZ European/Pakeha
2❑ Maori
3❑ Polynesian
Specify……………
4❑ Asian
5❑ Indian
6❑ Other European
7❑ Other Specify……………
8❑ Unknown
99❑ Missing value

7. Marital Status

1❑ Never married/single
2❑ Married
3❑ Defacto
4❑ Separated - married
5❑ Separated – defacto
6❑ Divorced
7❑ Widowed
8❑ Other
9❑ Unknown
99❑ Missing value

8. Physical violence by victim

- 1❑ Victim initiated first physical contact
- 2❑ Victim reacted to offender with violence
- 3❑ No physical violence by victim
- 4❑ Yes, but unclear who struck first blow
- 5❑ Unknown
- 99❑ Missing value

9. Please indicate the <u>Primary</u> relationship between the victim and offender (s) (may be multiple if more than one offender)

- 1❑ Husband
- 2❑ Wife
- 3❑ Separated husband
- 4❑ Separated wife
- 5❑ Divorced husband
- 6❑ Divorced wife
- 7❑ Defacto husband
- 8❑ Defacto wife
- 9❑ Ex Defacto husband
- 10❑ Ex Defacto wife
- 11❑ Custodial parent
- 12❑ Non custodial parent
- 13❑ Step parent
- 14❑ Defacto parent
- 15❑ Child
- 16❑ Adult child
- 17❑ Grandchild
- 18❑ Grandparent
- 19❑ Sibling
- 20❑ Step-sibling
- 21❑ Relative
- 22❑ Friend
- 23❑ Acquaintance
- 24❑ Short term acquaintance (less than 24 hours)
- 25❑ Girlfriend
- 26❑ Boyfriend
- 27❑ Ex-girlfriend
- 28❑ Ex-boyfriend
- 29❑ Homosexual/lesbian partner
- 30❑ Ex-homosexual/lesbian partner
- 31❑ Stranger
- 32❑ Other – known to victim Specify……………
- 33❑ Not established

10. Cohabitation: Did the victim and suspect/offender(s) reside in the same household at the time of the homicide

- 1❑ Yes
- 2❑ No
- 3❑ Unknown
- 4❑ Not applicable
- 99❑ Missing value

11. Was there, or had there previously been, a conjugal relationship between victim and the offender?

1 ❑	Yes	3 ❑	Unknown
2 ❑	No	4 ❑	Not applicable
		99 ❑	Missing value