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Mental Health and Addiction in Counties Manukau:

Health Needs Assessment

**Dr Graeme Lindsay
Public Health Medicine Registrar
Planning and Funding Team
Counties Manukau DHB**

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Abbreviations

ADHB	Auckland District Health Board
AN	Anorexia Nervosa
BN	Bulimia Nervosa
BPD	Bipolar Disorder
CADS	Community Alcohol and Drug Services
CM	Counties Manukau
CMDHB	Counties Manukau District Health Board
DHB	District Health Board
DSM	Diagnostic and Statistical Manual of Mental Disorders
HNA	Health Needs Assessment
ICD	International Classification of Diseases
MD	Major Depression
MHINC	Mental Health Information National Collection
MOH	Ministry of Health
NHI	National Health Index
NMDS	National Minimum Data Set
NOS	Not Otherwise Specified
NZ	New Zealand
NZDep96	New Zealand Deprivation Score 1996
NZDep01	New Zealand Deprivation Score 2001
NZHIS	New Zealand Health Information Service
NZHS	New Zealand Health Survey
NZMHS	New Zealand Mental Health Survey
PD	Personality Disorder
PHO	Primary Health Organisation
PTSD	Post-Traumatic Stress Disorder
SNZ	Statistics New Zealand
WDHB	Waitemata District Health Board
WHO	World Health Organisation
WMH-CIDI	World Mental Health Composite International Diagnostic Interview

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Key themes

This report provides an overview of the mental health and addiction status for people of all ages. Counties Manukau specific data are provided where possible.

The report is broadly broken into sections on demography, common and/or serious mental disorders, alcohol and substance use disorders, problem gambling, suicide and the mental health and addiction services provided to Counties Manukau (CM) residents. The final section is devoted to utilisation of DHB mental health services by CM residents, which will be of particular interest to those involved in these services.

The key findings are summarised below. The potential implications for health planning to maximise health gain for people with mental disorders are discussed.

Note that the approach taken in the literature and in this HNA is very much a westernised view on mental health, with medicalisation of mental health issues and categorisation of mental disorders using ever expanding classifications system such as the DSM-IV. However, given all of this, this approach does provide a common framework to enable comparisons between different groups, over time and between different countries. There will be continuing debate on issues such as the validity of this approach, classification systems and the boundaries between what is normal human experience and what is "illness".

The recent New Zealand Mental Health Survey is a landmark study that will help in the better understanding of mental health issues

The recent *Te Rau Hinengaro: The New Zealand Mental Health Survey* (NZMHS) will enable better understanding of mental disorders, including data on prevalence, the burden of mental disorder, unmet need for treatment as well as potentially modifiable barriers to treatment.

Prior to the NZMHS, data on the prevalence in the community of mental disorders were limited, out of date or not representative of the NZ population. Initial data were published in September 2006, but much more information will be published in time. The study involved interviews with about 13,000 people aged 16 and older in the community and it is the first time that large numbers of Māori and Pacific peoples have been studied.

The diagnoses assessed were anxiety disorders (e.g. phobias, post-traumatic stress disorder and obsessive-compulsive disorder), mood disorders (depression, dysthymia and bipolar disorder), substance use disorders (alcohol or drugs) and eating disorders (anorexia and bulimia). Limitations of the survey are that relatively uncommon conditions such as schizophrenia, other psychotic disorders and predominately childhood disorders were not surveyed. In addition, dementia and personality disorders were not looked at and the survey did not include people in institutions and those aged <16 years.

Mental disorders are common, but how common is a matter of some debate

Mental disorders are very common in New Zealand and worldwide. In the recent NZMHS, about one in five people experienced symptoms within the previous year that were consistent with a DSM-IV mental or substance disorder diagnosis. The authors predicted that nearly one in two New Zealanders will have had some kind of mental disorder by the age of 75 years. Mental disorders on this scale have major implications for individuals, family and whānau, health services and society.

While there is little debate that mental disorders affect a large portion of the population at some stage of their lives, how many people are affected is a matter of some debate. Some critics argue that the disease-focused approach of psychiatry and the use of ever expanding classification systems may lead to over-medicalisation of normal human experiences.

Similarly, there has been an increase in the reported prevalence of diagnosed mental disorders over the previous several decades. The jury is still out on whether or not mental disorders have indeed become more common over time, or whether this apparent increase is instead due to greater awareness of mental illness, improved diagnosis, changes in classification systems over time (e.g. DSM-IV has many more categories than DSM-III) and recall bias.

Mental disorders can affect anyone, but are much more common in some groups

Mental disorders are influenced by many factors such as age, gender, ethnicity and socioeconomic status. People with a mental disorder frequently develop another mental disorder.

Youth and young adults have the highest overall rates of mental disorders. Age has a major impact on the prevalence of particular mental disorders. Some conditions have onset throughout the life (e.g. depression and anxiety) while others are much more common in certain age-groups. For example, dementia affects

mainly the 65+ age group, while attention deficit / hyperactivity disorder affects mainly children and adolescents.

Females have higher prevalences of anxiety disorder, major depression and eating disorders than males, whereas males have much higher prevalences of substance abuse disorders.

Mental disorders are more common in people who are socioeconomically disadvantaged.

Māori appear to have the highest overall prevalences of mental disorders, followed by Pacific peoples, with rates in both groups significantly higher than for the remainder of the population.

Demography and the impact on the pattern of mental disorders in Counties Manukau

CMDHB has a number of demographic factors that may particularly impact on the number of people with mental disorders and the pattern of mental illness. These are the relatively young population, the high overall population growth, the very high population growth in the 65+ age group, the large proportion of deprived people relative to NZ as a whole, the diverse ethnic makeup of CM at present and the changing ethnic makeup over time

The predicted high rate of growth in the CM population will lead to more people with mental disorders; however, due to changes in population structure over time, the pattern of mental disorders may change.

The population age structure has a major impact on the prevalence of particular mental disorders. CM has a relatively young population at present which is important as youth and young adults have the highest overall rates of mental disorders. The very high growth in the 65+ age group is important as this is the age group that dementia predominately affects.

Females have higher prevalences of anxiety disorder, major depression and eating disorders than males, whereas males have much higher prevalences of substance abuse disorders

The large proportion of deprived people in CM relative to the NZ as a whole is important as deprivation is associated with increased rates of mental disorders.

Māori seem to have the highest overall prevalences of mental disorders, followed by Pacific peoples. Much of the increased prevalence appears to be due to the relative youthfulness and socioeconomic disadvantage of the Māori and Pacific populations. In contrast, although data are currently limited, Asian people may have low overall rates of mental disorders. CM has a diverse ethnic makeup at present with Māori accounting for 17% of the CM population, Pacific 21%, Asian 15% and European/Other 47%. However, this makeup will change over time, with Asian and Pacific growth predicted to be much greater than for other ethnic groups.

Socioeconomic factors and the relation to mental health

There is a strong association between socioeconomic factors such as low household income or area deprivation, and increased prevalence of mental illness and duration of illness. This is important as the CM general population has a high proportion of people living in deprived areas.

However, the association between socioeconomic factors and visits to anyone in the health sector in NZ for mental health reasons is mixed. Data from the NZMHS showed little association and no significant association at all, if the severity of illness was adjusted for. This may indicate that for a given need for treatment, no marked inequality of access to healthcare treatment in relation to socioeconomic factors is apparent. Other data shows that CM residents in contact with DHB mental health services are even more deprived than the general CM population, with Māori and Pacific peoples disproportionately represented. Of particular note, people resident in the more deprived areas in CM have significantly longer admission durations and higher admission rates.

Consideration of socioeconomic factors is important at an individual level as they may act as barriers to seeking help and effective management as well as prolonging illness. They are also important factors to consider in mental health service planning and when making comparisons (such as length of stay) between different DHBs and other parts of the health sector, whose populations may have markedly different deprivation profiles. In order to address health inequalities at a fundamental level, then a whole of society approach will be needed to change factors such as income distribution, education levels, employment and housing.

Comorbid mental illness is common

Coexisting or “comorbid” mental disorders are common and have considerable implications for the individual, family and health services. There is a clear pattern of people with a mental disorder frequently developing another mental disorder. There is also a clear association between comorbid mental disorders and increased suicidal behaviour. As the number of mental disorders increases, symptom severity, case severity and disability also increase. The more disorders experienced, the greater the chance of accessing health services of all kinds, particularly specialist mental health services.

There is some debate over potential explanations for comorbidity; however, regardless of this, the high prevalence of comorbid disorders has important implications regarding detection of comorbid conditions, funding and configuration of mental health services, and opportunities for secondary prevention.

Coexisting physical illness is common and a challenge

International and NZ research, including the recently published NZMHS, shows significant comorbidity between mental disorders and chronic physical conditions. People with mental disorders often have higher rates of chronic physical conditions such as cardiovascular disease, diabetes and chronic pain. Poor physical health status and chronic disease risk factors such as smoking, obesity and hazardous drinking are also more prevalent in people with mental disorders. Conversely, people with chronic physical conditions, such as cardiovascular disease, diabetes and cancer, are generally more likely to have mental disorders (such as depression or anxiety) than those without these conditions.

The treatments used in mental disorders can themselves result in physical risk factors and conditions. Antipsychotic medications are of particular concern as they can cause weight gain which predisposes people to conditions such as diabetes and cardiovascular disease. These medications can also cause hyperglycaemia, worsen diabetes control and some may increase the risk of acquiring diabetes.

Coexisting conditions can lead to greater functional impairment or disability, poor medicine adherence and higher treatment costs. There is a considerably higher risk of premature mortality in people with both a mental and a physical disorder, even after adjusting for higher suicide rates. Despite the high prevalence of physical comorbidity, there is some evidence that it is frequently overlooked in people with mental disorders resulting in lower levels of preventive and medical care.

Given the strong association between mental disorders and physical illness, there is a challenge for the health sector to provide for concurrent mental and physical health needs. Specialist medical and mental health services currently function largely independently of each other. In addition, the primary care sector does not always have sufficient capability with regards to the provision of mental health care. The comorbidity between physical and mental health conditions also emphasises the importance for chronic care programmes to consider both these areas.

Mental disorders can be very disabling and result in a large burden of disease

Mental disorders are among the most burdensome conditions in the world and their burden is predicted to increase over next decades.

The WHO estimated that mental / substance use disorders account for about 10% of the total DALYs (Disability Adjusted Life Years) worldwide. Major depression is currently likely to be the fourth largest cause of disease burden worldwide. By 2030, it is predicted that major depression will become the second leading cause of DALYs, ahead of ischaemic heart disease, chronic obstructive pulmonary disease (COPD) and ischaemic heart disease. HIV/AIDS is predicted to be the leading burden worldwide.

There are, however, regional variations in the WHO estimates, with depression in NZ currently likely to be the second leading disease burden (8.1% of total DALYs), similar to the ischaemic heart disease (7.6%) and COPD (8.5%) burden. The other major causes of mental disorder burden in NZ were alcohol use disorders, dementias, self-inflicted injuries, schizophrenia and bipolar disorders. Overall, mental/substance use disorders accounted for almost a quarter of all DALYs in NZ.

Mental disorders can cause as much disability as chronic physical conditions, and the combination of the two is more disabling than either one alone. Impairment with work or other normal daily activities seem particularly affected by the presence of mental disorders. Mobility, self-care, cognitive ability and social skills are also affected, but not to the same extent as role impairment. The more severe the mental disorder, the more severe the resulting disability. For example, in the NZMHS, people with a serious mental disorder were on average, totally unable to carry out their normal daily activities for 60 days of the year.

Given the high prevalence of mental disorders and the large associated burden it is imperative that mental disorders are a priority area for the mental health sector, the wider health sector, intersectoral initiatives and indeed all of society.

What are the common mental disorders?

What is common depends on a number of factors including gender, age-group or ethnicity. These factors are covered elsewhere in this summary.

The setting also has a big impact on what disorder are common. In terms of prevalence in the community for people aged 16+, data from the NZMHS shows that anxiety and mood disorders are by far the most common disorders, followed by substance use disorders. These are discussed in more detail below.

Data on the most common disorders in people presenting to primary care are limited, but they are likely to be similar to that of people in the community.

In terms of CM residents seen by DHB mental health services in 2005, the overall most common principal diagnosis was "Diagnosis or Condition Deferred on Axis I or II" (30% of total), which was a surprisingly high proportion. Further investigation revealed that a significant proportion of these diagnoses are due to the almost routine practice in the alcohol and drug services of not assigning a specific diagnosis. As a result, the "Diagnosis or Condition Deferred on Axis I or II" becomes the default diagnosis in the system. There will also be a number of people in whom a confirmed diagnosis may not always be immediately apparent.

The next most common overall principal diagnoses were schizophrenia and other psychosis (18% of total), depressive disorders (5%), bipolar disorder (5%), dementia (5%), attention deficit and disruptive behaviour disorders (3%), anxiety disorders (3%). Of particular note, alcohol disorders and drug use disorders accounted for only 1.9% and 1.6% respectively of total principal diagnoses, much lower than expected. Again, this is due to the almost routine practice in the alcohol and drug services of not assigning a specific diagnosis. The true number of people with alcohol and drug disorders will be much higher.

Note that these figures relate to the principal diagnoses only. Clients may have other disorders as secondary diagnoses. Also note that the above relates to all people aged sixteen and over, and that particular disorders will be more common in certain age groups within this overall age range.

Schizophrenia affects almost 1 in a 100 people and is associated with significant disability

Although schizophrenia is commonly viewed as a single condition, it is a descriptive term that refers to a poorly understood group of heterogeneous brain disorders with highly variable presentations, impairment of function and course.

The onset of schizophrenia typically occurs during adolescence and early adulthood and affects males more than females. Māori and Pacific peoples seem disproportionately diagnosed with schizophrenia.

Note that the recent NZMHS did not include schizophrenia. However, a recent systematic review estimated that the median lifetime chance of developing schizophrenia was 0.7% (7 in a 1,000 people), slightly less than the commonly quoted 1% or 1 in a 100 people. The range of estimates did, however, vary widely from 3-27 in a 1000 people.

The 12-month prevalence data also varied widely in the literature, with a median prevalence estimated at about 0.3%, or 3 per 1,000 population. If these figures were extrapolated to the CM population, there could be a median of 1450 people with schizophrenia during a 12-month period in CM (range 570-3600). Given that 1035 CM residents with schizophrenia saw DHB mental health services in 2005, it seems that the lower end of the estimates is not valid. However, it is not known how accurate the median and upper range estimates may be.

Data from another systematic review, which if extrapolated to the CM population, could mean there are 30-190 (median 70) new cases of schizophrenia a year in CM.

It is not known what proportion of people with schizophrenia in CM see DHB mental health services. However, if the lower end of estimated number of people with schizophrenia in CM within a 12-month period were correct, then it may be that all or almost all people do see DHB services. However, if the median number (n=1450) is correct, this would mean that 70% of people with schizophrenia saw a DHB mental health service in 2005. If the upper limit of the estimated number with schizophrenia in CM is used (n=3610), this would mean that only 30% of these people saw a DHB mental health service.

People with schizophrenia commonly have other mental illnesses. Coexisting medical conditions and risk factors for disease, particularly for diabetes and cardiovascular disease are very common. Despite this, levels of preventive and medical care may be lower than for people without schizophrenia. Mortality may be up to three times higher than the general population, and is mainly due to suicide and cardiovascular disease. Of note, on average people with schizophrenia have many unmet needs related to vocational opportunities, daytime activities, relief of psychotic symptoms and company in particular. The burden associated with schizophrenia is highest for youth and younger adults.

Depressive disorders are common and are associated with a large burden of disease.

Depressive disorders seem to be very common in the community. It was estimated recently in the NZMHS that the chance of having an episode of major depression by the age of 75 years may be around 25%. However, it is possible that the chance is even higher. For example, data from large ongoing NZ longitudinal studies show that up to 37% of people developed major depression (MD) by the age of 26, which is particularly worrying as these people have the majority of their life still to come.

Overall, depressive disorders affect women approximately twice as commonly as men; however, it is possible that these disorders are underdiagnosed in men. MD is a condition that can have onset throughout the lifespan with a peak onset during late adolescence and early 20's. Pacific peoples seem to have the lowest rate of MD, while the rate in Māori was similar to "Other" ethnic groups. Data on depression in Asian peoples and in different ethnic groups presenting to primary care are currently limited.

Depression frequently occurs with other mental health conditions, especially anxiety, personality disorders, eating disorders and substance abuse. Chronic medical conditions such as diabetes and coronary heart disease are associated with increased rates of depression; however, depression is likely to be under-recognised.

Depressive disorders can cause as much functional impairment as chronic medical conditions such as diabetes, and cardiovascular disease. The risk of suicide is increased. Recurrence is common in MD, with an estimated 50-85% of people who experience depression having another episode at some stage during their life.

Worldwide, MD is the fourth leading cause of disease burden as measured by Disability Adjusted Life Years (DALYs), and by 2030, depression is projected to be the second leading cause. Currently in NZ, MD is likely to be the second leading cause of burden and similar to the ischaemic heart disease burden. The economic costs of depressive disorders to individuals, family, health services and society are enormous.

General practitioners are the most commonly consulted professional by people with depressive disorders. When MD is actively screened for in primary care, it appears to be very common.

People with depressive disorders are also commonly seen in secondary care. In 2005, around 13% (n=1,100) of the CM residents seen by DHB mental health services had a depressive disorder diagnosis, about 85% of which were MD.

If 12-month prevalence data from the NZMHS is extrapolated to CM, then about 5% of the estimated number of CM residents aged 16+ with major depression visited DHB mental health services in 2005, with similar proportions for men and women. Of particular note, was the large variation between different age groups, from a low of about 2% for people aged 16-24 years to over 25% for people aged 65+.

Bipolar disorders disproportionately affect Māori, Pacific peoples and younger people

Bipolar disorders (BPD) cover a broad spectrum of conditions and as a group they are common disorders, affecting men and women at a similar rate. BPD can result in much impairment and disability as well as a significantly increased risk of suicidal behaviour.

The recent NZMHS studied BPD using a broad definition which included BPD-I, BPD-II as well as subthreshold BPD. The overall prevalence of BPD in people aged 16+ in the community during a 12-month period was about 2%, with similar figures for men and women. Higher prevalences were found in youth and younger adults.

If NZMHS prevalence data are extrapolated to the CM population, this would mean that there would be approximately 7,000 people with BPD in CM during a 12-month period.

The NZMHS estimated the risk of developing BPD by the age of 75 years at about 5%.

Rates of BPD in the NZMHS were highest in Māori, followed by Pacific peoples.

In 2005, about 4% (n=365) of the CM residents seen by DHB mental health services had a bipolar disorder diagnosis. BPD-I accounted for about 80% of cases, BPD not otherwise specified 13%, BPD-II 5% and cyclothymia 2%. Māori had significantly higher rates than European or Pacific peoples.

If the extrapolation of the NZMHS 12-month prevalence data to CM is correct, then about 5% of the estimated number of CM residents aged 16+ with BPD visited DHB mental health services in 2005, with similar proportions for men and women.

Anxiety disorders are very common in the community, but only a very small proportion are seen by DHB mental health services

There is a very broad range of anxiety disorders including panic disorder, phobia, general anxiety disorder, obsessive-compulsive disorder and post-traumatic stress disorder (PTSD).

Anxiety disorders are very common and generally affect females more than males. In the NZMHS, the overall 12-month prevalence of anxiety disorders in people aged 16+ in the community was approximately 15%. Phobias were by far the most common disorders. Prevalences of the individual anxiety disorders were generally highest in youth and younger adults.

If the 12-month NZMHS prevalence data are extrapolated to CM, this would mean that there are almost 50,000 people aged 16+ experiencing an anxiety disorder each year in CM.

The NZMHS estimated the chance of having an anxiety disorder by the age of 75 at almost 30%, the same chance as developing a mood disorder (major depression, dysthymia or BPD).

The prevalence of anxiety disorders was highest for Māori, followed by Pacific peoples.

If the extrapolation of the NZMHS 12-month prevalence data to CM is correct, then it seems likely that only a very small minority of people with anxiety disorders see DHB mental health services. In total, about 4% (n=328) of CM residents seen by DHB mental health services in 2005 had some type of anxiety disorder diagnosis.

PTSD was looked at in particular detail in this HNA as it is common, can be very disabling and coexisting mental disorders occur frequently. It can develop at any age and appears to be more common in women. The NZMHS estimated the 12-month prevalence of PTSD at 3% (men 1.6%, women 4.2%), which if extrapolated to the CM population, would mean that about 9,500 people aged 16+ experience PTSD each year in CM. About 0.1% (n=104) of all CM residents seen by DHB mental health services in 2005 had PTSD as a diagnosis.

The NZMHS estimated that the chance of an episode of PTSD by age 75 years was about 9%.

Personality disorders

Personality disorders (PD) are commonly diagnosed in the general population, are frequently seen in the health services and often occur with other mental disorders. It is important to note that there is much debate surrounding PD including the overlap between personality traits and PD, definitions, aetiology, treatment and prognosis.

Overseas data suggests that the prevalence of PD in the community is around 10%. NZ community data remains very limited as the recent NZ Mental Health Survey (NZMHS) did not include PD.

PD frequently occur co-morbidly with other mental disorders, particularly alcohol and other substance abuse. PD are associated with a number of factors such as poor educational achievement, unemployment and increased rates of self-harm and suicide.

Borderline PD was looked at in particular detail in this HNA as it is characterised by severe impairment in functioning and extensive use of mental health services. Overseas data suggests that diagnosed Borderline PD occurs in about 1-2% of the general population. The majority of those diagnosed are women.

In total, approximately 200 CM residents with a PD diagnosis were seen by DHB mental health services in 2005. Almost two-thirds of these had borderline PD as a diagnosis: 80% were women and the European ethnic group made up the majority (69%) of borderline PD clients, with Māori the next largest group at 14%.

Alcohol and other substance use disorders

Alcohol and other substance use are common and are associated with significant problems. People with mental disorders very commonly have co-existing alcohol and other substance use disorders. People with alcohol- or drug related problems are often seen by NGO alcohol and drug services, primary care, non-mental health secondary care services as well as by DHB mental health and addiction services.

About 20% of people may be drinking in a hazardous manner, with male rates significantly higher than female rates. Of note, Māori females seem to have significantly higher rates than all other females. Very limited data suggests that hazardous drinking in Asian peoples is uncommon; however, there is a concern that they may not be accessing alcohol services.

The NZMHS suggests that the prevalence in the general population during a 12-month period of alcohol abuse and alcohol dependence is about 3% and 1.5% respectively. The predicted lifetime prevalences are 13% and 4.5% respectively.

Almost 15% of the population have used drugs in the last 12-months according to the NZMHS. The prevalence of drug abuse and drug dependence during this period was about 1.2% and 0.7% respectively. The respective estimated lifetime prevalences are about 6% and 2%. Drug users are much more likely to have abuse or dependence problems than alcohol users; however, alcohol causes more disorder due to its more widespread use. Drug users tend to be male, young and have increased rates of alcohol problems.

In total, 1675 unique CM residents were seen by DHB Alcohol and Drug teams in 2005, which meant that about 20% of all unique CM residents seen by DHB mental health or addiction services were seen an Alcohol and Drug team.

However, the number of alcohol/drug-related principal diagnoses recorded in the MHINC was very low. This was due to almost all of the clients seeing the A+D teams being recorded as having a principal diagnosis of "Diagnosis or Condition Deferred on Axis I or Axis II" by default, rather than a specific diagnosis.

Eating disorders rates are highest for females, young people, Māori and Pacific peoples

The eating disorders anorexia nervosa and bulimia primarily affect females, adolescents and young adults.

The NZ Mental Health Survey (NZMHS) found that the 12-month prevalence of any eating disorder in people aged 16+ was <0.5% (AN <0.1%, BN <0.4%).

The NZMHS estimated that the overall lifetime risk of developing anorexia was 0.6% (females 1.0%, males 0.1%) and for bulimia it was 1.4% (females 2.0%, males 0.5%).

Surprisingly the NZMHS found that the lifetime chance of any eating disorder was approximately three times higher for Pacific peoples and twice as high for Māori compared to the Other ethnic grouping.

Most people with eating disorders have first onset during adolescence or their early 20s, with the 12-month prevalence decreasing with increasing age.

High rates of comorbid mental illness and substance abuse occur in people with eating disorders.

The number of people with eating disorders in the community is likely to be much higher than the numbers who attend primary care or secondary mental health services.

If the 12 month prevalence data from the NZMHS are extrapolated to the CM population, then approximately 1,600 people aged 16+ may have had an eating disorder in 2005.

The NZMHS found that there was a median delay of 10-15 years before people with eating disorders make contact for treatment. Only 11% of people with BN and 27% of people with AN made contact for treatment at the age of onset; however, close to 100% of people eventually made contact.

It seems very likely that only a very small minority (~2%) of people with eating disorders are seen by DHB mental health services, as less than 40 CM residents with an eating disorder diagnosis were seen by these services in 2005.

Problem gambling is a serious problem in our communities and affects the already disadvantaged the most

Problem gambling is an emerging public health issue in NZ and a priority area in the New Zealand Mental Health and Addiction Plan (2005). The effects of problem gambling are wide ranging and can result in increased rates of hazardous drinking, smoking, other substance abuse, poor mental health and suicide.

Both participation in gambling and the likelihood of problem gambling increase when gambling opportunities increase. Gambling opportunities, particularly non-casino gaming machines (NCGMs) and TABs, are much more likely to be located in deprived areas than less deprived areas. This is of particular concern as NCGMs are the major cause of problem gambling in New Zealand.

Māori and Pacific peoples are disproportionately affected by problem gambling and are about four to five times more likely to be problem gamblers than European or Other ethnicities. Gambling harm also disproportionately affects low-income people, with Māori and Pacific peoples overrepresented in this group.

As well as delivering appropriate problem gambling services, a public health approach to gambling-related harm is needed, with consideration of the broader environmental context (e.g. social, economic and cultural) in which gambling occurs.

Suicidal behaviours are common, but are more common in some groups than in others

Suicide and intentional self-harm are serious causes of mortality and morbidity in New Zealand. Reduction in suicidal behaviours is a priority in the *New Zealand Health Strategy*, the *New Zealand Injury Prevention Strategy* and the *New Zealand Suicide Prevention Strategy*.

NZ has one of the highest rates of suicide among the OECD countries with about 500 people dying each year, higher than the number from road traffic crashes. Rates are particularly high for men, youth, young adults and the poor. Suicide rates for CM have fluctuated around the national average.

Suicidal behaviour is common with about 16% of New Zealanders having thought seriously about suicide at some stage. About 5% have made a suicide plan and 4% have attempted suicide. Women, young people and the poor are most likely to have considered suicide in the last year. There are about 4,500 hospital admissions for intentional self-harm each year in NZ.

There are some ethnic variations in suicidal behaviour. Māori and Pacific people have significantly higher rates of making suicidal plans and suicide attempt. Māori suicide rates are consistently the highest, followed by Other, with Pacific and Asian rates the lowest.

Overall, people with mental disorders have rates of suicidal behaviour several times higher than the general population. Most people who commit suicide or make serious suicide attempts had one or more mental disorders at the time of the event.

Of particular note is that in NZ, almost half of the people who reported suicidal behaviour in the previous 12-months did not see any health professional. There is also some emerging evidence that of those people do make contact, only a minority receive adequate treatment.

Child and youth issues

Many mental disorders such as depression, anxiety and bipolar disorder have onset throughout the lifespan including in childhood and youth. In addition, there are also many disorders that are more specific to childhood or adolescence such as pervasive developmental disorders (e.g. autistic disorder, Asperger's syndrome), relational problems and attention deficit / disruptive behaviour disorders. Data on the prevalence of these disorders in NZ are limited.

It is important to note that the NZMHS looked only at people aged ≥ 16 years and the conditions that occur mainly in childhood were not studied. The NZMHS found that people aged 16-24 years had the highest 12-month prevalence rates for anxiety disorders, major depression, bipolar disorder, alcohol and drug disorders, eating disorders and suicidal and behaviour. Of all the age groups, youth rates of suicide are currently the second highest in NZ

In terms of CM residents seen by DHB mental health services, for children aged ≤ 14 , the most common principal diagnoses by far were relational problems and attention deficit / disruptive behaviour disorders. Pervasive developmental disorders, anxiety and depressive disorders were the next most common conditions. People aged 15-19 have a different pattern with depressive disorders becoming more prominent and the emergence of schizophrenia and other psychoses. In the 20-24 year age-group, schizophrenia and other psychoses were the most prominent conditions by far, followed by depressive disorders.

Older people seem to have less mental disorders on the whole, but dementia is going to be an increasing problem as the population ages

People aged 65 years and older, for the most part, seem to have a lower burden of mental disorders. For all mental and substance abuse disorders that were studied in the NZMHS, people aged 65+ had the lowest 12-month prevalence of all the age groups studied. Most mental disorders occur early in the lifespan, with only about 5% of people in the NZMHS having first onset of mental disorders after the age of 65 years.

However, dementia is an important physical condition that primarily affects people aged 65+, with an estimated prevalence of 8% in this age-group. People aged 85+ are particularly affected, with a prevalence of about 30%. There may currently be about 3,000 people aged 65+ with dementia in the CM region; however, only a minority of people with dementia have significant behaviour problems and need to be seen by DHB mental health services. In 2005, about 12% of the estimated number of CM residents with dementia accessed DHB mental health services.

The rapid growth in the 65+ population in CM and even higher growth of the 85+ population is predicted to lead to a doubling in the prevalence of dementia over the next 15 years. This growth has obvious implications for all the health sector, families and whānau.

The NZMHS suggests that people with mental disorders often do not access healthcare

The findings of the NZMHS indicate a significant number of people with mental disorder in the NZ community do not access treatment.

The NZMHS found that there seems to be significant under-utilisation of the health sector by people with mental disorders. Of those people with a mental disorder within the last 12 months, only 36% of people made a visit to someone in the health sector for mental health reasons. This varied by severity (58% for serious disorders, 36% for moderate disorders and 18% for mild disorders). The top reasons given for delays in seeking help, stopping treatment or not seeking help were; wanting to handle the problem themselves, the problem spontaneously resolved, thinking the problem would get better by itself and cost.

The NZMHS data also shows that as the severity of illness increases, the access to healthcare also increased. Given the same severity of illness, access to healthcare treatment was fairly equitable across different age, gender and socioeconomic groups. However, there were ethnic disparities, with Pacific peoples and, to a lesser extent, Māori, less likely to have made any visit for mental health reasons than Others.

There are very significant delays from the onset of mental disorder to the time of first treatment which varied widely between disorders. For example, there was a median delay of 1 year for major depression, 13 years for bipolar disorder, 16 years for alcohol abuse, 19 years for post-traumatic stress disorder through an extreme of 38 years for specific phobias.

Although the percentage of people seeking help at the onset was low for most disorders, most people with ongoing mental disorders do eventually make treatment contact. However, post-traumatic stress disorder and bipolar disorder stand out, as it was estimated that only just over 50% will ever make treatment contact.

Primary care and mental health

The recent NZMHS estimated that about one in five people experienced symptoms within the previous year that were consistent with a DSM-IV mental or substance disorder diagnosis. The authors predicted that nearly one in two New Zealanders will have had some kind of mental disorder by the age of 75 years. Mental disorders on this scale have major implications for individuals, family and whānau, health services and society.

There will be particular challenges for primary care given the extent of mental disorder/substance use in the community. Although most people visit primary care on a regular basis, they may be reluctant to disclose psychological problems and substance use. There is often a significant delay (potentially many years or even decades) before people with mental disorders seek treatment. A major implication for primary care is that there may be a large number of people with an undetected mental disorder who visit primary care.

Primary care has a key role in the detection and management of mental disorders and any associated physical disorders or risk factors. PHOs also have major roles, not just in mental health initiatives that may focus on individuals, but in wider intersectorial initiatives and advocacy to help impact on the wider determinants of mental health.

Screening for mental disorders has obvious time, financial and workforce implications. Like any screening initiative, there needs to be careful consideration of the evidence, benefits and potential harms.

For those with recognised mental disorders, primary care is the healthcare provider most commonly seen. Mental disorders often require much input from GPs, nurses and other primary care staff; however, primary care has historically had limited capability in this area. This is slowly changing as more staff gain mental health skills and PHO mental health initiatives are implemented. Given the high prevalence and burden of mental disorders it is essential that primary care has sufficient workforce, with sufficient skills and time to address peoples' mental disorders/substance use. Cost should not be a barrier to people seeking help.

Other challenges for primary care will be to ensure consistent and comprehensive coding of mental disorders in practice management systems. This will have a number of benefits including helping to determine the extent of mental disorders seen in primary care, any potential inequalities in access to primary care by particular groups and identifying potential eligible clients for such initiatives as chronic care management programmes.

Mental Health and Addiction services for Counties Manukau residents

There is a broad range of mental health and addiction services currently provided for CM residents.

The DHB services focus on supporting people with the most serious mental health needs to achieve recovery of a full life within the community. These services are primarily delivered within the community, with access to inpatient services where necessary. Certain DHB services are provided as a regional or metro-Auckland service e.g. alcohol and drug, forensic, eating disorders and child inpatient services. Other services are delivered by CMDHB as local services e.g. community mental health teams, services for adult inpatients, Māori, Pacific, older people, child and youth.

Local and regional Non-Government Organisations (NGOs) provide a broad range of mental health and addiction services to the population of CMDHB, including alcohol and drug services, community support work / iwi support work, community living services, gambling support services and residential services.

Many people with mental illness are seen in primary care. In addition, specific initiatives are being undertaken by PHOs (Primary Health Organisations) such as chronic care management programmes for depression, alcohol and drug services, programmes to help clients with illnesses or disabilities who want to go back to work, intensive case management and nurses specialising in mental health.

The Auckland Regional Public Health Service also has specific programmes in the areas of alcohol, family violence and refugee health.

Utilisation of DHB mental health and addiction services by Counties Manukau residents

The final section of this report outlines data on CM residents seen by DHB mental health services anywhere in New Zealand in the 2005 calendar year. This section has much detail regarding the access to different DHB mental health and addiction services, which will be of particular interest to those in the mental health services. The data are from the Mental Health Information National Collection (MHINC), a national database. Note that NGO data are not included, as data submission by NGOs to the MHINC is low. The main points are summarised below:

Range of DHB services accessed: there is a very wide range of DHB mental health and addiction services that clients can access. The data on the use of individual services are too extensive to summarise here, except to say that a very large of CM services are outpatient/community-based and that the teams saw the largest number of clients were Community Teams; Child, Adolescent and Family Teams; Inpatient Teams (including psychiatric liaison visits); Alcohol and Drug Teams; and Psychogeriatric Teams.

Trends in the number of CM clients accessing services: the number of clients seen has been steadily increasing over the last few years, rising from around 2,000 client visits per month in 2000 to over 3,000 per month in 2006. For the 2005 calendar year, approximately 8,400 unique CM residents were seen by DHB mental health and addiction services.

Access rates in 2005:

The Mental Health Commission estimate that 3% of the population has a mental illness severe enough to benefit from mental health services has been often used as a crude measure of access for the mental health sector. Using this measure, about 1.94% of the estimated CM population accessed secondary mental health services in 2005 compared to 2.20% for the rest of NZ. Note that NGO data are excluded; however, inclusion of these data would make little difference due to the low NGO data reporting to the MHINC.

However, crude access rates have limited value as they do not take into account different age and ethnicity structures of different populations. More detailed analysis shows that in some cases, CM access rates are much closer to the rest of NZ and in some cases, are actually higher. The CM age-standardised access rate was 2,200 per 100,000, only slightly less than for clients resident in the rest of NZ (2,300 per 100,000). Access rates for Māori for all ages in CM were greater than for Māori in the rest of NZ.

These results underscore the importance of looking at age, gender and ethnic specific rates, not just crude access rates which can give a potentially misleading picture.

Gender differences: slightly more males than females accessed DHB mental health services in CM and nationally in 2005. The age-standardised access rate for males in CM and the rest of NZ were similar; however, the female access rate in CM was significantly lower than females in the rest of NZ.

Age and access: although DHB mental health services see people of all ages, the majority of CM clients in 2005 were in the adolescent to early 40's age range. When age-specific rates are looked at, the pattern for both genders was similar. Rates for people aged 0-14 years are relatively low; very high rates are seen in people aged 15-44 years, with the 25-44 age group rate particularly high. Rates after this age drop off

markedly, and then start to steadily climb after age 70. Rates in the 85+ age group are in fact the highest of any age-group.

Ethnicity of clients: of the CM clients seen by DHB mental health services, 47% were European, 25% Māori, 14% Pacific, 5% Asian and 9% Other.

Age-standardised rates show a similar pattern for CM and for the rest of NZ. Access rates were highest for Māori followed by European/Other, then Pacific, with Asian rates the lowest. Although the overall CM access rate is slightly lower than for the rest of NZ, there are differences when individual ethnic groups are looked at. As discussed above, access rates for Māori in CM were greater than for Māori in the rest of NZ. Pacific rates are similar, European/Other are slightly lower and Asian rates slightly higher in CM.

Number of visits per client

CM clients see mental health services a little less often than the average for the rest of NZ. The CM clients had between them about 35,000 visits during the year or an average of 4.1 visits per client per year, slightly less than the 4.6 visits for the rest of NZ.

Bed nights, length of stay and contacts: in the MHINC, data are recorded as either bed nights or contacts, never both. The definition of contacts is very broad and includes outpatient visits, home visits and telephone calls. Compared to the rest of NZ, CM has lower rates for both bed nights and contacts per 100,000 population; however, CM has relatively more non-inpatient than inpatient utilisation.

For acute psychiatric inpatients, CM has fewer admissions per client per year (1.3 versus 1.5), but clients have a longer average hospital stay compared to NZ as a whole (22 versus 16 days). There are also ethnic variations in the length of stay (LOS). Of particular note, Māori have a shorter LOS and Pacific peoples have a longer LOS than average, both at CM and national level.

DHB of service: as many mental services are metro-Auckland or regional services, not all CM residents are seen by CMDHB provided mental health services. In 2005, about 70% of clients were seen by CMDHB services, 25% by WDHB services (e.g. forensic, alcohol and drug), 3% by ADHB services (e.g. eating disorders) and the remaining 2% by DHBs elsewhere in NZ.

Referral sources: clients can be referred to the DHB mental health and addiction services from a number of sources, many of which are outside the health sector. The leading referral sources were (in descending order) general practitioners, self/relative referral, psychiatric inpatient services (of another DHB) and non-psychiatric hospital referral (of another DHB). Other referrals come from police/justice, the education sector and social welfare. Males and females have slightly different referral patterns.

Summary of key ethnicity issues

The recent *Te Rau Hinengaro: New Zealand Mental Health Survey* (NZMHS) included about 2,600 Maori and 2,200 Pacific peoples. This is the first time that large numbers of Māori and Pacific peoples have been studied, enabling more accurate estimates of the burden of mental health conditions in these groups. Note that more ethnic specific data from the NZMHS will be published in due course.

Māori in the NZMHS seem to have the highest overall prevalences of mental disorders, followed by Pacific peoples, with rates in both groups significantly higher than for the remainder of the population.

Much of the increased prevalence of mental disorders in Māori and Pacific peoples appears to be explained by the relative youthfulness and socioeconomic disadvantage of these groups.

There is some evidence of higher rates of mental disorders in Pacific peoples who were born in New Zealand or migrated here a long time ago compared to recent migrants.

Although data are limited, Asian people may have low overall rates of mental disorders.

Māori and Pacific peoples are much more commonly diagnosed with schizophrenia.

Pacific peoples have the lowest of major depression, while the rate in Māori was similar to "Other" ethnic groups after adjusting for age, gender, educational qualifications and household income,.

Rates of bipolar disorder are highest in Māori, followed by Pacific peoples.

The prevalence of anxiety disorders was highest for Māori, followed by Pacific peoples.

The lifetime chance of any eating disorder was approximately three times higher for Pacific peoples and twice as high for Māori compared to the Other ethnic grouping.

The burden of substance use disorder is highest for Māori, followed by Pacific peoples

Māori and Pacific peoples are disproportionately affected by problem gambling and are about four to five times more likely to be problem gamblers than European or Other ethnicities.

Māori and Pacific people have significantly higher rates of making suicidal plans and suicide attempt. Māori suicide rates are consistently the highest, followed by Other, with Pacific and Asian rates the lowest.

There was no significant difference between ethnic groups with regards to self-rated mental health status in the NZ Health Survey 2002/2003.

Pacific peoples and, to a lesser extent, Māori, less likely to have made any healthcare visit for mental health reasons than Others.

CM residents in contact with DHB mental health services are even more deprived than the general CM population, with Māori and Pacific peoples disproportionately represented.

Access rates by CM residents to DHB mental health services in 2005 were highest for Māori followed by European/Other, then Pacific, with Asian rates the lowest.

1. Introduction

1.1. Background

This CMDHB Mental Health Needs Analysis (HNA) establishes the current and projected mental health needs and assesses current mental health service utilisation to better inform planning and service delivery for the child, adolescent, adult and older people population of Counties Manukau.

Improving the health status of people with severe mental illness is a population priority area in the NZ Health Strategy. Mental health conditions have a significant health impact, particularly for Māori in Counties Manukau.

CMDHB has identified mental health as one of the five priority conditions, with a number aims:

- Developing and implementing a localised Māori mental health and addiction plan
- Enhancing youth specific mental health services
- Implementing a depression Chronic Care Management programme
- Developing infant mental health programmes for at-risk families
- Improving outcomes for people with severe mental illness by increasing access to and engagement with:
 - Alcohol and drug services
 - Support for living in the community
 - Peer supports
 - Recovery education
 - Services for older people.

The objectives of this HNA were:

- To inform any update of the CMDHB Mental Health and Addictions Strategic Plan
- To identify gaps in mental health data and service provision
- To provide information for the planning and funding team
- To help inform prioritisation of funding decisions.

The approach taken in the HNA was to:

- Have a particular emphasis on identifying health inequalities, including focusing on the needs of Māori and Pacific peoples, and those of low socio-economic status
- Review relevant international, national, regional and local data – key data included the recent NZ Mental Health Survey
- Document the current and projected demographic profile of the CMDHB population
- Describe the CMDHB population's current and projected mental health status
- Describe the existing service provision
- Outline current service utilisation - the main data source used was the MHINC (Mental Health Information National Collection)
- Discuss findings to help guide local strategy and implementation planning.

Exclusions in this HNA were issues related solely to violence, issues related solely to disability (e.g. intellectual disability, physical disability) other than mental health-related disability, financial data, models of care (as already defined by the CMDHB Mental Health Team), community views regarding mental health needs and mental health care workforce issues.

1.2. Treaty of Waitangi – Te Tiriti o Waitangi

The Treaty of Waitangi establishes the unique relationship between Māori as tangata whenua (first peoples of the land) and the Crown. As a Crown agency, Counties Manukau District Health Board considers the Treaty of Waitangi principles of partnership, participation and active protection of Māori Health interests, respect, cooperation and utmost good faith, to be implicit conditions of the nature in which the internal organisation of Counties Manukau District Health Board responds to maximise Māori Health gain and promote equity, and economic and cultural security.

CMDHB has identified the following concepts to guide the enactment of this:

- Māori health is everyone's responsibility
- Māori health gains will be addressed through sustainable solutions
- Māori will enjoy the same level of health as non-Māori
- Whānau health gain is integral to Māori health gain

The tangata whenua of the Counties Manukau area are Tainui.

1.3. Mental health and addiction strategic context

The CMDHB Mental Health and Addiction Action Plan 2006¹ outlines the specific actions that CMDHB plans to take from 2006 through to 2010 in order to meet the mental health needs and address addictions issues of people in Counties Manukau.

The vision underpinning this Action Plan is a future in which our diverse communities protect peoples' well-being and highly value people whose lives have been disrupted by mental illnesses or addictions, and a future in which our health services teach, enable and support people to recover.

Key documents have guided the development of mental health services in Counties Manukau. These are:

- Te Tahuu: Improving Mental Health 2005 - 15: The Second NZ Health and Addiction Plan
- Te Puawaitanga: Maori Mental Health National Strategic Framework
- Our Lives In 2014: A Recovery Vision From People with Experience of Mental Illness
- The New Zealand Disability Strategy: Making a World of Difference – Whakanui Oranga
- The Primary Health Care Strategy
- Northern Region Mental Health and Addictions Services Strategic Direction 2005 - 2010
- Whanau Oranga Hinengaro: Northern Region Maori Mental Health and Addictions Plan
- The Northern Regional Pacific Mental Health and Addictions Plan 2003/05
- Counties Manukau Maori Mental Health and Addictions Services: District Maori Mental Health Plan 2005 – 2009

The over-arching mental health strategies that incorporate more detailed strategies for Māori Mental Health, Pacific Mental Health, Workforce Development, Mental Health Information, etc. are Te Tahuu (national strategy) and the Northern Region MH and Addictions Services Strategic Directions 2005-10 (regional strategy).

The ten leading challenges outlined in Te Tahuu are:

- Promotion and Prevention
- Building Mental Health Services
- Responsiveness
- Workforce and Culture for Recovery
- Maori Mental Health
- Primary Health Care
- Addiction
- Funding Mechanisms for Recovery
- Transparency and Trust
- Working Together

The northern region strategy describes services for Māori, Pacific peoples, Refugees and Recent Asian Migrants, Children and Adolescents, Adults and Older Adults. It also covers addiction services and primary health services. Prioritised developments in the regional strategy include:

- Leadership
- Integration
- Prevention/ Early intervention
- Family/whanau participation
- Consumer led services
- Maternal mental health
- Workforce development
- Information systems

The key themes from the various strategic documents listed above have been summarised in greater detail in the CMDHB Mental Health and Addiction Plan. These have been summarised in Appendix A under the following headings:

- Inclusive communities
- Prevention/Promotion
- Recovery Orientation
- Reducing health inequalities
- Clinical and support services
- Responsive services
- Infrastructure.

2. Data sources and methods

2.1. Census population data and projections

Detailed population data from the 2006 Census were not available at the time of this HNA. Instead, the Statistics New Zealand DHB resident population projections performed in 2005 were used. Data for Māori, Pacific peoples and Other were available by gender and five-year age groups. For Asian peoples, less detailed (age-groups only) CMDHB projections from 2003 were available.

2.2. Calculating rates

The rates are generally expressed in this report as a rate per 100 (%) or per 100,000 population.

Crude and age-specific rates provide a measure of disease burden or risk, or health service utilisation, in a particular group e.g. gender, or ethnic group.

Age-specific rates can be compared across ethnic groups, but crude rates cannot because different groups differ in their age distributions e.g. Māori and Pacific peoples have younger population structures. Instead, age-standardised rates are used to enable summary comparisons between different groups such as genders, ethnic groups or DHBs.

Age-specific rates: these are calculated by dividing the total number of the indicator (e.g. a particular diagnosis) by the total population in a particular age-group.

Age-standardised (or age-adjusted) rates: these are rates that have been adjusted to take account of differences in the age-distribution of the population over time or between different groups (e.g. different ethnic groups). The rates in this report have been age-standardised with the direct method using the 2001 NZ Census population as the standard population unless stated otherwise. Note that standardised rates by themselves are not meaningful - their sole purpose is to enable comparison over time or between different groups.

2.3. Ethnicity

Prioritised ethnicity has been used throughout this report and is usually reported at Statistics New Zealand level 1 detail i.e. European, Māori, Pacific peoples, Asian and Other. Ethnic group data has sometimes been aggregated further when calculating rates as detailed age-group population data are not available for all ethnic groups. Clients with an ethnicity code of "99" (Not stated) have been grouped into the "Other" ethnic group.

2.4. Socioeconomic deprivation

Socioeconomic deprivation in this report is usually reported using the NZ Deprivation Index (NZDep) as the measure of deprivation. The NZDep is a census-based small area index of deprivation, with a relative deprivation score assigned to each meshblock area in New Zealand. A meshblock is the smallest geographic unit defined by Statistics New Zealand and contains a median of 90 people. The index is compiled of 9 census variables that reflect social and material deprivation.

The NZDep is often analysed by decile, while decile 1 represents the 10% of meshblocks least deprived in NZ and decile 10 the most deprived. This scale can also be aggregated into quintiles (1-5) where quintile 5 equates to the most deprived 20 percent of areas in New Zealand. The NZDep01 uses data from the 2001 Census.

Note: as the deprivation index applies to areas, not individual people, some caution must be exercised when this index is used as a proxy for individual socio-economic status.

2.5. Suicide data

The suicide data in this report are from the 2006 NZHIS Suicide Trends report. This report is based upon National Mortality Collection data covering the period to the end of 2003, the latest available period. Note that the national age-standardised rates in the report use the WHO world population in contrast to previous NZHIS reports that used the Segi-world population.

2.6. Mental Health Information National Collection (MHINC) data

The MHINC is a national database of information collected by the New Zealand Health Information Service (NZHIS) to support mental health policy formation, monitoring and research.

2.6.1. Data collected by the MHINC and the data model

The MHINC is administered by the NZHIS and contains information on the provision of secondary mental health and alcohol and drug services funded by the government. This includes secondary inpatient, outpatient, community services and residential and supported accommodation mental healthcare provided by DHBs and non-government organisations (NGOs). The collection does not include information on the provision of mental healthcare in primary care e.g. GPs.

The MHINC contains the raw data sent in by providers, and should reflect what each DHB/NGO has in its own patient management system.

The information collected includes details of care provided and access to mental healthcare, as well as demographic information, diagnosis, legal status, and referral and discharge information.

Please refer to the MHINC data dictionary which is available on the NZHIS web site www.nzhis.govt.nz for further information on the data fields used in the MHINC.

2.6.2. MHINC data exclusions

There are three main areas of MHINC data that have been excluded for this report. These are:

1. NGO data

There are approximately 400 non-governmental organisations (NGOs) that provide mental health services in the Auckland region and elsewhere in NZ. However, only about 30 NGOs submitted data to the MHINC in 2005 and data reporting is not always complete. Only one NGO in the Counties Manukau area submitted data to the MHINC in 2005. As a result of this incomplete reporting, NGO data were not requested from MHINC.

2. Otahuhu East and West data

Residents of Otahuhu East and West are within the Auckland DHB area; however, they are currently served by CMDHB mental health services, as well as by the regional mental health services. MHINC data for clients domiciled in these areas (247 unique clients in the 2005 calendar year) have been excluded for this report.

3. Legal status data

MHINC legal status data are not included in this report. There are problems associated with the reporting of legal status to the MHINC, including inconsistencies in the reporting of clients with an informal / voluntary legal status (code "I"), and in the reporting of legal status end dates. Further work is necessary before valid legal status data reported to the MHINC can be presented.

2.6.3. MHINC data notes and quality

The data in this report reflects the accuracy of the data that have been reported to the MHINC. Data were extracted in May 2006. NZHIS gives no guarantee as to the accuracy or completeness of the data supplied. Data notes and data quality issues which will be discussed below:

1. Completeness of DHB reporting to MHINC

The West Coast DHB did not submit data to the MHINC in 2005. However, where there are rates presented for the rest of New Zealand, the West Coast population has been included in the denominator. This approach was taken as it was found that due to the low number of total people in the West Coast DHB area, there was little difference in the rates if these data were included or excluded.

2. MHINC age and gender data

The MHINC age and gender for this report are at the beginning of the 2005 calendar year if already in a service, otherwise at registration. Gender data was not available for seven of the 8,424 unique CM domiciled clients seen in 2005.

The age data may have a small number of errors. For example, data for the psychogeriatric teams show that a small number of clients were aged between 10-44 years. While psychogeriatric teams do see clients younger than 65 years for reasons such as premature onset of dementia, it is likely that either people have been miscoded by DHB services as being seen by a psychogeriatric team or the wrong age details have been entered.

3. MHINC domicile data

Domicile (area of residence) code data as recorded in the MHINC were used to define if a client was a Counties Manukau domiciled client or a client domiciled elsewhere in NZ. The domicile data are taken at the beginning of the 2005 calendar year if already in a service, otherwise at registration.

A domicile code does not have to be supplied by mental health services along with MHINC data files. If it is supplied, it will have been extracted from a mental health provider's local patient management system and should reflect the domicile code relevant at the time of service provision. This may not coincide with what is currently on the NHI. The accuracy of the domicile data in the MHINC is dependent upon processes with each DHB mental health service.

If domicile code is not supplied then it is extracted from the NHI database. This will simply pick up the current domicile code for the patient. If, for whatever reason, the domicile code on the NHI is a "retired" 1996 domicile code, the record is rejected from the MHINC, and the address on the NHI must be updated to generate a 2001 domicile code before the re-sent record will be accepted.

There are likely to be a small proportion of people that have an incorrect domicile code. Also, there is a particular concern over domicile coding for forensic clients (see below).

4. MHINC deprivation data

The domicile codes for CM clients as reported to the MHINC were matched against NZDep2001 deprivation data associated with those domiciles (see www.nzhis.govt.nz/documentation/codetables/geocodetab.html).

Note that there are some concerns regarding the accuracy of domicile codes (see above). Also, a small number of clients did not have deprivation data associated with their domicile code. Reasons for this included that a client's area of residence was a new area since the 2001 Census or the area did not have enough residents to give an accurate deprivation score.

5. MHINC diagnosis data

Although the MHINC was established in 2000, reporting of diagnosis data to the MHINC was not mandatory until 1 July 2004.

Mental health diagnosis data can be submitted to the MHINC as DSM-IV codes or ICD-9-CM-A, ICD-10-AM first, second or third edition codes which are then mapped to DSM-IV diagnosis codes for reporting. A mental health diagnosis is defined as a diagnosis that maps to a DSM-IV clinical code.

There are a number of diagnosis types in the MHINC. The relevant diagnosis types for this report are:

1. Principal (A) or provisional (P) mental health diagnosis

For each cluster of diagnoses reported by a health agency with the same Diagnosis date, at least one must be a mental health diagnosis of Diagnosis type 'A' (principal mental health diagnosis) or 'P' (provisional mental health diagnosis). There can be no more than one principal diagnosis for each Diagnosis date.

2. Other relevant diagnosis (B):

This diagnosis type is not a compulsory field in the MHINC and can contain mental diagnoses or non-mental health diagnoses (submitted as ICD-9 or ICD-10 codes). Very few non-medical diagnoses for CM domiciled clients were submitted to the MHINC in 2005 and so the degree of physical illness in these mental health clients could not be commented upon.

The MHINC mental health diagnosis data for this report was outputted as DSM-IV codes.

6. MHINC ethnicity data

Data that are sent to the MHINC are required to have ethnicity data recorded at SNZ Level 2 detail (see Appendix B). This is the minimum standard for the health and disability sector² and up to three separate ethnicities can be recorded in MHINC.

Most of the MHINC ethnicity data are presented as prioritised Level 1 ethnic groupings, i.e. Māori, Pacific, Asian, European and Other ethnic groups. Data are also sometimes presented at a higher aggregated level such as Māori, Pacific and Other, particularly for age-group rates where separate detailed age-group population projection data are not available for all ethnic groups. Clients with an ethnicity code of "99" (Not stated) in the MHINC data have been grouped into the "Other" ethnic group.

Overall, 97.8% of the 8,424 unique CM domiciled clients seen in the 2005 calendar year by any DHB mental health service in New Zealand had ethnicity details recorded. There were 203 (2.2%) clients with a

code of "99" (Ethnicity not stated) and 457 (5.4%) clients with a prioritised SNZ Level 2 ethnicity of "54" (Other). It is likely that some of these clients have been miscoded.³ As a result, the number of clients in the other ethnic groupings may have smaller numbers as a result.

7. MHINC forensic data

Domicile data submitted to the MHINC for forensic clients has some inaccuracies as some clients receive the domicile code associated with a particular forensic institution rather than maintaining the client's original residence domicile code. As a result, a CM client may be misclassified as a client domiciled in another DHB leading to an undercount of CM clients. The exact extent of errors in domicile coding is unclear. A limited report (unpublished) of forensic inpatient clients in the Auckland region from July 2005 to December 2006 suggests that MHINC may capture as little as 25% of the bed nights for CM clients. The accuracy of domicile data for client numbers and non-inpatient forensic team contacts is currently not known.

8. MHINC psychogeriatric data

Reporting of psychogeriatric data to the MHINC is incomplete as only 11 DHBs reported psychogeriatric data to the MHINC in 2005. However, data are likely to be fairly complete for CMDHB as all three DHBs in the Auckland region submitted data.

2.7. **NZ-CAOS study**

The 2002 NZ Mental Health Classification and Outcomes Study (NZ-CAOS) looked at over 14,000 adult and 3,000 child/youth inpatient and community episodes of care across eight DHBs, including CMDHB.⁴

The scope of the casemix classification model includes all specialist mental health services provided directly by DHBs, which were funded by the Ministry of Health Mental Health Directorate. This covered all:

- Child and youth mental health services
- Adult mental health inpatient and community care services
- Forensic mental health services.

Mental health services for the elderly did not easily fit within this rule due to the variable funding arrangements that are shared between the Mental Health and the Disability Support Service Directorates. As a compromise, the study included those services managed by the participating DHB sites and which were funded by the Mental Health Directorate only.

The following services were excluded from the study:

- Services provided by non-government organisations (NGOs)
- Alcohol and Drug services, except if clients were treated within the specialist mental health sector.
- Residential services provided by DHBs – a few of the sites provide residential accommodation services. A decision was made to treat these services the same as those residential services provided by NGOs and they were therefore excluded from the study.

2.8. **Te Rau Hinengaro: The New Zealand Mental Health Survey**

The recent *Te Rau Hinengaro: The New Zealand Mental Health Survey* (NZMHS) was a landmark study that will enable better understanding of mental disorders in New Zealand.⁵

The main objectives of the NZMHS were to provide data on people aged 16 and older in the community in the following areas:

- important and not previously available prevalence data for mental disorders and their patterns of onset
- patterns of mental disorders by sociodemographic factors
- the burden associated with mental disorders
- the relationship between mental disorders and physical disorders
- patterns of health and non-health service use by people with mental health problems patterns
- unmet need and barriers to health service use for people with mental disorder
- suicidal behaviour.

Prior to the NZMHS, data on the prevalence in the community of mental disorders were limited, out of date or not representative of the NZ population. The main report was published in September 2006⁵ and is available from www.moh.govt.nz. The majority of the October 2006 edition of the Australian and New Zealand Journal of Psychiatry was dedicated to the NZMHS, with most of the articles being variations on data in the main report. Much more information will be published in time.

The study involved face-to-face interviews with about 13,000 people aged 16 and older in the community between October 2003 and December 2004. The response rate was 73%. The interview was based on version 15 of the World Mental Health Composite International Diagnostic Interview (WMH-CIDI), a fully

structured lay interview. Although ICD-10 and DSM-IV diagnoses can both be made from the CIDI 3.0 only DSM-IV diagnoses have been reported so far.

The NZMHS is very significant in that it is the first time that large numbers of Māori (n=2,595) and Pacific peoples (n=2,374) have been studied.

The diagnoses assessed were anxiety disorders (e.g. phobias, post-traumatic stress disorder and obsessive-compulsive disorder), mood disorders (depression, dysthymia and bipolar disorder), substance use disorders (alcohol or drugs) and eating disorders (anorexia and bulimia).

Limitations of the survey are that relatively uncommon conditions such as schizophrenia, other psychotic disorders and predominately childhood disorders were not surveyed. In addition, dementia and personality disorders were not looked at and the survey did not include people in institutions and those aged <16 years.

3. Counties Manukau demography

This section presents data on the following:

- The CMDHB and mental health service boundaries
- Age, gender and ethnic structure of the CMDHB population in 2006
- Population projections to 2026 by age and ethnic group
- CM population by NZDep2001 (New Zealand deprivation data for 2001 based upon information from the 2001 Census).

3.1. Chapter summary

The demography of CMDHB is notable as:

- it is a very multicultural DHB. In 2006, Māori accounted for 17% of the CM population, Pacific 21%, Asian 15% and European/Other 47%
- it has a large proportion of relatively deprived people compared to the rest of the Auckland region and NZ as a whole, with Māori and Pacific peoples particularly affected
- it has a large number of people aged <25 years, particularly for Māori and Pacific peoples
- it is projected to be one of the fastest growing DHBs
- it will have a very large growth in the 65+ age-group
- the projected growth in the different ethnic groups varies considerably, with Asian and Pacific growth predicted to be much greater than for other ethnic groups.

CMDHB has a number of demographic factors that may impact on the number of people with mental disorders and the pattern of mental illness. These are the relatively young population, the high overall population growth, the very high population growth in the 65+ age group, the large proportion of deprived people relative to NZ as a whole, the diverse ethnic makeup of CM at present and the changing ethnic makeup over time.

3.2. CMDHB and mental health service boundaries

3.2.1. CMDHB boundaries

The Counties Manukau DHB area encompasses the territorial authorities (TA) of Manukau City, and the Districts of Papakura and Franklin (see Figure 1).

Manukau City was the third largest city in the 2001 Census and one of the most ethnically diverse. It is predominantly an urban TA, comprising seven wards: Pakuranga, Howick, Clevedon, Mangere, Otara, Manurewa and Papatoetoe.

In contrast, Franklin District is largely rural with two main townships of Waiuku and Pukekohe. Papakura District is situated between Manukau City and Franklin District and has become increasingly urban as the wider Auckland urban area grows southward.

3.2.2. Mental health services boundaries

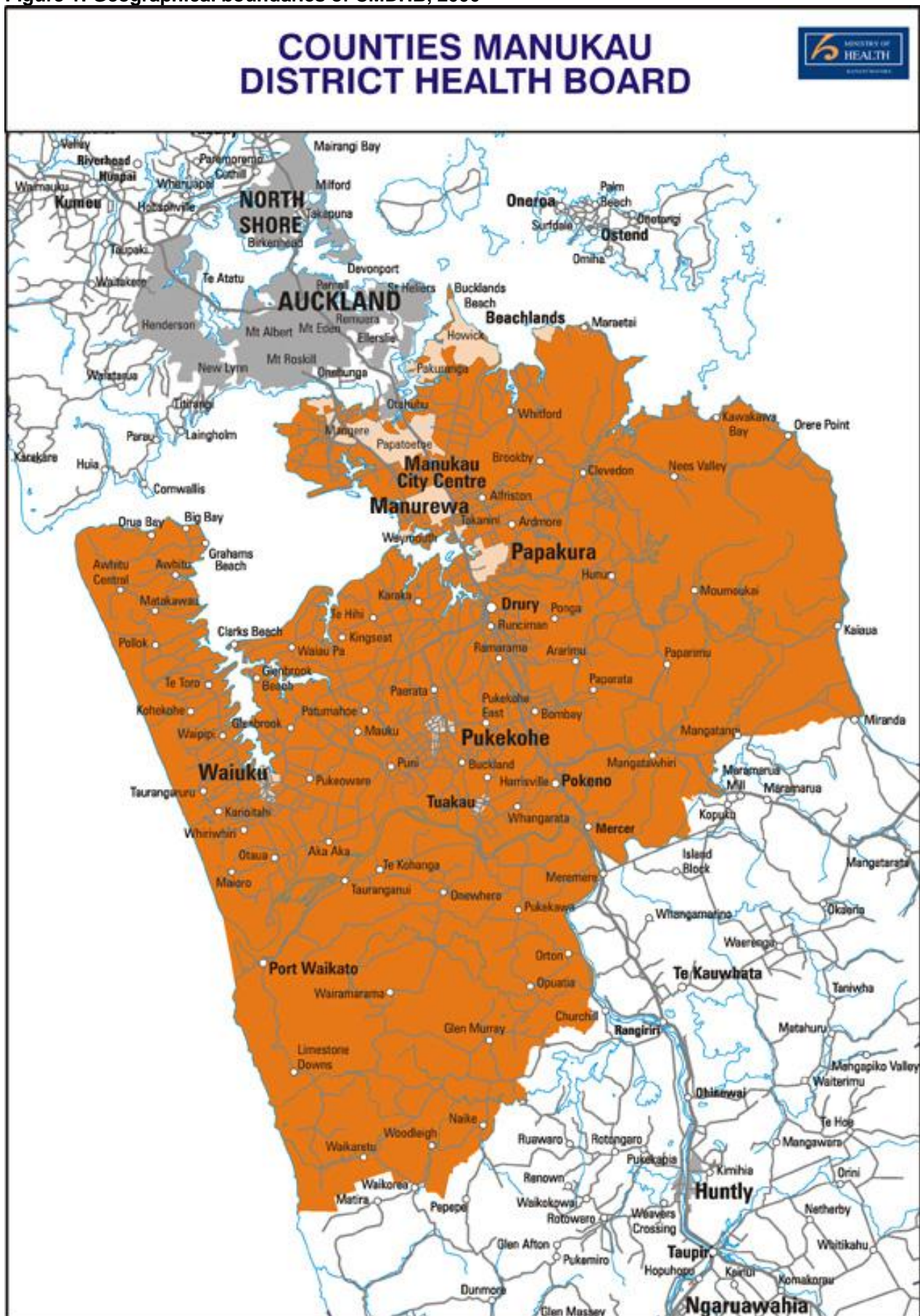
The boundaries for DHB mental health services depends upon the type of mental service that are delivered (for further details on the different services provided to CM residents, see chapter 10).

CMDHB services: the CMDHB-based mental health services cover the resident population within the CMDHB boundaries. In addition, through an agreement with ADHB, the Otahuhu East and West resident population are also served by CMDHB mental health services as this improves access for this population.

Metro-Auckland services: Certain mental health services are delivered via a lead DHB to all three DHBs in the Auckland region (e.g. Waitemata DHB leads the Community Alcohol and Drug services).

Regional services: Other services are delivered by a lead DHB as a regional service which includes Northland DHB as well as the Auckland region DHBs (e.g. the Eating Disorders Service led by ADHB or the Forensic Service led by WDHB).

Figure 1: Geographical boundaries of CMDHB, 2006



3.3. The Counties Manukau population in 2006 and population projections

3.3.1. Introduction

The predicted high rate of growth in the CM population will lead to more people with mental disorders; however, due to changes in population structure over time, the pattern of mental disorders may change.

The prevalence of mental disorders is associated with many factors such as age, gender, ethnicity and socioeconomic status. Examples of why demographic factors are important considerations include:

- age has a major impact on the prevalence of particular mental disorders with youth and young adults have the highest overall rates of mental disorders
- some conditions have onset throughout the life (e.g. depression and anxiety), while other conditions are much common in certain age-groups e.g. dementia mainly affects the 65+ age group, while attention deficit / hyperactivity disorder affects mainly children and adolescents
- females have higher prevalences of anxiety disorder, major depression and eating disorders than males, whereas males have much higher prevalences of substance abuse disorders
- Māori seem to have the highest overall prevalences of mental disorders, followed by Pacific peoples. Much of the increased prevalence appears to be due to the relative youthfulness and socioeconomic disadvantage of the Māori and Pacific populations. In contrast, although data are currently limited, Asian people may have low overall rates of mental disorders.

3.3.2. The Counties Manukau population in 2006

In 2005, Statistics New Zealand (SNZ) updated the resident population projections that are based upon the 2001 Census data. Data from the 2006 Census were not available at the time of this report.

It is estimated that CMDHB accounts for 10.7% of New Zealand's total population in 2006. CM is a very multicultural DHB and in 2006, Māori accounted for 17% of the population, Pacific 21%, Asian 15% and European/Other 47%.

Tables 1 and 2 present data for the estimated CM population in 2006 by different age bands and prioritised ethnicity. The "Other" ethnic grouping included European and other ethnic groups as well as a small number of people who did not state an ethnicity. Figure 3 shows the population age pyramids by ethnic group. Of note, the Māori and Pacific populations have a noticeably younger structure than the Other ethnic group, with almost twice the proportion of people aged ≤14 and fewer people aged 44 years or older, particularly aged 65+.

Table 1: CM population 2006, by age band and ethnicity (number)

Age group	Māori	Pacific	Other	Total
0-14	28,780	32,240	51,810	112,830
15-24	13,630	15,620	36,620	65,870
25-44	20,930	25,540	78,780	125,250
45-64	10,670	13,460	71,890	96,020
65+	2,120	3,910	34,630	40,660
Total	76,130	90,770	273,730	440,630
% of CMDHB total population	17.3%	20.6%	62.1%	100%

Projected from 2001 Census - medium growth scenario, prioritised ethnicity, performed by SNZ, 2005

Table 2: CM population 2006, by age band and ethnicity (%)

Age group	Māori	Pacific	Other	Total
0-14	37.8%	35.5%	18.9%	25.6%
15-24	17.9%	17.2%	13.4%	14.9%
25-44	27.5%	28.1%	28.8%	28.4%
45-64	14.0%	14.8%	26.3%	21.8%
65+	2.8%	4.3%	12.7%	9.2%
Total	100.0%	100.0%	100.0%	100.0%

Projected from 2001 Census - medium growth scenario, prioritised ethnicity, performed by SNZ, 2005

3.3.3. Population projections by age group

CMDHB is one of the fastest growing DHBs, with a projected average annual population growth of 1.6% for the period from 2006 to 2011. By comparison, projected growth rates for WDHB, ADHB and NZ are 1.5%, 1.26% and 0.8%, respectively.

The CM population is projected to increase by 50% over the period from 2001 to 2026 (see Table 3 and Figure 3). The 65+ age group have by far the largest increase at 172%. The projected increases get progressively smaller as the age groups get younger.

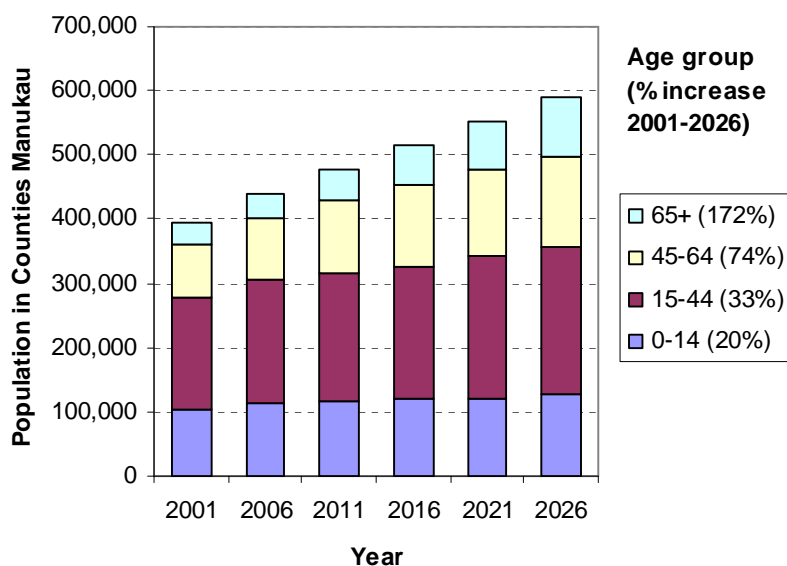
By 2026, the CM projected population is much more evenly distributed across the different age groups than in 2006 (see Figure 3). There is a noticeable growth in the proportion of older people and a decrease in the proportion aged <20 years.

Table 3: Projected CM population from 2001 to 2026, by age group *

Age group (years)	Year *						% change 2001-2026
	2001	2006	2011	2015	2021	2026	
0-14	104,490	112,830	117,480	120,300	121,770	125,510	20%
15-44	174,400	191,110	198,230	207,380	219,700	231,800	33%
45-64	81,040	96,010	112,110	124,670	134,940	141,010	74%
65+	33,790	40,680	49,980	62,890	76,160	91,970	172%
Total	393,700	440,600	477,800	515,200	552,600	590,300	50%

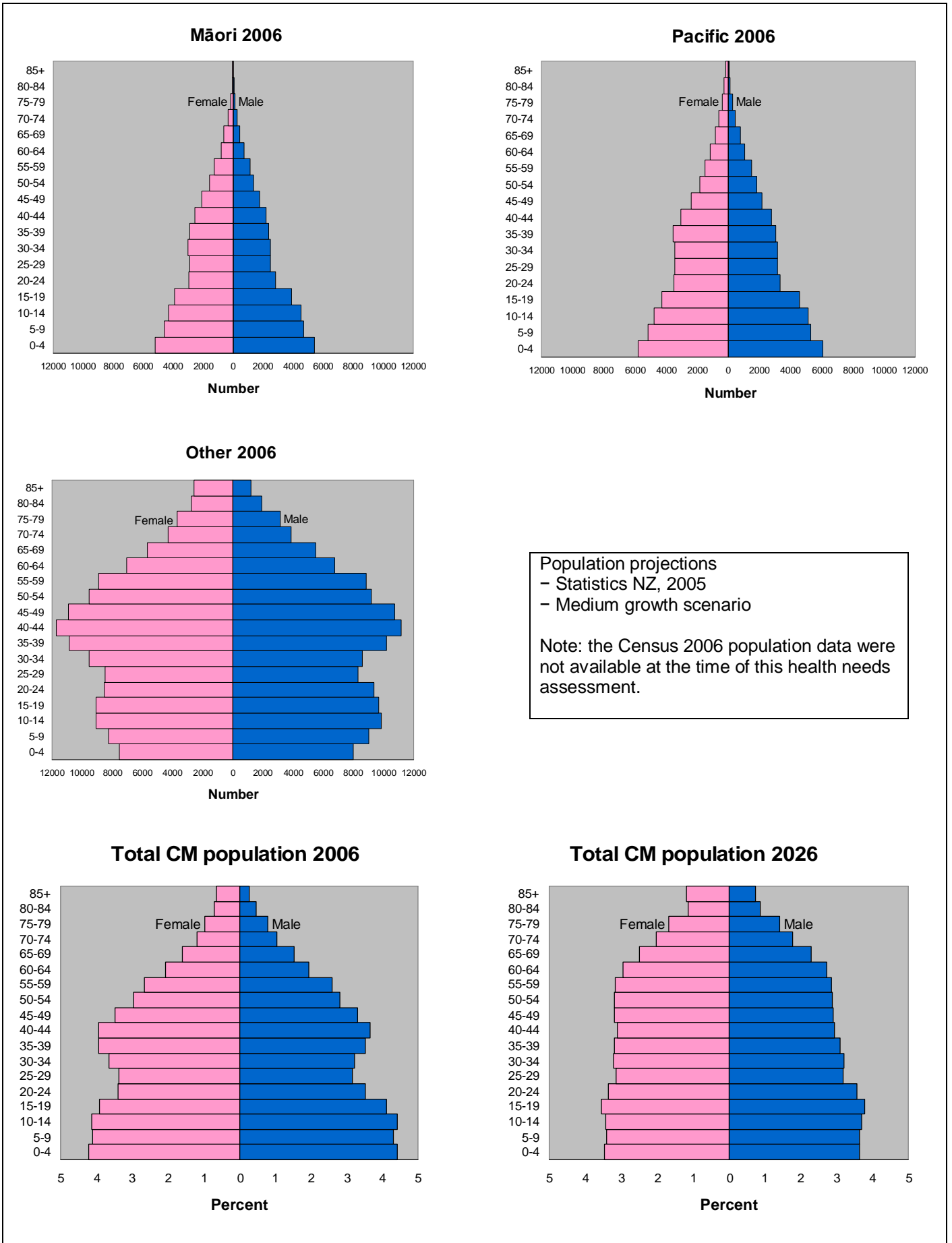
* 2006-2026 data projected from 2001 Census - medium growth scenario, performed by SNZ, 2005

Figure 2: Projected increase in CM population from 2001 to 2026, by age group *



* 2006-2026 data projected from 2001 Census - medium growth scenario. Projections performed by SNZ, 2005

Figure 3: Population (projected) age pyramids for CM, by gender and ethnicity



3.3.4. Population projections by ethnic group

While the overall population growth in CM is projected to increase by 50% from 2001 to 2026, there is a marked difference in the projected population growth of the different ethnic groups. The Asian population has by far the largest increase (152%) followed by the Pacific population at 80% (see Table 4 and Figure 4). The Asian population is projected to be larger than the Māori population by 2015.

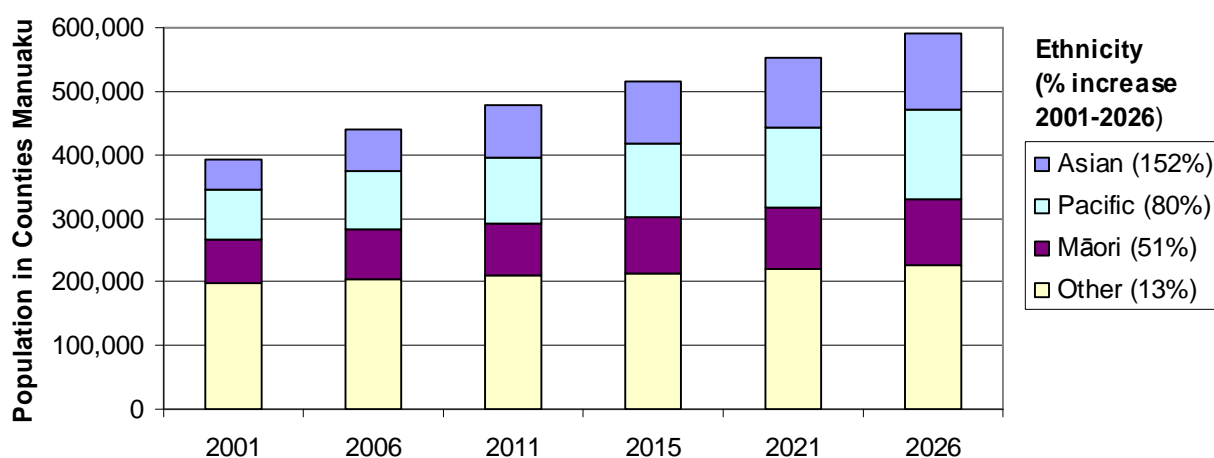
Table 4: Projected CM population from 2001 to 2026, by ethnic group*

Ethnic group #	Year *						% change 2001-2026
	2001	2006	2011	2015	2021	2026	
Māori	69,230	76,100	83,000	89,600	96,600	104,300	51%
Pacific	78,550	90,800	103,000	114,900	127,500	141,100	80%
Asian	47,700	68,230	81,630	97,210	109,100	120,070	152%
Other	198,230	205,500	210,260	213,510	219,430	224,850	13%
Total	393,710	440,630	477,800	515,200	552,600	590,300	50%

* 2006-2026 SNZ data projected from 2001 Census - medium growth scenario, SNZ 2005.

Prioritised ethnicity, Asian figures from 2011 onwards are rough estimates only.

Figure 4: Projected CM population from 2001 to 2026, by ethnic group*



* 2006-2026 data projected from 2001 Census - medium growth scenario. Prioritised ethnicity Asian figures from 2011 onwards are rough estimates only. Projections performed by SNZ, Oct 2005.

3.4. Deprivation profile in Counties Manukau

Deprivation is an important factor to consider as mental disorders are more common in people who are socioeconomic disadvantaged (see section 4.5). CMDHB has within its boundaries some of the wealthiest areas in the country as well as some of the poorest. The NZDep01 deprivation index scores for each meshblock area can be used to give an indication of the deprivation profile within CM and elsewhere. Decile 1 represents the areas that are the least deprived and decile 10 the most deprived.

In 2001, CMDHB was the DHB with the largest number of relatively deprived adults and children. CM had a much greater proportion of the population (35%) in the most deprived NZDep01 deciles (9 and 10) than Waitemata (8%), Auckland (20%), or the total NZ population (20%) – see Figure 5.

Within CM, a greater proportion of the population were deprived (deciles 9 and 10) in the Manukau (40%) and Papakura (33%) TLAs than in the Franklin TLA (12%). Of particular note, a very high proportion of Māori (58%) and Pacific peoples (78%) in CM were in deciles 9 and 10 compared to European (17%) and Asian (22%) - see Figure 6.

Figure 5: Percentage of people by NZDep01 decile for Counties Manukau, Auckland and Waitemata DHBs, and New Zealand, Census 2001

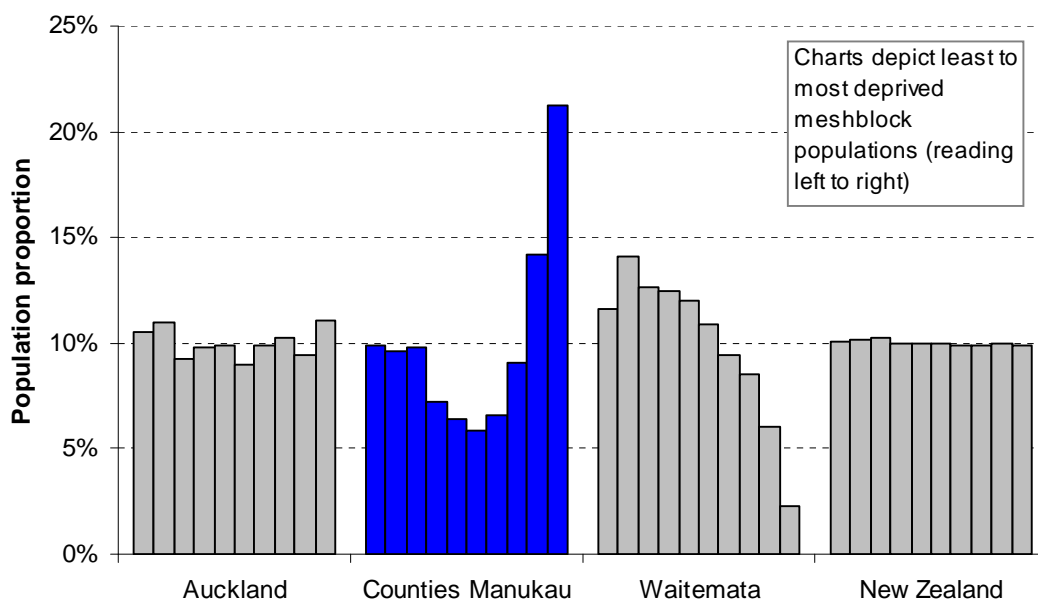
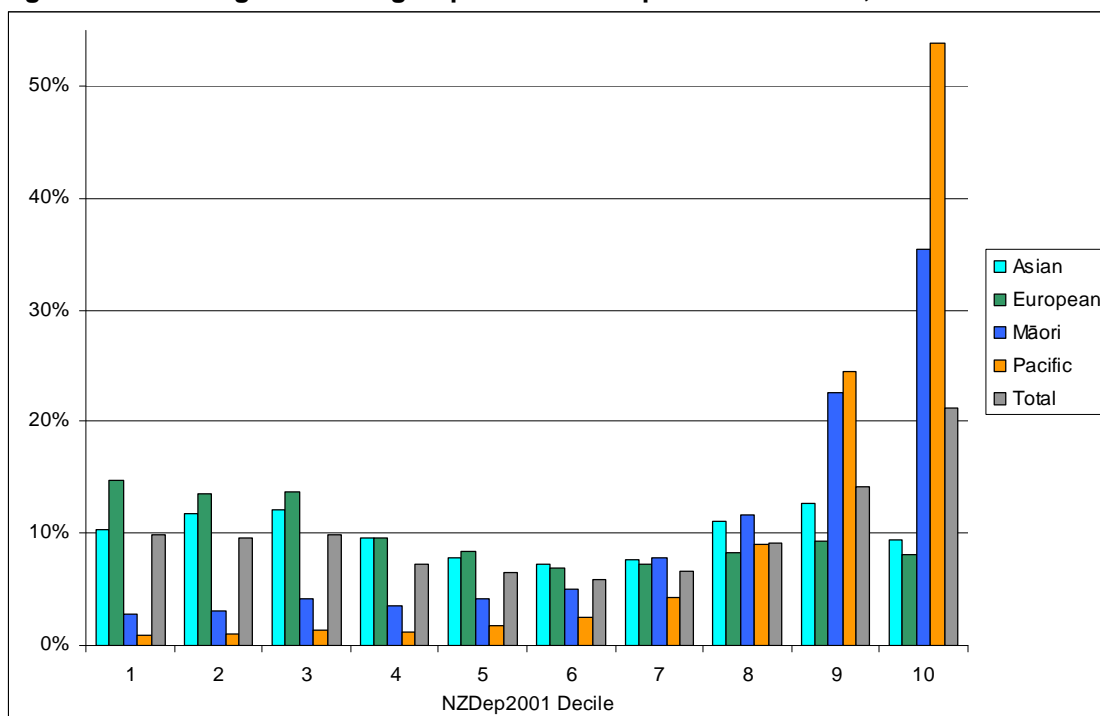


Figure 6: Percentage of ethnic group in each NZDep01 decile for CM, Census 2001



4. Mental health status

This chapter provides an overview of:

- a summary of the prevalence data from the recent NZ Mental Health Survey
- age of onset of mental disorders
- delays before people seek treatment
- the self-reported mental health status for CM residents
- the association between socioeconomic factors and mental health conditions
- comorbid mental and physical disorders
- the diagnostic data in the Mental Health Information National Collection (MHINC) for CM clients seen by DHB mental health services in the 2005 calendar year
- background epidemiology for major mental diagnoses for disorders such as schizophrenia, depressive disorders, bipolar disorders, anxiety disorders, personality disorders, eating disorders, dementia and pervasive developmental disorders

Note that alcohol and drug abuse are covered in chapters 5 and 6 respectively.

4.1. Mental disorder prevalence summary – NZ Mental Health Survey

12-month prevalence

The NZ Mental Health Survey found that during a 12-month period, about 1 in 5 people (20.7%) aged 16+ experienced a mental disorder (Table 5). Disorders were likely to occur in females (24%) than males (17.1%). There was a marked decrease in prevalence with increasing age.

Table 5: 12-month prevalence of any mental disorder¹ – NZ Mental Health Survey

Disorder groups	Total % (95% CI)	Age group (years) % (95% CI)				Sex % (95% CI)	
		16–24	25–44	45–64	65 and over	Male	Female
Any disorder Any disorder ²	20.7 (19.5, 21.9)	28.6 (25.1, 32.3)	25.1 (23.2, 27.1)	17.4 (15.7, 19.2)	7.1 (5.7, 8.8)	17.1 (15.5, 18.8)	24.0 (22.4, 25.6)

1. DSM-IV CIDI 3.0 disorders with hierarchy.
2. Assessed in the subsample who did the long form interview.

Lifetime prevalence

Table 6 shows the lifetime prevalence (up to the time of the study) of mental disorders. It is common for a person to experience a mental disorder at some time in their life, with 39.5% of people aged 16 and over meeting criteria for a disorder at some time before interview. Disorders were more common in females.

Although most people experience only one disorder (20.0%), comorbid mental disorders are common, 9.9% had experienced two mental disorders and 9.7% three or more mental disorders.

There is a marked cohort effect as cohorts born in more recent years had a higher prevalence of any disorder than older cohorts. Although this pattern may reflect a true difference in risk of disorder for younger cohorts compared with older cohorts, it is also possible that these differences are attributable to four systematic biases. The study authors outlined the biases as follows.

- **Forgetfulness:** Clear evidence exists from longitudinal studies that people often forget earlier episodes. As current disorder tends to be more prevalent in younger people, and older people have had more time to forget their earlier episodes, this can lead to older people apparently having been less likely to ever experience disorder.
- **Telescoping effect:** There is also a general 'telescoping' effect for all people asked to recall past episodes of disorder: episodes are brought forward in memory to a time closer to the time of the interview. For older age groups, this leads to an apparent lower risk earlier in their lives as they have 'moved' episodes in memory from earlier times in their lives to more recent times.
- **Different conceptualisations:** It is possible different age cohorts have different conceptualisations or explanations for episodes of psychological distress or clusters of mental symptoms. People from more recent cohorts may be more likely to interpret such episodes as attributable to mental disorder, while people from older cohorts may interpret such episodes as expected reactions to circumstances and not perceive them as indicative of mental disorder.

- **Willingness to disclose:** It is possible the degree of trust in the interviewers and associated willingness to disclose symptoms or behaviours varies by age cohort. For instance, younger people may be more prepared to admit to illicit drug use or problematic alcohol use than older people.

Unfortunately, in a cross-sectional survey such as the NZMHS, it is not possible to determine how much of the estimated increased risk of disorder among more recent cohorts is attributable to a 'true' difference and how much is attributable to bias.

Table 6: Life-time prevalence of mental disorders¹ (up to time of study) – NZ Mental Health Survey

Disorder groups	Total % (95% CI)	Age group (years) % (95% CI)				Sex % (95% CI)	
		16–24	25–44	45–64	65 and over	Male	Female
Any disorder²							
Any disorder	39.5 (37.9, 41.2)	41.6 (37.4, 45.9)	45.1 (42.4, 47.9)	39.7 (36.9, 42.6)	22.4 (19.4, 25.6)	36.5 (34.2, 39.0)	42.3 (40.1, 44.5)
No disorder	60.5 (58.8, 62.1)	58.4 (54.1, 62.6)	54.9 (52.1, 57.6)	60.3 (57.4, 63.1)	77.6 (74.4, 80.6)	63.5 (61.0, 65.8)	57.7 (55.5, 59.9)
One disorder	20.0 (18.8, 21.3)	19.0 (16.1, 22.3)	22.0 (20.0, 24.1)	20.3 (18.2, 22.4)	15.4 (12.8, 18.3)	19.4 (17.6, 21.3)	20.6 (19.1, 22.2)
Two disorders	9.9 (9.2, 10.6)	11.3 (9.4, 13.5)	10.8 (9.7, 12.1)	10.6 (9.3, 12.0)	4.6 (3.7, 5.7)	8.7 (7.8, 9.8)	10.9 (10.0, 11.9)
Three or more disorders	9.7 (9.0, 10.4)	11.3 (9.4, 13.4)	12.3 (11.1, 13.6)	8.9 (7.8, 10.1)	2.4 (1.5, 3.6)	8.4 (7.5, 9.5)	10.8 (9.9, 11.8)

1. DSM-IV CIDI 3.0 disorders with hierarchy.
2. Assessed in the subsample who did the long form interview.

4.2. 12-month prevalence of individual mental disorders – NZ Mental Health Survey

Table 7 outlines the 12-month prevalence of the mental disorders studied in the NZMHS.

Anxiety disorders were the most common group of disorders in the past 12 months (14.8%), followed by mood disorders (7.9%), then substance use disorders (3.5%), with eating disorders the least common group (0.5%) – see Table 7.

Within each age group the prevalence of individual disorders varied several-fold. Nearly all disorders were most common in the group aged 16–24 and prevalence declined across older age groups. This trend was most marked for substance use disorders.

Anxiety disorders and major depressive disorder were more common in females, dysthymia and bipolar disorder occurred equally for females and males, and there was a clear male predominance for substance use disorders.

Table 7: 12-month prevalence of mental disorders ¹ – NZ Mental Health Survey

Disorder groups	Total % (95% CI)	Age group (years) % (95% CI)				Sex % (95% CI)	
		16–24	25–44	45–64	65 and over	Male	Female
Anxiety disorders							
Panic disorder	1.7 (1.4, 1.9)	2.4 (1.7, 3.6)	2.1 (1.7, 2.6)	1.2 (0.9, 1.6)	0.6 (0.3, 1.1)	1.3 (1.0, 1.7)	2.0 (1.7, 2.4)
Agoraphobia without panic	0.6 (0.5, 0.8)	0.7 (0.3, 1.2)	0.8 (0.6, 1.2)	0.6 (0.3, 0.9)	0.2 (0.0, 0.5)	0.4 (0.3, 0.7)	0.8 (0.6, 1.1)
Specific phobia	7.3 (6.8, 7.8)	9.3 (7.6, 11.3)	8.3 (7.5, 9.3)	6.9 (6.0, 7.8)	3.2 (2.4, 4.3)	4.3 (3.7, 5.0)	10.1 (9.2, 10.9)
Social phobia	5.1 (4.6, 5.6)	7.0 (5.6, 8.8)	6.3 (5.6, 7.1)	4.2 (3.5, 5.1)	1.4 (1.0, 2.0)	4.5 (3.8, 5.2)	5.6 (5.0, 6.3)
Generalised anxiety disorder	2.0 (1.7, 2.3)	1.6 (0.9, 2.6)	2.8 (2.3, 3.4)	1.8 (1.3, 2.3)	1.0 (0.6, 1.5)	1.4 (1.1, 1.8)	2.6 (2.2, 3.1)
Post-traumatic stress disorder ²	3.0 (2.6, 3.4)	2.4 (1.6, 3.6)	3.5 (2.9, 4.3)	3.2 (2.5, 4.1)	1.7 (0.8, 3.0)	1.6 (1.1, 2.2)	4.2 (3.6, 4.9)
Obsessive–compulsive disorder ²	0.6 (0.4, 0.9)	1.5 (0.6, 3.0)	0.8 (0.5, 1.2)	0.2 (0.0, 0.4)	0.1 (0.0, 0.5)	0.7 (0.4, 1.2)	0.5 (0.3, 0.8)
Any anxiety disorder ²	14.8 (13.9, 15.7)	17.7 (15.1, 20.6)	18.2 (16.6, 19.9)	13.2 (11.8, 14.7)	6.0 (4.7, 7.6)	10.7 (9.5, 12.0)	18.6 (17.3, 20.0)
Mood disorders							
Major depressive disorder	5.7 (5.2, 6.2)	8.7 (6.8, 11.0)	6.3 (5.6, 7.2)	5.2 (4.4, 6.2)	1.7 (1.2, 2.4)	4.2 (3.5, 5.0)	7.1 (6.3, 7.8)
Dysthymia	1.1 (0.9, 1.4)	1.5 (0.7, 2.6)	1.2 (0.9, 1.7)	1.2 (0.8, 1.6)	0.4 (0.2, 0.9)	1.0 (0.7, 1.4)	1.3 (1.0, 1.6)
Bipolar disorder	2.2 (1.9, 2.5)	3.9 (2.9, 5.4)	2.8 (2.3, 3.3)	1.4 (1.1, 1.9)	0.2 (0.1, 0.6)	2.1 (1.6, 2.6)	2.3 (1.9, 2.8)
Any mood disorder	8.0 (7.4, 8.6)	12.7 (10.4, 15.4)	9.2 (8.3, 10.2)	6.8 (5.9, 7.9)	2.0 (1.5, 2.7)	6.3 (5.5, 7.2)	9.5 (8.7, 10.5)
Substance use disorders							
Alcohol abuse	2.6 (2.3, 3.0)	7.1 (5.7, 8.9)	3.2 (2.6, 3.9)	0.8 (0.6, 1.2)	<0.1 (0.0, 0.2)	3.7 (3.1, 4.4)	1.6 (1.3, 2.1)
Alcohol dependence	1.3 (1.1, 1.5)	3.0 (2.2, 4.1)	1.7 (1.3, 2.2)	0.4 (0.2, 0.7)	<0.1 (0.0, 0.1)	1.7 (1.4, 2.2)	0.9 (0.6, 1.1)
Drug abuse	1.2 (0.9, 1.4)	3.8 (2.8, 5.1)	1.2 (0.9, 1.6)	0.2 (0.1, 0.5)	<0.1 (0.0, 0.1)	1.6 (1.2, 2.0)	0.8 (0.6, 1.1)
Drug dependence	0.7 (0.5, 0.9)	2.1 (1.3, 3.2)	0.9 (0.6, 1.2)	0.1 (0.0, 0.3)	<0.1 (0.0, 0.1)	1.1 (0.7, 1.5)	0.4 (0.2, 0.5)
Marijuana abuse ³	0.9 (0.7, 1.1)	3.2 (2.3, 4.4)	0.9 (0.7, 1.3)	0.2 (0.1, 0.4)	<0.1 (0.0, 0.1)	1.3 (0.9, 1.7)	0.6 (0.4, 0.9)
Marijuana dependence ³	0.5 (0.3, 0.6)	1.5 (0.9, 2.4)	0.6 (0.3, 0.9)	<0.1 (0.0, 0.2)	<0.1 (0.0, 0.1)	0.8 (0.5, 1.1)	0.2 (0.1, 0.3)
Any substance use disorder	3.5 (3.1, 4.0)	9.6 (7.9, 11.5)	4.2 (3.6, 5.0)	1.2 (0.9, 1.6)	<0.1 (0.0, 0.2)	5.0 (4.3, 5.8)	2.2 (1.8, 2.7)
Eating disorders							
Anorexia nervosa ²	<0.1 (0.0, 0.1)	<0.1 (0.0, 0.3)	<0.1 (0.0, 0.2)	<0.1 (0.0, 0.1)	<0.1 (0.0, 0.3)	<0.1 (0.0, 0.1)	<0.1 (0.0, 0.2)
Bulimia ²	0.4 (0.3, 0.6)	0.6 (0.2, 1.3)	0.7 (0.4, 1.0)	0.3 (0.1, 0.6)	0.1 (0.0, 0.5)	0.3 (0.1, 0.5)	0.6 (0.4, 0.9)
Any eating disorder ²	0.5 (0.3, 0.6)	0.6 (0.2, 1.3)	0.7 (0.4, 1.1)	0.3 (0.1, 0.6)	0.1 (0.0, 0.5)	0.3 (0.1, 0.5)	0.6 (0.4, 0.9)

Table reproduced from Te Rau Hinengaro: The New Zealand Mental Health Survey.⁵

3. DSM-IV CIDI 3.0 disorders with hierarchy.

4. Assessed in the subsample who did the long form interview.

5. Those with marijuana disorder are a subgroup of those with drug use disorder. They may or may not have met criteria for abuse or dependence on other drugs.

4.3. Lifetime prevalence of mental disorders (up to time of study) – NZ Mental Health Survey

The table below shows the lifetime prevalence estimates for people who, at the time of the interview in the NZ Mental Health Survey, had ever met criteria for a disorder.

Table 8: Lifetime prevalence (up to time of the study) of mental disorders¹ - NZ Mental Health Survey

Disorder groups	Total % (95% CI)	Age group (years) % (95% CI)				Sex % (95% CI)	
		16–24	25–44	45–64	65 and over	Male	Female
Anxiety disorders							
Panic disorder	2.7 (2.4, 3.1)	2.9 (2.1, 4.1)	3.5 (3.0, 4.1)	2.4 (1.9, 3.0)	1.4 (0.9, 2.1)	2.1 (1.7, 2.6)	3.3 (2.9, 3.9)
Agoraphobia without panic	1.2 (1.0, 1.4)	1.2 (0.7, 2.0)	1.5 (1.2, 2.0)	1.1 (0.8, 1.6)	0.5 (0.2, 0.9)	0.9 (0.6, 1.2)	1.5 (1.2, 1.9)
Specific phobia	10.8 (10.2, 11.5)	11.8 (9.9, 13.9)	12.5 (11.5, 13.6)	10.9 (9.8, 12.2)	5.3 (4.3, 6.5)	7.3 (6.4, 8.2)	14.1 (13.2, 15.1)
Social phobia	9.4 (8.8, 10.1)	9.6 (8.0, 11.5)	11.3 (10.2, 12.4)	9.7 (8.6, 11.0)	3.8 (3.0, 4.8)	8.7 (7.7, 9.7)	10.1 (9.3, 11.0)
Generalised anxiety disorder	6.0 (5.5, 6.6)	3.5 (2.5, 5.0)	6.8 (6.0, 7.7)	7.0 (6.0, 8.1)	4.6 (3.7, 5.7)	4.4 (3.8, 5.2)	7.5 (6.7, 8.3)
Post-traumatic stress disorder ²	6.0 (5.4, 6.6)	4.4 (3.3, 5.9)	6.6 (5.7, 7.6)	7.0 (5.8, 8.4)	4.1 (2.7, 6.1)	3.7 (3.0, 4.6)	8.1 (7.2, 9.1)
Obsessive–compulsive disorder ²	1.2 (1.0, 1.6)	2.3 (1.3, 3.8)	1.8 (1.4, 2.4)	0.5 (0.2, 0.8)	0.2 (0.0, 0.8)	1.1 (0.7, 1.6)	1.4 (1.1, 1.8)
Any anxiety disorder ²	24.9 (23.6, 26.2)	23.9 (20.9, 27.3)	28.9 (26.8, 31.0)	25.4 (23.2, 27.7)	14.2 (12.0, 16.8)	19.9 (18.3, 21.7)	29.4 (27.7, 31.3)
Mood disorders							
Major depressive disorder	16.0 (15.2, 16.8)	15.1 (12.7, 17.7)	17.0 (15.7, 18.3)	18.4 (16.9, 19.9)	9.8 (8.5, 11.3)	11.4 (10.3, 12.5)	20.3 (19.2, 21.4)
Dysthymia	2.1 (1.8, 2.4)	2.0 (1.2, 3.3)	2.2 (1.7, 2.7)	2.5 (2.0, 3.2)	1.3 (0.8, 2.0)	1.6 (1.2, 2.1)	2.6 (2.2, 3.1)
Bipolar disorder	3.8 (3.4, 4.3)	5.6 (4.3, 7.1)	4.9 (4.2, 5.6)	3.2 (2.6, 3.9)	0.6 (0.3, 1.0)	4.1 (3.5, 4.8)	3.6 (3.1, 4.1)
Any mood disorder	20.2 (19.3, 21.1)	20.7 (18.1, 23.7)	22.2 (20.8, 23.7)	22.0 (20.4, 23.6)	10.6 (9.3, 12.2)	15.6 (14.4, 16.9)	24.3 (23.1, 25.6)
Substance use disorders							
Alcohol abuse	11.4 (10.7, 12.2)	16.7 (14.6, 19.0)	13.4 (12.3, 14.6)	9.7 (8.7, 10.9)	4.0 (3.1, 5.1)	16.3 (15.1, 17.6)	6.9 (6.2, 7.7)
Alcohol dependence	4.0 (3.6, 4.5)	6.5 (5.1, 8.2)	5.0 (4.3, 5.7)	3.1 (2.5, 3.8)	0.7 (0.3, 1.2)	5.6 (4.9, 6.4)	2.6 (2.2, 3.0)
Drug abuse	5.3 (4.8, 5.8)	11.3 (9.5, 13.4)	7.2 (6.4, 8.2)	2.2 (1.7, 2.8)	0.0 (0.0, 0.1)	7.3 (6.5, 8.2)	3.5 (3.0, 4.0)
Drug dependence	2.2 (1.9, 2.5)	4.1 (3.0, 5.5)	3.3 (2.8, 4.0)	0.7 (0.4, 1.1)	0.0 (0.0, 0.1)	2.9 (2.4, 3.5)	1.5 (1.2, 1.9)
Any substance use disorder	12.3 (11.6, 13.1)	18.8 (16.6, 21.2)	14.6 (13.4, 15.9)	10.0 (8.9, 11.2)	4.0 (3.1, 5.1)	17.3 (16.1, 18.6)	7.7 (6.9, 8.5)
Eating disorders							
Anorexia ²	0.6 (0.4, 0.8)	0.7 (0.2, 2.0)	1.0 (0.6, 1.6)	0.2 (0.0, 0.5)	0.0 (0.0, 0.3)	0.1 (0.0, 0.2)	1.0 (0.7, 1.6)
Bulimia ²	1.3 (1.1, 1.5)	1.3 (0.7, 2.2)	2.0 (1.6, 2.5)	0.9 (0.5, 1.4)	0.1 (0.0, 0.5)	0.5 (0.3, 0.8)	2.0 (1.6, 2.5)
Any eating disorder ²	1.7 (1.5, 2.1)	2.0 (1.1, 3.2)	2.9 (2.3, 3.6)	1.0 (0.6, 1.5)	0.1 (0.0, 0.5)	0.5 (0.3, 0.9)	2.9 (2.3, 3.5)

Table reproduced from Te Rau Hinengaro: The New Zealand Mental Health Survey.⁵

1. DSM-IV CIDI 3.0 disorders with hierarchy.
2. Assessed in the subsample who did the long form interview.

4.4. Projected risk of mental disorders by age 75 + age of onset – NZ Mental Health Survey

The ages of onset distributions of mental disorders are presented in the table below. The table also includes the estimated lifetime risk, which is a projected estimate of the proportion of people in the population who would ever have experienced a disorder by age of 75 years.

Most people experience onset of their disorders early in their lives. For example, for panic disorder 25% of all cases will have experienced panic disorder by age 17, 50% by age 30 and 75% by age 56.

Specific phobia has the earliest onset (50% by age 7) and generalised anxiety disorder and major depressive disorder have the highest median onset ages (50% by 32 years).

Half of all people who will develop any disorder have experienced disorder by age 18 and three-quarters by age 34. The median age of onset is 13 years for anxiety disorders, 32 years for mood disorders, 18 years for substance use disorders and 17 years for eating disorders.

The gap between the lifetime prevalence estimates and the projected lifetime risk estimates varies by disorder: for those disorders that typically have onset early in life (e.g. social phobia), the gap is small; whereas for disorders that have onset through middle or late adulthood, the gap is larger (for example, major depression).

Table 9: Projected lifetime risk by age 75, plus age at selected percentiles on the age of onset distributions of mental disorders – NZ Mental Health Survey

Disorder groups ¹	LT risk ² %	Ages at selected age of onset percentiles (years)							
		5	10	25	50	75	90	95	99
Anxiety disorders									
Panic disorder	3.8	7	11	17	30	56	86	86	86
Agoraphobia without panic	1.4	4	5	12	16	25	36	45	50
Specific phobia	11.4	4	4	4	7	13	29	40	79
Social phobia	10.0	4	5	7	12	16	27	37	56
Generalised anxiety disorder	8.9	10	13	20	32	46	58	70	77
Post-traumatic stress disorder ³	8.8	5	8	16	29	49	70	70	78
Obsessive–compulsive disorder ³	1.4	8	12	14	18	26	40	63	65
Any anxiety disorder ³	28.8	4	4	6	13	30	50	59	78
Mood disorders									
Major depressive disorder	25.7	12	14	20	32	49	63	74	86
Dysthymia	2.8	8	12	16	30	52	85	85	85
Bipolar disorder	4.8	12	13	17	23	37	49	62	75
Any mood disorder	28.4	12	14	19	31	48	64	75	86
Substance use disorders									
Alcohol abuse	13.0	14	15	16	19	25	39	45	61
Alcohol dependence	4.5	14	15	16	19	25	35	39	46
Drug abuse	5.6	14	14	16	18	21	25	29	37
Drug dependence	2.3	13	14	16	18	22	26	30	38
Any substance use disorder	13.8	13	14	16	18	24	37	45	61
Eating disorders									
Anorexia ³	0.6	14	14	15	17	21	28	28	32
Bulimia ³	1.4	10	13	15	18	23	38	46	56
Any eating disorder ³	1.9	12	13	15	17	24	34	40	56
Any disorder ³	46.6	4	5	10	18	34	53	67	78

Table reproduced from Te Rau Hinengaro: The New Zealand Mental Health Survey.⁵

3. DSM-IV CIDI 3.0 disorders with hierarchy.

4. LT risk = projected lifetime risk at age 75.

5. Assessed in the subsample who did the long form interview.

4.5. Delay before making treatment contact – NZ Mental Health Survey

The NZMHS found that there were very significant delays from the onset of mental disorder to the time of first treatment and this varied widely between disorders.⁵ For example, a median delay of 1 year for major depression, 13 years for bipolar disorder, 16 years for alcohol abuse, 19 years for post-traumatic stress disorder through an extreme of 38 years for specific phobias.

Although the percentage of people seeking help at the onset was low for most disorders, most people with ongoing mental disorders do eventually make treatment contact. However, post-traumatic stress disorder and bipolar disorder stand out as it was estimated that only just over half of will ever make treatment contact.

An important implication of the delays before people with mental disorders seek treatment is that there may be large numbers of people with undetected mental disorders in the community as well as in those people who visit primary care and other health services.

Percentage who made treatment contact and median duration of delay among cases of mental disorder who would ever make treatment contact – NZ Mental Health Survey

Disorder groups	% making treatment contact at age of onset	% estimated to ever make treatment contact	Median duration of delays (years)
Anxiety disorders			
Panic disorder	33.2	90.3	3.0
Agoraphobia without panic	18.7	77.9	13.0
Specific phobia	2.2	68.7	38.0
Social phobia	4.9	77.4	28.0
Generalised anxiety disorder	31.8	91.3	6.0
Post-traumatic stress disorder	11.5	55.7	19.0
Obsessive compulsive disorder	17.4	69.6	7.0
Mood disorders			
Major depression	45.0	97.0	1.0
Dysthymia	29.7	99.0	5.0
Bipolar disorder *	12.2	53.2	13.0
Substance use disorders			
Alcohol abuse	8.9	85.9	16.0
Alcohol dependence	19.4	99.5	7.0
Drug abuse	13.0	92.1	8.0
Drug dependence	25.2	98.0	3.0
Eating disorders			
Bulimia	26.8	98.7	10.0
Anorexia	11.0	98.2	15.0

* Bipolar disorder includes BPD-I, BPD-II and subthreshold bipolar disorder.

4.6. Self-reported mental health status – NZ Health Survey

This section covers data on self-reported mental health status as recorded in the 2002/03 NZ Health Survey (NZHS) of approximately 14,000 people aged 15 years or older.⁶ As part of this survey, self-reported health status was measured using questions derived from the SF-36 questionnaire (see www.sf-36.org for further information).

The SF-36 contains 36 questions measuring physical and mental health in eight health scales. Each scale is scored out a possible 100 points with a higher score reflecting greater health. The four questions in the mental health scale asked about mental health status in the preceding four weeks (see Table 10).

Table 10: SF-36 questionnaire – mental health scale questions

Question	Tick box answer choices
How much of the time during the past 4 weeks have you been a happy person?	All the time
Have you felt calm and peaceful?	Most of the time
Have you felt so down in the dumps that nothing could cheer you up?	A good bit of the time
Have you been a very nervous person?	Some of the time
	A little of the time
	None of the time

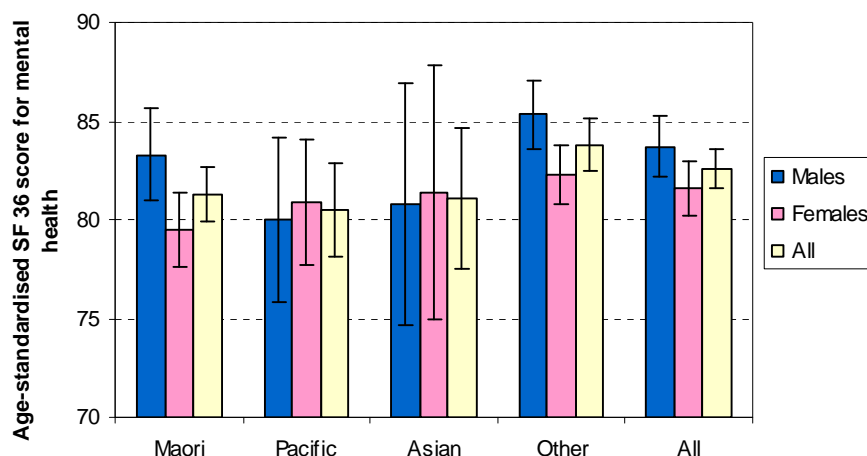
Overall SF-36 score

CM was not significantly different from the national data, which showed a score of 82.9 out of 100 on the SF-36 mental health scale.

SF-36 by gender, ethnicity and deprivation

Nationally, males scored significantly higher on the SF-36 mental health scale, with a score of 84.4 compared to 81.6 for females. However, in CM there was no significant difference between males and females or between different ethnic groups (see Figure 7). Nationally, there was a slightly lower, but significant SF-36 mental health score for people living in NZDep2001 quintile 5 (most deprived) areas compared to quintile 1 (least deprived) areas.

Figure 7: Age-standardised SF-36 mental health score in CM, by gender & ethnicity (NZHS 2002/03)



4.7. Socioeconomic factors and mental disorders

4.7.1. Introduction

There is a strong association between socioeconomic factors such as low household income or area deprivation, and increased prevalence of mental illness, duration of illness, admission rates and duration of admission. This is important as the CM general population has a high proportion of people living in deprived areas and the population in contact with the DHB mental health services is even more deprived.

Consideration of socioeconomic factors is important at an individual level as they may act as barriers to seeking help and effective management as well as prolonging illness. They are also important factors to consider in mental health service planning (e.g. discharge planning, optimising access to community care, in-patient bed number planning and other allocation of mental health resources) and when making comparisons (such as length of stay) between different DHBs and other parts of the health sector, whose populations may have markedly different deprivation profiles.^{7 8}

In order to address health inequalities at a fundamental level, then a whole of society approach will be needed to change factors such as income distribution, education levels, employment and housing.

Note that although the deprivation status of a particular area (e.g. as measured by NZDep01) is the average level of deprivation in an area, it is a good proxy for individual deprivation status within that area. Area-level deprivation status is still associated with health outcomes even after accounting for individual status in that area.^{7 9} This may be due to the local environment modifying the associations between individual risk factors and individual health outcomes.

4.7.2. The links between socioeconomic factors and mental illness

The association between socioeconomic factors and increased prevalence of mental disorders is complex and not yet completely understood. Both “selection” and “causality” may be involved in the link between deprivation and mental illness.^{7 8}

A. Selection: i.e. are mental disorders more common in deprived areas because unwell people select to live there, as they are unable to afford to live elsewhere?

Selection appears to be an important factor, particularly in schizophrenia. Disability from mental illness may impair social, educational, work and housing opportunities, resulting in a progressive reduction in socioeconomic status.

B. Causation / aggravation i.e. do conditions in deprived areas actually cause or aggravate mental illness?

Causative factors may work at an individual and/or neighbourhood level. Examples of factors that may be involved in the development, exacerbation and prolongation of mental illness include:

Material/environmental factors: factors such as poverty, unemployment, poor housing, lack of telephone or car, lack of community support networks and negative attitudes to mental illness may impact on the individual as well as carers.

Psychosocial factors: people living in more deprived areas have higher rates of adverse life events, social isolation, comorbid physical illness and stressful work experiences.⁷

Health-related behaviours: greater deprivation may be associated with difficulties in accessing community and primary health care services or attending follow-up, being unable to afford psychiatric medication and poor adherence to medication regimens. Deprivation may result in greater exposure to infections and poor obstetric care *in utero*, adverse coping styles and health-damaging behaviours (e.g. substance abuse).

4.7.3. Socioeconomic factors in the NZ Mental Health Survey and mental disorder prevalence and health service use

The NZMHS showed a strong association between socioeconomic factors such as low household income or living in a deprived area, and increased prevalence of mental illness. For example, people in the most deprived areas (NZDep01 deciles 9 and 10) compared to people in the least deprived areas (deciles 1 and 2) had almost twice the 12-month prevalence of any mental disorder (26% versus 15%). Similarly, the prevalence of a serious mental disorder during this period was about twice as common (7% versus 3%).

However, the study found little association between socioeconomic factors and visits to anyone in the health sector in NZ for mental health reasons, and no significant association at all, if the severity of illness

was adjusted for. This may indicate that for a given need for treatment, no marked inequality of access to healthcare treatment in relation to socioeconomic factors is apparent.

4.7.4. Counties Manukau mental health inpatients and deprivation status

Two studies from CM have shown that people resident in more deprived areas in CM have significantly longer admission durations and higher admission rates.

A study by Abas et al (2003) found a strong association between deprivation and psychiatric bed utilisation in almost 900 adults admitted to the CM psychiatric in-patient unit between 1998 and 2000.⁸

- People living in the most deprived areas of CM (NZDep96 deciles 9-10) had approximately three times the rate of admission of those living in the least deprived areas (deciles 1-2).
- The occupied bed days per year rate was about four times as great for those living in the most versus least deprived areas.
- Table 11 shows the ratio of admission and bed day rates for the different deprivation deciles compared to the mean rate. This clearly shows that less deprived areas are well below the mean rate and that the more deprived areas are above the mean rate. Tools such as this could provide useful input into useful in-patient bed number planning processes.⁸

Table 11: CM inpatient client sample (1998-2000), deprivation status and admission / occupied bed day rate ratios

NZDep96 deprivation decile	Ratio of admission rates to mean rate	Ratio of occupied bed day rates to mean rate
1-2 (least deprived)	0.50	0.42
3-4	0.68	0.47
5-6	1.03	1.10
7-8	1.38	1.56
9-10 (most deprived)	1.40	1.46

Source: Adapted from Abas et al (2003)⁸

Another study by Abas et al (2006) looked at the length of stay in almost 300 CM adults requiring inpatient psychiatric admission over 1999/2000.⁷

- The mean admission length was 21 days for those living in the most deprived areas (deciles 9-10), compared to 12 days for the least deprived areas (deciles 1-2).
- If key confounding variables were controlled for, the difference reduced from 9 to 7 days; however, it remained statistically significant. Variables controlled for were marital status, ethnicity, diagnosis, chronicity, severity, physical disability, consultant psychiatrist and involuntary admission.

An implications of studies such as these is that caution should be exercised when comparing indicators such as admission rates or length of stay between different facilities or DHBs without consideration of deprivation status as a confounding factors.⁷

4.7.5. CM clients seen by all DHB mental health services in 2005 and deprivation status

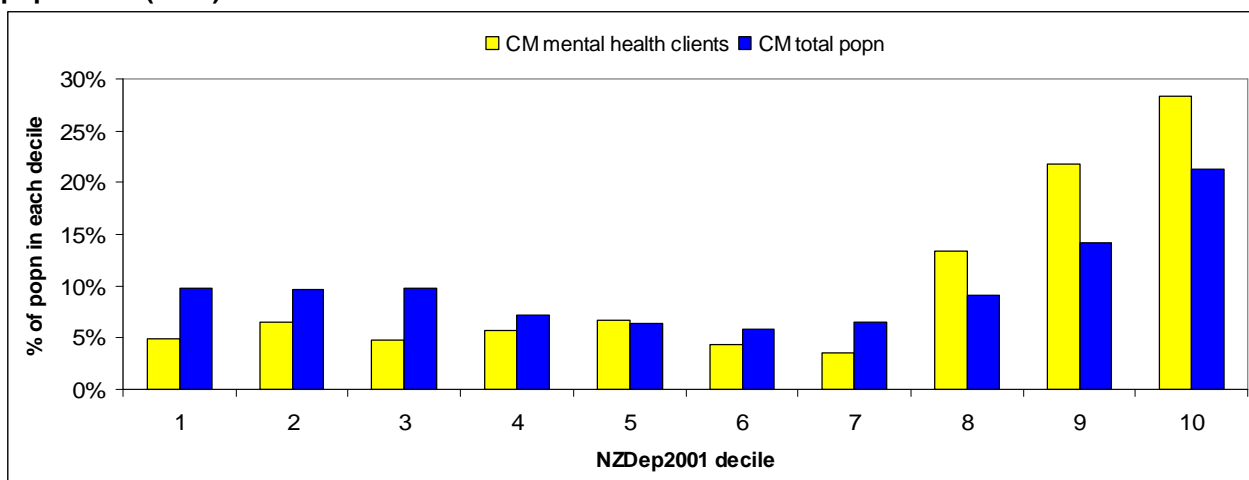
A strong association between deprivation and mental illness also occurs for all CM residents that were seen by any DHB mental health service in NZ during the 2005 calendar year. Data are from the Mental Health Information National Collection (MHINC).

While the CM general population is relatively deprived with a high proportion of people in the most deprived NZDep2001 deciles (9 and 10), the CM population in contact with the DHB mental health services is even more deprived (see Figure 8). Approximately 63% of clients are in the deciles 8, 9 and 10 compared to 45% of the CM general population.

Of particular note were the deprivation profiles of the different ethnic groups. There were noticeably fewer Māori and Pacific mental health clients in the less deprived deciles. In decile 10, the proportion of Māori and Pacific peoples were+ far higher than for the other ethnic groupings (see Figure 9).

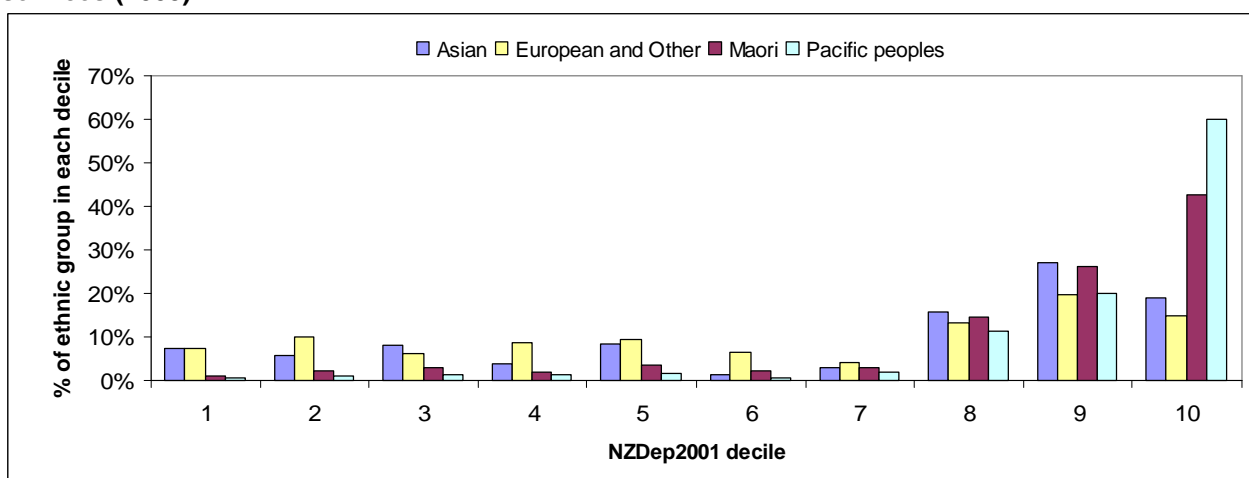
Data have also been analysed for the subgroup of CM clients diagnosed with schizophrenia. This shows a very marked associated of high deprivation status with this diagnosis (see section 4.7 for further details).

Figure 8: Deprivation profile, CM residents seen by DHB mental health services and CM total population (2005)



MHINC data, 2005 calendar year. CMDHB analysis.

Figure 9: Deprivation profile of each ethnic group, CM residents seen by DHB mental health services (2005)



MHINC data, 2005 calendar year. CMDHB analysis.

4.8. Comorbid mental illness

Coexisting or “comorbid” mental disorders are common and have considerable implications for the individual, family and health services.

Of the approximately 20% of people aged 16+ in the NZMHS who experienced a mental or substance use disorder in the previous 12 months, 63% had one disorder, 21% had two disorders and 16% had three or more disorders. The rate of comorbidity is similar to that seen in overseas studies.⁵

When the total number of diagnoses was looked at in the NZMHS, there was a clear pattern for the majority of mental disorders to occur to those who already have them. Much of the total burden of mental disorders was carried by the small proportion of the population who had multiple disorders, with about 60% of all diagnoses occurring in people with two or more disorders (who comprise about 8% of the population).

In the NZMHS, anxiety disorders were particularly common comorbid disorders with half of people with a mood disorder and 40% of people with a substance disorder in a 12-month period also having an anxiety disorder. Almost 30% of people with an anxiety or substance use disorder also had a mood disorder. Approximately 9% and 13% respectively of people with an anxiety and mood disorder, also had a substance use disorder. By comparison, during a 12-month period about 15% of the total population had an anxiety disorder, 8% a mood disorder and 3% a substance use disorder. This again illustrates that mental disorders tend to occur to those who already have them.

Comorbidity among substance use disorders was common in the NZMHS. Almost half of those with a drug abuse or dependence disorder also had an alcohol abuse disorder and 31% had alcohol dependence. Of those with an alcohol use disorder, 21% also had a drug abuse disorder and 13% had drug dependence.

There is also a clear association between comorbid mental disorders and increased suicidal behaviour, especially suicide attempts. As the number of mental disorders increases, symptom severity, case severity and disability also increase. For example, in the NZMHS, about 60% of people with multiple disorders were classified as serious cases.

Comorbidity increases the likelihood of treating seeking and can also frequently complicate treatment and lead to poor treatment response. The NZMHS found that the more disorders experienced, the greater the chance of accessing health services of all kinds, particularly specialist mental health services. Some 17% of people with three or more disorders visited a psychiatrist in the past 12 months, about five times more frequently than those with one disorder (3%).

There is some debate over potential explanations for comorbidity.⁵ One perspective is that it is not so much that individuals have multiple diagnoses, but it is instead due to classifications systems fragmenting over time (e.g. DSM-III to DSM-IV), splitting diagnoses into separate classes that may more properly belong together. Another explanation is that having one disorder predisposes one to a further disorder. It may be that some disorders are frequently comorbid as they share some common vulnerability factors.

Understanding of comorbid disorders has important implications regarding diagnosis and detection of comorbid conditions, funding and configuration of mental health services, and opportunities for secondary prevention.

4.9. Coexisting physical conditions and risk factors

International and NZ research, including the recently published NZMHS, shows significant comorbidity between mental disorders and chronic physical conditions.⁵

People with mental disorders have higher rates of several chronic physical conditions, such as cardiovascular disease, diabetes and chronic pain than people without any mental disorder. Chronic disease risk factors such as smoking, overweight/obesity and hazardous drinking are also more prevalent in people with mental disorders. For example, in people with schizophrenia, up to 90% smoke, 40-60% are overweight and the rate of diabetes may be to up four times than the general population.

Conversely, people with chronic physical conditions, such as cardiovascular disease, diabetes and cancer, are generally more likely to have mental disorders (e.g. depression or anxiety) than those without these conditions.⁵

The treatments used in mental disorders can themselves result in physical risk factors and conditions. Antipsychotic medications are of particular concern as they can cause weight gain which predisposes people to conditions such as diabetes and cardiovascular disease. These medications can also cause hyperglycaemia, worsen diabetes control and some medications may possibly increase the risk of acquiring diabetes.

Coexisting conditions can lead to greater functional impairment or disability, poor medicine adherence and higher treatment costs. There is a considerably higher risk of premature mortality in people with both a mental and a physical disorder, even after adjusting for higher suicide rates. Despite the high prevalence of comorbid physical conditions and risk factors, there is some evidence that these are frequently overlooked in people with mental disorders, resulting in lower levels of preventive and medical care.

Given that strong association between mental disorders and physical illness, there is a challenge for the health sector to provide for concurrent mental and physical health needs. Specialist medical and mental health services currently function largely independently of each other. In addition, the primary care sector does not always have sufficient capacity with regards to the provision of mental health care. Comorbidity of both physical and mental health conditions also emphasises the importance for chronic care programmes to consider both these aspects.

4.10. The burden of disease due to mental disorders

The burden associated with mental disorders has not always been widely appreciated. Mental disorders are among the most burdensome conditions in the world and can result in as much disability as chronic physical conditions. The burden is not unexpected given that mental disorders are common in the community, have a relatively early onset and are often chronic disorders. The mental health burden, particularly associated with major depression, is predicted to increase over coming decades.

Given the high prevalence of mental disorders and the large associated burden it is imperative that mental disorders are a priority area for the mental health sector, the wider health sector, intersectorial initiatives and indeed all of society.

An overview of data from the WHO Burden of Disease studies and the NZ Mental Health Survey (NZMHS) are outlined below. Further information is provided in subsequent sections covering individual mental disorders.

4.10.1. WHO Burden of Disease studies

The 1996 WHO Global Burden of Disease (GBD) study was a landmark study that really attracted attention to the disability burden associated with mental disorders. A further GBD study was undertaken in 2000 (GBD 2000) with subsequent analysis and projections for the future performed.¹⁰

Collectively, mental/substance use disorders account for about 10% of the total DALYs (Disability Adjusted Life Years) worldwide. Major depression is likely to be fourth largest cause of disease burden worldwide, accounting for about 4.5% of total DALYs.¹⁰ By 2030, major depression is predicted to be the second leading cause of disability worldwide (see Figure 10).¹¹

The WHO estimates also show that youth and younger adults seem to have a higher burden from mental disorders than the general population. Four of the top ten causes of DALYs in 2000 in people aged 15-44 were mental disorders (major depression, self-inflicted injuries, schizophrenia and bipolar disorder).

There are also regional variations in the WHO DALY estimates. For NZ in 2002, depression was likely to be the second leading disease burden (8.1% of total DALYs), similar to the ischaemic heart disease (7.6%) and chronic obstructive pulmonary disease (8.5%) burden (see Table 12).¹² The other major causes of mental disorder burden in NZ were alcohol use disorders, dementias, self-inflicted injuries, schizophrenia and bipolar disorders. Overall, mental/substance abuse disorders accounted for almost a quarter of all DALYs in NZ.

Another way that the WHO studied the disease burden was to look at the years lived with disability (YLD). Using this measure, major depression is the leading cause of disability worldwide for both genders in 2000, with another three mental disorders in the top ten causes of YLD (alcohol use disorders, schizophrenia and bipolar disorder).¹⁰

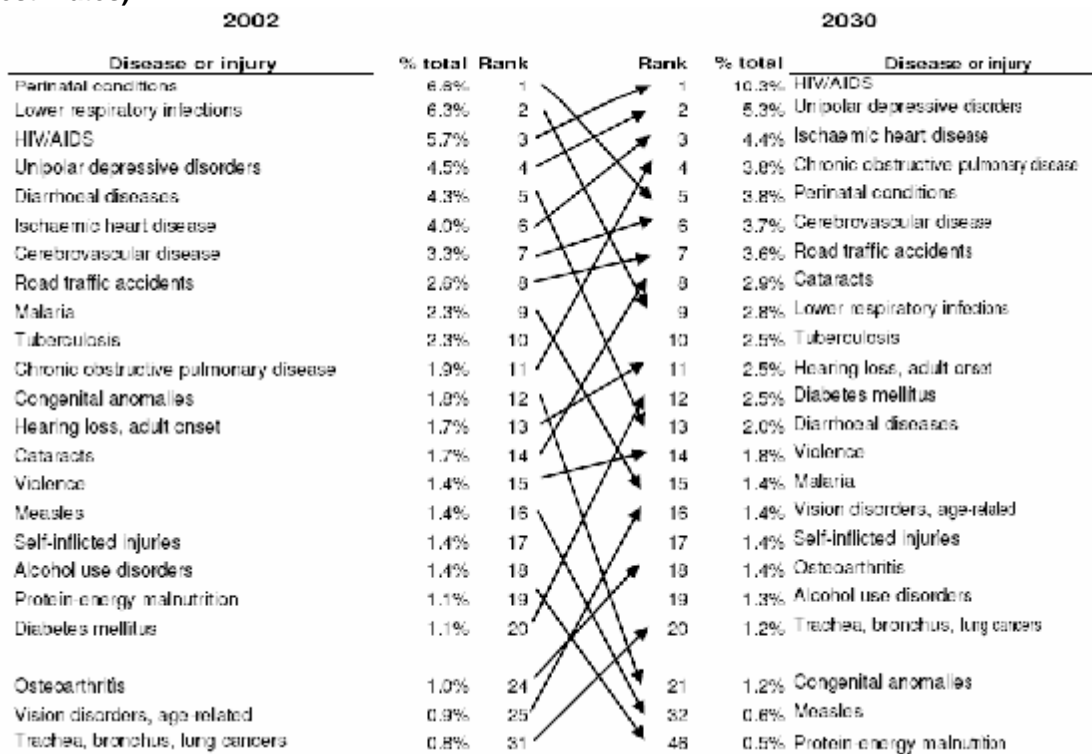
4.10.2. NZ Mental Health Survey (NZMHS)

The recently published NZMHS found that mental disorders were associated with impairment in several domains of functioning.⁵ Role impairment (impairment with work or other normal daily activities) was particularly affected. Having more than one mental disorder at the same time greatly increased role impairment. The more severe the mental disorder, the more severe the resulting disability. For example, people with a serious mental disorder were on average, totally unable to carry out their normal daily activities for 60 days of the year. Mood disorders were associated with more role impairment than anxiety or substance use disorders.

Mobility, self-care, cognitive ability and social skills were also affected by the presence of mental disorders, but not to the same extent as role impairment.

Mental disorders were found on average, to result in as much disability as chronic physical conditions. The combination of mental and physical disorders more than doubled the disability associated with mental or physical disorders alone.

Figure 10: Change in rank order of DALYs for the 20 leading causes, world, 2002-2030 (WHO estimates)



Source: Mathers CD, Loncar D. Updated projections of global mortality and burden of disease, 2002-2030: data sources, methods and results. Evidence and Information for Policy Working Paper. Evidence and Information for Policy: World Health Organization. October 2005, revised January 2006.¹¹

Table 12: WHO estimates of leading causes of DALYs in NZ, 2002

Condition	% of total DALYs *
Mental and substance use disorders	22.9%
Major depression	8.1%
Alcohol use disorders	3.7%
Alzheimer and other dementias	3.5%
Self-inflicted injuries	2.7%
Schizophrenia	1.4%
Bipolar disorder	1.3%
Drug use disorders	0.7%
Panic disorders	0.7%
Post-traumatic stress disorder	0.4%
Obsessive-compulsive disorder	0.4%
Physical conditions	
Chronic obstructive pulmonary disease	8.5%
Ischaemic heart disease	7.6%
Cerebrovascular disease	4.2%
Road traffic accidents	2.9%
Asthma	2.9%
Hearing loss, adult onset	2.7%
Diabetes	2.3%
Osteoarthritis	2.3%
Trachea, bronchus and lung cancers	2.3%

Source: World Health Organization. Death and DALY estimates for 2002 by cause for WHO Member States. World Health Organization 2004. Available from URL: www.who.int/healthinfo/bodestimates/en/index.html¹²

* DALYs = Disability Adjusted Life Years

4.11. Overview of diagnoses for CM clients of DHB mental health services in 2005

This section provides an overview of the diagnoses of CM domiciled mental health clients seen by any DHB mental health service in New Zealand in the 2005 calendar year. The diagnoses data are from the Mental Health Information National Collection (MHINC).

The MHINC is a national database of information collected by the New Zealand Health Information Service (NZHIS) to support mental health policy formation, monitoring and research. See section 2.6 for background on the MHINC and data notes.

Diagnoses can be submitted to the MHINC as either DSM or ICD diagnosis codes, which are then mapped to DSM-IV diagnosis codes for reporting.

In the MHINC, clients must have either a “principal mental health diagnosis (A)” or a “provisional mental health diagnosis (P)”. Clients can also have “Other relevant diagnoses (B)”. In total, 87% of the clients had a principal diagnosis with the following data being for these clients only.

4.11.1. Principal diagnoses summary

Table 14 shows the breakdown of principal diagnosis by age-groups. Figure 11 shows the top diagnoses by age-group and Figure 12 shows the diagnoses for child and youth (ages 0-24) in more detail.

Detailed MHINC data on the major individual diagnoses are not covered here, but included in the relevant epidemiology section for each disorder later in this chapter.

For those with a definite principal diagnosis, “schizophrenia and other psychoses” were the most common diagnoses overall (18% of total number of principal diagnoses), followed by depressive disorders (13%). All other diagnoses made were all less than 5% of the total. There was a marked difference in the predominant diagnoses in each age-group.

Note that alcohol and drug diagnoses may actually be the most common diagnoses; however, data are limited as the A+D Teams do not routinely code diagnoses (see below).

4.11.2. “Diagnosis or Condition Deferred on Axis I or Axis II” as principal diagnoses

Of particular note, was the high number of people overall (~30%) and in each age-group (except 65+) that had a principal diagnosis of “Diagnosis or Condition Deferred on Axis I or Axis II”. The intention of these diagnoses in the DSM-IV is for the situations when there is insufficient information to make any diagnostic judgment about an Axis I diagnosis or II condition.

However, there was marked variations between the different team types and the proportion of principal diagnoses that were “Diagnosis or Condition Deferred on Axis I or Axis II” (see Table 13). The very large majority of the alcohol-related team types principal diagnoses were deferred. Youth Specialty Teams and Needs Assessment and Service Coordination Teams also had over 90% of principal diagnoses deferred.

Further inquiry revealed that A+D Teams do not routinely code diagnoses and so the “Diagnosis or Condition Deferred on Axis I or Axis II” becomes the default diagnosis, which is not how the DSM-IV intended this diagnostic category to be used. As a result of this practice, the number of alcohol and drug-related principal diagnoses (n=257) is much lower than expected, given that in 2005, 1675 unique CM residents were seen by DHB Alcohol and Drug teams. Note that some of the alcohol and drug principal diagnoses were from teams other than the A+D Teams.

If an assumption is made that the 1543 principal diagnoses of “Diagnosis or Condition Deferred on Axis I or Axis II” made between the three alcohol and drug-related teams were all actually alcohol or drug diagnoses, this would mean that about 21% of the total principal diagnoses were actually alcohol or drug related, rather than the 3% currently captured by the MHINC (i.e. Alcohol 1.9% + Drug 1.6%). This would make A+D diagnoses the leading group of principal diagnoses.

This illustrates the importance of accurately coding diagnoses as current practices are resulting in a distorted picture of the burden of disease presenting to DHB mental health and addiction services.

Table 13: Proportion of total number of principal diagnoses that were "Diagnosis or Condition Deferred on Axis I or Axis II", by team type (CM clients 2005 calendar year) – MHINC data

Team type	Number "Diagnosis or Condition Deferred on Axis I or Axis II" as principal diagnosis	Total number Principal diagnoses	% of total principal diagnoses that are Diagnosis or Condition Deferred on Axis I or II
Alcohol and Drug Dual Diagnosis Team	19	19	100.0%
Alcohol and Drug Kaupapa Maori Team	253	256	98.8%
Alcohol and Drug Team	1271	1362	93.3%
Child, Adolescent and Family Team	131	1209	10.8%
Community Skills Enhancement Team	2	3	66.7%
Community Team	43	2126	2.0%
Eating Disorder Team	0	10	0.0%
Forensic Team	160	218	73.4%
Inpatient Team	4	901	0.4%
Kaupapa Māori Team	3	42	7.1%
Maternal Mental Health Team	1	21	4.8%
Needs Assessment and Service Coordination Team	135	148	91.2%
Pacific Island Team	120	279	43.0%
Psychogeriatric Team	3	683	0.4%
Specialist Psychotherapy Team	2	14	14.3%
Youth Specialty Team	79	82	96.3%
Total	2226	7373	30.2%

Table 14: Unique CM clients seen, by principal diagnosis and age-group (2005)

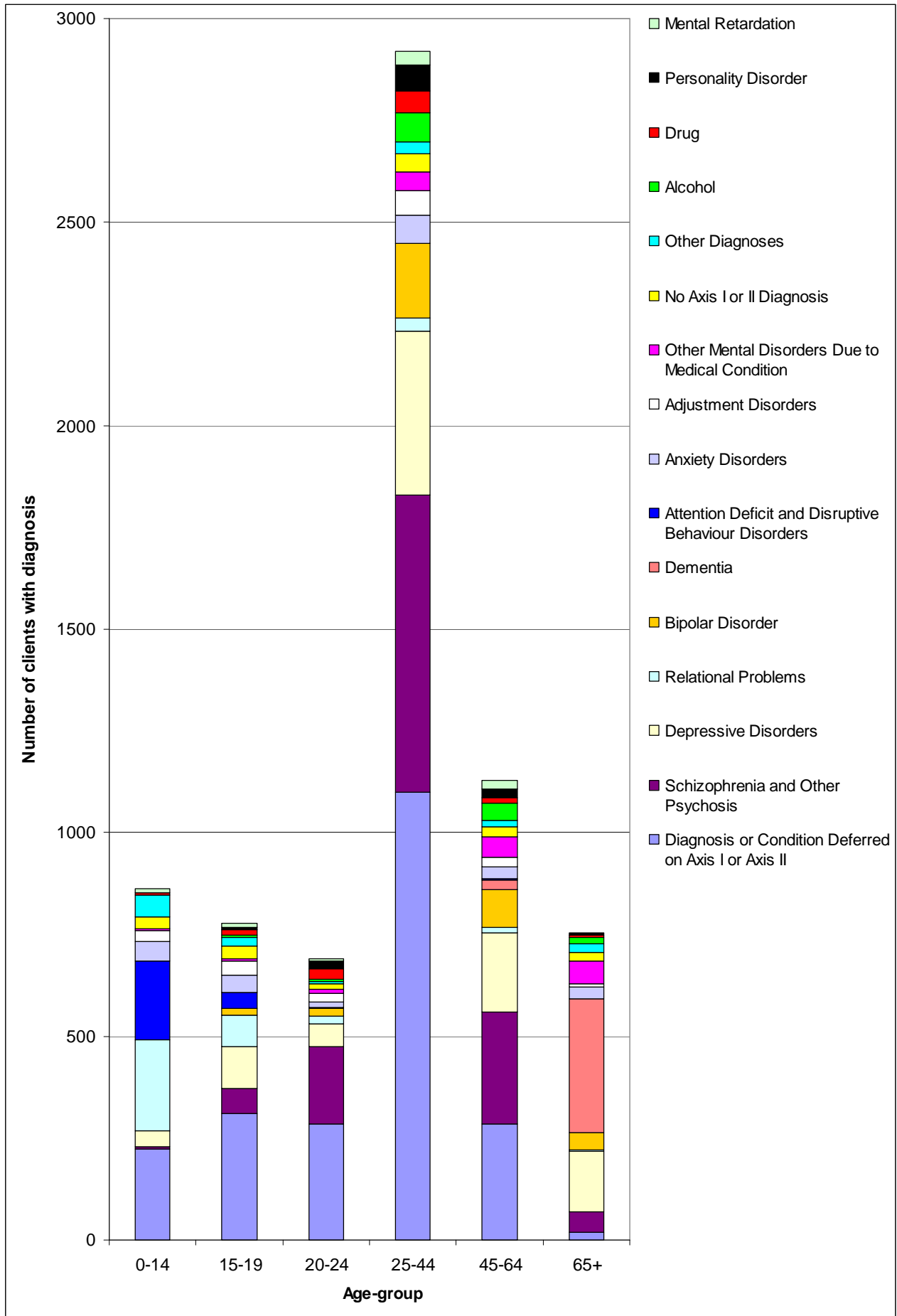
Principal diagnosis category	Age-group (n and %)												Total (n)	% of total
	0-14		15-19		20-24		25-44		45-64		65+			
Diagnosis or Condition Deferred on Axis I or Axis II *	222	22.9%	311	38.8%	285	42.6%	1098	37.4%	285	25.2%	18	2.4%	2219	30.4%
Schizophrenia and Other Psychosis	6	0.6%	61	7.6%	189	28.3%	731	24.9%	274	24.2%	50	6.6%	1311	18.0%
Depressive Disorders	40	4.1%	102	12.7%	57	8.5%	405	13.8%	196	17.3%	151	20.1%	951	13.0%
Relational Problems	222	22.9%	79	9.9%	18	2.7%	31	1.1%	11	1.0%	1	0.1%	362	5.0%
Bipolar Disorder	1	0.1%	15	1.9%	20	3.0%	183	6.2%	95	8.4%	42	5.6%	356	4.9%
Dementia	0	-	0	-	0	-	0	-	22	1.9%	329	43.7%	351	4.8%
Attention Deficit & Disruptive Behaviour Disorders	193	19.9%	39	4.9%	2	0.3%	1	-	3	0.3%	0	-	238	3.3%
Anxiety Disorders	50	5.2%	43	5.4%	13	1.9%	69	2.3%	31	2.7%	28	3.7%	234	2.80%
Adjustment Disorders	26	2.7%	36	4.5%	21	3.1%	60	2.0%	22	1.9%	10	1.3%	175	2.4%
Other Mental Disorders Due to Medical Condition	5	0.5%	5	0.6%	9	1.3%	45	1.5%	52	4.6%	56	7.4%	172	2.4%
No Axis I or II Diagnosis	30	3.1%	32	4.0%	15	2.2%	44	1.5%	23	2.0%	21	2.8%	165	2.3%
Other Diagnoses	51	5.3%	20	2.5%	5	0.7%	31	1.1%	16	1.4%	21	2.8%	144	2.0%
Alcohol #	2	0.2%	5	0.6%	6	0.9%	71	2.4%	42	3.7%	16	2.1%	142	1.9%
Drug #	3	0.3%	15	1.9%	26	3.9%	53	1.8%	13	1.1%	5	0.7%	115	1.6%
Personality Disorder	0	-	4	0.5%	17	2.5%	65	2.2%	23	2.0%	4	0.5%	113	1.5%
Mental Retardation	11	1.1%	12	1.5%	7	1.0%	33	1.1%	20	1.8%	0	-	83	1.1%
Pervasive Developmental Disorders	55	5.7%	9	1.1%	2	0.3%	7	0.2%	1	0.1%	0	-	74	1.0%
Other Mental Disorders of Infancy Childhood and Adolescence	45	4.6%	5	0.6%	1	0.1%	0	-	0	-	0	-	51	0.7%
Eating Disorder	4	0.4%	8	1.0%	6	0.9%	8	0.3%	2	0.2%	0	-	28	0.4%
Dissociative Disorders	1	0.1%	0	-	0	-	3	0.1%	1	0.1%	0	-	5	0.1%
Abuse (sexual)	1	0.1%	0	-	0	-	0	-	-	-	0	-	1	-

MHINC data, 2005 calendar year. CMDHB analysis. Principal diagnosis only. The top four diagnoses in each age-group are highlighted.

* Diagnosis or Condition Deferred on Axis I or II: When there is insufficient information to make any diagnostic judgment about an Axis I or II diagnosis, this should be noted as Diagnosis Deferred on the relevant axis.

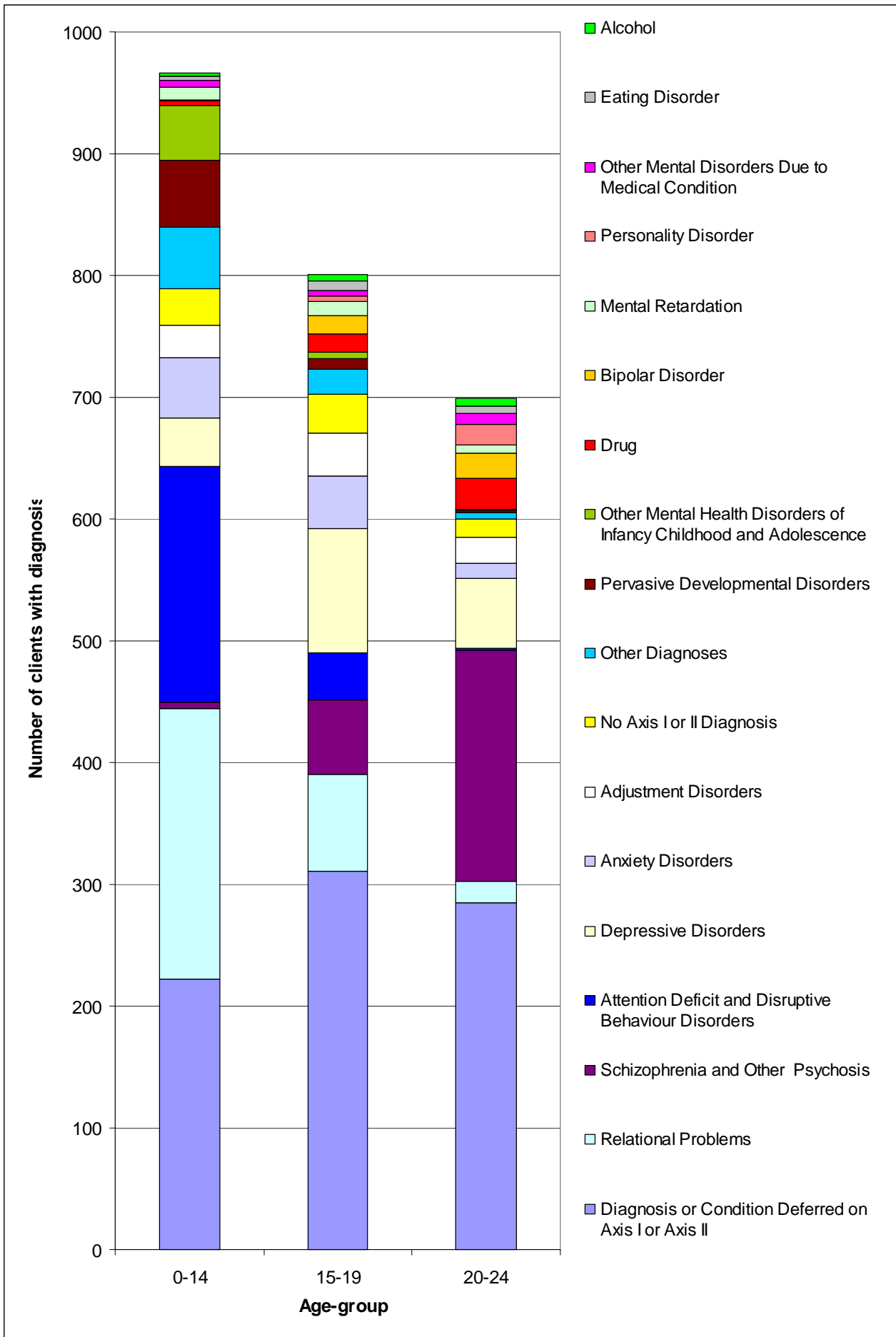
Alcohol and Drug diagnoses: The number of alcohol and drug-related principal diagnoses is much lower than expected, given that in 2005, 1675 unique CM residents were seen by DHB Alcohol and Drug teams in NZ. This is almost certainly due to the extremely high proportion of A+D clients with "Diagnosis or Condition Deferred on Axis I or Axis II" diagnoses. The true proportion of A+D principal diagnoses may be closer to 20%. See text for further details.

Figure 11: All unique CM clients, by top principal diagnoses and age-group (2005)



MHINC data, 2005 calendar year. CMDHB analysis. Principal diagnosis only. Unique CM residents seen by DHB mental health services.

Figure 12: CM child and youth diagnoses, by age-group (2005)



MHINC data, 2005 calendar year. CMDHB analysis. Unique CM domiciled clients seen by DHB mental health services. Principal diagnosis only.

4.12. Schizophrenia

4.7.1. Introduction

Although schizophrenia is commonly viewed as a single condition with a uniformly poor prognosis, it is a descriptive term that refers to a poorly understood group of heterogeneous brain disorders with highly variable presentations, impairment of function and course. Schizophrenia is characterised by alterations in perception, cognition, communication, planning and motivation. Delusions, hallucinations, thought disorder and negative symptoms such as reduced speech and blunted affect can occur.¹³

Note that schizophrenia was not one of the conditions studied in the recent NZ Mental Health Survey.

4.7.2. Chapter summary

Schizophrenia affects almost 1 in a 100 people at some stage in their lives and is a condition associated with significant disability.

Risk factors

Although there is still much uncertainty as to the aetiology of schizophrenia, it is very likely that schizophrenia is due to a complex interaction of genetic predisposition and environmental factors. Risk factors include male gender, migration, being born in or living in an urban area, and marijuana use.

Incidence and prevalence

The annual incidence varies substantially between different studies and countries from approximately 7 to 43 per 100,000 population. The median incidence is around 15 cases per 100,000 population, which would equate to 70 newly diagnosed people with schizophrenia in CM each year (range 30-190 cases).

The estimated lifetime risk of receiving a diagnosis of schizophrenia is around 0.7%, slightly lower than the commonly quoted lifetime prevalence of 1% (1 in 100 people). Like the incidence data, there is a very wide variation in the reported lifetime prevalences, ranging from 0.3 to 2.7% (3 to 27 per 1,000 people).

Applying the prevalence figures estimates to the CM area would mean that up to 3600 people may be affected with schizophrenia during a 12-month period (median estimate of 1450 people) and that up to 12,000 people (median estimate ~3,200) may be affected during the course of a lifetime.

Age, gender and ethnicity

Schizophrenia onset typically occurs during adolescence and early adulthood. Onset prior to adolescence is rare but onset can also occur later in life.

Slightly more males than females are affected, with an incidence ratio of about 1.4 to 1. Māori and Pacific peoples are disproportionately diagnosed with schizophrenia (see utilisation patterns below).

Socioeconomic factors

Schizophrenia is associated with a lower socioeconomic status and it is possible that this plays a role in the development of schizophrenia. However, in most cases the lower socioeconomic status probably results from symptoms impairing social, educational and occupational functioning. In CM residents with schizophrenia who accessed DHB mental health services in 2005, there was a marked association between schizophrenia and high deprivation status with about 80% of clients in the most deprived areas.

Comorbidity and mortality

Comorbid substance-related disorders and mental disorders are common, particularly anxiety disorders, personality disorders and mental retardation.

Medical comorbidity and risk factors are also common in people with schizophrenia. Poor diet, obesity and low levels of physical activity are common. There are high rates of smoking, metabolic syndrome, diabetes, hypertension and cardiovascular death.

Despite the high prevalence of medical risk factors and comorbidity there is evidence that these are frequently overlooked and patients with schizophrenia may receive lower levels of preventive and medical care compared to people without these conditions

Mortality rates in schizophrenia are about 1.5 to 3 times that of the general population. Life expectancy is reduced, maybe by as much as 20% compared to the general population. The increased mortality is due primarily to increased suicide rates and death from medical conditions, particularly cardiovascular disease.

Met and unmet need

The Camberwell report looked at adult high users of the northern region DHB mental health services and found that people with schizophrenia have a significant number of met and unmet needs. The top five areas in 2004 of unmet need were vocational opportunities (26% of the sample), daytime activities (22%), relief of psychotic symptoms (18%), company (17%) and intimate relationships (12%).

Mental health service utilisation patterns

In the 2005 calendar year, 1035 CM residents were seen by DHB mental health services with a diagnosis of schizophrenia, accounting for approximately 12% of all clients seen by these services.

The following data are for those clients with schizophrenia as the principal diagnoses (almost all cases):

- The overall age-standardised rate for CM was 335 per 100,000 population.
- 65% were male, with the male age-standardised rate almost twice that of females
- The age range of clients was 14-85 years with an average age of 37 years
- The rate of schizophrenia was highest in males aged 20-44, at almost 700 per 100,000
- Māori and Pacific peoples accounted for over half of the people seen with schizophrenia (32% and 24% respectively). Europeans accounted for 30%, Other 8% and Asian 6%.
- The age-standardised rates for Māori (620 per 100,000) and Pacific peoples (440) were significantly higher than the "European and Other" ethnic group (280) and Asian peoples (160)

Data are not available on the true proportion of people with schizophrenia who access DHB mental health services. However, if the above estimate of the median number of people with schizophrenia in CM within a 12-month period (n=1450) is used, this would mean that about 70% of these people saw a DHB mental health service in 2005. If the upper limit of the estimated number with schizophrenia in CM is used (n=3600), this would mean that only about 30% of these people saw a DHB mental health service. It is also possible that the number of people in CM with schizophrenia is lower than this and that almost all see a DHB mental health service. Note that the prevalence estimates may or may not be applicable to CM.

Due to the lack of data it is not clear how many people with schizophrenia in CM are accessing primary care services only or are not accessing any service at all.

4.7.3. Aetiology and risk factors for schizophrenia

Although there is still much uncertainty as to the aetiology of schizophrenia, it is very likely that schizophrenia is due to a complex interaction of genetic predisposition and environmental factors.

Risk factors for schizophrenia include male gender, migration, being born in or living in an urban area, and time of year of birth. These factors are discussed further in the section on incidence of schizophrenia. Other possible risk factors include antenatal exposure to influenza, herpes simplex infection, malnutrition, or low vitamin D levels; obstetric complications; low birth weight; and trauma or CNS infection in childhood.^{13 14 15}

Schizophrenia is also associated with a lower socioeconomic status and it is possible that this plays a role in the development of schizophrenia. However, in most cases the lower socioeconomic status probably results from symptoms impairing social, educational and occupational functioning.^{14 16}

The current evidence shows an association between the frequent use of cannabis and a greater risk of psychosis or psychotic symptoms.^{17 18} Several longitudinal studies, including the *Dunedin Multidisciplinary Health and Development Study*^{19 20} and the *Christchurch Health and Development Study*,²¹ have shown that cannabis users have about twice the odds of developing psychosis as non-users (mean OR 2.2; range 1.8-10.9).^{17 22 23} Note that not all episodes of psychoses were schizophrenia.

4.7.4. Incidence of schizophrenia

It is a common belief that schizophrenia is an “egalitarian” disorder that “affects all individuals equally, regardless of gender, race, or nationality”.^{24 25}

However, there is now very good evidence that there is substantial variation in the incidence of schizophrenia. A recent systematic review (McGrath et al, 2004) of studies from 33 countries found a six-fold variation in incidence, with a overall median annual incidence of 15.2 cases per 100,000 population (10-90% range 7.7-43.0).²⁶

Extrapolating these systematic review estimates to the current CM population would mean that there may be approximately 30-190 (median 70) new cases of schizophrenia a year in CM.

Gender and age of onset

Until very recently it was a widely held belief that schizophrenia affects men and women equally. Although there are substantial variations in the incidence rates reported for men and women, most studies indicate that schizophrenia occurs more commonly in men than women.

Two systematic reviews concluded that schizophrenia incidence was significantly higher in men than women regardless of age, with a male/female ratio of about 1.4:1.^{26 27} The male median annual incidence was estimated at 15.0 cases per 100,000 population (10-90% range 6.6-34.1) and female median annual incidence at 10.0 cases per 100,000 population (10-90% range 3.0-30.2).²⁶

The onset of psychotic symptoms in people with schizophrenia occurs typically during adolescence or early adulthood. Onset prior to adolescence is rare but onset can also occur later in life.^{13 28}

The age of onset in women tends to be delayed compared to men.^{28,29} While new-onset schizophrenia in both men and women tends to peak in the early 20s, the incidence in men remains higher in men until the mid-30s then declines. In contrast, women have a second peak in incidence around their late 40s to early 50s. Good data on the actual incidence rates in different age-groups across the life span is, however, lacking.

Migrants

A personal or family history of migration seems to be an important risk factor for schizophrenia. Two systematic reviews have shown that the risk in migrants is about three to five times greater than in native-born people.^{26 30} Both first and second generation migrants are at increased risk and the risk may be greater in migrants from developing versus developed countries.³⁰

Urban environment

Several studies have shown that those born in cities have about a two-fold risk of developing schizophrenia compared to those born in rural areas.²⁴ In addition, people living in cities also had a significantly higher incidence of schizophrenia compared to people living in mixed urban-rural areas.²⁶

Time of year of birth

A consistent finding in the literature is that there is a small but significantly increased risk of developing schizophrenia in individuals born in winter or spring in the northern hemisphere.^{24 31} The size of this effect also increased with increasing latitude.³¹ Data from the Southern hemisphere; however; has not shown an significant association with winter and spring births.³²

4.7.5. Prevalence of schizophrenia

As with the incidence of schizophrenia, there is great variation in the reported prevalence of schizophrenia.

A recent systematic review by Saha et al (2005)³³ evaluated 188 studies from 46 countries, including data from the Christchurch Psychiatry Epidemiology Study.³⁴

- There were substantial variations in prevalence estimates (five to six-fold differences).
- The median lifetime morbid risk prevalence of 0.72% is slightly lower than the commonly quoted lifetime prevalence of 1% (1 in 100 people).
- The different types of prevalence in this study have been extrapolated to the 2006 CMDHB population to give a range of the possible number of people with schizophrenia (see Table 15) in CM. Given that 1035 CM residents with schizophrenia saw DHB mental health services in 2005, it seems that the lower end of the estimates (n=570) is not valid. However, it is not known how accurate the median and upper range estimates are.

Note that the recent NZMHS did not include schizophrenia.

Table 15: Prevalence of schizophrenia in a systematic review by Saha et al (2005), and extrapolation to the 2006 CMDHB population

Prevalence type*	Median number # (per 1,000 popn)	10-90% range# (per 1,000 popn)	Median number of people in CMDHB§	10-90% range of number of people in CMDHB§
Period	3.3	1.3-8.2	1450	570-3610
Lifetime	4.0	1.6-12.1	1760	705-5330
Lifetime morbid risk	7.2	3.1-27.1	3170	1365-11940

* **Period prevalence:** proportion of individuals manifesting schizophrenia in studies covering a period of 1-12 months.

Lifetime prevalence: proportion of individuals that ever manifested schizophrenia during their lives up to the time the study was conducted and who were alive at the time of the survey.

Lifetime morbid risk: estimate of the likelihood of manifesting schizophrenia during the entire lifespan

Prevalence estimates from systematic review by Saha et al (2005).³³

§ Extrapolations from the systematic review estimates based upon projected CMDHB population of 440,600 in 2006 (SNZ population projections performed 2005, medium growth scenario). This assumes that the CMDHB population age-distribution is similar to the studies included in the systematic review.

Christchurch Psychiatric Epidemiology Study

This 1986 cross-sectional Christchurch study of almost 1500 adults aged 18-64 years found the six-month prevalence of schizophrenia to be 0.2% (2 per 1,000 popn) and a lifetime (up to the time of the study) prevalence of 0.3% (3 per 1,000 popn).³⁴

2002/03 New Zealand Health Survey

This study of 14,000 people aged 15+ found that 0.2% (95% CI 0.1-0.4%) of the population admitted that they had ever been diagnosed with schizophrenia.⁶ This is likely to be an underestimate.

Te Rau Hinengaro: New Zealand Mental Health Epidemiology Study

Unfortunately, schizophrenia was not one of the diagnoses evaluated in this recent community survey of approximately 13,000 people.³⁵

4.7.6. Schizophrenia and ethnicity

There are reports of pockets of high rates of schizophrenia in certain ethnic groups (e.g. Southern Indian Tamils) and low rates in other ethnic groups (e.g. Ghanans). There are, however, issues in diagnosing schizophrenia in different cultures and there is some evidence that schizophrenia may have been overdiagnosed in certain ethnic groups (e.g. African Americans).¹³

In New Zealand, Māori and Pacific peoples seem disproportionately diagnosed by schizophrenia (for further information, see section 4.7.10 - Schizophrenia and the DHB mental health services).

4.7.7. Schizophrenia and other mental illness

Comorbid substance-related disorders and anxiety disorders are common. In particular, rates of obsessive-compulsive disorder and panic disorder are higher than the general population. Certain personality disorders may precede the onset of schizophrenia; however, it is unclear whether these are just prodromal to schizophrenia or separate disorders.¹³

4.7.8. Schizophrenia and medical comorbidity

Medical comorbidity is very common in people with schizophrenia with the majority having at least one chronic comorbid medical condition. Poor physical health often occurs at an early age in people with schizophrenia and is most pronounced in people aged around 25-45 years.³⁶ Risk factors for disease, particularly for diabetes and cardiovascular disease are very common in people with schizophrenia (see Table 16).

Despite the high prevalence of risk factors and comorbidity there is evidence that these are frequently overlooked and patients with schizophrenia may receive lower levels of preventive and medical care compared to people without these conditions.^{36,37}

Table 16: Medical risk factors and conditions in schizophrenia

Parameter	Comments
Diet and exercise	<ul style="list-style-type: none"> Poor diet and low levels of physical activity are common^{38 39}
Weight	<ul style="list-style-type: none"> Overall, 40-60% of people with schizophrenia are overweight, with women particularly affected.^{36 40 41} Probably related to diet, lack of exercise and weight gain from antipsychotic medication.
Smoking	<ul style="list-style-type: none"> Significantly higher rates of smoking than the general population (as high as 90%).^{13 36 39}
Lipid levels	<ul style="list-style-type: none"> Abnormal lipid levels are common, particularly with the use of certain antipsychotic medications.³⁶
Metabolic syndrome	<ul style="list-style-type: none"> Very high rates (approximately 20-55%) compared to the general population, with women affected more than men.⁴¹⁻⁴³ Metabolic syndrome is a very significant risk factor for developing diabetes and cardiovascular disease.
Diabetes	<ul style="list-style-type: none"> Likely to be two to four times more common than in the general population, with prevalence estimates around 15-25%.^{38 44} Probably related to a combination of obesity and antipsychotic medication. Antipsychotics can cause hyperglycaemia, worsen diabetes control and some medications may possibly increase the risk of acquiring diabetes.
Hypertension	<ul style="list-style-type: none"> Significantly higher rates of hypertension and elevated 10-year cardiovascular risk compared to the general population.³⁸
Cardiovascular causes of death	<ul style="list-style-type: none"> Overall, about twice as common as in the general population; however, it may be up to five times more common in those aged 25-44 years.³⁶

4.7.9. Schizophrenia and mortality

Overall mortality rates in schizophrenia are about 1.5 to 3 times that of the general population, with the period of greatest mortality being in the first few years after diagnosis.^{36 44-47} Life expectancy is reduced, maybe by as much as 20% compared to the general population.⁴⁷ The increased mortality is due primarily to increased suicide rates and death from medical conditions, particularly cardiovascular disease.

Suicide

Schizophrenia is associated with a marked increase in suicide rate compared to the general population.

- Although the literature for several decades has quoted the lifetime risk of suicide as being in the order of 10-15%, the underlying data for these estimates are now very old (e.g. 1930s-1975⁴⁸).
- More recent reviews have found the risk to be substantially lower than previously thought, with the estimated lifetime risk of suicide being 4-5.6%.^{49 50}
- The risk of suicide is greatest in the first few years of illness but continues throughout life.
- A recent systematic review (Hawton et al, 2005)⁵¹ identified risk factors associated with a significantly increased risk of suicide, including male gender, white ethnicity, previous depressive disorders, previous suicide attempt, drug misuse (but not alcohol misuse), poor adherence to treatment, recent loss, living alone and agitation or motor restlessness. Surprisingly, active psychotic symptoms were not associated with increased risk.

4.7.10. Global burden and economic costs of schizophrenia

The WHO Global Burden of Disease (GBD) studies are very important as they estimate the degree of burden from physical disorders, mental disorders and injuries.

Data from the 2000 GBD study showed that there is a significant burden from schizophrenia with it accounting for about 1% of total DALYs (Disability Adjusted Life Years) and 3% of YLDs (Years Lived with Disability) worldwide.

The burden was greatest in people aged 15-44 years with it being the:¹⁰

- 8th largest cause of DALYs, accounting for 2.6% of total DALYs
- 3rd leading cause of YLD, accounting for 5% of the total YLDs, second only to major depression and alcohol use disorders.

The WHO subsequently estimated that for NZ in 2002, that schizophrenia accounted for about 1.5% of total DALYs.⁵² The economic costs of schizophrenia are very high with the direct costs in the US estimated at US\$19 billion and US\$46 billion from lost productivity (1991 dollars).¹⁰

4.7.11. Schizophrenia and the DHB mental health services

This section covers the key large data sources that are applicable to the CM population with schizophrenia.

A. NZ-CAOS study

The 2002 NZ Mental Health Classification and Outcomes Study (NZ-CAOS) looked at over 14,000 adult and 3,000 child/youth inpatient and community episodes of care across eight DHBs, including CMDHB.⁴ See section 2.7 for details of the NZ-CAOS study, DHBs covered and services excluded.

In adults, schizophrenia, paranoia and acute psychotic disorders accounted for 35% of all episodes, 48% of inpatient episodes, and about 30% of community care episodes. Data were not, however, broken down into the individual psychotic disorders.

In child and youth, these diagnoses made up 3% of all episodes and 2% of community care episodes. In contrast, they made up a very high 29% of inpatient episodes; however, the numbers were small (n=27), limiting conclusions.

There was a marked ethnic variation, with Māori and Pacific peoples disproportionately affected.

- For adult inpatients, these diagnoses accounted for about two-thirds of the Māori and Pacific peoples episodes (63% and 66% respectively). In contrast, these diagnoses made up 39% of European episodes and 45% of "Other" ethnicities episodes.
- For adult community episodes, these diagnoses accounted for 50% of Pacific peoples, 38% of Māori, 24% of European and 27% of "Other" episodes.
- For child and youth community episodes, these diagnoses accounted for 9% of Pacific peoples, 4% of Māori, 1% of European and 3% of "Other" episodes. Numbers were too low to comment on inpatient episodes.

B. Camberwell report and schizophrenia

This study conducted in 2004 looked at 4500 adult high users of the northern region (CMDHB, ADHB, WDHB and Northland DHB) mental health services and their needs.^{53,54} These data were compared to the previous, smaller Camberwell study conducted in 1997. See section 2.8 for further details of these studies.

Schizophrenia was by far the most common mental health diagnosis, occurring in 60% (n=2702) of the total users in 2004, compared to 70% in 1997. In 2004, 55% (n=986) of the CMDHB users had a diagnosis of schizophrenia.

Age and gender

In 2004, the majority of people diagnosed with schizophrenia were male (male:female ratio of 1.6:1), in younger age groups (79% aged 18-48 years) and not in a relationship (87%). See Table 17 for further detail by DHB.

Ethnicity

Overall in 2004, a higher proportion of Māori (68%) and Pacific people (74%) were assigned a diagnosis of schizophrenia than NZ European (52%), Asian (56%) and "Other" ethnic groups (57%).

The overall ethnic breakdown of those with schizophrenia was NZ European - 43%, Māori - 30%, Pacific peoples - 19%, Asian - 3% and "Other" ethnic groups - 5%. CMDHB had a greater proportion of Māori and Pacific peoples (see Table 17); however, this is likely to be a reflection of the overall CM population.

Comorbid mental illness

Comorbidity was common, with about 13% of people with schizophrenia having a comorbid axis I and II diagnosis, and 12% of people having more than one Axis I diagnosis. The most common comorbid diagnoses were substance abuse disorder (9%), personality disorders (5%) and mental retardation (5%).

Comorbid physical illness

Also of note, was the high proportion of people (24%) with schizophrenia that also had a co-existing general medical condition (i.e. Axis III diagnosis).

Employment

Unemployment is a significant issue for people with schizophrenia and vocational opportunities were ranked by clinicians as the number one unmet need. Although the proportion of people in some form of employment has improved to 30% in 2004 from 24% in 1997, 67% of people in 2004 had no form of employment (see Table 18). Data breakdown by age, gender and ethnicity are not available.

Table 17: Demography of 2004 group with schizophrenia (Camberwell report)

Parameters		District Health Board									
		Auckland		Waitemata		Counties Manukau		Northland		Total	
		n	%	n	%	n	%	n	%	n	%
Age group (n = 2683*)	18 to 35 yrs	262	33.1	294	45.4	470	48.1	101	38.0	1127	42.0
	36 to 48 yrs	302	38.2	233	36.0	348	35.6	116	43.6	999	37.2
	> 48 yrs	227	28.7	121	18.7	160	16.4	49	18.4	557	20.8
Gender (n = 2674*)	Male	502	63.6	416	63.9	620	64.0	160	60.2	1698	63.5
	Female	287	36.4	235	36.1	348	36.0	106	39.8	976	36.5
Ethnic group (n = 2603*)	NZ European	424	55.0	320	51.2	277	29.3	102	38.8	1123	43.1
	Māori	111	14.4	160	25.6	351	37.2	157	59.7	779	29.9
	Pacific peoples	152	19.7	93	14.9	244	25.8	2	0.8	491	18.9
	Asian peoples	40	5.2	17	2.7	29	3.1	0	0.0	86	3.3
	Other	44	5.7	35	5.6	43	4.6	2	0.8	124	4.8
Relationship status (n = 2655*)	Unpartnered	695	88.6	574	89.3	837	86.3	203	78.7	2309	87.0
	Partnered	89	11.4	69	10.7	133	13.7	55	21.3	346	13.0

* Each variable had missing values due to non-response.

Table 18: Employment situation of 2004 group with schizophrenia

Parameter	District Health Board									
	Auckland		Waitemata		Counties Manukau		Northland		Total	
	n	%	n	%	n	%	n	%	n	%
No employment	518	65.9	410	63.9	638	66.5	201	76.7	1767	66.7
Open employment with mental health service input	30	3.8	20	3.1	24	2.5	4	1.5	78	2.9
Open employment	113	14.4	98	15.3	120	12.5	22	8.4	353	13.3
Pre-vocational programme	25	3.2	14	2.2	27	2.8	5	1.9	71	2.7
Supported employment scheme	81	10.3	74	11.5	120	12.5	13	5.0	288	10.9
Other	19	2.4	26	4.0	31	3.2	17	6.5	93	3.5
Total	786	100.0	642	100.0	960	100.0	262	100.0	2650*	100.0

* There were 52 values missing due to non-response.

Global Assessment of Function (GAF)

The GAF is a 100-point tool rating overall psychological, social and occupational functioning of people over 18 years of age and older. A higher score indicates better functioning.

The overall mean GAF score in 2004 for people with schizophrenia was 61.1, with similar values for all four Northern region DHBs. This suggests that on average, the people surveyed were experiencing “Some mild symptoms or some difficulty in social, occupational, or school functioning, but generally functioning pretty well, has some meaningful interpersonal relationships.”

The score was an improvement for the region from the mean 53.2 score in 1997 (Moderate symptoms or any moderate difficulty in social, occupational, or school functioning). CMDHB improved the most with about a 10-point improvement over this time.

Mental Health Act (MHA) status

In 2004, approximately 30% of the people with schizophrenia were under the MHA 1992, compared to 22% in the 1997 Camberwell data (see Table 19). Most of this increase is related to an increase in the use of community treatment orders. Data breakdown by age, gender and ethnicity were not available.

Table 19: Status under Mental Health (Compulsory Assessment and Treatment) Act 1992 of the 2004 Camberwell group with schizophrenia

Status	District Health Board									
	Auckland		Waitemata		Counties Manukau		Northland		Total	
	n	%	n	%	n	%	n	%	n	%
Voluntary	577	73.7	420	65.1	693	72.3	182	68.4	1872	70.6
MHA (C) [†]	164	20.9	137	21.2	214	22.3	75	28.2	590	22.3
MHA (I) [†]	26	3.4	45	7.0	46	4.9	8	3.0	125	4.7
CPMIP [†]	1	0.1	38	5.9	2	0.2	0	0.0	41	1.5
Other	15	1.9	5	0.8	3	0.3	1	0.4	24	0.9
Total	783	100.0	645	100.0	958	100.0	266	100.0	2652*	100.0

† MHA = Mental Health (Compulsory Assessment and Treatment Act) 1992, (C) = compulsory community treatment order, (I) = compulsory inpatient treatment order, CPMIP = Criminal Procedure (Mentally Impaired Persons) Act 2003.

* There were 50 missing values due to non-response.

Met and unmet needs of people with schizophrenia

People with schizophrenia have significant met and unmet need. In the Camberwell study, clinicians ranked the needs (as they perceived them) of the approximately 2700 people with schizophrenia using the Camberwell Assessment of Need (CAN) standard CAN22-item and expanded CAN30-item questionnaires.

The average total number of needs for the group in 2004 was approximately eight for the CAN30, with six of these being met needs and two were unmet needs (see Table 20). The top five areas in 2004 of unmet need were vocational opportunities (26% of the sample), daytime activities (22%), relief of psychotic symptoms (18%), company (17%) and intimate relationships (12%) - see Table 21.

Table 20: Number of met and unmet needs of people with schizophrenia (2004), Northern region DHBs

Parameter	CAN30 [*] score		
	Met need	Unmet need	Total need
Mean	5.6	2.1	7.8
95% CI	5.5-5.8	2.0-2.2	7.6-8.0

* CAN30 = 30-item Camberwell Assessment of Need.

Corrected need takes into account any need questions that were not completed.

Table 21: Ranked needs for 2004 Camberwell group with schizophrenia

Area	No need	Met need	Unmet need	Unknown
	%	%	%	%
Vocational opportunities	43.3	21.4	25.9	9.4
Daytime activities	44.6	31.6	21.6	2.2
Psychotic symptoms	11.9	69.2	17.8	1.1
Company	49.7	28.4	16.7	5.2
Intimate relationships	51.6	8.8	12.3	27.3
Psychological distress	42.5	42.6	11.3	3.6
Family	73.8	12.7	10.6	2.9
Community integration	51.3	28.7	10.3	9.7
Money	58.5	24.6	9.7	7.2
Drugs	75.8	11.6	8.3	4.3
Transport	76.2	12.5	7.2	4.1
Self-care	74.2	19.0	5.9	0.9
Alcohol	76.7	14.3	5.6	3.4
Basic education	77.5	11.6	5.5	5.4
Physical health	68.1	26.0	4.7	1.2
Looking after the home	65.7	26.4	4.6	3.3
Safety to others	69.8	24.2	4.6	1.4
Safety to self	77.0	17.6	4.2	1.2
Childcare	87.4	5.5	3.9	3.2
Accommodation	72.0	24.2	3.5	0.3
Telephone	89.8	5.7	3.3	1.2
Cultural services/inputs	78.7	7.4	3.0	10.9
Safety from others	75.4	17.4	3.0	4.2
Sexual expression	39.5	3.7	3.0	53.8
Food	72.4	24.1	2.2	1.3
Basic education in first language	86.8	6.1	1.5	5.6
Benefits	83.2	9.2	1.1	6.5
Information	73.4	20.4	0.9	5.3
Spirituality/religion	67.9	4.9	0.9	26.3
Complementary health practice	73.9	4.6	0.7	20.8

Needs ranked by clinicians as they perceived them.

C. Mental Health Information National Collection (MHINC) schizophrenia data

This section covers the MHINC data for the CM domiciled clients seen by DHB mental health services throughout NZ with a diagnosis of schizophrenia in the 2005 calendar year. For background information on the MHINC, see section 2.6.

Of the total number of unique CM clients seen in 2005 by DHB mental health services, 12.3% (n=1035) had a diagnosis of schizophrenia. Almost all (n=1006) of these 1035 clients had schizophrenia as the principal diagnosis.

Data are not available on the true proportion of people with schizophrenia who access DHB mental health services. However, if the estimate of the median number of people with schizophrenia in CM within a 12-month period (n=1450) is used, this would mean that about 71% of these people saw a DHB mental health service in 2005. If the upper limit of the estimated number with schizophrenia in CM is used (n=3610), this would mean that only about 29% of these people saw a DHB mental health service in 2005. It is also possible that the number of people in CM with schizophrenia is lower than this and that almost all see a DHB mental health service.

Note that the prevalence estimates may or may not be applicable to CM. For further details of the estimated number of people in CM with schizophrenia, see sections 4.7.4 and 4.7.5 above.

Due to the lack of data, it is not clear how many people with schizophrenia are accessing primary care services only or are not accessing any service at all.

Age and gender

The 2005 CM MHINC data were very similar to the literature and the Camberwell data, with the majority of patients in younger age groups and a predominance of males.

Males with schizophrenia made up 65% (n=654) of the total with a male:female ratio of 1.9:1. Gender data were not available for four clients. The overall age-standardised rate for CM residents with schizophrenia was 335 per 100,000 population, with the male rate (445) almost twice that of females (230) – see Figure 15.

Approximately 93% of patients were aged 20-64 years. The age range was 14-85 years with an average age of 37 years. Table 22 and Figure 13 show the breakdown of client numbers for each gender by age-group and Figure 14 has the age-group specific rates. The most noticeable finding is the marked excess (number and rates) of males compared to females in the 20-44 year age range.

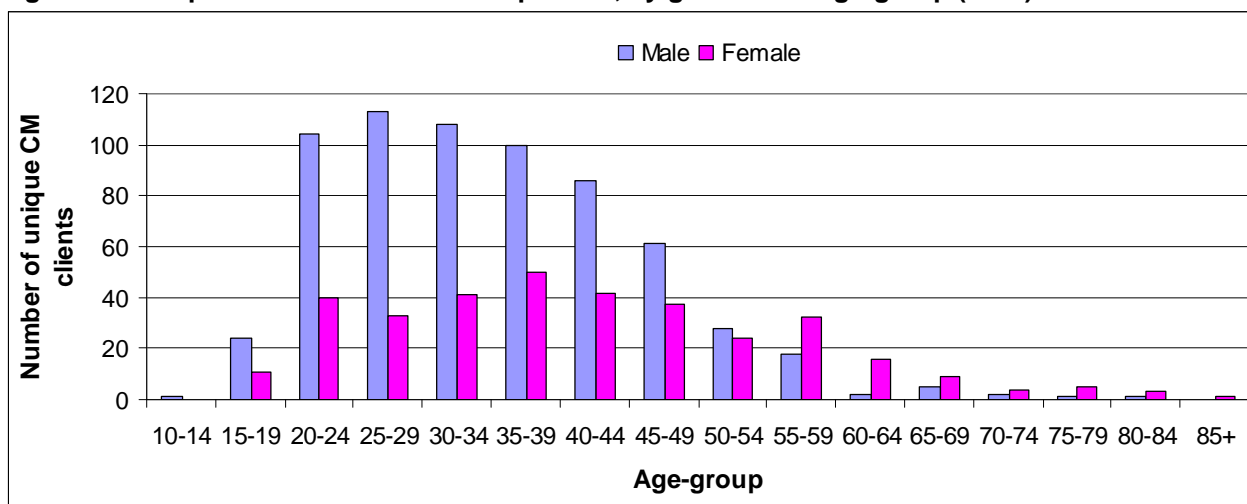
Table 22: Schizophrenia, by gender and age-group - CM (2005)

Age group	Male		Female		Total	
	n	%	n	%	n	%
0-14	1	0.2%	0	0.0%	1	0.1%
15-19	24	3.7%	11	3.2%	36	3.6%
20-24	104	15.9%	40	11.5%	145	14.4%
25-44	407	62.2%	166	47.7%	575	57.2%
45-64	109	16.7%	109	31.3%	218	21.7%
65+	9	1.4%	22	6.3%	31	3.1%
Total	654	100.0%	348	100.0%	1006	100.0%

MHINC data, 2005 calendar year.

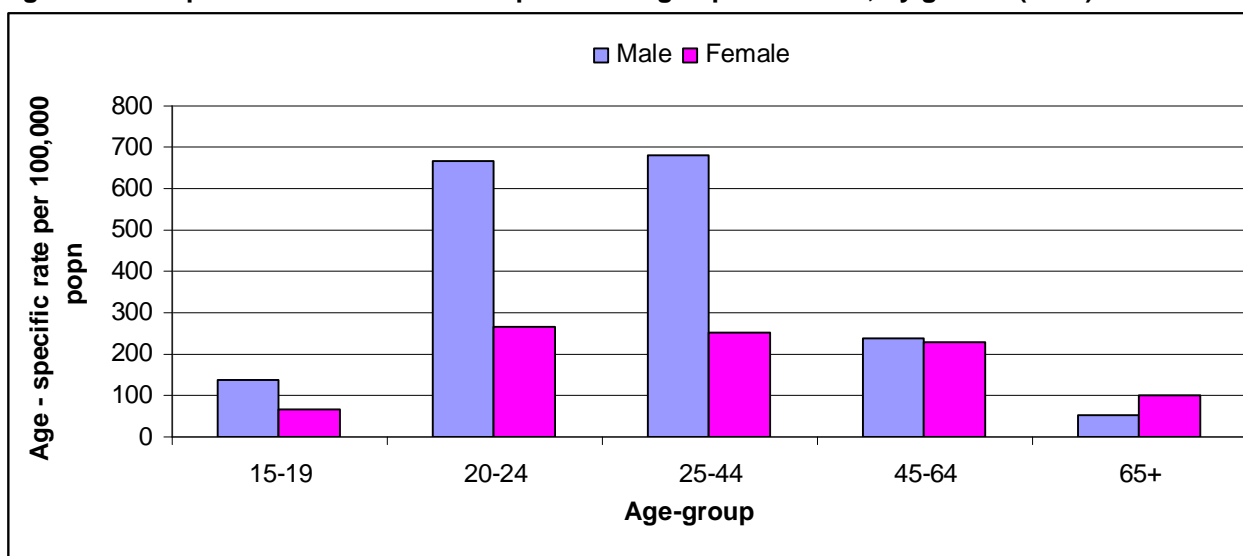
Unique CM domiciled clients seen by DHB mental health services anywhere in NZ.

Figure 13: Unique CM clients with schizophrenia, by gender and age-group (2005)



MHINC data, 2005 calendar year. Unique CM domiciled clients seen by DHB mental health services anywhere in NZ.

Figure 14: Unique CM clients with schizophrenia – age-specific rates, by gender (2005)



MHINC data, 2005 calendar year. Unique CM domiciled clients seen by DHB mental health services anywhere in NZ. Note: the 15-19 and 65+ age-groups rates are very approximate due to the relatively low numbers of clients.

Ethnicity

The ethnicity breakdown for the 2005 CM MHINC data was similar to the Camberwell report, with Māori and Pacific peoples accounting for more than half of the people with schizophrenia (see Table 23). The age-standardised rates for Māori (620) and Pacific peoples (440) were significantly higher than the “European and Other” ethnic group (280) and Asian peoples (160) - see Figure 15.

Table 23: Schizophrenia, by ethnic group (CM 2005)

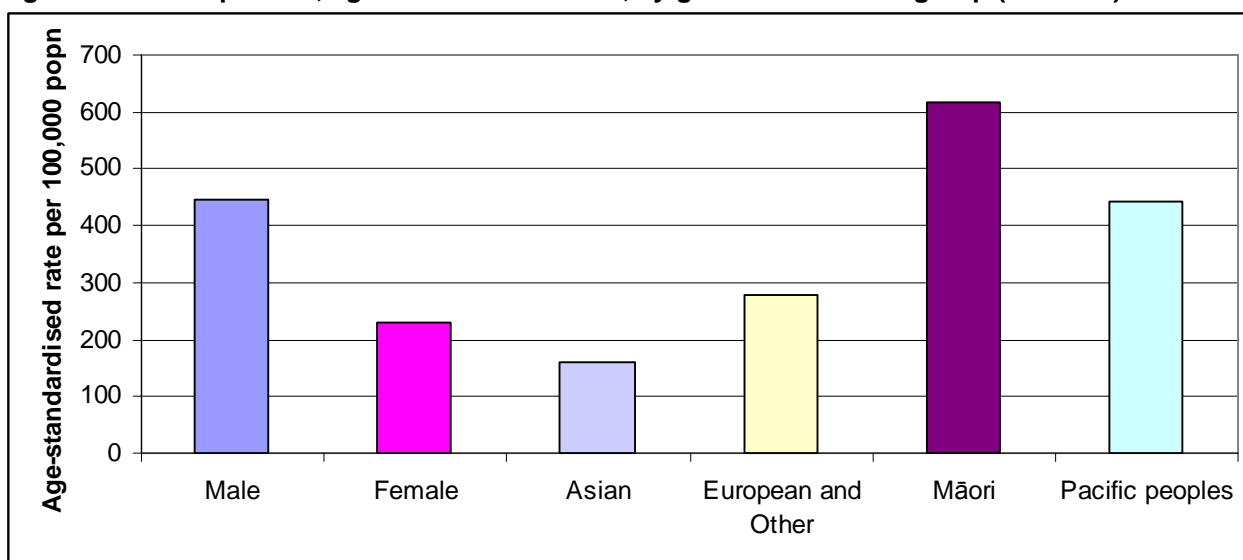
Ethnic group	Male		Female		Total	
	n	%	n	%	n	%
Asian	32	4.9%	25	7.2%	57	5.7%
European	191	29.2%	106	30.5%	297	29.5%
Māori	228	34.9%	94	27.0%	322	32.0%
Other	52	8.0%	32	9.2%	85	8.4%
Pacific peoples	151	23.1%	91	26.1%	245	24.4%
Total	654	100.0%	348	100.0%	1006	100.0%

MHINC data, 2005 calendar year.

Unique CM domiciled clients seen by DHB mental health services anywhere in NZ.

Prioritised ethnicity, “Other” ethnicity includes 17 people with no stated ethnicity.

Figure 15: Schizophrenia, age-standardised rates, by gender and ethnic group (CM 2005)



MHINC data, 2005 calendar year, CM domiciled clients seen by any DHB mental health service. 2001 Census NZ population used for age-standardisation. Prioritised ethnicity.

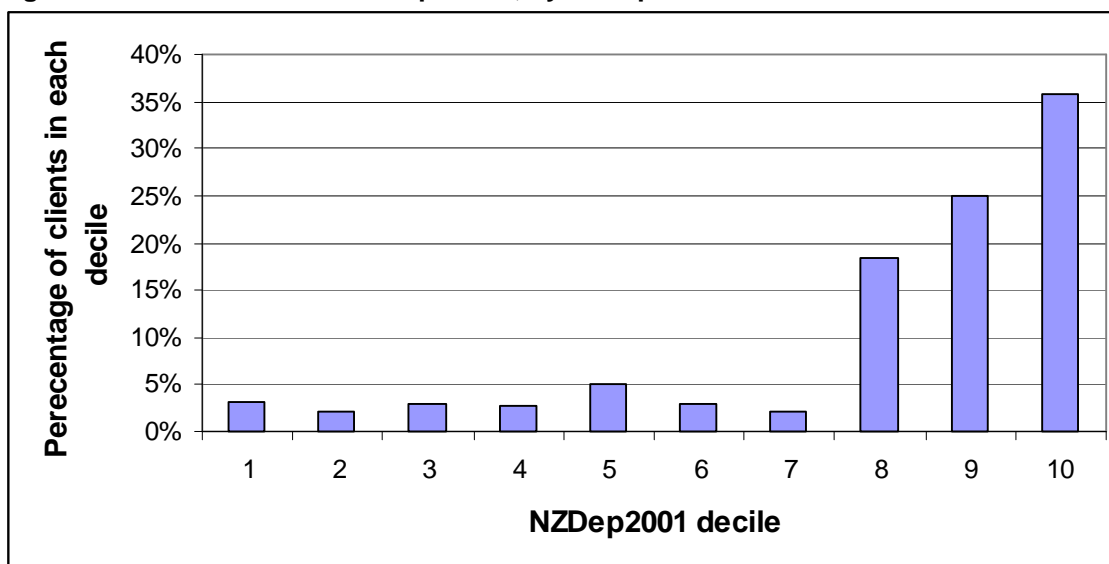
Medical comorbidity

Although MHINC is capable of capturing Axis III diagnoses, there were very few ICD-10 medical diagnoses recorded in the 2005 MHINC CMDHB data. As a result, medical comorbidity in patients with schizophrenia cannot be commented upon.

Deprivation

NZDep2001 deprivation data were available for 97% of the 1006 clients. There was a marked association between schizophrenia and high deprivation status (see Figure 16), with approximately 79% of people being in the most deprived NZDep2001 deciles (deciles 8-10).

Figure 16: CM clients with schizophrenia, by NZDep2001 decile



MHINC data, 2005 calendar year, CM domiciled clients seen by any DHB mental health service.

4.8. Schizophreniform, schizoaffective and other psychotic disorders

The following section covers the 2005 MHINC data for these conditions. Background epidemiology on these conditions was not covered. Note that the NZ Mental Health Survey did not study psychotic disorders.

4.8.1. Schizoaffective disorder MHINC data

In 2005, a total of 127 unique CM domiciled clients with a diagnosis of schizoaffective disorder were seen by DHB mental health services. This meant that 1.5% of the clients seen had this as a diagnosis. Of the 127 clients, almost all (n=118) had the diagnosis as a principal diagnosis. The gender ratio was roughly equal (63 females and 55 males). The ethnic and age-group breakdowns are in the following tables. Numbers were too low to reliably calculate rates.

Table 24: Schizoaffective disorder, by ethnic group (CM 2005)

Ethnic group	n	%
Asian	7	10.9%
European	41	38.2%
Māori	38	27.3%
Other	14	9.1%
Pacific peoples	18	14.5%
Total	118	100%

MHINC data, 2005 calendar year. Principal diagnosis only. CM residents seen by any DHB mental health service in NZ. SNZ level 1 prioritised ethnicity.

Table 25: Schizoaffective disorder, by age group (CM 2005)

Age-group	n	%
15-24	13	11.0%
25-44	69	58.5%
45-64	26	22.0%
65+	10	8.5%
Total	118	100.0%

MHINC data, 2005 calendar year. Principal diagnosis only. CM residents seen by any DHB mental health service in NZ.

4.8.2. Other psychotic disorders MHINC data

“Other psychosis” in this report was defined as Delusional disorder (DSM-IV 297.1), Brief Psychotic disorder (298.8), Shared Psychotic disorder (297.3) or Psychotic disorder NOS (298.9).

In 2005, a total of 219 unique CM domiciled clients with a diagnosis of “Other psychosis” were seen by DHB mental health services. This meant that 2.6% of the clients seen had “Other psychosis” as a diagnosis. Of the 185 clients with these diagnoses as principal diagnoses, the gender mix was equal (92 females and 93 males). The breakdowns by ethnic group and age-group are in the following tables. Numbers were too low to reliably calculate rates.

Table 26: Other psychotic disorders, by ethnic group (CM 2005)

Ethnic group	n	%
Asian	18	9.7%
European	56	30.3%
Māori	43	23.2%
Other	27	14.6%
Pacific Island	41	22.2%
Total	185	100%

MHINC data, 2005 calendar year. Principal diagnosis only. CM residents seen by any DHB mental health service in NZ. SNZ level 1 prioritised ethnicity.

Table 27: Other psychotic disorders, by age group (CM 2005)

Age-group	n	%
0-14	6	3.2%
15-24	52	28.1%
25-44	85	45.9%
45-64	32	17.3%
65+	10	5.4%
Total	185	100%

MHINC data, 2005 calendar year. Principal diagnosis only. CM residents seen by any DHB mental health service in NZ.

4.8.3. Schizophreniform disorder MHINC data

In 2005, a total of 29 unique CM domiciled clients with a diagnosis of schizophreniform disorder (all as a principal diagnosis) were seen by DHB mental health services. The numbers are too low to comment reliably on gender, age and ethnic differences.

4.9. Depressive disorders

4.9.1. Introduction

Temporary periods of having depressive symptoms are common and are often a normal reaction to stresses in people's lives. When depressive symptoms are severe or prolonged they can be sufficient to diagnose a clinical depressive disorder.

Background epidemiology on the common depressive mood disorders of major depression (MD) and dysthymia are covered in this chapter. Data from the recent NZ Mental Health Survey (NZMHS) are covered in detail as well as utilisation of DHB mental health services by people with depressive disorders.

4.9.2. Chapter summary

Depressive disorders are very common in the community, are frequently of chronic duration and are associated with a large burden of disease. They commonly occur comorbidly with other mental illnesses and medical illnesses. In addition, certain medical conditions and substances can actually cause depressive disorders. Also, depressive symptoms can occur as a distinct part of another mental disorder, e.g. the depression phase of bipolar affective disorder.

Prevalence of depressive disorders

Depressive disorders seem to be very common in the community. The NZMHS found that the overall 12-month prevalence of MD and dysthymia in people aged 16+ was 5.7% and 1.1% respectively.

The NZMHS estimated that there was a 25% chance of having a MD episode by the age of 75 years. However, it is possible that the chance of developing MD is even higher. Data from large ongoing NZ longitudinal studies show that up to 37% of people developed MD by the age of 26, which is particularly worrying as these people still have the majority of their life still to come.

The lifetime risk of dysthymia was estimated at approximately 3% in the NZMHS.

Estimated number of people with depressive disorders in CM

If 12-month community prevalence data from the NZMHS is extrapolated to CM residents aged 16, then approximately 18,000 people may have had a major depressive episode in 2005, with an additional 3,500 people having dysthymia.

Gender and depressive disorders

MD seems to affect boys and girls equally in childhood, but in adulthood, females are diagnosed with MD about twice as commonly as in males. However, it is possible that depressive disorders are under-diagnosed in men.

In the NZMHS, the 12-month prevalence of MD in people aged 16+ was 7.1% in women, significantly higher than for men (4.2%). The lifetime prevalence (up to the time the study) was higher for women (20.3%) than for men (11.4%).

Dysthymia also occurs equally in both sexes in childhood; however, in adulthood, women are more likely to be diagnosed with dysthymia. In the NZMHS, the 12-month prevalence was not-significantly different in men and women. The lifetime prevalences were 2.6% and 1.6% for women and men respectively.

Age and depressive disorders

MD is a condition can have onset throughout the lifespan with a peak onset during late adolescence and early 20's. In the NZMHS, 10% of people had onset of depression by age 14, 25% by age 20, 50% by age 32, 75% by age 49 and 90% by age 63. The median age of onset was 32 years, the highest median age of all the disorders studied in the NZMHS.

The 12-month prevalence of MD in the NZMHS decreased with increasing age from a high of 8.7% in people aged 16-24 to a low of 1.7% in those aged 65+.

Dysthymia also tends to have onset throughout the lifespan. The median age of onset in the NZMHS was 30 years, similar to that of MD. The 12-month prevalence also decreased with increasing age in the NZMHS, from a high of 1.5% in 16-24 year olds to a low of 0.4% in those aged 65+.

Ethnicity and depressive disorders

The NZMHS, which included about 2,600 Maori and 2,200 Pacific peoples aged 16+, found that the 12-month prevalence of MD was similar to that of Other. Pacific peoples had significantly lower 12-month

prevalence than Māori or Other. The lifetime prevalence of MD was similar in Māori and Other. Pacific peoples had a significantly lower lifetime prevalence rate than either of these groups.

Pacific people in the NZMHS had the lowest 12-month prevalence and lifetime prevalence of dysthymia. Dysthymia affected Māori and Other to a similar degree.

Data on depressive disorders in Asian people in NZ are currently very limited. Migrants and refugees may be at particular risk for depression.

Comorbidity and mortality

Depression frequently occurs with other mental health conditions, especially anxiety, personality disorders, eating disorders and substance abuse, particularly alcohol.

Many chronic medical conditions are associated with high rates of depression e.g. diabetes, coronary heart disease, heart failure, chronic obstructive coronary disease and cancers. Depression can sometimes worsen the outcomes of these conditions as well as increase mortality. It is likely that there is significant under-recognition of depression in people with medical illness.

Suicide and self-harm rates are increased in people with depressive disorders compared to the general population. The risk of suicide is much higher in men compared to women. Young men are particularly at risk. Women are, however, more likely to self-harm.

Burden of disease

Depressive disorders are associated with an enormous disease burden affecting individuals, family, health services and society. Depressive disorders can cause as much functional impairment as chronic medical conditions.

Worldwide, MD is the fourth leading cause of disease burden as measured by Disability Adjusted Life Years (DALYs), and by 2030, depression is projected to be the second leading cause. MD was estimated to be the second leading cause of burden (8.1% of total DALYs) in NZ in 2002 and similar to the ischaemic heart disease burden (7.6%) and chronic obstructive disease burden (8.5%).

Severity of depressive disorders

The NZMHS found that approximately 35% of people with depression had a serious disorder, 56% had a moderate disorder and 9% a mild disorder.

Delay to treatment contact

In the NZMHS, 97% of all people with major depression eventually made treatment contact, with 45% of people making treatment contact at the age of onset. The respective figures for dysthymia were 99% and 30%.

The median duration of delay from onset of major depression to treatment contact (any health provider – secondary or primary) was 1 year, the shortest of all disorders studied in the NZMHS. For dysthymia, the median delay was significantly longer, at 5 years.

DHB mental health service utilisation patterns

People with depressive disorders account for a significant proportion of clients seen by DHB mental health services. In 2005, around 13% (n=1,100) of the CM residents seen by DHB mental health services had a depressive disorder diagnosis, about 85% of which were MD, and 15% were dysthymia or depressive disorder not otherwise specified.

If the extrapolation of the NZMHS 12-month MD prevalence data to CM is correct, this would imply that only about 5% of people with MD accessed DHB mental health services in 2005, with similar proportions for men and women. Of particular note, was the large variation between different age groups, from a low of about 2% for people aged 16-24 to over 25% for people aged 65+.

For those clients with MD as a principal diagnosis (90% of people with MD), the age-standardised rate for European and Other was significantly higher than for all other ethnic groups. Rates for Māori and Asian were not significantly different from each other. The rate for Pacific peoples was the lowest.

It is of concern that Māori are accessing secondary care services at a significantly lower rate than European and Other given that the prevalence of MD in the NZMHS for Māori was similar to that of Other. The low rate in Pacific peoples is probably reflecting in part the lower community prevalence of MD in Pacific peoples, but barriers to accessing health services cannot be excluded.

Depressive disorders and primary care

If the above assumptions are true, then this means that approximately 95% of CM residents who may have had a major depressive episode in 2005 did not access secondary care mental health services.

However, as discussed above, the NZMHS data suggests that almost 100% of people with depressive disorders do eventually make contact for treatment with someone.

General practitioners are likely to be the most commonly consulted professional by people with depressive disorders. When MD is actively screened for in primary care, it appears to be very common. However, there are concerns that depressive disorders may be under-recognised in primary care. The reasons for this are likely to be complex and not entirely clear. Although most of the population visit a GP regularly, it is usually for non-mental health reasons. Patients do not often disclose psychological symptoms, making diagnosis more difficult. Also, active screening for depression is often not a routine practice. Other possible explanations include that formal psychiatric diagnostic criteria (e.g. DSM-IV) and guidelines may not be so applicable to primary care.

Although it is reassuring that almost all people with depressive disorders eventually make treatment contact, there are often delays of many years. A major implication for primary care is that there may be a large number of people with depressive disorders who visit primary care for some reason, but the depressive disorder is not detected as early as perhaps it could be. However, routine screening for depressive disorders has obvious time, financial and workforce implications. Like any screening initiative, there needs to be careful consideration of the evidence, benefits and potential harms.

4.9.3. Aetiology and risk factors

Major depression is a complex disorder that is unlikely to have a single cause and seems to be the result of an interplay of genetic, biological and environmental factors. Many factors protect against, predispose to, or precipitate depression including:^{13 55 56}

- family history of depressive or other mood disorders
- previous dysthymia or MD episodes, other mental illness, substance abuse, and possibly certain personality traits
- stress, childhood experiences, academic failure, relationship problems, sexual abuse, previous trauma
- social and cultural supports
- pregnancy, post-partum period and menopause
- socioeconomic deprivation
- physical illness or side-effect of certain medications (see “Depression and general medical conditions” below).

4.9.4. Gender differences in depressive disorders

Most reports suggest that MD affects boys and girls equally in childhood. Small gender differences start to appear around age 13-15 (female rates > male) and widen after this age, with MD subsequently diagnosed in females about twice as commonly as in males.^{57,55,56,5}

However, it is uncertain if MD is truly less common in males or that MD is under-diagnosed. Depression seems to frequently present in different ways in men than women.⁵⁶

- Males are less likely than females to recognise, acknowledge, voluntarily report depressive symptoms and seek help for depression.
- Atypical depression is common in males and it is possible that the standard psychiatric definitions of depression may not “adequately capture the condition as it occurs in men”, leading to under-recognition of depression in men.^{58,59}
- A “male depressive syndrome” has been proposed to better explain the differences in male and female depression.^{58,60} This syndrome is characterised by features such as low stress tolerance, low impulse control, irritability, restlessness, dissatisfaction, antisocial behaviour and substance abuse.

Dysthymia, similarly to MD, seems to occur equally in both sexes in childhood, while in adulthood, women are more likely to be diagnosed with dysthymia than men.^{13 5}

4.9.5. Age and depressive disorders

There is much conflicting literature regarding the incidence and prevalence of MD in different age groups.⁶¹ In addition, the cross-sectional study data have been subject to many biases such as:^{61 62 63}

- different methods used to test for depression can show different age patterns
- exclusion of elderly people in institutional care and that there are few very elderly patients in studies
- differential mortality bias (i.e. the higher mortality in depressed people makes the prevalence appear to drop with increasing age as there are less people alive with depression)

- differential distribution of risk factors across different age groups may mask age patterns (e.g. older adults tend to differ from younger adults in marital status, level of education, income and employment status)
- a cohort effect, which is the observation the risk of depression increases with each successive generation born in the 20th Century. This seems to be a genuine increase as it cannot be entirely explained by better diagnosis over time; however, reasons for this increase are not entirely clear.

When biases are taken into account and data from longitudinal studies (see below) are considered, it seems likely that:

- while MD can occur in childhood, it is more common in adolescence^{55 62 64}
- there is a period of peak incidence of MD in late adolescence and early 20's^{65 62 64}
- MD rates may subsequently reduce with increasing age⁶¹
- there may be another incidence peak of MD in the very elderly (≥80s years).⁶³

However, data from prospective studies covering the entire adult lifespan are needed to better ascertain the incidence and prevalence of MD in different age groups and to distinguish ageing from cohort effects.

The data for dysthymia are limited and conflicting, with some cross-sectional study data suggesting an increase in prevalence with increasing age,^{34 66} while data from the NZMHS found decreasing prevalence with increasing age.⁵

4.9.6. Rates of depression in the general population

Rates of depression vary widely depending upon the type of study and country. Data for cross-sectional studies, cohort studies and modelling projections are discussed below.

A. Cross-sectional prevalence studies

Most data on depressive disorders are from cross-sectional studies which are studies undertaken at a one point in time e.g. the NZ Health Survey or the Christchurch Psychiatric Epidemiology Study.

However, caution is recommended when interpreting cross-sectional study data as they are likely to underestimate, possibly greatly underestimate the lifetime prevalence of depression. This is due to two main reasons:^{62 65 67 5}

- Recall bias: there is good evidence that people's recall of symptoms occurring years earlier can be resulting in markedly underestimated lifetime prevalence rates.
- Full period of risk not completed: many people in the studies are still young or middle-aged and so have not lived through the full lifetime period of risk. As cross-sectional studies cannot identify cases that occur after the study, the lifetime prevalence is underestimated.

Summary of lifetime prevalence estimates

Lifetime prevalence (up to the time of the study): estimates for major depression vary widely, with the majority of studies around 8-16%.⁶² These lifetime estimates are likely to be underestimates.

Estimated lifetime risk: this is a projected estimate of the proportion of people in the population who would ever develop a disorder during their lifetime or by a certain age (e.g. 75 years). Both the NZMHS and the U.S National Comorbidity Survey Replication study estimated the lifetime risk of major depression by age 75 at about 25% and 3% for dysthymia.^{68,69,5}

Summary of 12-month prevalence estimates

The overall 12-month prevalence of major depression in adults is commonly reported in the 5-7% range, with rates for women almost twice that of men.^{66,70,71,68,69,5} The prevalence of dysthymia is commonly reported at around 1-4%.

Summary of point prevalence estimates

The WHO Global Burden of Disease 2000 study estimated that the worldwide average prevalence of major depression at any point in time was 1.9% for men and 3.2% for women.¹⁰

Data from the key NZ studies are outlined below.

1. Christchurch Psychiatric Epidemiology Study (CPES)

Although this cross-sectional study was conducted in 1986, it served as the main source of data until only just recently, when it was superseded by the large New Zealand Mental Health Survey (see below).

The CPES involved interviewing almost 1500 adults aged 18-64 years, in the Christchurch urban area:^{34 72}

- Major depression: 12-month prevalence of 6.7%. Life-time prevalence of 12.6%; however, it was significantly greater in females (16.3%) than in males (8.8%).
- Dysthymia: lifetime prevalence of 6.4% with females affected (9.0%) significantly more than males (3.8%).

2. 2002/03 New Zealand Health Survey

This study of 14,000 people aged 15+ found that only 1.9% (95% CI 1.6-2.2%) of the population admitted that they had ever been diagnosed with a depressive disorder.⁶ The much lower than expected lifetime prevalence of depression may possibly be explained by factors such as recall bias.

3. Te Rau Hinengaro: New Zealand Mental Health Survey (NZMHS)

Initial data from the NZMHS were published in September 2006, with further publications planned. This very significant survey was undertaken in 2003-2004 and looked at almost 13,000 people aged 16+, including approximately 2,600 Māori and 2,200 Pacific peoples. The depressive disorders studied were major depression and dysthymia (DSM-IV criteria).

12-month prevalence of MD and dysthymia in the NZMHS

The overall proportion of people in previous 12-month period with major depression and dysthymia was approximately 6% and 1% respectively (see Table 28). The higher prevalence of major depression in females than males was significant. Although dysthymia was also more common in women, this difference was non-significant. Both MD and dysthymia had significant decreasing 12-month prevalence rates with increasing age.

Table 28: 12-month prevalence of major depression and dysthymia in the NZMHS and extrapolation to the 2005 CMDHB population

Parameter	Total	Male	Female	16-24 years	25-44 years	45-64 years	Age 65+
Major depression 12-month prevalence in the NZMHS	5.7%	4.2%	7.1%	8.7%	6.3%	5.2%	1.7%
Extrapolation to CMDHB population 2005 *	17950	6400	11550	4980	7880	4860	670
Dysthymia 12-month prevalence in the NZMHS	1.1%	1.0%	1.3%	1.5%	1.2%	1.2%	0.4%
Extrapolation to CMDHB population 2005 *	3450	1500	2100	860	1500	1120	160

Source: Te Rau Hinengaro: New Zealand Mental Health Survey.⁵ DSM-IV diagnostic criteria.

* Prevalence data from the NZMHS extrapolated to the estimated 2005 CMDHB population (SNZ projections 2005). Note that the total figures differ slightly from the sum of the different age group extrapolations.

Lifetime prevalence of MD and dysthymia in the NZMHS

The lifetime prevalence of MD (up to the time of the study) was 16.0%; however, females had a significantly higher overall lifetime prevalence of 20.3% compared to 11.4% for males (see Table 30). Of note, the prevalence in people aged 65+ reporting MD during their lifetime is lower than expected. This may possibly be explained by recall bias and differential mortality. The overall lifetime prevalence of dysthymia was 2.1% and like MD, dysthymia was significantly more common in women than men.

The projected lifetime risk of developing MD and dysthymia by age 75 years was estimated at 25.7% and 2.8% respectively.

Table 29: Lifetime prevalence of major depression and dysthymia in the NZMHS

Disorder	Lifetime prevalence (up to time of the study)							Lifetime projected risk by age 75
	Total	Male	Female	16-24 years	25-44 years	45-64 years	Age 65+	
Major depression	16.0%	11.4%	20.3%	15.1%	17.0%	18.4%	9.8% *	25.7%
Dysthymia	2.1%	1.6%	2.6%	2.0%	2.2%	2.5%	1.3% *	2.8%

Source: Te Rau Hinengaro: New Zealand Mental Health Epidemiology Study.⁵ DSM-IV diagnostic criteria.

The prevalence in people aged 65+ is lower than expected. This may possibly be explained by recall bias and differential mortality in the elderly.

Age of onset in the NZMHS

Major depression is a condition that tends to have onset throughout lifespan. The median age of onset was 32 years, the highest median age of all the disorders studied in the NZMHS. Ten percent of people had onset of depression by age 14, 25% by age 20, 50% by age 32, 75% by age 49 and 90% by age 63.

The median age of onset for dysthymia was 30 years, similar to that of MD. Ten percent of people had onset of dysthymia by age 12, 25% by age 16, 50% by age 30, 75% by age 52. Where dysthymia did differ from MD was that the 90% level was significantly higher at age 85.

4.9.7. Proportion of people with depressive disorders who make treatment contact

In the NZMHS, it was estimated that:⁵

- 45% of people with major depression make treatment contact at the age of onset and that 97% would eventually make treatment contact. The median delay to treatment was 1 year.
- 30% of people with dysthymia make treatment contact at the age of onset and that 99% would eventually make treatment contact. The median delay to treatment was 5 years.

B. Prospective cohort studies

Prospective cohort studies are a form of longitudinal study that involves following the same group of people (cohort) over a period of time.

These studies are likely to give more accurate estimates than cross-sectional studies of the incidence and prevalence of depressive disorders in different age groups, as people are assessed at regular intervals which minimises recall bias. Cohort studies that follow people into old age should give a truer picture of depressive disorders across the lifespan.

Few prospective cohort studies exist; however, two of these studies are from NZ. The other is a Swedish study in older people. These studies show a much higher prevalence of major depression than most cross-sectional studies. The high prevalence in the NZ cohort studies is even more worrying given that these cohorts still have the majority of their life to come.

Christchurch Health and Development Study

This ongoing prospective study of over 1200 people born in 1977 found that 5.1% had an episode of major depression by age 15, 6.8% by age 16 and 18.2% by age 18 and 21.⁶⁵

Dunedin Multidisciplinary Health & Development Research Unit Longitudinal Study

Ongoing prospective study of approximately 1000 people born in 1972/1973:

- Major depression occurred in 7% of the cohort during early adolescence, in 27% by late adolescence and in 37% by age 26.^{62 64}
- The highest incidence of new cases was between ages 15 and 18.

Swedish older people study

This longitudinal study of almost 400 Swedish 70-year-olds followed for 15 years found that the incidence of new depression and lifetime prevalence was considerable.⁶³

- The overall incidence of new cases of depression between the ages 70 and 85 years was 12 cases per 1000 person-years for men and 30 per 1000 person-years for women.
- Incidence rates increased with age, with the rate in people aged 80-85 about 2.5 times that of people aged 70-79.
- By the time the cohort had reached 85 years, the prevalence of depression was 13%.
- When data were combined with clinical record data for the years prior to individuals entering the study, the life-time risk of major depression was estimated at 23% for men and 45% for women.
- Of note, people's recall of previous episodes of depression was poor compared to clinical record data.

C. Modelling estimates of depression prevalence

A recent modelling study by Kruijshaar et al (2005)⁷³ indirectly estimated that the overall lifetime risk of major depression was very high at around 35% (men 30%, women 40%), much higher than estimates from cross-sectional studies.

4.9.8. Ethnicity and depressive disorders

Data on the prevalence of depressive disorders in the general population among different ethnic groups in NZ were very limited until the recent publication of data from the *Te Rau Hinengaro: New Zealand Mental Health Survey* (NZMHS). This survey included about 2,600 Maori and 2,200 Pacific peoples.

Prevalence rates for MD in the NZMHS by broad ethnic groupings are shown in Table 30. At the time of this report, more detailed ethnic data had not yet been published.

- The unadjusted 12-month prevalence of MD was slightly higher Māori; however, after adjusting for age, gender and other variables, the prevalence was similar to that of Other. Pacific peoples had significantly lower adjusted 12-month prevalence than Māori or Other.
- The lifetime prevalence of MD was similar in Māori and Other. Pacific peoples had a significantly lower lifetime prevalence rate than either of these groups. Adjusted rates were not available.

Table 30: Prevalence of major depression in the NZMHS, by ethnicity

Prevalence type	Maori	Pacific	Other	Total
	% (95% CI)	% (95% CI)	% (95% CI)	(95% CI)
12-month prevalence				
Unadjusted	6.9 (5.7-8.1)	4.4 (3.0-5.8)	5.6 (5.0-6.2)	5.7 (5.2-6.2)
Adjusted for age and gender	6.0 (5.0-7.1)	3.9 (2.7-5.1)	5.7 (5.1-6.4)	NA
Adjusted for age, gender, educational qualifications and household income	5.7 (4.7-6.6)	3.5 (2.4-4.6) *	5.8 (5.2-6.5)	NA
Lifetime prevalence (unadjusted)	15.7 (14.2-17.4)	10.5 (8.6-12.7)	NA	16.0 (15.2-16.8)

Source: Te Rau Hinengaro: New Zealand Mental Health Epidemiology Study.⁵ DSM-IV CIDI 3.0 diagnosis. Prioritised ethnicity, except Pacific lifetime prevalence data, which is total response data (i.e. anyone who identified with a Pacific ethnicity).

* Significantly lower compared to Māori or Other.

Table 31 shows the NZMHS 12-month and lifetime prevalence data for dysthymia by ethnic group. Note that the lifetime prevalence is up to the time of the study as projected lifetime prevalence data were not available for Pacific peoples at the time of this HNA.

Table 31: Prevalence of dysthymia in the NZMHS, by ethnicity

Prevalence type	Māori	Pacific	Other	Total
12-month	1.2 (0.8-1.7)	0.5 (0.3-0.9)	N/A	1.1 (0.9-1.4)
Lifetime	2.1 (1.5-2.8)	1.1 (0.7-1.7)	N/A	2.1% (1.8-2.4)

Source: Te Rau Hinengaro: New Zealand Mental Health Epidemiology Study.⁵ Prioritised ethnicity, except Pacific lifetime prevalence data, which is total response data (i.e. anyone who identified with a Pacific ethnicity).

NZMHS data on Asian peoples has not yet been published. Overseas data commonly report low levels of depression in Asian peoples. Few published NZ studies have looked at mental health in Asian peoples, refugees and migrants. Limited findings suggest that Asian mental health levels in general, do not differ significantly from the general NZ population.⁷⁴ Small NZ studies have showed higher rates of depression among older Chinese migrants⁷⁵ and Indo-Chinese refugees, consistent with overseas data that have shown that refugees are at particular risk for depression.⁷⁴

4.9.9. Depressive disorders in primary care

General practitioners are likely to be the most commonly consulted professional by people with depressive disorders.⁷⁰ The prevalence of depressive disorders in people presenting to primary care is high when formal screening is used in studies (see below).

However, in routine practice, there are some reports that there may be under-diagnosis as well as under-treatment of depressive disorders by GPs, with the reasons for this not entirely clear.^{76,77,78,79} Potential explanations include the following:

- Although most of the population visit a GP regularly, it is usually for non-mental health reasons.
- Patients often do not disclose psychological symptoms, making diagnosis more difficult.
- Active screening for depression is often not a routine practice.
- The area of “adequacy” of recognition by GPs is a matter of ongoing debate.
- Formal psychiatric diagnostic criteria (e.g. DSM-IV) and guidelines may not be so applicable to primary care. GPs may make decisions based more on degree of disability in an individual rather than if certain criteria are met.^{77,78,79,80}

Although it is reassuring that almost all people with depressive disorders eventually make treatment contact, there are often delays of many years. A major implication for primary care is that there may be a large number of people with depressive disorders who visit primary care for some reason, but the depressive disorder is not detected as early as perhaps it could be. However, routine screening for depressive disorders has obvious time, financial and workforce implications. Like any screening initiative, there needs to be careful consideration of the evidence, benefits and potential harms.

Key primary care prevalence studies are outlined below.

International primary care data

A WHO study of 15 countries used three different methods of diagnosis in all patients: a short screening instrument, a detailed structured interview and a clinical diagnosis by the primary care physician.¹⁰ There was a

high overall average prevalence (10.4%) of current depression in primary care. The inter-country variation was large (3-30%), with no consistent differences between developed and developing countries.

A systematic review also found large ranging estimates of current depression (9-30%); however, due to wide variations in study population and methodologies, an overall average estimate could not be given.⁶⁶

New Zealand primary care data

The WaiMedCa study (1991/92) of almost 12,000 Waikato general practice encounters found that depression accounted for 0.3% of patient reasons for encounter, 0.9% of all problems managed by GPs and 0.5% of all new problems.⁸¹ The true prevalence of depression in these patients was almost certainly higher as the study relied upon coding in records, only identified the main reason for presentation and there was no active screening for depression as part of the study. Problems of access due to NZ's fee-for-service primary care system at that time may also be a partial reason for the low prevalence.⁷⁹

The subsequent NatMedCa (National Primary Medical Care) Survey in 2001/02 did not give a breakdown of mental health encounters for depression.⁸²

A MaGPIe (Mental Health and General Practice Investigation) Research Group study that actively screened GP attendees aged 18+ years indicated that depressive disorders are common in general practice:⁷⁹

- 18% of people had symptoms consistent with a depressive disorder in the 12 months prior to the consultation (approximately 17% major depression and 1% dysthymia – DSM-IV criteria)
- Prevalence in females was almost twice (21.6%) that of males (12.1%)
- People aged 65+ were the least affected (prevalence 2-5%)
- Prevalence was highest in males aged 18-44 and females aged 18-64, ranging from 22 to 34%
- Comorbid mental health issues were common, with 43% of people with a depressive disorder also having an anxiety disorder; and 6% had a depressive disorder and a substance abuse problem.

In a large study of about 2,500 general practice patients screened with the Multi-item Screening Tool (MIST), the prevalence of depressive symptoms was high:^{83 84}

- MIST is a short questionnaire that screens for lifestyle and mental health risk factors (depression, alcohol use, other drug use, problem gambling, anxiety, stress, abuse, anger, physical inactivity and eating disorders).
- The depression component consists of two questions that have been previously validated⁸⁵ – “During the past month have you often been bothered by feeling down, depressed or hopeless?” and “During the past month have you often been bothered by having little interest or pleasure in doing things?”.
- Overall, 43% and 32% of people answered “Yes” to the first and second question respectively. The proportions of these people who wanted help for depression were 7.2% for “Yes, today” and 5.5% for “Yes, but not today”.

Depression in primary care and ethnicity

The data on depressive disorders in Māori presenting to primary care are limited and conflicting:

- Some studies showed no differences compared to non-Māori.^{86,83 84}
- One study showed that rates of depressive disorders were significantly higher in Māori; however, the study could not address whether depression was actually more common in Māori in the community or whether they are more likely to seek help.⁸⁷
- Of concern in one small study was that Māori were significantly less likely to receive antidepressant medication.⁸⁶ It is unknown if this difference was due to an issue on the part of GPs or if patients did not want to take medication.

Limited data suggests that the prevalence of depressive symptoms in Pacific peoples is not significantly different from other ethnic groups.^{83 84} Good data on other ethnic groups are not available. Further studies are needed in this area.

4.9.10. Depression and other mental illness

Depression frequently occurs with other mental health conditions, especially anxiety, personality disorders, eating disorders and substance abuse, particularly alcohol.^{55 16 70 69 56}

Males with depression may be more likely than females to have externalising disorders such as conduct disorder, aggressive disorders, antisocial personality disorder and substance abuse.⁵⁶ Females are more likely to develop anxiety and eating disorders.⁵⁶

Comorbid mental illness often increases the severity, duration and impairment associated with depression. Conversely, treating depression often improves comorbid mental illnesses.

4.9.11. Depression and general medical conditions

Although clinically significant depression is most commonly caused by one of the primary mood disorders, such as major depression, it is important to recognise that certain medical conditions or medications can directly cause depression (e.g. hypothyroidism, brain tumours, steroids and antihypertensive medication).

In addition, many medical conditions are associated with increased rates of depression and in some cases depression may worsen the outcomes of these medical conditions. Depression among people with chronic disease has been associated with poorer medicine adherence, increased health care costs and greater functional impairment or disability.⁸⁸ Prevalence estimates vary widely due to different populations, definitions and study methodologies. It is likely that there is significant under-recognition of depression in people with medical illness. Several of the more common chronic medical conditions are outlined below, many of which are priority conditions for CMDHB:

1. Diabetes:
 - Depression may be twice as common in people with diabetes compared to the general population.⁸⁹
 - Glycaemic control may be adversely affected and the risk of complications is increased.^{90 91 92}
 - All-cause mortality is increased in people with Type-2 diabetes and depression.^{90 91}
2. Coronary heart disease (CHD):
 - In general, approximately 15-25% of people with a myocardial infarction report depressive symptoms; although in some studies, it has been as high as two-thirds.^{93 94}
 - Depression is also common (~15-20%) in unstable angina and post-coronary artery bypass graft surgery.⁹³
 - There is increasing evidence that depression is an independent risk factor for developing CHD.⁹³
 - In patients who have depression and CHD, particularly MI and unstable angina, the prognosis is worsened and mortality is significantly increased.^{93 95 96}
3. Heart failure (HF):
 - The prevalence of depression is high in patients with HF, ranging from 14-36%, although rates as high as 77.5% have been reported.⁹⁷ Rates are higher in hospitalised patients than outpatients.
 - Mortality is increased in people with HF and moderate or severe depression (up to 4-times more likely to die within 2 years).⁹⁷
 - Health care costs are significantly higher (25-30%) in HF patients with depression than HF patients without depression, mainly due to increased inpatient and outpatient utilisation, *not* increased mental health care utilisation.⁹⁸
4. Neurological conditions, eg:
 - Alzheimer's disease (AD) – depressive disorders can mimic as well as commonly coexist with AD⁹⁹
 - Epilepsy – limited number of studies report a current prevalence of 17-37%¹⁰⁰
 - Parkinson's disease – prevalence rates vary between 8-76% but average around 40%¹⁰⁰
 - Strokes – major depression is common and mortality is increased. Depression may be an independent risk factor for developing stroke¹⁰¹
 - Traumatic brain injury - rates vary between 14-42% for the first year after brain injury.¹⁰⁰
5. Other conditions:^{102 103}
 - Cancer: 3-77% develop depression
 - Chronic obstructive coronary disease (COPD): 37-71% develop depression
 - AIDS: 10-82% develop depression
 - Renal disease: 5-60% develop depression.

4.9.12. Global burden of depressive disorders

The WHO Global Burden of Disease (GBD) studies show that depressive disorders are associated with an enormous disease burden.

The GBD study (2000) found that major depression was:^{104 10}

- the fourth leading cause of global disease burden, accounting for about 4.5% of total Disability Adjusted Life Years (DALYs)
- the largest cause of non-fatal burden, accounting for about 12% of total Years Lived with Disability (YLD)
- a larger burden in the 15-44 year age-group, with depression being the second leading cause of total DALYs (8.6%) and the leading cause of YLD (16.4%).

There are also regional variations in the WHO DALY estimates. For NZ in 2002, depression was estimated to be the second leading disease burden (8.1% of total DALYs), similar to the ischaemic heart disease (7.6%) and chronic obstructive pulmonary disease (8.5%) burden.¹²

The worldwide burden of major depression is predicted to increase over the coming decades. By 2030, the WHO estimates that major depression will be the second leading cause of DALYs.¹¹

4.9.13. Economic costs of depressive disorders

The economic costs of depressive disorders to individuals, family, health services and society are enormous. Costs are due in part to increased morbidity and mortality; impaired social, family, educational and work functioning; increased substance abuse (particularly alcohol) and accident rates; and increased outpatient and inpatient treatment.

Estimates vary but it is likely that depression costs tens of billions of dollars a year in the US alone.^{105 106}

- The largest cost of depression (~60%) is from the lost work productivity due to increased sick days and impaired work performance.
- Direct costs of treating depression are about 25% of the total costs, with medication costs a very small proportion of this.
- The economic cost from increased mortality is estimated to make up about 15% of the total costs.

The costs of depression are likely to be even higher still as the above estimates do not include the many non-monetary costs such as suffering, decreased quality of life, informal care or other family burdens and lower educational achievements.

4.9.14. Course of depressive disorders

Major depression

The course of major depression (MD) is highly variable.

- Untreated MD typically lasts 4 months or longer.^{55 13} In 5-10% of people with MD, the full criteria remain for two years or more.¹³
- While most people have a full recovery from an episode, partial remission occurs in 20-30% of people, with ongoing symptoms and social, work and other impairment that may last months to years.^{55 13}
- Some people with MD may eventually be diagnosed with bipolar disorder or other mental illnesses.^{55 13}

Recurrence is common in MD, with 50-85% of people are estimated to have another episode at some stage during their life.^{55 13} Recurrence is very high in patients who have been hospitalised with depression or who have had psychotic depression⁵⁵ and may be common in the elderly.^{55 107}

Suicide rates are increased in depressive disorders, but nowhere near the often quoted 15 and 19% that are from a 1970¹⁰⁸ and 1990¹⁰⁹ study, respectively.

- More rigorous estimates are that the overall lifetime risk for people with MD is likely to about 3.5%.
- There are; however, major gender and age differences with suicide in MD. Females are more likely to self-harm but males are more likely to commit suicide. The suicide rate for men with MD is around 7% and only 1% for women. In young people (<25 years) the male:female ratio is even greater (10:1).⁶⁰ The high rate in young males of particular concern as this group have a very high suicide rate and males in general are less likely to seek help for their depression.
- The lifetime risk of suicide in patients also seems to vary according to severity of depression. For people ever hospitalised for suicidality, it may be around 6-8%, 4-6% if ever hospitalised but not specifically for suicidality, 2% for outpatients and about 1% for uncomplicated cases who had no contact with the mental health services.^{110 111 112 113}

The recent NZ Mental Health Survey of people aged 16+ found that of those people with major depression in the last 12 months, 21% had suicidal ideation, 8% made a suicide plan and 4% made a suicide attempt.

The functional outcome in MD can be as poor as people with chronic medical conditions such as diabetes, cardiovascular disease, arthritis and lung disease. For example:^{16 114}

- People with MD are more likely to have impaired social, work, parental and partner relationships.
- Educational achievements and employment rates are lower, work impairment can occur and absenteeism is increased. Accident rates are increased.
- Depressed children may have impaired parental-child relationships, peer relationships and educational achievement, and more behaviour problems.
- Some social and functional impairment may persist for months or longer after remission of MD symptoms.

As previously discussed, depression may also worsen the prognosis of chronic medical conditions.

Dysthymia

- Dysthymia, by definition, is a chronic illness that lasts at least a minimum of two years (one year in children or adolescents).
- The spontaneous remission rate is as low as 10% per year and relapse is common.
- Despite dysthymia being defined as a less severe condition, it can produce as much impairment as MD in work, educational and leisure activities; relationships; general health and ability to perform social roles. In addition, it is common.^{13,16}
- Dysthymia with a superimposed major depression episode (commonly known as double depression) occurs in 70-90% of people with dysthymia at some stage during their lives, and is often the reason for seeking treatment.^{13,16}
- The recent NZ Mental Health Survey of people aged 16+ found that of those people with dysthymia in the last 12 months, 28% had suicidal ideation, 17% made a suicide plan and 6% made a suicide attempt.

4.9.15. Depressive disorders and the DHB mental health services

This section covers the main data that are applicable to CM clients seen by DHB mental health services.

1. CAOS study⁴

The NZ Mental Health Classification and Outcomes Study (NZ-CAOS) conducted in 2001/2002 looked at over 14,000 adult and 3,000 child/youth inpatient and community episodes of care across eight DHBs, including CMDHB. Overall, about 29% of all adult and 13% of child/youth episodes of care had a mood disorder diagnosis. Data were not, however, broken down into the individual mood disorders.

2. Camberwell report^{53 54}

Overall, in this study conducted in 2004 of 4500 high users of DHB mental health services in the northern region, major depression was the third most common mental health diagnosis (12%, n=544). In CMDHB, MD was the second most common diagnosis (20%), significantly higher than for the other DHBs (5-7%).

Overall, MD accounted for a higher proportion of diagnoses (~16%) among NZ European, Asian and Other ethnic groups than Māori or Pacific peoples (~7% each).

Comorbid diagnoses were common, with 21% of people with MD having a comorbid axis I and II diagnosis, and 18% having more than one Axis I diagnosis. The most common comorbid diagnoses were personality disorders (16%), anxiety disorders (9%), substance abuse disorder (6%) and mental retardation (3%).

Also of note was the high proportion of people (23%) with MD that also had an Axis III diagnosis (General Medical Condition).

3. CMDHB 2005 MHINC data

This section covers the Mental Health Information National Collection (MHINC) data for the CM domiciled clients seen by DHB mental health services throughout NZ with depressive disorders in the 2005 calendar year. For background information on the MHINC, see section 2.6.

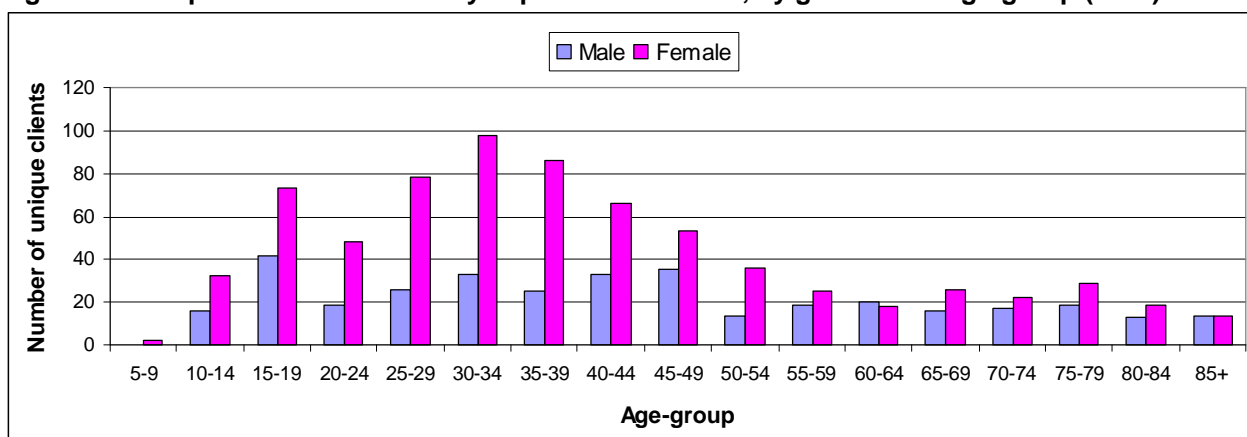
A. All depressive disorders – CM MHINC data

In 2005, 1086 unique CM domiciled clients were seen by DHB mental health services with any depressive disorder diagnosis (major depression, dysthymia and “depressive disorder not otherwise specified”) as a “Principal”, “Provisional” or “Other relevant diagnosis”. In total, 951 of these clients had a depressive disorder as a “Principal” diagnosis.

This meant that 12.9% of CM domiciled clients seen by DHB mental health services in 2005 had a depressive disorder diagnosis and 0.25% of the total CMDHB population (2005 projected) was seen by DHB mental health services with a depressive disorder diagnosis.

Females predominated, accounting for 67% (n=725) of clients with males making up 33% (n=361) of clients. Figure 17 shows the breakdown of client numbers for each gender by age-group. Ages ranged from 8 to 99 years with an average age of 42 years. Female numbers peaked in the 25-39 age range, then steadily declined until ages 55-59 and remained fairly constant after this age. In contrast to females, male numbers were much more evenly spread across the age ranges.

Figure 17: Unique CM clients with any depressive disorder, by gender and age-group (2005)



MHINC data, 2005 calendar year. CM domiciled clients seen by any DHB mental health service. Any depressive disorder (major depression, dysthymia and depressive disorder not otherwise specified). Table 32 shows the breakdown by prioritised ethnicity. The largest group by far was the European ethnic grouping (61%), followed by Māori (12.3%) and then the “Other” (10.7%) ethnic group.

Table 32: Unique CM clients with any depressive disorder, by ethnic group (2005)

Ethnic group	n	% of total
Asian	97	8.9%
European	663	61.0%
Māori	134	12.3%
Other	116	10.7%
Pacific peoples	76	7.0%
Total	1086	100.0%

MHINC data, 2005 calendar year. CM domiciled clients seen by any DHB mental health service. Any depressive disorder (major depression, dysthymia and depressive disorder not otherwise specified). SNZ level 1 prioritised ethnicity.

B. Major depression – MHINC data on CM residents seen by DHB mental health services in 2005

Major depression (MD) was the most common depressive disorder in CM residents seen by the DHB mental health services in 2005. Overall, 86% (n=935) of the 1086 clients with a depressive disorder had a diagnosis of major depression. The following sections provide an estimate on the proportion of CM population with major depression who visit DHB mental health services as well as detailed information on clients with major depression as a principal diagnosis.

Estimated proportion of CM population with major depression visiting DHB mental health services

Recently published data from the NZ Mental Health Survey (NZMHS) gave estimates of the prevalence of major depression within the previous 12 months for people aged 16+ in NZ. If these prevalence figures are extrapolated to the estimated population in CM in 2005, then almost 18,000 people aged 16+ may have had major depression within a 12-month period (see Table 33).

Overall, about 5% of the estimated number of CM residents with major depression visited DHB mental health services in 2005, with similar proportions for men and women. Of particular note, was the large variation between different age groups from a low of about 2% for people aged 16-24 years to over 20% for people aged 65+.

Table 33: Estimated proportion of people aged 16+ in CM with major depression visiting DHB mental health services in 2005

Group	12-month prevalence of MD in NZMHS	Estimated number of people with MD in CM in 2005 *	Major depression as principal diagnosis only in MHINC #		Major depression as principal or other diagnosis in MHINC #	
			CM residents with MD seen by DHB mental health services in 2005	% estimated population with MD seen by DHB mental health services	CM residents with MD seen by DHB mental health services in 2005	% estimated population with MD seen by DHB mental health services
Total	5.7%	17950	795	4.4%	892	5.0%
Male	4.2%	6400	258	4.0%	293	4.6%
Female	7.1%	11550	537	4.7%	599	5.2%
16-24 years	8.7%	5640	108	1.9%	120	2.1%
25-44 years	6.3%	7880	367	4.7%	399	5.1%
45-64 years	5.2%	4860	176	3.6%	195	4.0%
Age 65+	1.7%	670	144	21.6%	178	26.7%

MD = Major depression.

* Prevalence data from NZ Mental Health Survey (NZMHS) extrapolated to estimated 2005 CMDHB population (SNZ projections 2005).

MHINC 2005 calendar year data used for number of CM residents accessing DHB mental health services.

CM clients with major depression as a principal diagnosis

In total, 832 (89%) of the 935 CM residents with MD seen by DHB mental health services in 2005 had this diagnosis as a “Principal mental health diagnosis”. The following data presented are for those clients.

Gender and age - MHINC major depression data

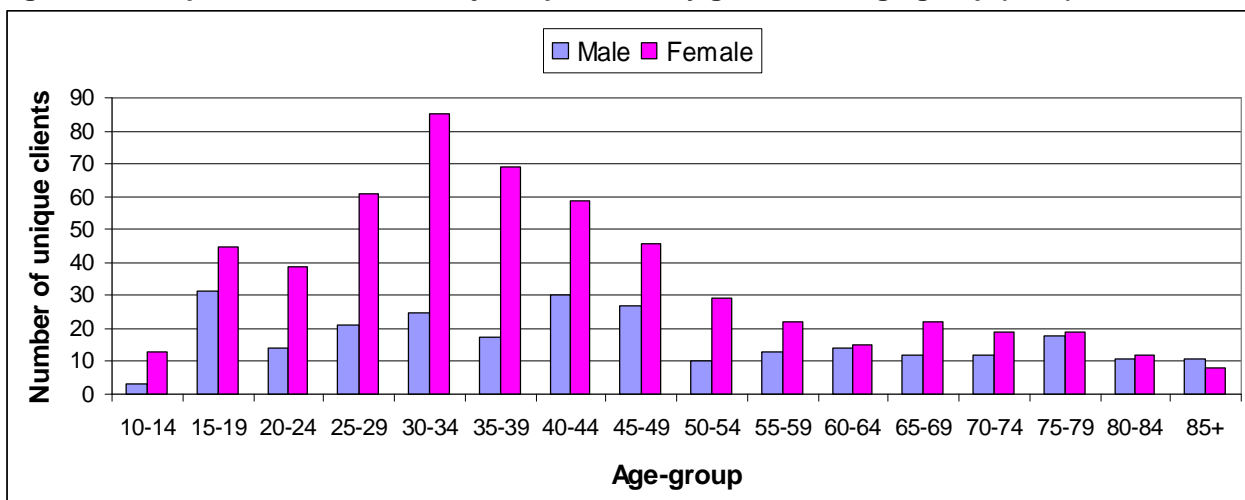
Females predominated, accounting for 68% (n=563) of the clients and males accounted for 32% (n=269).

The female age-standardised rate was 366 per 100,000 population, almost twice that of males (203 per 100,000). The overall age-standardised rate was 287 per 100,000 population.

Figure 18 shows the number of clients by age and gender. The age-range was 12 to 99 years with an average age of 43 years. For almost all ages the female numbers were greater than for males. This was particularly noticeable in the 20-54 year age-groups. Female numbers peaked in the 30-34 year age-group then declined until age 55-59 and then remained fairly constant from age 60 onwards. For males there was a less marked pattern with numbers spread much more evenly across the different age-groups.

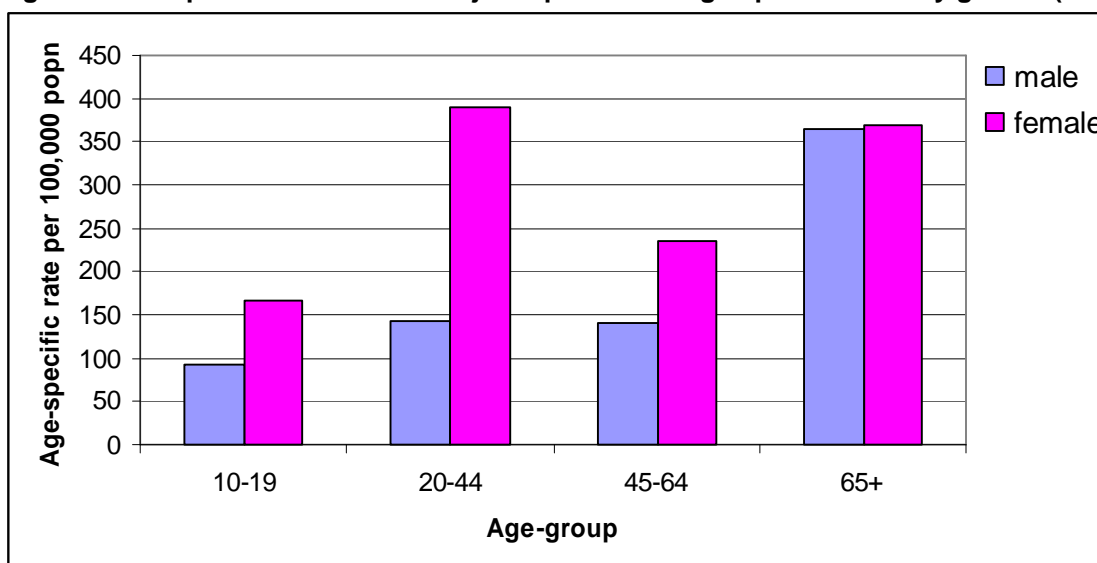
Figure 19 shows the age-specific rates by gender. Data have been aggregated into broad age-groups in order to calculate more accurate rates. The most noticeable finding was that while the numbers of clients aged 65+ were relatively low, the rates for both males and females were very high. Female rates were highest in the 20-44 year age-group, followed closely by the 65+ age-group.

Figure 18: Unique CM clients with major depression, by gender and age-group (2005)



MHINC data, 2005 calendar year. CM domiciled clients seen by any DHB mental health service. Principal diagnosis only.

Figure 19: Unique CM clients with major depression – age-specific rates by gender (2005)



MHINC data, 2005 calendar year. CM domiciled clients seen by any DHB mental health service. Principal diagnosis only. Projected 2005 CM population data used as denominators (SNZ projections performed Oct 2005).

Ethnicity - MHINC major depression data

The breakdown by ethnic group was not significantly different between males and females. The European ethnic group made up almost 60% of client numbers with the proportions for the remaining ethnic groups in the 7 to 12% range (see Table 34).

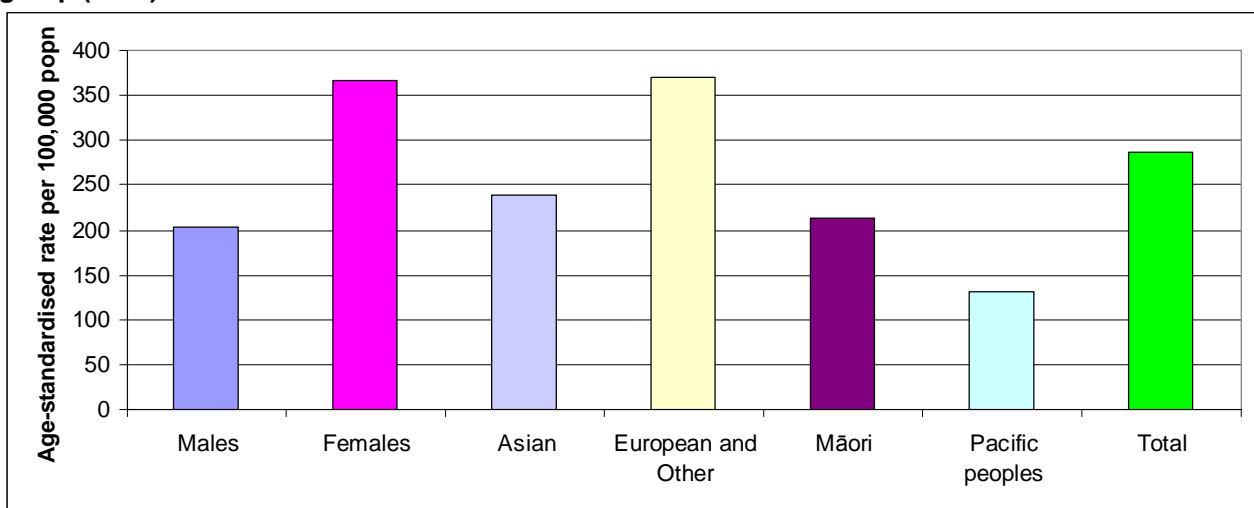
Table 34: Unique CM clients with major depression, by gender and ethnic group (2005)

Ethnic group	Male		Female		Total	
	n	% of total	n	% of total	n	% of total
Asian	17	6.3%	60	10.7%	77	9.3%
European	167	62.1%	330	58.6%	497	59.7%
Māori	33	12.3%	69	12.3%	102	12.3%
Other	32	11.9%	62	11.0%	94	11.3%
Pacific peoples	20	7.4%	42	7.5%	62	7.5%
Total	269	100.0%	563	100.0%	832	100.0%

MHINC data, 2005 calendar year. CM domiciled clients seen by any DHB mental health service. Principal diagnosis only. Prioritised ethnicity.

Figure 20 and Table 35 show the age-standardised rates for each ethnic group (and gender). The rate for the “European and Other” ethnic group was significantly higher than for all other ethnic groups. The rate for Pacific peoples was significantly lower than for all other ethnic groups. Rates for Māori and Asian were not significantly different from each other.

Figure 20: Unique CM clients with major depression – age-standardised rates by gender and ethnic group (2005)



MHINC data, 2005 calendar year. Unique clients seen by any DHB mental health service. Principal diagnosis only. Prioritised ethnicity. Age-standardised using 2001 NZ Census population.

Table 35: Unique CM clients with major depression – age-standardised rates by gender and ethnic group (2005)

Group	Age-standardised rate per 100,000 population	95% CI
Males	203	179-228
Females	366	336-397
Asian	238	185-292
European and Other	370	340-400
Māori	212	169-254
Pacific peoples	133	99-166
Total	287	267-307

MHINC data, 2005 calendar year. Unique clients seen by any DHB mental health service. Principal diagnosis only. Prioritised ethnicity. Age-standardised using 2001 NZ Census population.

C. Dysthymia – CM MHINC data

In 2005, the DHB mental health services saw 96 unique CM domiciled clients with a diagnosis of dysthymia.

In total, 65 of these clients had dysthymia as a principal diagnosis, 40 of whom were female and 25 were male. The age range was 10 to 87 years with an average age of 33 years. The breakdown by prioritised ethnicity was European (51% of clients), Māori (17%), Pacific peoples (9%), Asian (9%) and Other (14%).

If the prevalence rates of dysthymia in the NZHMS are extrapolated to the CM population aged 16+, then there would be about 3,500 people aged 16+ with dysthymia during a 12-month period. This would mean that approximately 2% of these people visited DHB mental health services in 2005.

D. Depressive disorder not otherwise specified – CM MHINC data

The smallest group of clients with depressive disorders were those with a diagnosis of “Depressive disorder not otherwise specified”. In 2005, the DHB mental health services saw 71 unique CM domiciled clients with this diagnosis, 54 of whom had the diagnosis as a principal diagnosis.

Females predominated, making up 70% of client numbers. The age range was 8 to 89 years with an average age of 30 years. The breakdown by prioritised ethnicity was similar to that for major depression and dysthymia - European (54% of clients), Māori (19%), Pacific peoples (7%), Asian (11%) and Other (9%).

4.10. Bipolar disorders

4.10.1. Introduction

Bipolar disorders (BPD) cover a broad spectrum of conditions and as a group they are common disorders.

BPD are commonly subdivided into bipolar-I and bipolar-II disorders, although there is some debate over whether these are truly distinct forms or merely differences in severity. Bipolar-spectrum disorder (BSD) is another term that refers to a very broad concept of bipolar disorders, also the subject of debate as to both its existence and scope.¹¹⁵ BSD has been described and defined in several ways, but can include BPD-I, BPD-II, cyclothymia, BPD not otherwise specified and subthreshold bipolar symptoms.

4.10.2. Chapter summary

Bipolar disorders can result in much impairment and disability, as well as significantly increased mortality rates, mainly due to higher suicide and cardiovascular disease rates. BPD are generally episodic, lifelong illnesses with a highly variable course.

Bipolar disorders affect men and women at a similar rate; however, BPD disproportionately affects Māori, Pacific peoples and younger people.

Comorbidity with other mental illnesses is common, particularly with anxiety disorders and substance use.

There is often a delay of many years before people with BPD make contact for treatment and many people never make contact. In the recent NZ Mental Health Survey (NZMHS), it was estimated that about 12% of people with BPD would make treatment contact in the first year of onset and that only 53% would ever make treatment contact, far lower than for the other mood disorders of major depression (97%) or dysthymia (99%). The median duration of delay was 13 years, much higher than for major depression (1 year) or dysthymia (5 years).⁵

It is very common for people with BPD to report being misdiagnosed before being given the appropriate diagnosis. Common misdiagnosis include major depression, anxiety disorder, schizophrenia, borderline or antisocial personality disorder, alcohol / substance misuse or dependence and schizoaffective disorder.

The recent NZMHS survey of people aged 16+ in the community studied BPD using a broad definition which included BPD-I, BPD-II as well as subthreshold BPD:

- The overall prevalence of BPD during a 12-month period was about 2%, with similar figures for men and women. Higher prevalences were found in youth and younger adults.
- The estimated risk of developing BPD by the age of 75 years was about 5%.
- Rates of BPD were highest in Māori, followed by Pacific peoples.

In 2005, about 4% (n=365) of the CM residents seen by DHB mental health services had a bipolar disorder diagnosis. BPD-I accounted for about 80% of cases, BPD not otherwise specified 13%, BPD-II 5% and cyclothymia 2%. Māori had significantly higher rates than European or Pacific peoples.

If NZMHS prevalence data are extrapolated to the CM population, this would mean that there would be approximately 7,000 people with BPD in CM during a 12-month period. If this extrapolation is correct, then

about 5% of the estimated number of CM residents aged 16+ with BPD visited DHB mental health services in 2005, with similar proportions for men and women.

4.10.3. Gender and BPD

In contrast to major depression and schizophrenia, BPD-I seems to affect men and women fairly equally.^{116,117} BPD-II may be more common in women than men;^{116,117} however, this may be due to gender differences in treatment seeking behaviours.¹¹⁶ Although research is limited, there may be gender differences in clinical presentation, comorbidity, course and treatment response in bipolar disorders.

The NZMHS (see subsequent sections) also found that there were not significant differences in the prevalence of BPD (broad definition) between males and females.

4.10.4. Age of onset of BPD

The NZMHS found that BPD tended to have first onset at a younger age compared to other mood disorders studied. The median age of onset of BPD in the NZMHS was 23 years, almost 10 years earlier than for major depression. Ten percent of people had onset of BPD by age 13, 25% by age 17, 50% by age 23, 75% by age 37 and 90% by age 49.

Other literature suggests that the mean age of onset of BPD is around 20 years with the peak onset of first symptoms in the 15-19 age-group closely followed by the 20-24 age-group.¹¹⁸ Earlier onset can occur than this, but BPD in people aged <15 years has been less well studied. BPD is difficult to diagnose in this age-group due to similarities with ADHD and the uncertainty of symptom presentation in children.¹¹⁷ There are often delays of up a decade after onset before first treatment occurs.^{117,118}

Onset of mania after age 60 can occur but it is less likely to be associated with a family history of BPD and is more likely to be associated with underlying medical illness, such as stroke or other central nervous system lesion.¹¹⁷

4.10.5. Comorbidity with other mental illness

Comorbidity with other mental illnesses is common, particularly with anxiety disorders and substance use.^{119,117,120,118,121,116,122} Most children and adolescents with BPD have other comorbid mental disorders, particularly ADHD, oppositional defiant disorder, conduct disorder, anxiety disorder, and during adolescence, substance abuse.

4.10.6. Course of bipolar disorders

Bipolar disorders are generally an episodic, lifelong illness with a highly variable course. Patients with untreated bipolar disorder may have many episodes during their lifetime, often with years between episodes.

Significant residual symptoms of depression or mania/hypomania or impairment in psychosocial functioning can be present between episodes.

There is a high risk of suicide in BPD is markedly higher than the general population.^{118,123}

The mortality rate (any cause) is two to three times greater than that of the general population.¹¹⁸ Although much of this risk reflects the higher rate of suicide, the cardiovascular and pulmonary mortality among patients with BPD is also high.^{117,124}

4.10.7. Proportion of people with BPD who ever make treatment contact

There is often a delay of many years before people with BPD make contact for treatment and many people never make contact.^{117,118,5}

In the NZMHS, it was estimated that about 12% of people with BPD would make treatment contact in the first year of onset and that only 53% would ever make treatment contact, far lower than for the other mood disorders of major depression (97%) or dysthymia (99%). The median duration of delay was 13 years, much higher than for major depression (1 year) or dysthymia (5 years).⁵

4.10.8. Misdiagnosis of BPD

It is very common for people with BPD to report being misdiagnosed before being given the appropriate diagnosis. Common misdiagnosis include major depression, anxiety disorder, schizophrenia, borderline or antisocial personality disorder, alcohol / substance misuse or dependence and schizoaffective disorder, with some patients having more than one misdiagnosis.

Of note, in a very large U.S community adult screening study, only 20% of those screening positive for BPD had received a physician diagnosis of BPD, whereas 30% had received a diagnosis of major depression.¹²⁵ This indicates that BPD may be underdiagnosed and that many patients may be misdiagnosed as having major depression.

It is important to also note that there are concerns over both the underdiagnosis and overdiagnosis of BSD.¹²⁵ Correct diagnosis is essential as treatment for bipolar disorder differs from other disorders such as major depression. Potentially about 20% of people diagnosed with BSD may be subsequently found not to be bipolar.¹¹⁵

4.10.9. Prevalence of bipolar disorders in the literature (excluding the NZMHS)

It is worthwhile discussing the reported prevalence rates of BPD in the literature in some detail as the prevalence varies widely depending upon the definition of BPD used, study population and country. Prevalence data from the recent NZ Mental Health Survey are discussed in following section.

BPD-I prevalence

In a systematic review of BPD-I, the best estimate of 1-year prevalence in the general population was 0.7% (0.5-1.0% 95% CI) and lifetime prevalence was 0.8% (0.6-1.1%).⁶⁶

BPD-I and BPD-II prevalence

BPD-II is a newer concept and in large studies that included both BPD-II as well as BPD-I, the prevalence rates were usually higher than for BPD-I alone. For example:

- The US National Comorbidity Survey Replication study of about 9,000 people aged 18+ found that the lifetime risk (up to the time of the study) was 3.9%.⁶⁸ The risk of developing BPD (I and II) by age 75 years was estimated at 5.1%, which was felt to be a conservative estimate. The 12-month prevalence was 2.6%.⁶⁹
- In a very large community screening study of over 85,000 adults aged 18+ in the US, the lifetime prevalence of BPD (I and II) was 3.7%.¹²⁵
- The Australian National Survey of Mental Health and Well-Being involving over 18,000 adults aged 18+, found that the overall 12-month prevalence of BPD (I and II) was 0.5%. The prevalence decreased with increasing age, from a high of 0.9% in the 18-24 year group to a low of 0.1% in the 55+ age-group.

Bipolar-spectrum disorder (BSD) prevalence

The reported prevalence of BSD is higher, often substantially higher than for BPD-I. The lifetime prevalence of BSD has been found to be between 2.2% and 8%.^{115,126,127,128} It is important to note that most studies are small and used different definitions of BSD.

The prevalence of bipolar disorder children and adolescents in the community is around 1%. However, another 5-6% may meet the criteria for "bipolar disorder not otherwise specified."¹¹⁷

New Zealand specific prevalence data

- The 1986 Christchurch Psychiatry Epidemiology Study found a lifetime prevalence of DSM-III manic episode of 0.7%.^{34 72}
- The 2002/03 New Zealand Health Survey of approximately 14,000 people aged 15+, found that 0.5% of the population admitted that they had ever been diagnosed with BPD.⁵ This is likely to an underestimate.
- Data from the recent NZ Mental Health Survey are discussed in subsequent sections.

4.10.10. Prevalence of BPD in the NZMHS

The recent NZMHS studied BPD using a broad definition of BPD which included three subgroups: BPD-I; BPD-II; and mania or hypomania not classified as BPD-I or BPD-II.

12-month prevalence of BPD in the NZMHS

The overall prevalence of BPD in people aged 16+ in the community during a 12-month period was about 2%, with similar figures for men and women (see Table 36). The highest prevalences were found in youth and adults aged 25-44 years.

If NZMHS prevalence data are extrapolated to the CM population aged 16+, this would mean that there would be approximately 7,000 people aged 16+ with BPD in CM during a 12-month period.

Table 36: 12-month prevalence of BPD in the NZMHS and extrapolation to the CM population aged 16+ in 2005

Parameter	Total	Male	Female	16-24 years	25-44 years	45-64 years	Age 65+
Prevalence in NZMHS	2.2% (1.9-2.5)	2.1% (1.6-2.6)	2.3% (1.9-2.8)	3.9% (2.9-5.4)	2.8% (2.3-3.3)	1.4% (1.1-1.9)	0.2% (0.1-0.6)
Extrapolation to CM population in 2005	6928 *	3199	3740	2526	3500	1308	78

Source: Te Rau Hinengaro: New Zealand Mental Health Epidemiology Study.⁵
DSM-IV diagnostic criteria. 95% CI in parentheses.

* Note that the sum of age groups for the estimated number of people with BPD in CM is 7,413, which is slightly higher than the total (6,928). This is due to the younger age structure of the CM population compared to NZ in general.

Lifetime prevalence of BPD in the NZMHS

The overall lifetime prevalence of BPD (up to the time of the study) was 3.8%, with male rates not significantly different from female rates (see Table 37). Of note, the prevalence in people aged 65+ reporting MD during their lifetime is much lower than expected. The lifetime prevalence rates in the 65+ group may actually be much higher, as factors such as by recall bias and differential mortality may be lowering the true prevalence rate.

The NZMHS estimated the risk of developing BPD by the age of 75 years at about 5%.

Table 37: Lifetime (up to time of study) prevalence of BPD in the NZMHS

Lifetime prevalence (up to time of the study)							Lifetime projected risk by age 75
Total	Male	Female	16-24 years	25-44 years	45-64 years	Age 65+	
3.8% (3.4-4.3)	4.1% (3.5-4.8)	3.6% (3.1-4.1)	5.6% (4.3-7.1)	4.9% (4.2-5.6)	3.3% (2.6-3.9)	0.6% (0.3-1.0)	4.8%

Source: Te Rau Hinengaro: New Zealand Mental Health Survey.⁵
DSM-IV diagnostic criteria.

Ethnicity and BPD disorders in the NZMHS

Data on the prevalence of BPD in the general population among different ethnic groups in NZ were very limited until the recent publication of data from the *Te Rau Hinengaro: New Zealand Mental Health Survey* (NZMHS).⁵ This survey included about 2,600 Maori and 2,200 Pacific peoples.

Prevalence rates for BPD in the NZMHS by broad ethnic groupings are shown in Table 38. At the time of this report, more detailed ethnicity data had not been published.

Māori and Pacific peoples have a much higher burden of BPD with 12-month prevalences of BPD two to three times higher compared to the Other ethnic group. After adjusting for age, gender and other variables, the differences reduced, but still remained higher compared to the Other group.

The lifetime (up to the time of the study) prevalences of BPD was similar for Māori and Pacific peoples (8.3%) and were significantly higher than for the total population (3.8%).

Table 38: Prevalence of BPD in the NZMHS, by ethnic group

Prevalence type	Maori	Pacific	Other	Total
	% (95% CI)	% (95% CI)	% (95% CI)	(95% CI)
12-month prevalence				
Unadjusted	4.6% (3.7-5.7)	3.7% (2.8-4.8)	1.8% (1.4-2.1)	2.2% (1.9-2.5)
Adjusted for age and gender	3.9% (3.0-4.7)	3.1% (2.2-4.0)	1.8% (1.5-2.2%)	NA
Adjusted for age, gender, educational qualifications	3.4% (2.7-4.2)	2.7% (1.9-3.6)	1.9% (1.5-2.3)	NA

and household income				
Lifetime prevalence (unadjusted)	8.3% (7.1-9.7)	8.3% (6.6-10.3)	NA	3.8% (3.4-4.3)

Source: Te Rau Hinengaro: New Zealand Mental Health Epidemiology Study.⁵ DSM-IV CIDI 3.0 diagnosis. Prioritised ethnicity, except Pacific lifetime prevalence data, which is total response data (i.e. anyone who identified with a Pacific ethnicity).
NA = Not available at time of this HNA.

4.10.11. Bipolar disorders – MHINC data for CM residents seen by DHB mental health services in 2005

This section covers the Mental Health Information National Collection (MHINC) data for the CM residents seen by DHB mental health services throughout NZ with bipolar disorder diagnoses in the 2005 calendar year. For background information on the MHINC, see section 2.6.

A broad definition of BPD was used, which included diagnoses that mapped to a DSM-IV code for BPD-I, BPD-II, BPD not otherwise specified (NOS) or cyclothymia.

In 2005, 365 unique CM residents were seen by DHB mental health services with a BPD as a “Principal”, “Provisional” or “Other relevant diagnosis”. Of the 365 clients, almost all (n=356) had a BPD diagnosis as a “Principal” diagnosis. BPD-I was the most common diagnosis (~80%), followed by BPD NOS (13%), then BPD-II (5%), and cyclothymia (2%).

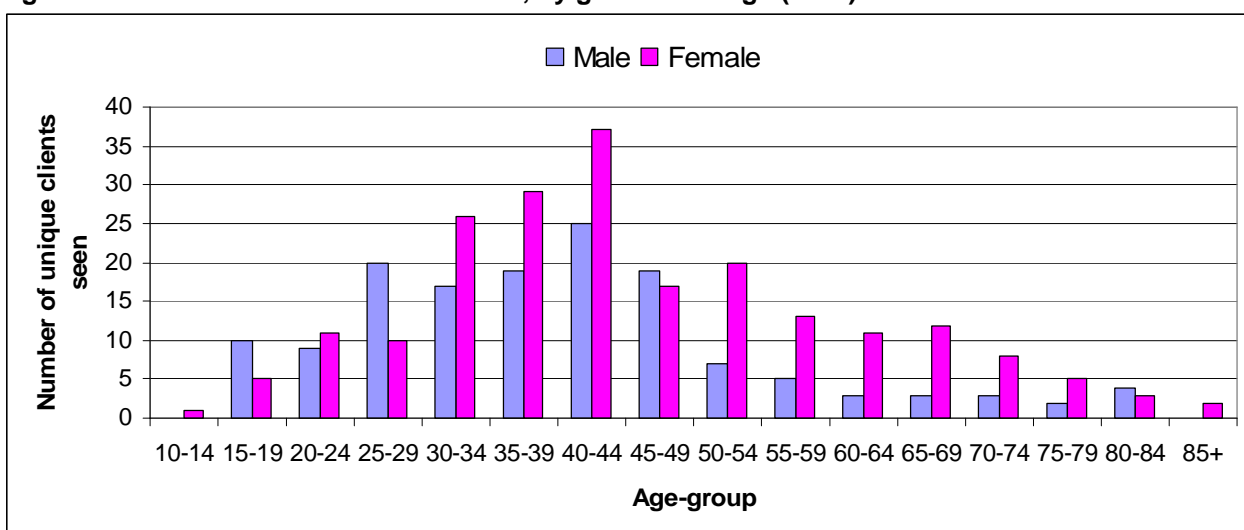
If the extrapolation of the NZMHS 12-month prevalence data to the CM population is correct (see previous section), then about 5% of the estimated number of CM residents aged 16+ with BPD visited DHB mental health services in 2005, with similar proportions for both men and women.

Age and gender

Of the 356 people with BPD as a principal diagnosis, 210 (59%) were female and 146 (41%) were male. The overall age-standardised rate was 124 per 100,000 population. The female age-standardised rate (142) was greater than for males (104), with this difference being just statistically significant.

Ages ranged from 13 to 87 years with a mean age of 43 years. Figure 21 shows the number of clients for each gender by age-group. The peak number of clients for both genders was in the 40-44 year age-group. For the majority of age-groups, female numbers were greater than for males.

Figure 21: CM domiciled clients with BPD, by gender and age (2005)



MHINC data, 2005 calendar year. CM domiciled clients seen by any DHB mental health service. Principal diagnosis only.

Ethnicity

The European accounted for the largest proportion of clients with BPD (45.8%), followed by Māori (26.7%) then Pacific peoples (12.6%) the next largest groups (see Table 39).

When the age-standardised rates were looked at, the Māori rate was significantly higher than for European or Pacific peoples. Due to the low numbers in the Asian and Other ethnic group, rates were not calculated.

Table 39: CM residents with bipolar disorder - age-standardised rates, by ethnic group (2005)

Ethnic group	n	% of total	Age standardised rate (per 100,000 popn)	95% CI
Asian	19	5.3%	–	–
Māori	95	26.7%	246	197 – 296
Pacific peoples	45	12.6%	82	58 – 105
European	163	45.8%	102	86 – 118
Other	34	9.6%	–	–
Total	356	100%	124	111-136

MHINC data, 2005 calendar year. CMDHB analysis. Principal diagnosis only. Prioritised ethnicity. Unique CM residents seen by any DHB mental health service. 2001 NZ Census popn used for age-standardisation.

4.11. Anxiety disorders

4.11.1. Introduction and chapter summary

There is a very broad range of anxiety disorders including panic disorder, phobia, general anxiety disorder, obsessive-compulsive disorder and post-traumatic stress disorder (PTSD).

Anxiety disorders are very common in the community and generally affect females more than males.

In the NZ Mental Health Survey (NZMHS), anxiety disorders as a group, were the most common of the mental disorders studied, with a 12-month prevalence in people aged 16+ in the community of approximately 15%.⁵ Phobias were by far, the most common disorders. Prevalences of the individual anxiety disorders were generally highest in youth and younger adults.

If the 12-month NZMHS prevalence data are extrapolated to CM, this would mean that there could be almost 50,000 people aged 16+ experiencing an anxiety disorder each year in CM. However, the total number could be higher than this as people under 16 were not studied, a group that has significant problems with anxiety disorders. A very high proportion of people in the NZMHS had first onset of their anxiety disorders in childhood.

The NZMHS estimated the chance of having an anxiety disorder by the age of 75 at almost 30%, the same chance as developing a mood disorder (major depression, dysthymia or bipolar disorder).

If the extrapolation of the NZMHS 12-month prevalence data to CM is correct, then it seems likely that only a very small minority of people aged 16+ with anxiety disorders (0.5%) see DHB mental health services.

In total, about 4% of all CM residents seen by DHB mental health services in 2005 had some type of anxiety disorder diagnosis.

The prevalence of anxiety disorders in the NZMHS was highest for Māori, followed by Pacific peoples.

Background on the individual anxiety disorders are not covered in detail in this chapter, except for post-traumatic stress disorder (PTSD).

PTSD is a common disorder, can be very disabling and coexisting mental disorders frequently occur. PTSD can develop at any age and appears to be more common in women.

The NZMHS estimated the 12-month prevalence of PTSD at 3% (men 1.6%, women 4.2%), which if extrapolated to the CM population, would mean that about 9,500 people aged 16+ experiencing PTSD each year in CM. About 0.1% (n=104) of all CM residents seen by DHB mental health services in 2005 had PTSD as a diagnosis.

The NZMHS estimated that the chance of an episode of PTSD by age 75 years was about 9%.

4.11.2. Post-traumatic stress disorder (PTSD)

PTSD was first introduced in the DSM-III, partly in response to the increasing recognition of post-traumatic conditions in Vietnam War veterans. It is classified as an anxiety disorder; however, not all investigators

agree that it should be classified as one. Although anxiety is a prominent symptom, so are depression and dissociation. There is considerable overlap with other mental illnesses which may cause diagnostic problems.

The key features of PTSD are that it comprises an original traumatic event (involving actual or threatened death or serious injury) with the later emergence of a triad of symptoms (reexperiencing, avoidance/numbing and hyperarousal/hypervigilance) of sufficient severity to interfere with important aspects of a person's life. Symptoms usually begin within the first three months after the trauma; however, there may be a longer delay, sometimes years before symptoms appear.

Risk factors for PTSD

Common traumatic events are witnessing a severe injury or death, involvement in a fire or a natural disaster, or life-threatening accident, all more common in men. Other traumas that are more common causes in men than women are physical assault, combat-related trauma, threatened with a weapon, capture or kidnapping. In women, the most common traumas are rape, sexual assault, parental neglect and physical abuse during childhood.^{16,129}

Note that trauma exposure may be acute (e.g. assault) or chronic and recurrent (e.g. child abuse or domestic violence).

A strong predictor for the development of PTSD is Acute stress disorder (ASD; DSM-IV-TR 308.3). ASD within the first month after trauma. is similar to PTSD with regards to the precipitating traumatic event and symptomatology, but it is time limited, occurring and resolving within one month of the event. Many people with ASD subsequently go on to develop PTSD.

Other risk factors for PTSD include youth, lower socioeconomic status, parental history of PTSD, personal or family history of other psychiatric conditions, poor social support, sudden loss of a spouse, severity of reaction to initial trauma and lack of early counselling after the traumatic event.^{16,129}

Age and gender

PTSD can develop at any age, including childhood. There is inconsistent information on the relationship between age and the risk of developing PTSD.¹³⁰ While the overall exposure to trauma may be greater in men, PTSD is more common in women.^{16,68,13,130}

Prevalence of traumatic events and PTSD in the international literature

Exposure to traumatic events may actually be a very common experience in the general population' for example, in U.S community studies, 50-90% of people experienced a traumatic event during their lifetime.¹³⁰ However, only a minority of people exposed to trauma will develop PTSD.

Data on the prevalence of PTSD in the general population are somewhat limited and unclear. Overall lifetime prevalence estimates for the general population vary widely in the literature, ranging from about 1 to 9%, depending upon criteria, methodology and population studied.^{16 68 13 130} Rates in women are typically twice that of men.

When stresses become extreme, then the rate of PTSD increases markedly. For example, victims of disaster have rates of up to 30%, prisoners of war have extremely high rates (up to 84% lifetime prevalence) and combat veterans (20-30%).¹⁶ Other groups with high rates include rape victims, people with severe traumatic brain injury and survivors of ethnically or politically motivated internment or genocide.^{13 130}

Partial PTSD (insufficient symptoms to meet full criteria) seems to be relatively common in the general population. For example, in a Canadian community study, full PTSD was found in 2.7% of women and 1.2% of men, with an additional 3.4% of women and 2.7% of men having partial PTSD.¹³¹

Relatively little is known about the prevalence of PTSD in people presenting to primary care.

Comorbid mental illness in PTSD

International studies have found a high rate of comorbid mental disorders occurs in people with PTSD. For example:^{16,130}

- Comorbid major depression is a consistent finding
- Comorbid obsessive compulsive disorder is common
- Women with PTSD may have a three-to four fold increase in panic disorder or phobias
- Substance abuse may be increased, particularly alcohol use in women
- People with PTSD possibly may be more likely to manifest some personality disorders.

Course of PTSD

The severity and duration of PTSD varies widely and can be extremely disabling. Approximately 50% of people recover completely within three months, while many others having persisting symptoms for more than a year, sometimes much longer.^{13 130} Resolution of symptoms may take longer in women.¹³⁰ PTSD is associated with functional impairment and diminished quality of life. In addition, there is also some evidence that PTSD increases the risk of poor physical health and the development of medical conditions such as diabetes, cardiovascular disease, obesity and osteoarthritis.^{132 130}

4.11.3. Prevalence of anxiety disorders in the NZMHS

The recent NZMHS of about 13,000 people aged 16+ studied a broad range of anxiety disorders (panic disorder; phobias, generalised anxiety disorder, obsessive compulsive disorder and post-traumatic stress disorder – all DSM-IV criteria).

12-month prevalence of anxiety disorders in the NZMHS

Of the disorders studied in the NZMHS, anxiety disorders as a group were the most common disorders overall, for males and females and all ethnic groups.

The overall prevalence of anxiety disorders in people aged 16+ in the community during a 12-month period was about 15%, with higher rates in women (18.6%) than men (10.7%) – see Table 40. The highest prevalences were found in youth and adults aged 25-44 years.

If NZMHS prevalence data are extrapolated to the CM population aged 16+, this would mean that there would be almost 50,000 people aged 16+ with an anxiety disorder in CM during a 12-month period. However, the number of people with anxiety disorders must be higher than this as it excluded people aged <16 years. This group has significant anxiety problems as 50% of people in the NZMHS had first onset of anxiety disorders by age 13 years. However, it is not known what the true prevalence of anxiety disorders is in people aged <16.

The NZMHS estimated the 12-month prevalence of PTSD at 3% (men 1.6%, women 4.2%), which if extrapolated to the CM population, would mean that about 9,500 people aged 16+ experience PTSD each year in CM.

Table 40: 12-month prevalence of anxiety disorder in the NZMHS and extrapolation to the CM population aged 16+ in 2005

Parameter	Total	Male	Female	16-24 years	25-44 years	45-64 years	Age 65+
Prevalence of any anxiety disorder in the NZMHS	14.8% (13.9-15.7)	10.7% (9.5-12.0)	18.6% (17.3-20.0)	17.7% (15.1-20.6)	18.2% (16.6-19.9)	13.2% (11.8-14.7)	6.0% (4.7-7.6)
Extrapolation to CM population in 2005 #	46600	16300	30200	11500	22800	12300	2400

Source: Te Rau Hinengaro: New Zealand Mental Health Survey.⁵ DSM-IV diagnostic criteria. 95% CI in parentheses.

* Note that the sum of the age groups for the estimated number of people with anxiety disorders in CM is ~48,900, which is slightly higher than the total (46,600). This is due to the younger age structure of the CM population compared to NZ in general.

Rounded to nearest 100.

Lifetime prevalence of anxiety disorders in the NZMHS

The overall lifetime prevalence of any anxiety disorder (up to the time of the study) was about 25%, with female rates significantly higher than male rates (see Table 41).

Of note, the prevalence in people aged 65+ reporting anxiety disorders during their lifetime is much lower than expected. The lifetime prevalence rates in the 65+ group may actually be much higher, as factors such as by recall bias and differential mortality may be lowering the true prevalence rate.

The NZMHS estimated that the risk of developing an anxiety disorder by the age of 75 years was very high, at almost 30%. The chance of an episode of PTSD by age 75 years was about 9%.

Table 41: Lifetime prevalence of anxiety disorders in the NZMHS

Disorder	Lifetime prevalence (up to time of the study)							Lifetime projected risk by age 75
	Total	Male	Female	16-24 years	25-44 years	45-64 years	Age 65+	
Any anxiety disorder	24.9% (23.6-26.2)	19.9% (18.3-21.7)	29.4% (27.7-31.3)	23.9% (20.9-27.3)	28.9% (26.8-31.0)	25.4% (23.2-27.7)	14.2% (12.0-16.8)	28.8%

Source: Te Rau Hinengaro: New Zealand Mental Health Survey.⁵
DSM-IV diagnostic criteria.

Ethnicity and anxiety disorders in the NZMHS

Data on the prevalence of anxiety disorders in the general population among different ethnic groups in NZ were very limited until the recent publication of data from the NZMHS which included about 2,600 Maori and 2,200 Pacific peoples.

Prevalence rates for anxiety disorders in the NZMHS by broad ethnic groupings are shown in Table 42. At the time of this report, more detailed ethnicity data had not been published. Anxiety disorders as a group were the most common mental disorders in the NZMHS for all three ethnic groups.

The prevalence of anxiety disorders was highest for Māori, with almost one in three (31.3%) experiencing an anxiety disorder in their life up to the time of the study and one in five (19.4%) over the past 12 months. The most common anxiety disorders in Māori were specific phobia, social phobia and post-traumatic stress disorder.

Pacific peoples had the second highest rates of anxiety; however, 12-month rates were similar to the Other ethnic group after rates were adjusted for age, gender and other factors. As in Māori, the most common anxiety disorders were specific phobia, social phobia and post-traumatic stress disorder.

Table 42: Prevalence of any anxiety disorder in the NZMHS, by ethnic group

Prevalence type	Maori	Pacific	Other	Total
	% (95% CI)	% (95% CI)	% (95% CI)	(95% CI)
12-month prevalence				
Unadjusted	19.4% (17.1-21.7)	16.3% (13.8-18.9)	14.1% (13.0-15.1)	14.8% (13.9-15.7)
Adjusted for age and gender	17.6% (15.4-19.7)	14.8% (12.4-17.3)	14.4% (13.3-15.5)	NA
Adjusted for age, gender, educational qualifications and household income	15.6% (13.6-17.6)	12.9% (10.6-15.1)	14.8% (13.7-15.9)	NA
Lifetime prevalence (unadjusted)	31.3% (28.4-34.3)	27.7% (24.7-30.9)	NA	24.9% (23.6-26.2)

Source: Te Rau Hinengaro: New Zealand Mental Health Survey.⁵ DSM-IV CIDI 3.0 diagnosis.

Prioritised ethnicity, except Pacific lifetime prevalence data, which is total response data (i.e. anyone who identified with a Pacific ethnicity).

NA = Not available at time of this HNA.

4.11.4. Age of onset of anxiety disorders in the NZMHS

The NZMHS found that as anxiety disorders as a group had first onset at a younger age compared to other disorders studied.

The median age of onset of anxiety disorders as a group in the NZMHS was 13 years, much lower than for mood disorders as group (31 years) and lower than for substance use disorders (18 years) or eating disorders (18 years). Ten percent of people had onset of an anxiety disorder by age 4, 25% by age 6, 50% by age 13, 75% by age 30 and 90% by age 50.

Age of onset did, however, vary between the different anxiety disorders. Panic disorders, generalised anxiety disorders and post-traumatic stress disorder had a higher median age of first onset (29-32 years) than specific phobia (7 years), social phobia (12 years), agoraphobia without panic (16 years) or obsessive compulsive disorder (18 years).

4.11.5. Proportion of people with anxiety disorders who make treatment contact in the NZMHS

The NZMHS found that there tends to be a delay of many years, sometimes decades before people with anxiety disorders make contact for treatment. Many people never make contact.

There was, however, wide variation between the individual anxiety disorders (see Table 43). For example, panic disorder was associated with the highest percentage making treatment contact at age of onset (33 years) and the shortest median duration of delay (3 years). In contrast, specific and social phobias had a very long delay to diagnosis (38 and 28 years respectively).

Table 43: Proportion of people aged 16+ with anxiety disorders who made treatment contact, age of first contact and median duration of delay (NZMHS)

Anxiety disorder	Percentage making	Percentage estimated	Median duration
------------------	-------------------	----------------------	-----------------

	treatment contact at age of onset	to ever make treatment contact	of delay (years)
Panic disorder	33	90	3
Agoraphobia without panic	19	78	13
Specific phobia	2	69	38
Social phobia	5	77	28
Generalised anxiety disorder	32	91	6
Post-traumatic stress disorder	12	56	19
Obsessive-compulsive disorder	17	70	7

DSM-IV CIDI 3.0 disorders.

4.11.6. Anxiety disorders - MHINC data for CM residents seen by DHB mental health services in 2005

This section covers the Mental Health Information National Collection (MHINC) data for the CM domiciled clients seen by DHB mental health services throughout NZ with an anxiety disorder diagnosis in the 2005 calendar year. For background information on the MHINC, see section 2.6. Note that data for "Anxiety disorder due to a medical condition" or "Substance-induced anxiety disorder" are not covered.

In total, about 4% (n=328) of the CM residents seen by DHB mental health services in 2005 had some type of anxiety disorder diagnosis.

Estimated proportion of CM residents aged 16+ with any anxiety disorder who visited DHB mental health services in 2005

MHINC data showed that there were approximately 270 CM residents aged 16+ who saw a DHB mental health service in the 2005 calendar year with any type of anxiety disorder diagnosis.

If the extrapolation to CM population aged 16+ of the NZMHS 12-month prevalence data for any anxiety disorder is correct (see section 4.11.3), it seems likely that only a very small proportion (0.5%) of people aged 16+ with any anxiety disorder in CM see DHB mental health services during a 12-month period.

Similarly, if the extrapolation for the subgroup of PTSD is correct, then almost 1% of people aged 16+ in CM with PTSD see DHB mental health services during a 12-month period.

Anxiety disorders (excluding PTSD) – MHINC data for CM residents seen by DHB mental health services in 2005

Data for the following anxiety disorders are included here: Panic disorder, Generalised anxiety disorder, Phobic disorders, Obsessive compulsive disorder, Acute stress disorder and Anxiety disorder not otherwise specified. See Appendix F for the DSM-IV codes associated with each of these diagnoses. Data on Post-traumatic stress disorder (PTSD) are covered in the following section.

Of the total number of unique CM domiciled mental health clients seen in 2005, about 3% (n=266) had one of these anxiety disorders as a "Principal", "Provisional" or "Other relevant diagnosis". In about 70% (n=181) of clients, the diagnosis was a "Principal" diagnosis and the following data are for these clients. Table 44 shows the breakdown by the individual anxiety diagnoses.

Table 44: Anxiety disorder diagnoses (PTSD excluded) – CM clients (2005)

Anxiety disorder	n	% of total
Acute Stress Disorder	10	5.5%
Anxiety Disorder Not Otherwise Specified	41	22.7%
Generalised Anxiety Disorder	59	32.6%
Obsessive Compulsive Disorder	29	16.0%
Panic Disorder	27	14.9%
Social Phobia	11	6.1%
Specific Phobia	4	2.2%
Total	181	100.0%

MHINC data, 2005 calendar year. Unique CM residents seen by any DHB mental health service.

All anxiety disorders except post-traumatic stress disorder and Anxiety secondary to a general medical disorder.

Principal diagnosis only.

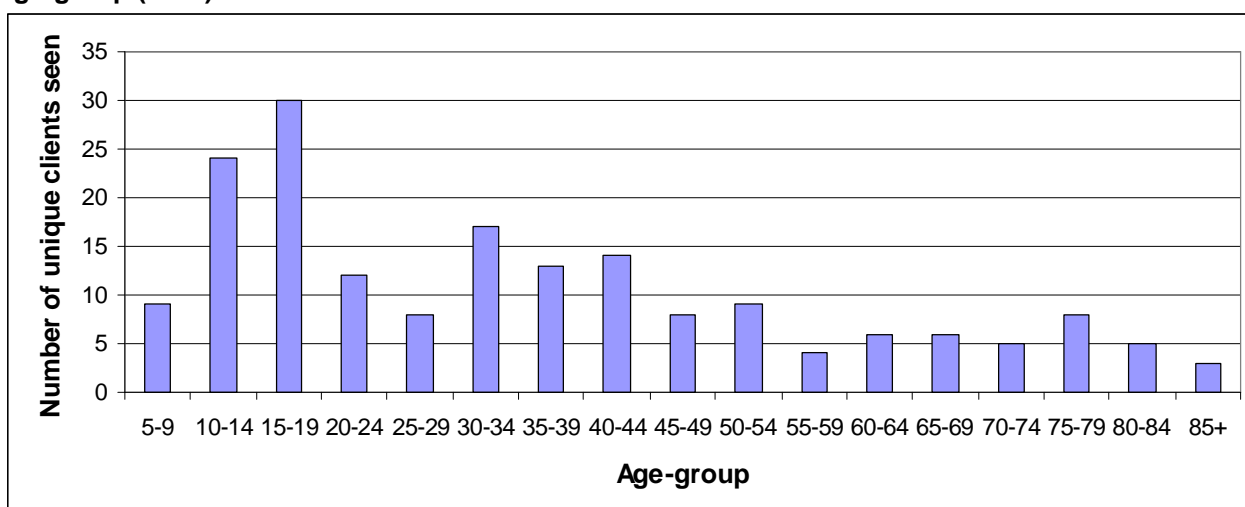
A. Age and gender

Of the 181 people with one of these anxiety disorders as a principal diagnosis, females accounted for a significantly greater proportion (60%, n=108) than males. Ages ranged from 6 to 88 years with a mean age of 36 years. Figure 22 shows the number of clients by age-group. The 10-19 year age-groups have the greatest number of clients; however, it is difficult to reliably comment on age trends due to the relatively low numbers in each age-group. Numbers were too low to accurately calculate rates.

B. Ethnicity

Table 45 shows the breakdown of CM clients with anxiety disorders (PTSD excluded) by prioritised ethnicity. The European ethnic grouping accounted for the large majority (70.2%) of clients. Numbers were too low to reliably calculate rates.

Figure 22: Number of unique CM domiciled clients with an anxiety disorder (excluding PTSD), by age-group (2005)



MHINC data, 2005 calendar year. Unique CM domiciled clients seen by any DHB mental health service. All anxiety disorders except post-traumatic stress disorder. Principal diagnosis only.

Table 45: Unique CM domiciled clients with an anxiety disorder diagnosis (excluding PTSD), by ethnic group

Ethnic group	n	% of total
Asian	11	6.1%
European	127	70.2%
Māori	15	8.3%
Other	15	8.3%
Pacific peoples	13	7.2%
Total	181	100.0%

MHINC data, 2005 calendar year. Prioritised ethnicity. Unique CM domiciled clients seen by any DHB mental health service. All anxiety disorders except post-traumatic stress disorder. Principal diagnosis only.

Post-traumatic stress disorder – MHINC data for CM residents seen by DHB mental health services in 2005

This section covers the Mental Health Information National Collection (MHINC) data for the CM domiciled clients seen by DHB mental health services throughout NZ with a diagnosis of PTSD in the 2005 calendar year. Diagnostic codes in the MHINC that mapped to a DSM-IV code of 309.81 were regarded as PTSD.

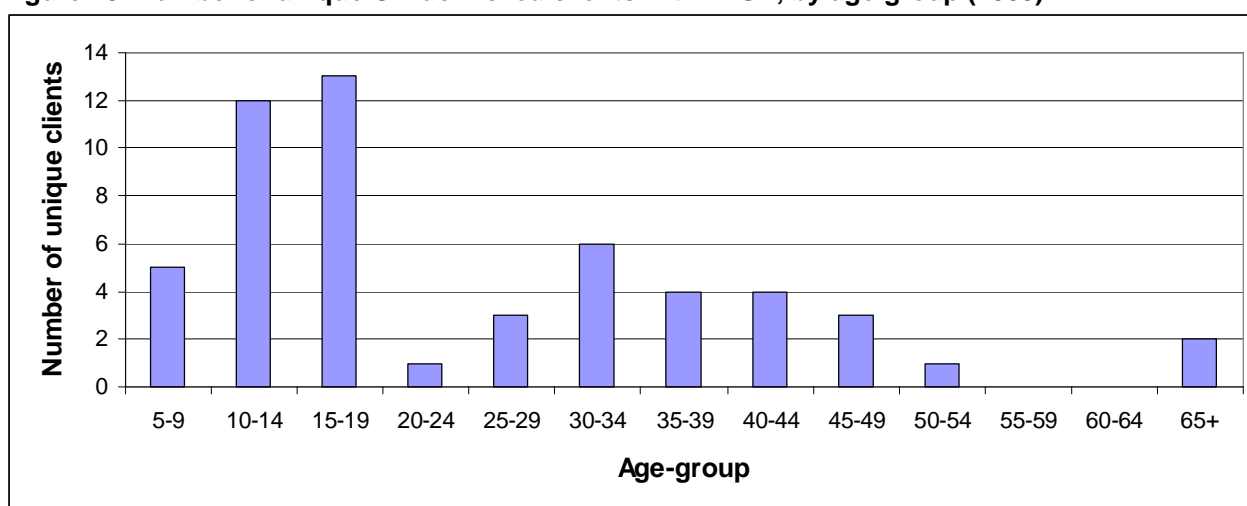
Of the total number of unique CM mental health clients seen in 2005, 104 (~0.1%) had a PTSD diagnosis as a “Principal”, “Provisional” or “Other relevant diagnosis”. Of these 104 clients, about half (n=54) had PTSD diagnosis as a “Principal” diagnosis.

A. Age and gender

Of the 54 people with PTSD as a principal diagnosis, 32 (59%) were female and 22 (41%) were male, a difference that was not statistically significant. Ages ranged from 5 to 85 years with a mean age of 25 years. Figure 23 shows the number of clients by age-group. Clients aged 10-14 and 15-19 were actually the largest groups of clients. Rates were not calculated due to the low numbers of clients.

B. Ethnicity Table 46 shows the breakdown of clients by prioritised ethnicity. The European ethnic grouping accounted for a large proportion (48%) of clients with the next largest group being Māori (29.6%). Numbers were too low to reliably calculate rates.

Figure 23: Number of unique CM domiciled clients with PTSD, by age-group (2005)



MHINC data, 2005 calendar year. Unique CM residents seen by DHB mental health services. Principal diagnosis only.

Table 46: Unique CM domiciled clients with PTSD, by ethnic group

Ethnic group	n	% of total
Asian	3	5.5%
European	26	48%
Māori	16	29.5%
Other	6	11%
Pacific peoples	3	5.5%
Total	54	100%

MHINC data, 2005 calendar year. Prioritised ethnicity.

Unique CM domiciled clients seen by any DHB mental health service. Principal diagnosis only.

4.12. Eating disorders

4.12.1. Introduction

This section covers the background epidemiology and data on clients accessing DHB mental health services for the main eating disorders of anorexia nervosa and bulimia nervosa. The heterogeneous group of “eating disorder not otherwise specified” is not covered in any detail. This group includes patients with binge-eating disorder or those who fail to meet criteria all the criteria for anorexia or bulimia nervosa.

Bulimia nervosa (BN) is a chronic, relapsing disorder characterised by recurrent episodes of binge eating followed by inappropriate compensatory purging to prevent weight gain. BN is more common than anorexia nervosa, predominately affects women and often begins during adolescence.

Anorexia nervosa (AN) is a serious and potentially fatal mental illness. The key feature is deliberate weight loss through strict dieting and avoidance of foods. AN predominately affects women, particularly younger women. AN usually begins in adolescence or young adulthood.

4.12.2. Chapter summary

The eating disorders anorexia nervosa and bulimia primarily affect females, adolescents and young adults.

The NZ Mental Health Survey (NZMHS) found that the 12-month prevalence of any eating disorder in people aged 16+ was <0.5% (AN <0.1%, BN <0.4%).

The NZMHS estimated that the overall lifetime risk of developing anorexia was 0.6% (females 1.0%, males 0.1%) and for bulimia it was 1.4% (females 2.0%, males 0.5%).

Surprisingly the NZMHS found that the lifetime chance of any eating disorder was approximately three times higher for Pacific peoples and twice as high for Māori compared to the Other ethnic grouping.

Most people with eating disorders have first onset during adolescence or their early 20s, with the 12-month prevalence decreasing with increasing age.

High rates of comorbid mental illness and substance abuse occur in people with eating disorders.

The number of people with eating disorders in the community is likely to be much higher than the numbers who attend primary care or secondary mental health services.

If the 12 month prevalence data from the NZMHS are extrapolated to the CM population, then approximately 1,600 people aged 16+ may have had an eating disorder in 2005.

The NZMHS found that there was a median delay of 10-15 years before people with eating disorders make contact for treatment. Only 11% of people with BN and 27% of people with AN make contact for treatment at the age of onset; however, close to 100% of people eventually make contact.

It seems very likely that only a very small minority (~2%) of people with eating disorders are seen by DHB mental health services, as less than 40 CM residents were seen by these services in 2005 with an eating disorder diagnosis.

4.12.3. Risk factors for anorexia nervosa

There are a number of risk factors for anorexia nervosa. The main risk factors are outlined in Table 47.

Table 47: Risk factors for anorexia nervosa

Parameter	Risk factors ¹³³
Family history	<ul style="list-style-type: none"> ○ Eating disorders, parental obesity, restrictive dieting, and concerns about eating, appearance or weight. ○ Family and twin studies suggest a strong genetic component in the development of AN.¹³⁴ Specific genes are currently under study. ○ Note that although dieting is a common antecedent behaviour, few dieters develop AN.
Personal history	<ul style="list-style-type: none"> ○ Body dissatisfaction, restrictive dieting, childhood obesity. ○ Early menarche (≤12 years) ○ Depression, substance abuse or dependence, obsessive-compulsive disorder, social anxiety, and adverse life events
Personal characteristics	<ul style="list-style-type: none"> ○ Perfectionistic or obsessional traits, alexithymia and low self-esteem
Other	<ul style="list-style-type: none"> ○ Female ○ Occupational status that emphasises appearance, e.g. modelling ○ Societal attitudes that promote a thin body image

4.12.4. Incidence of eating disorders

Bulimia

Relatively few incidence studies have been reported. In a review of the literature, the annual incidence of BN (DSM-III criteria) among the general population was estimated to be at least 12 per 100,000 population.¹³⁵ The incidence rates seem highest in young women aged 20-24 years, who have an annual rate of about 80 per 100,000 population.¹³⁵ The annual incidence in men (<1 per 100,000 population) is far lower than for women.¹³⁵ It is difficult to evaluate trends over time due to previous lack of criteria for BN, followed by changes in diagnostic criteria overtime.¹³⁵

Note: the above incidence rates should be viewed as minimum estimates with the true incidence rates likely to be higher.¹³⁵

Anorexia nervosa

Incidence data for AN are also relatively limited. In a review of the literature, the annual incidence of AN in general population was estimated to be at least 8 per 100,000 population with a female-to-male ratio of >10:1.¹³⁵ Reported incidence rates were highest for females aged 15-19 years, as high as 136 per 100,000.

4.12.5. Prevalence of eating disorders in the international literature

The estimates of the prevalence vary depending upon the population sampled and diagnostic criteria used.

Anorexia nervosa

International data estimates of the prevalence vary depending upon the population sampled and diagnostic criteria used. Using narrow criteria (e.g. DSM), AN probably affects around 0.2-0.5% of women at some

stage during their lives.^{133 134} Reported prevalence rates are often higher in young females, up to 0.9%.¹³⁵ AN can also occur in men, but it is rare and account for <10% of cases.^{135,133}

A Dutch study reviewed a number of community eating surveys and estimated the one-year prevalence of AN to be 370 per 100,000 population (0.37%) for women aged 11-35 years.¹³⁵

Bulimia

If strict criteria for BN (DSM-III or DSM-IV criteria) are used then the overall lifetime prevalence in women is usually reported at around 1%.^{134 135,136} Overall lifetime prevalence rates for men are around 0.1%. High prevalence rates have been reported in younger women, as high as 4.2-4.5% for females aged 13-24 years.^{135,137} BN is rare in men (0.1-0.2% lifetime prevalence).

A Dutch study reviewed a number of community eating surveys from different countries and estimated the one-year prevalence of BN to be 1,500 per 100,000 population (1.5%) for women aged 11-35 years.

If wider criteria are used then the prevalence rates are higher. For example, in a UK general practice study of young females aged 16-35 years, the prevalence of full syndrome BN (DSM-III-R) criteria was 1.5%, whereas the prevalence of partial syndrome BN was much higher at 5.4%.¹³⁸

4.12.6. Prevalence of eating disorders in the NZ literature

Christchurch Psychiatric Epidemiology Study

This 1986 study of approximately 1500 adults aged 18-64 years estimated that the lifetime prevalence in females of AN and BN was 0.3% and 1.9% respectively (DSM-III criteria).^{34 137} Women aged 18-44 years were at greatest risk of BN, with 2.6% of these women having BN during their lifetimes, 1.5% during the previous six-months and 1.0% currently with BN.

NZ Mental Health Survey (NZMHS)

12-month prevalence of BPD in the NZMHS

The overall 12-month prevalence of eating disorders was 0.5%, with the female prevalence twice that of males (see Table 48). The prevalence was highest in the 16-24 year age groups. Anorexia nervosa was very uncommon in comparison to bulimia nervosa.

If these prevalence figures are extrapolated to the CM population aged 16+ in 2005, then approximately 1,600 people would be expected to have an eating disorder. However, the number of people with an eating disorder will be higher than this as although the NZMHS did not survey people aged <16 years, a large proportion of people had onset of their eating disorder before age 16 (see age of onset section below).

Table 48: 12-month prevalence of eating disorders in the NZMHS and extrapolation to the CM population aged 16+ in 2005

Disorder	Total	Male	Female	16-24 years	25-44 years	45-64 years	Age 65+
Anorexia nervosa	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bulimia nervosa	0.4%	0.3%	0.6%	0.6%	0.7%	0.3%	0.1%
Prevalence of any eating disorder (AN or BN) in the NZMHS	0.5%	0.3%	0.6%	0.6%	0.7%	0.3%	0.1%
Extrapolation (any eating disorder) to CM population aged 16+ in 2005 *	1,580	460	980	390	880	280	40

Source: Te Rau Hinengaro: New Zealand Mental Health Survey.⁵ DSM-IV diagnostic criteria. 95% CI in parentheses.
* Rounded to nearest 10.

Lifetime prevalence of eating disorders in the NZMHS

The lifetime prevalence (up to the time of the study) was 1.7%, mostly accounted for by bulimia nervosa. Again, the prevalence is much higher in females than males. The chance of developing an eating disorder by age 75 years was estimated at 1.9%.

Table 49: Lifetime prevalence of eating disorders in the NZMHS

Disorder	Lifetime prevalence (up to time of the study) - % (95% CI)							Lifetime projected risk by age 75
	Total	Male	Female	16-24 years	25-44 years	45-64 years	Age 65+	
Anorexia nervosa	0.6% (0.4-0.8)	0.1% (0.0-0.2)	1.0% (0.7-1.6)	0.7% (0.2-2.0)	1.0% (0.6-1.6)	0.2% (0.0-0.5)	0.0% (0.0-0.3)	0.6%

Bulimia nervosa	1.3% (1.1-1.5)	0.5% (0.3-0.8)	2.0% (1.6-2.5)	1.3%	2.0%	0.9%	0.1%	1.4%
Any eating disorder (AN or BN)	1.7% (1.5-2.1)	0.5% (0.3-0.9)	2.9% (2.3-3.5)	2.0%	2.9%	1.0%	0.1%	1.9%

Source: Te Rau Hinengaro: New Zealand Mental Health Survey.⁵ DSM-IV diagnostic criteria. 95% CI in parentheses.

Ethnicity and eating disorders in the NZMHS

Prior to the recent NZMHS, data were very limited. However, the NZMHS produced some unexpected data on prevalence of eating disorders in different ethnic groups, with Pacific peoples and Māori having the highest rates.

The 12-month prevalence of BN peoples was 1.5% in Pacific peoples and 1% in Māori, compared to 0.4% overall. Numbers were too low to comment on anorexia nervosa rates.

It was estimated that the lifetime chance of any eating disorder (AN or BN) was approximately three times higher for Pacific peoples and twice as high for Māori compared to the Other grouping. Māori and Pacific rates were both significantly higher than the Other rate, but not significantly different from each other.

4.12.7. Age of onset of eating disorders - NZMHS

Most people with anorexia nervosa (AN) or bulimia nervosa (BN) have first onset of these conditions during adolescence or early 20s.^{133 5}

In the NZMHS, 10% of people with AN had first onset by age 14, 25% by age 15, 50% by age 17, 75% by age 21, 90% by age 28 and 99% by age 32.⁵

The age of first onset in the NZMHS for BN was similar to AN; except that the upper age range for age of first onset was higher. Ten percent of people had onset of BN by age 13, 25% by age 15, 50% by age 18, 75% by age 23, 90% by age 38 and 99% by age 56.

4.12.8. Proportion of people with eating disorders who make treatment contact - NZMHS

The NZMHS found that there tends to be a delay of 10-15 years before people with eating disorders make contact for treatment (see Table 50). However, close to 100% of people eventually make contact.

Table 50: Proportion of people aged 16+ with eating disorders who made treatment contact, age of first contact and median duration of delay (NZMHS)

Eating disorder	Percentage making treatment contact at age of onset	Percentage estimated to ever make treatment contact	Median duration of delay (years)
Anorexia nervosa	27%	99%	10
Bulimia nervosa	11%	98%	15

DSM-IV CIDI 3.0 disorders

4.12.9. Course and outcome of eating disorders

Bulimia

Although the literature on the long-term course and prognosis are somewhat limited, it seems that BN has considerable variability in the natural course with persistent symptoms occurring in a significant number of people.

Untreated people with BN in the community show a modest improvement over a 1-2 year period (25-30% reduction in binge eating, purging and laxative abuse). Over a 5-year period, the prognosis for untreated people in the community is poor with about two-thirds relapsing into partial or full diagnostic criteria BN.

The short-term success rate for patients receiving psychosocial treatment or medication is reported to be 50-70%. Relapse rates are high for successfully treated patients (30-85% at 6 months-6 years of follow-up).

Medical complications can occur and are related to the mode (self-induced vomiting, laxative use and diuretic use) and frequency of purging, whereas in anorexia nervosa complications arise as a result of starvation and weight loss. The risk of death is far lower in than in anorexia nervosa, but is still higher than for women of similar age in the general population.

The NZMHS found much higher rates of suicidal ideation (20%), making a suicide plan (10%) and suicide attempt (9%) within the last 12 months in people with BN compared to the population without mental disorders (0.9%, 0.2% and 0.1% respectively).⁵

Anorexia nervosa

AN has a chronic course with a profound effect on health and quality of life. Although about 70% of people regain weight within 6 months of starting treatment, 15-25% of these people relapse. Less than half of people with AN have a good outcome, a third intermediate and the remainder have a poor outcome.^{133,134} Those who “recover” from AN often retain certain features of atypical eating disorder (Eating disorder not otherwise specified).

The estimated mortality rate for women has been reported to be up to 12 times higher than for similarly aged women in the community.^{133,134} Mortality is from medical complications or suicide. The risk of suicide is high, maybe higher than in major depression.

Unfortunately, numbers in the NZMHS were too low to comment on suicidal ideation, suicide plans and suicide attempts in people with AN.

4.12.10. Eating disorders and other mental disorders

The NZMHS has not yet reported data on comorbidity of mental disorders in people with eating disorders; however, high rates of comorbid mental disorders and substance use in people with eating disorders have been reported in the literature.

Particularly high rates are seen in people at tertiary-level psychiatric treatment centres, for example:^{134 139}

- Major depression or dysthymia: lifetime prevalence reported in 50-75% of cases
- Bipolar disorder: prevalence estimates usually around 4-6% but have been reported as high as 13%
- Obsessive compulsive disorder: lifetime prevalence as high as 25% in anorexia nervosa. Also common in bulimia nervosa
- Anxiety disorders: common, especially social phobias
- Substance abuse: found in as many as 23-40% of patients with bulimia nervosa and 12-1% of those with anorexia nervosa
- Personality disorders: common, with estimates ranging from 42-75%.

4.12.11. Eating disorders and the DHB mental health services

This section outlines the main data that are applicable to CM clients of DHB mental health services. The numbers of people seen were low and it seems very likely that DHB mental health services are only seeing a minority of people with eating disorders in the community.

CM residents seen by DHB mental health services in 2005 - MHINC data

In the 2005 calendar year, 37 unique CM residents were seen by DHB mental health services with an eating disorder (Anorexia nervosa, Bulimia nervosa or “Eating disorder not otherwise specified”) as a “Principal”, Provisional” or “Other relevant diagnosis”. This meant that about 0.4% of the CM residents seen by DHB mental health services in 2005 had an eating disorder diagnosis.

In total, 28 of these people had one of these diagnoses as a Principal diagnosis. The types of eating disorders were fairly evenly distributed. Eight people had anorexia nervosa as the principal diagnosis, 11 had bulimia and the remainder had Eating disorder NOS.

All but one client of these 28 clients were female. The ages ranged from 9 to 58 years with about two-thirds of clients aged 15-29 years. The average age was 24 years.

The ethnic breakdown is shown in Table 51. Most clients were European with the numbers in the other ethnic groups were too low to reliably comment. Numbers were not sufficiently high to calculate rates.

Of note, the MHINC recorded only 17 CM domiciled clients in 2005 as been seen by a specialist Eating Disorder Team (team type 16). The remainder of the CM clients with eating disorders were seen by other DHB mental health team types.

Table 51: CM residents with eating disorders seen by DHB mental health services, by ethnic group (2005)

Ethnic group	n
Asian	4
European	19
Māori	1

Other	2
Pacific peoples	2
Total	28

MHINC data, 2005 calendar year. Prioritised ethnicity.
Principal diagnosis only of Anorexia nervosa, Bulimia nervosa
or "Eating disorder not otherwise specified."

[Estimated proportion of CM residents aged 16+ with eating disorders who visited DHB mental health services in 2005](#)

If the extrapolation to CM population aged 16+ of the NZMHS 12-month prevalence data for eating disorders is correct, it seems likely that only a small proportion (~2%) of people aged 16+ with an eating disorder in CM see DHB mental health services during a 12-month period.

[NZ-CAOS data on eating disorders](#)

The New Zealand Mental Health Classification and Outcomes Study (NZ-CAOS) of mental health services in eight DHBs (CMDHB included) was conducted over 2001-2002. Data from some DHBs were incomplete. This study gives some indication of the volumes of care by diagnosis. See [section 2.7](#) for further background on the NZ-CAOS study, data inclusions and exclusions. The following data are for all eight DHBs included in the study.

For adults in the study, eating disorders accounted for 126 (0.9%) of the 14,467 episodes of care that were studied. Only nine of these were inpatient episodes, with the rest being in the community.

For child and youth, eating disorders accounted for 41 (1.2%) of the 3352 episodes of care. Only four of these were inpatient episodes, with the rest being in the community.

4.13. Personality disorders

4.13.1. Introduction

A general definition of a personality disorder (PD) from the DSM-IV-TR is "...an enduring pattern of inner experience and behaviour that deviates markedly from the expectations of the individual's culture, is pervasive and inflexible, has an onset in adolescence or early adulthood, is stable over time, and leads to distress or impairment".¹³

PD are not as well researched as many other mental illnesses and so data are limited in many circumstances. There is much debate in this area including the overlap between personality traits and PD, definitions, aetiology, classification, treatment and prognosis.¹⁴⁰

The DSM-IV-TR Axis II category of PD contains many different types of personality disorders, each with their own specific diagnostic criteria. Ten specific types of PD are grouped into three clusters (see below) based on descriptive similarities, which are sometimes helpful clinically.¹³ However, this clustering does have some limitations, has not been consistently validated and individuals frequently have co-existing PD from different clusters.

1. Cluster A - "odd or eccentric" disorders (paranoid, schizoid and schizotypal)
2. Cluster B - "dramatic, emotional or erratic" disorders (antisocial, borderline, histrionic and narcissistic)
3. Cluster C - "anxious or fearful" disorders (avoidant, dependent and obsessive-compulsive).

In addition to this classification, there is a category of "Personality disorder not otherwise specified", if a PD is suspected, but criteria for a specific PD are not met. This category has been reported to be the most frequently used, however, it is unclear if it is being used appropriately.¹⁴⁰

Individual personality disorders will not be discussed in detail in this report, apart from borderline personality disorder, which was identified as an area to focus on as this condition is a complex and serious mental disorder characterised by severe impairment in functioning and high use of mental health services.

4.13.2. Chapter summary

Personality disorders (PD) are commonly diagnosed in the general population, are frequently seen in the health services and often occur with other mental disorders. It is important to note that there is much debate surrounding PD including the overlap between personality traits and PD, definitions, aetiology, treatment and prognosis.

Overseas data suggests that the prevalence of PD in the community is around 10%. NZ community data remains very limited as the recent NZ Mental Health Survey (NZMHS) did not include PD.

PD frequently occur co-morbidly with other mental disorders, particularly alcohol and other substance abuse. PD are associated with a number of factors such as poor educational achievement, unemployment and increased rates of self-harm and suicide.

Borderline PD was looked at in particular detail in this HNA as it is characterised by severe impairment in functioning and extensive use of mental health services. Overseas data suggests that diagnosed borderline PD occurs in about 1-2% of the general population. The majority of those diagnosed are women.

In total, approximately 200 CM residents with a PD diagnosis were seen by DHB mental health services in 2005. Almost two-thirds of these had borderline PD as a diagnosis: 80% were women and the European ethnic group made up the majority (69%) of borderline PD clients, with Māori the next largest group at 14%.

4.13.3. Community prevalence

Note that the NZ Mental Health Survey did not study personality disorders.

Prevalence figures vary widely in the literature, depending upon the variation in diagnostic instruments and the definitions used for the various disorders.

- o Overseas data suggests that PD are common diagnosed in the general population and the best estimate of prevalence is around 10%.^{140,141,142,143} Having more than one PD diagnosis also seems to be common.¹⁴²
- o New Zealand prevalence data are extremely limited. The Christchurch Psychiatric Epidemiology Study (1989) estimated the lifetime prevalence of diagnosed antisocial PD at 0.5%.³⁴

4.13.4. Personality disorders in primary care

Data on the prevalence of diagnosed PD in primary care in New Zealand are also very limited.

- The NatMedCa national general practice study (2004) found that the grouping of “Neurotic, personality, other non-psychotic disorders” accounted for 1.3% of reasons why patients visited the GP. A breakdown for PD by itself was not available.⁸²
- In a MaGPiE (Mental Health and General Practice Investigation) study (2001), a ‘possible’ or ‘definite’ diagnosis of personality disorder made up 2.1% of diagnoses in general practice.¹⁴⁴

4.13.5. Personality disorders in prisoners

A very high proportion of prisoners have a PD diagnosis, as much as 70-75% in some overseas studies.¹⁴⁵ The best New Zealand data are from the National Study of Psychiatric Morbidity in New Zealand Prisons (1999), where 60% of the 1159 inmates sampled had at least one verified PD diagnosis (DSM-IV criteria), with no significant differences between men and women.¹⁴⁶ Antisocial and paranoid PD were the most common diagnoses, followed by borderline, narcissistic and histrionic PD. The A and B clusters are of particular interest, as they are associated most clearly with mental health problems of a psychotic type, and with re-offending.

4.13.6. Personality disorders in mental health services and co-morbid mental illness

Mental health services commonly encounter people diagnosed with PD. PD frequently occurs in the presence of other mental illnesses and can affect the prognosis and treatment response of these illnesses.^{140 147} For example, overseas data indicates that:¹⁴⁷

- 30-50% of outpatients may have a diagnosis of PD and that 15% of inpatients are hospitalised primarily due to problems from a PD. Up to 50% of other inpatients may have a co-morbid PD that significantly affects the response to treatment
- About 60-70% of alcoholic individuals and 70-90% of people with substance abuse may also have a diagnosis of PD.

Limited New Zealand data also indicate that rates of diagnosed PD and co-morbid mental illness are high, e.g:

- In a Christchurch sample of people with major depression, 50% had a diagnosis of personality disorder, most commonly borderline, avoidant and paranoid.¹⁴⁸
- The 2006 *Needs of High Users of Mental Health Services in the Northern Region* report (also known as the *Camberwell report*) found the following:⁵³
 - 425 (9.4%) of the 4500 high users across the four northern DHBs had a PD diagnosis
 - All 425 people with PD had a co-morbid diagnosis. The most common co-morbid diagnoses were schizophrenia (33%), substance use disorder (21%), depression (21%) and bipolar disorder (19%)
- The lifetime prevalence of diagnosed antisocial PD in an outpatient alcohol and drug service sample was estimated to be 41% (95% CI 31-50%).¹⁴⁹

4.13.7. Prognosis of personality disorders

Personality disorders are associated with a number of factors including increased rates of poor educational achievement, separation and divorce, unemployment, homelessness and child abuse.¹⁴⁷ People diagnosed with PD also have increased rates of self-harm, attempted suicide, suicide, violence and murder, contacts with police, emergency department visits and hospitalisation.^{147 150} The suicide rate is estimated at 4-8% and personality disorders are estimated to be present in more than 30% of people who die by suicide, approximately 40% who attempt suicide and 50% of psychiatric outpatients who die by suicide.^{151 152}

The prognosis is not; however, inevitably poor. Different treatments are available and steady improvement of social functioning is possible in some cases.¹⁴⁰ Despite the DSM-IV diagnostic definitions stating that PD patterns of behaviour are “enduring”, “inflexible” and “stable of long duration”,¹³ there was very little empirical evidence to support these assumptions at the time these definitions were drawn up.^{150 153} In fact, recent evidence from longitudinal studies suggests that personality disorders may show significant variability over time and may go into remission for long periods.^{150 153}

4.13.8. Borderline personality disorder

BPD is a complex and serious mental disorder characterised by severe impairment in functioning. The essential DSM-IV-TR features of BPD represent a pervasive pattern of marked impulsivity and instability in interpersonal relationships, self-image and affects (moods and emotions).¹³ BPD is the most common PD for which people receive treatment.¹⁴⁰

Overseas data suggests that diagnosed BPD occurs in about 1-2% of the general population and the majority of those diagnosed are women.^{142 154 155} However, it is not entirely clear if this is due to women
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presenting more often or the actual prevalence in the community is greater for women. BPD and its symptoms appear to be as frequent for adolescents as adults.¹⁵⁶ Co-morbid mental illness may be more common in adolescents.¹⁵⁷

BPD can coexist with other mental disorders, including other PD and this often complicates the treatment of these conditions and lead to poorer outcomes. In clinical populations, the rate of suicide in people diagnosed with BPD is estimated at 8-10%, far higher than in the general population rate.¹⁵¹ People diagnosed with BPD may represent 9-33% of all suicides.¹⁵⁵ A very high proportion (60-70%) of those diagnosed with BPD attempt suicide and rates of self-harm without suicidal intent are also high.¹⁵¹

People diagnosed with BPD make extensive use of psychiatric services, with about 10% of all psychiatric outpatients and 15-20% of inpatients estimated to have BPD diagnosis.^{158 159 155} Management of BPD is a long-term and complicated process. Some effective treatments for BPD do exist, and the prognosis may be better than previously expected.^{160 161 155}

4.13.9. MHINC data on CM residents with personality disorders seen by DHB mental health services

This section presents data from the MHINC on CM residents seen by any DHB mental health service in NZ in the 2005 calendar year.

In total, 217 unique CM domiciled clients had a diagnosis of personality disorder (PD) with 114 (53%) of these clients having a PD diagnosis as a “Principal mental health diagnosis (A)”. This meant that 2.5% of the CM residents seen by DHB mental health services had a personality disorder diagnosis. Data will be presented for two groups - “Personality disorder excluding borderline PD” and “Borderline PD”.

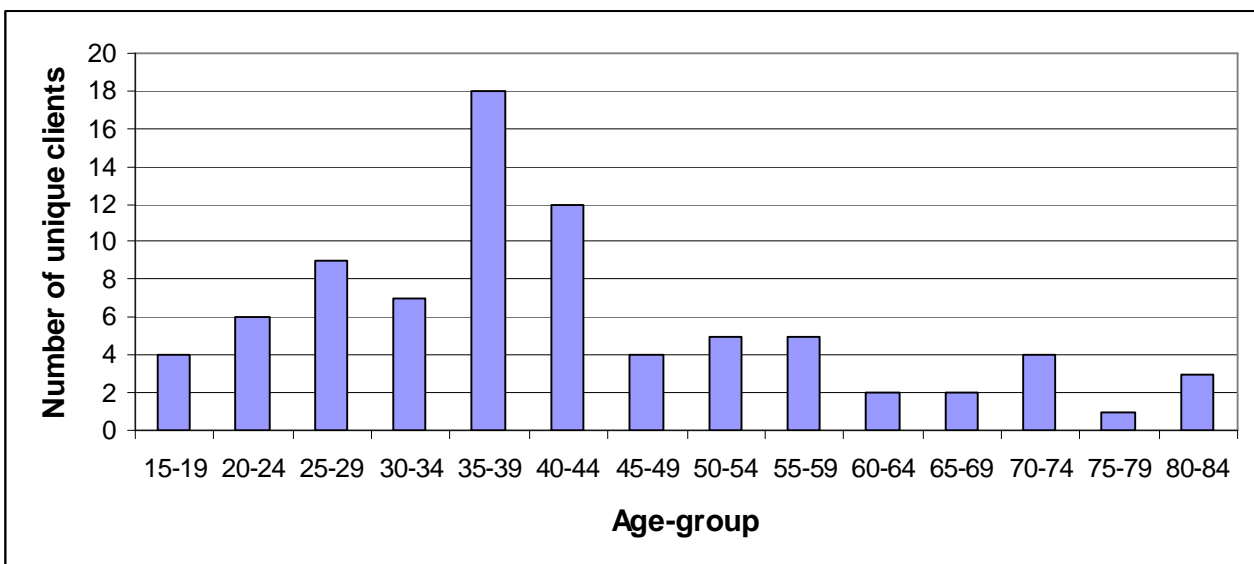
Personality disorder (excluding Borderline PD)

In total, 82 of the 217 clients had a diagnosis of PD (excluding Borderline PD) as a “Principal”, “Provisional” or “Other relevant diagnosis”. Only about one-third (n=27) of these clients had the diagnosis as a Principal diagnosis.

The majority of 82 clients were male (n=56; 68%). The age-range was 16-82 years and the average age was 42 years. Figure 24 shows the clients by age-group. Although the numbers are small, there seems to be a peak in clients in the 35-44 year age-groups.

Table 52 shows the clients by prioritised ethnicity. European (54.9%) and Māori (32.9%) account for the majority of clients. Numbers in the other ethnic groups were too small to comment further.

Figure 24: Unique CM clients with a personality disorder diagnosis (BPD excluded), by age-group (2005)



MHINC data, 2005 calendar year. Unique CM domiciled clients seen by any DHB mental health service. “Principal”, “Provisional” or “Other relevant diagnosis”.

Table 52: Unique CM clients with a personality disorder diagnosis (BPD excluded), by ethnic group (2005)

Ethnic group	n	% of total
Asian	2	2.4%
European	45	54.9%
Māori	27	32.9%
Other	6	7.3%
Pacific peoples	2	2.4%
Total	82	100.0%

MHINC data, 2005 calendar year. Unique CM domiciled clients seen by any DHB mental health service. Personality diagnosis as a "Principal", "Provisional" or "Other relevant diagnosis". Prioritised ethnicity.

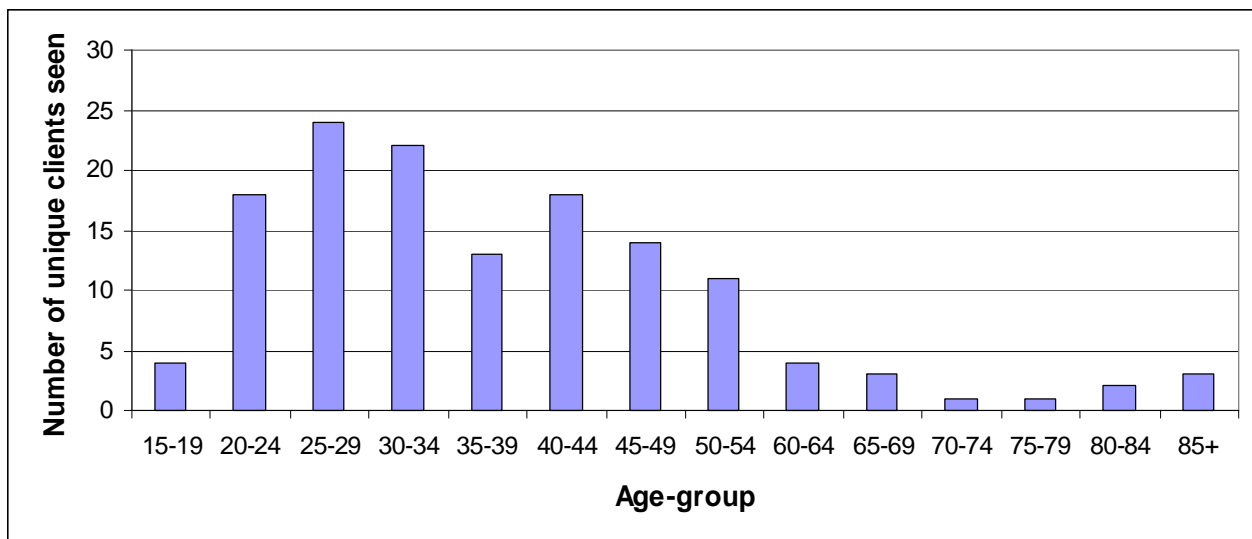
Borderline personality disorder

In 2005, 138 unique CM domiciled clients with a diagnosis of Borderline personality disorder (BPD) were seen by DHB mental health services. In total, 86 of these clients had the BPD diagnosis as a principal diagnosis.

The large majority of clients were female (n=111, 80%) which is consistent with the literature. The age-range of the clients was 15-92 years with the average age being 38.6 years. Figure 25 shows the numbers of clients in each age-group. Most clients were aged 20-54 with a peak around ages 25-34. Numbers decline after this age and then remain relatively constant from age 65.

Table 53 shows the clients by prioritised ethnicity. The European ethnic group made up the majority (69%) of clients with Māori the next largest group at 14%. Numbers in the remaining ethnic groups were low making it difficult to comment further.

Figure 25: Unique CM clients with a borderline personality disorder diagnosis, by age-group (2005)



MHINC data, 2005 calendar year. Unique CM domiciled clients seen by any DHB mental health service. "Principal", "Provisional" or "Other relevant diagnosis".

Table 53: Unique CM clients with a borderline personality disorder diagnosis, by ethnic group (2005)

Ethnic group	n	% of total
Asian	4	3%
European	95	69%
Māori	19	14%
Other	10	7%
Pacific peoples	10	7%
Total	138	100.0%

MHINC data, 2005 calendar year. "Principal", "Provisional" or "Other relevant diagnosis". Prioritised ethnicity.

4.14. Dementia

4.14.1. Introduction

Dementia is “a clinical syndrome characterised by acquired losses of cognitive and emotional abilities severe enough to interfere with daily functioning and quality of life”.¹⁶² The most common deficits manifesting in dementia are impairments in memory, concentration, judgement, and eventually, motor function.¹⁶³ It is a major cause of profound disability in the older population,¹⁶⁴ with the prevalence increasing markedly with increasing age.

There are more than 50 different recognised aetiologies that result in dementia, with Alzheimer’s disease and vascular dementia accounting for 50-70% and 10-20% of all cases respectively.

Dementia is a condition of particular concern as the population is aging significantly and dementia is far more prevalent in older people. Additional concerns are that the numbers of working-age people and informal carers are projected to decline.

By 2010, around 13% of the NZ population will be aged 65+ and after this time the proportion of older people will rise significantly (22% by 2031 and 25% by 2051). Increases in Māori and Pacific older people will be particularly significant over the next 50 years, with a 270% increase in the proportion of Maori aged 65+ and a more than 400% increase in the proportion of Pacific people aged 65+. The 65+ age group is projected to be the fastest growing population group in CM.

This section in the HNA will concentrate primarily on the prevalence of dementia, projections for the future and data on the people with dementia seen by DHB mental health services.

Readers are referred to “*CMDHB Dementia and delirium service provision - An issues paper*” which CMDHB recently commissioned for detailed information regarding the issues of funding; primary care, community and secondary care service provision; and workforce planning.¹⁶⁵ A conclusion in this document was that “Planning future dementia services has become urgent because service demand has already or will soon outstrip supply of the range of services available.”

4.14.2. Chapter summary

People aged 65 years and older, for the most part, seem to have a lower burden of mental disorders; however, dementia is going to be an increasing problem as the population ages.

For all mental and substance abuse disorders that were studied in the NZMHS, people aged 65+ had the lowest 12-month mental disorder prevalence of all the age groups studied. Most mental disorders occur early in the lifespan, with only about 5% of people in the NZMHS having first onset of mental disorders after the age of 65 years.

Dementia is an important condition that primarily affects people aged 65+, with an estimated prevalence of 8% in this age-group. People aged 85+ are particularly affected, with a prevalence of about 30%.

There may currently be about 3,000 people aged 65+ with dementia in the CM region; however, only a minority of people with dementia may need to be seen by DHB mental health services. In 2005, about 12% of the estimated number of CM residents with dementia accessed DHB mental health services.

The rapid growth in the 65+ population in CM and even higher growth of the 85+ population is predicted to lead to a doubling in the prevalence of dementia over the next 15 years. This growth has obvious implications for all the health sector, families and whānau.

4.14.3. Proportion of people with dementia requiring specialist support

It has been estimated that approximately 60% of people with dementia will develop behavioural and psychological symptoms of dementia (BPSD).^{165 166} However, not all of these people need to be seen by mental health services.

The *CMDHB Dementia and delirium service provision - An issues paper*¹⁶⁵ outlines an Australian tiered-model approach for managing BPSD.¹⁶⁶ This model estimates that the 30% of people with dementia who have mild BPSD could be managed in primary care, the 20% with moderate BPSD could be managed by specialist consultation in primary care and the remaining 10% required dementia-specific nursing homes; case management under a specialist team; or management in a specialist unit (psychogeriatric, neurobehavioural or intensive).

If the estimate that 30% of people with dementia require some form of specialist support is correct, then about 1,000 people with dementia in CM currently need specialist support because of BPSD. The number requiring support would be expected to increase to around 2,500 by 2026 (see Table 55 for further details).

4.14.4. Dementia prevalence and projections

There is considerable variation in worldwide estimates of prevalence and incidence of dementia in part due to the heterogeneity of criteria used to classify the syndrome. The data most relevant to NZ are outlined below.

Note that there is a paucity of information on the prevalence of dementia by ethnicity or by aetiological subtype for New Zealand populations.

New Zealand dementia data

The 2005 *Health of Older People in Counties Manukau: Population Health Needs Analysis*¹⁶⁷ looked at the prevalence of- and projections for dementia in CM. The following is an edited version of the relevant section from that report.

There has only been one published study that has examined the prevalence of dementia in New Zealand (Campbell 1983).¹⁶⁸ This study randomly sampled 559 subjects aged 65+ living in both community and institutions. It was estimated that 7.7% of those aged 65+ suffered from dementia, with the prevalence rate increasing exponentially with age so that in those aged 85+ the prevalence was estimated to be 32% (see Table 54 & Figure 26).^{168 169} These estimates parallel those reported for populations aged 65+ with moderate/severe dementia in Australia and Canada (8.7%).¹⁶³

The prevalence of dementia did not differ by gender.

It is useful to have some idea of the projected burden of dementia as the population ages. A simple model based on population growth is shown below. Here the number of CM population aged 65+ with dementia is likely to increase from 2600 in 2001 to an estimated 7090 in 2026.

Note that this model looks only at people aged 65+. Although dementia usually occurs in this group, dementia can have a premature onset. The following section gives some estimate of the number of people aged <65 who have dementia.

Table 54: Prevalence of dementia in New Zealand (Campbell 1983), with estimated and projected numbers of CMDHB for 2001-2026 using simple modelling based on population growth

Age-group	Prevalence NZ Popn (%)	Estimated No. in CM	Projected No. in CM				
			2001	2006	2011	2016	2021
65-74	3.8%	740	910	1140	1430	1680	1920
75-79	6.4%	430	510	560	740	910	1170
80-84	11.0%	470	580	690	790	1050	1300
85+	32.0%*	1050	1320	1720	2220	2740	3630
All popn 65+	7.7%	2600	3170	3880	4860	5880	7090

Adapted from 2005 *Health of Older People in Counties Manukau: Population Health Needs Analysis*.¹⁶⁷

Prevalence data source: Campbell, A J. Dementia in old age and the need for services. (1983).^{168 169} SNZ DHB resident population projections (2005). Numbers in CMDHB rounded to nearest 10.

* Prevalence for 85+ estimated to be average of NZ prevalence for 85-89 years (23.6%) and for 90-94 years (40.4%).

Figure 26: Prevalence of dementia in NZ *

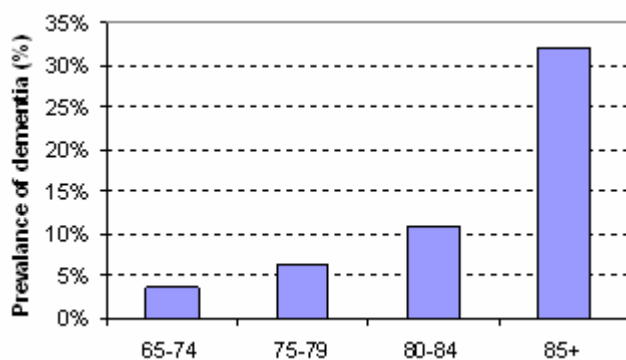
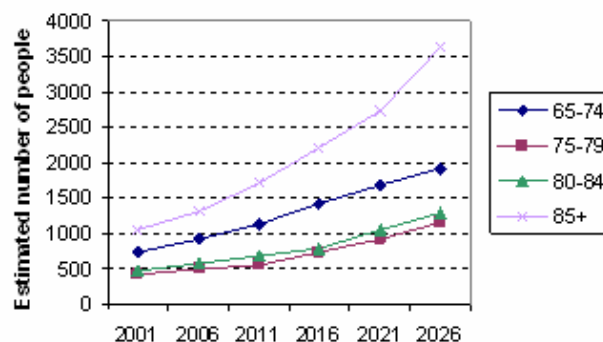


Figure 27 : Estimated number of older population in CMDHB with dementia (2001-2026)



Source: Campbell, A J. Dementia in old age and the need for services. *Age & Ageing*. 12(1):11-6, 1983 ^{168 169}

Numbers rounded to nearest 10.

Prevalence for 85+ estimated to be average of NZ prevalence for 85-89 years (23.6%) and for 90-94 years (40.4%).

Overseas dementia prevalence data

The 2006 *CMDHB Dementia and delirium service provision - An issues paper* ¹⁶⁵ used overseas prevalence data for different age groups and extrapolated these figures to the CM population for the period of 2006 to 2026 (see Table 55 and Figure 28). The table also shows estimates for the number of people needing some form of specialist support (30% of people with dementia).

The resulting estimates are broadly similar to the estimates above using the NZ prevalence data. While the total population of CM is projected to increase by about a third from 2006 to 2026, the number of people with dementia is projected to more than double to over 8,000 people. The increase is particularly high in the 85+ age-group, almost tripling over this period.

Table 55: Prevalence of dementia by age-group and projections for CM 2006-2026 using simple modelling based on population growth

Age Range	Prevalence Rate ²²	2006	2007	2008	2009	2010	2011	2016	2021	2026	Increase 2006-2026
25-64	0.1% ²³	221	225	229	232	236	239	256	274	289	1.31
60-64	1%	175	184	197	206	216	225	245	291	335	1.91
65-70	2%	276	295	304	317	327	338	433	473	563	2.04
71-74	4%	392	406	423	447	478	515	634	815	893	2.28
75-79	8%	415	426	445	461	474	500	564	757	950	2.29
80-84	16%	830	853	890	922	947	1,000	1,128	1,514	1,899	2.29
85+	30%	1,227	1,296	1,365	1,437	1,527	1,599	2,064	2,541	3,381	2.76
Total		3,536	3,684	3,852	4,021	4,203	4,414	5,323	6,663	8,309	2.35
Total needing specialists	30%	1,061	1,105	1,156	1,206	1,261	1,324	1,597	1,999	2,493	2.35
Total Pop'n		440,600	448,000	455,500	462,900	470,300	477,800	515,200	552,600	590,300	1.34

Source: Table reproduced from "CMDHB Dementia and delirium service provision: An issues paper 2006". ¹⁶⁵

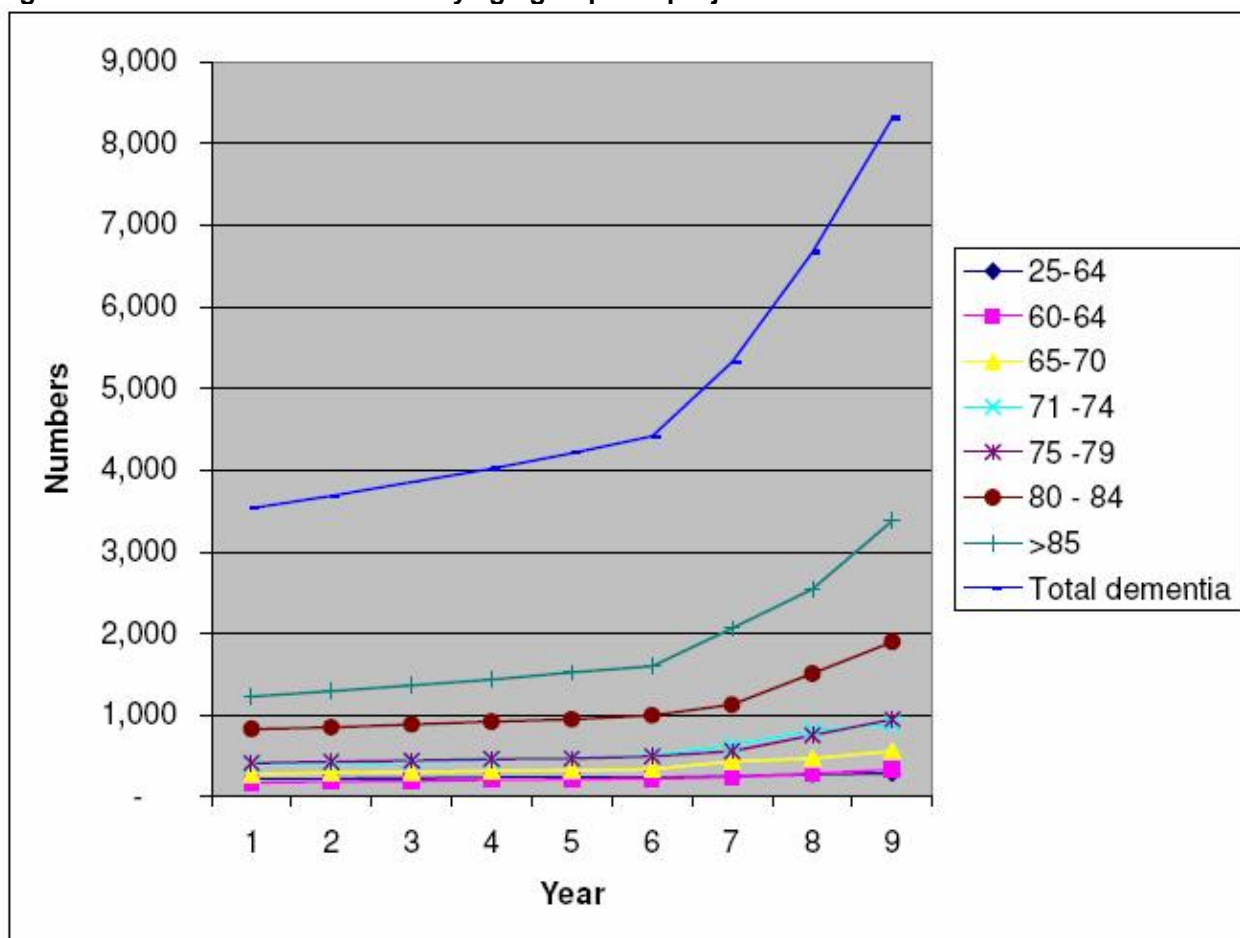
Note: A very small number of people in the 60-64 age-group will be counted twice as the prevalence rates for 60-85+ age-groups are from Cummings 2003 (UK data) ¹⁷⁰ and the 25-64 age-group figure is from an Alzheimers Australia 2005 report. ¹⁷¹

People aged under 65 with dementia

Relatively little is known about people aged <65 with dementia; however, they are likely to be an important medical and social problem, largely because of the impact on the individual, their carers and services.

The population estimates above, which if correct, suggest that there are over 200 people in CM aged <65 with dementia. The CMDHB hospital contact data (see below) indicates that there are at least 240 unique individuals aged <60 with dementia in CM. The number will no doubt be higher than this as not all people will be seen in the emergency department or admitted.

Figure 28: Prevalence of dementia by age-group and projections for CM 2006-2026



Source: Figure reproduced from "CMDHB Dementia and delirium service provision: An issues paper 2006".¹⁶⁵

Note: A very small number of people in the 60-64 age-group will be counted twice as the prevalence rates for 60-85+ age-groups are from Cummings 2003 (UK data)¹⁷⁰ and the 25-64 age-group prevalence is from an Alzheimers Australia 2005 report.¹⁷¹

4.14.5. CMDHB ward or emergency department encounters with people with dementia

The 2006 *CMDHB Dementia and delirium service provision - An issues paper*¹⁶⁵ looked at encounters of people with dementia with the CMDHB Emergency Department (EC) or CMDHB medical, surgical, AT+R, and the mental health wards (Te Aho Mai and Ward 22 – Mental health Services for Older people).

There were 1,873 encounters over the period of 2005 and 2006. Note that the number of unique individuals will be slightly less than this. Also, note that these are hospital contacts only.

A summary of the almost 1,900 CMDHB dementia encounters follows. The reader is referred to the above publication for further details.

- o 55% were female
- o 70% were European, 10% Māori, 10% Pacific, 2% Indian, 3% Other Asian, 4% Other and 1% unknown
- o About 50% of encounters were for people aged 70+ and 50% were aged 80+
- o 15% were aged <60 years (283 encounters, 240 unique individuals)
- o Medical wards accounted for 39% of total CMDHB encounters for dementia, surgical wards 16%, EC 15%, AT+R 17%, Tiaho Mai 7% and Ward 22 6%
- o However, when the proportion of ward encounters that were due to dementia are looked at, a very different picture emerges. Overall, 1% of total encounters were due to dementia, but the proportion varied widely depending upon the ward type - <1% for EC and surgical wards, 1.5% for medical wards, 9% for AT+R and Tiaho Mai and a very high 41% for Ward 22 – Mental health Services for Older people.

4.14.6. MHINC data on CM domiciled clients with dementia

This section presents data from the Mental Health Information National Collection (MHINC) on CM residents with a diagnosis of dementia (any type) that were seen by DHB mental health services anywhere in NZ in the 2005 calendar year. Data are for inpatients and outpatients.

It is important to note the following:

1. Reporting of psychogeriatric data to the MHINC is incomplete. In 2005 there were 11 DHBs that reported psychogeriatric data to the MHINC. Despite not all DHBs submitting data, the data for CM domiciled clients are likely to be fairly complete as all three DHBs in the Auckland region submitted psychogeriatric data to the MHINC in 2005.
2. These data reflect contact with the mental health services only. Data on clients with dementia seen by other DHB services are not captured by the MHINC.

Data from the MHINC for the 2005 calendar year showed that there were 399 unique CM domiciled clients with any type of dementia as a "Principal diagnosis" or "Other relevant diagnosis". This meant that approximately 5% of CM residents seen by DHB mental health services in 2005 had a diagnosis of dementia. Most of the clients (353/399) had dementia as a "Principal diagnosis".

Proportion of people with dementia in CM seen by DHB mental health services

The number of CM domiciled mental health clients aged 65+ with dementia (n=373) was compared to the estimated total number of people aged 65+ in CM with dementia in 2005 (approximately 3,200). This would mean that about 12% of people aged 65+ with dementia accessed DHB mental health services in 2005.

Proportion of people aged 65+ in CM seen by DHB mental health services with a dementia diagnosis

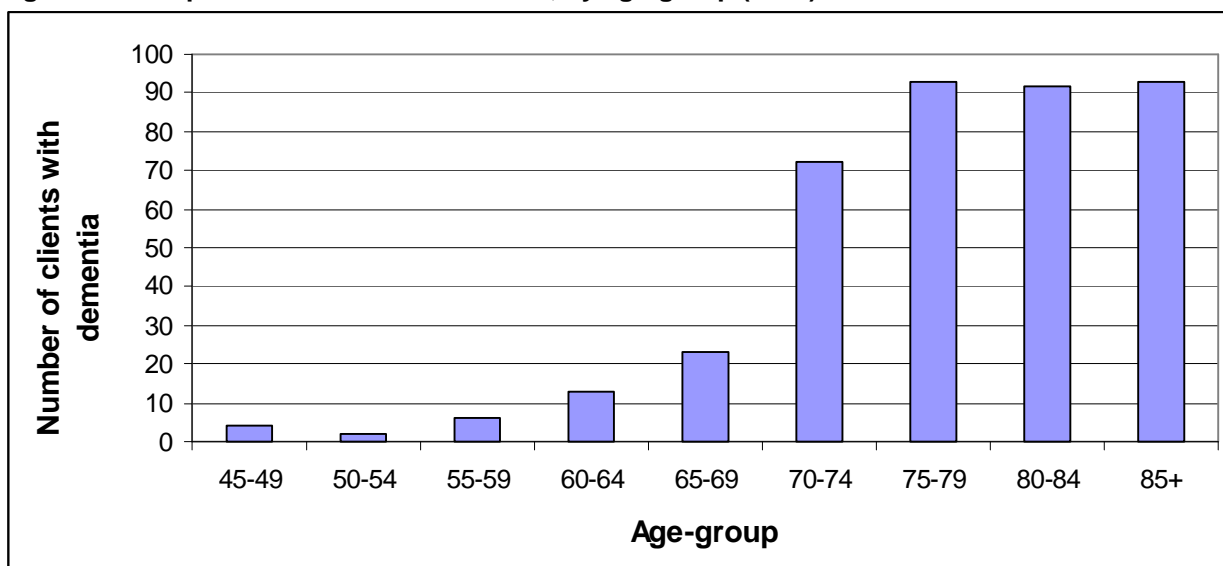
Approximately 1% of the total CM population aged 65+ in 2005 (estimated at 39,220 – SNZ projections 2005) was seen by DHB mental health services in 2005 with a diagnosis of dementia.

Gender and age of CM residents seen by DHB mental health services with a dementia diagnosis

The gender breakdown was relatively equal with 178 males (45%) and 221 females (55%).

The numbers of the 399 clients by age-group is shown in Figure 29. The age range of clients was 45 to 96 years with the large majority of clients aged 70+. The average age was 78 years. Of note, there were 25 clients (6%) in 45-64 year age-band with dementia. A younger patient aged 23 years was excluded from analysis as it was considered likely that the age data for this client was incorrect.

Figure 29: Unique CM clients with dementia, by age-group (2005)



MHINC data, 2005 calendar year. CM residents seen by DHB mental health services in NZ. CMDHB analysis. Data are incomplete - 11 DHBs (including CMDHB, ADHB and WDHB) submitted data to the MHINC in 2005.

Ethnicity of CM residents seen by DHB mental health services with a dementia diagnosis

Table 56 shows the breakdown of the 399 CM clients with dementia by level 1 prioritised ethnicity. The large majority of clients were European (70.4%). Māori, Pacific and Asian clients accounted for small proportions of the total number of clients, however, the low number of clients makes it difficult to accurately comment. The lower proportions of older people in the general Māori and Pacific populations compared to other ethnic groups may account for some or most of the difference.

Table 56: CM clients with dementia, by ethnic group (2005)

Ethnic group	n	% of total	Age-range	Mean age
Asian	14	3.5%	63-91	75.2
European	281	70.4%	45-96	79.5
Māori	14	3.5%	48-87	73.3
Other	56	14.0%	53-90	75.8
Pacific peoples	34	8.5%	52-86	75.2
Total	399	100%	45-96	78.3

MHINC data, 2005 calendar year.
SNZ prioritised ethnicity.

4.15. Mental retardation

4.15.1. Introduction

This section covers the Mental Health Information National Collection (MHINC) data for CM domiciled clients with a diagnosis mental retardation that were seen by any DHB mental health service in 2005. Background epidemiology was not evaluated. Note that not all people with mental retardation need to be seen by mental health services.

4.15.2. MHINC data on mental retardation

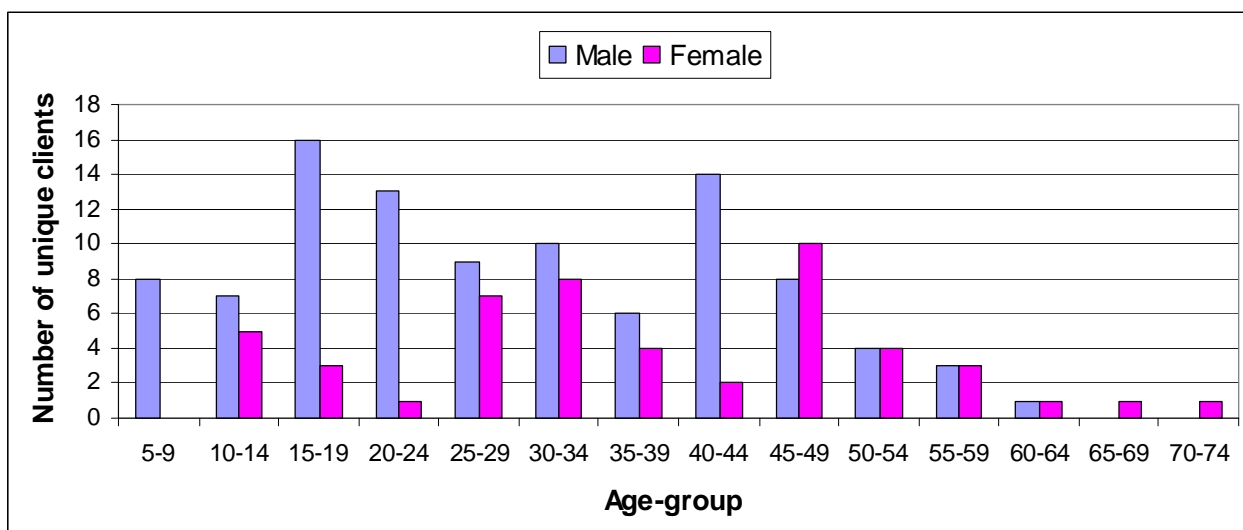
For the 2005 calendar year there were 149 unique CM domiciled clients with mental retardation as a diagnosis in the MHINC. This meant that 1.8% of CM domiciled clients seen by DHB mental health services had a diagnosis of mental retardation. In total, 83 of the 149 clients had mental retardation as a "Principal mental health diagnosis (A)".

Gender and age

Males predominated, accounting for about two-thirds (n=99) of the total 149 clients.

The age range of the clients was 7 to 74 years with the average age being 31.9 years. Figure 30 shows the age breakdown by gender. There is no clear pattern apart from the clients being mainly in the 15-49 years age-range with a subsequent decline in numbers after this age. Male numbers were greater than female numbers in the 5-44 year age-groups. Rates were not calculated due to the relatively lower numbers of clients.

Figure 30: Unique CM clients with mental retardation, by age-group and gender (2005)



MHINC data, 2005 calendar year. CMDHB domiciled clients seen by any DHB mental health service.

Ethnicity

Table 57 shows the CM clients by level 1 prioritised ethnicity. The European ethnic group was most common group at 42% of the client numbers, followed by Māori at 28%. Asian only accounted for 2% of clients, but it is not possible to comment further due to the low numbers of clients (n=3). Rates were not calculated due to the relatively lower numbers of clients.

Table 57: Unique CM clients with mental retardation, by ethnic group (2005)

Ethnic group	n	%
Asian	3	2.0%
European	63	42.3%
Māori	42	28.2%
Other	20	13.4%
Pacific peoples	21	14.1%
Total	149	100.0%

MHINC data, 2005 calendar year.
Prioritised ethnicity.

4.16. Pervasive Developmental Disorders

4.16.1. Introduction

Pervasive developmental disorders (PDD) are a group of conditions characterised by severe and pervasive impairment in many areas of childhood development. These disorders usually start in the first years of life and are often associated with some degree of mental retardation. PDD are sometimes observed with a diverse group of general medical conditions (e.g. chromosomal abnormalities, congenital infections and central nervous system structural abnormalities).

The DSM-IV recognises several PDD that vary in symptoms, severity and course.¹³ The following pervasive developmental disorders are briefly discussed in the following sections - autistic disorder, Rett's disorder, Asperger's disorder, childhood disintegrative disorder and Pervasive developmental disorder not otherwise specified (NOS).

The overall prevalence of PDD has been estimated to be around 30 per 10,000 and maybe as high as 60 per 10,000 in newer studies that have looked more closely at the non-autistic disorder conditions.¹⁷² Note that these estimates exclude the rare conditions of Rett's disorder and childhood disintegrative disorder.

If these prevalence figures are extrapolated to the CM population, then there may have been about 450-900 people aged <20 years with a PDD in Counties Manukau in 2005. However, it is not known how well these prevalence figures apply to the CM population.

4.16.2. Autistic disorder

Autistic disorder is characterised by early onset of impaired social interaction and communication; and restricted, repetitive, and stereotyped patterns of behaviour, interests and activities. Most individuals have mild to profound mental retardation; however, IQ may increase over time. Unusual or special ("savant") skills may be present in certain areas such as mathematics or music.¹³

There is a marked male predominance of about 4:1-5:1. The prevalence of autistic disorder is estimated to be around 10 per 10,000; however, prevalence estimates in studies have varied widely from about 1 to 70 per 10,000.^{173 13 172} A large part of the variation can be explained by use of different diagnostic criteria, the age of children screened and country of study. An increase in the prevalence of autistic disorder over time has been observed but it is unclear whether this is due to a genuine increase in prevalence or if it is due to factors such as increased awareness, better diagnosis and changes in study methodology.

The exact aetiology of autistic disorder is unclear. There is strong evidence of genetic susceptibility; however, the transmission is complex and does not follow any recognisable pattern. In a minority of cases, there are associated central nervous system disorders which may be the cause. The role of environmental causes is uncertain; however, contrary to popular opinion, there is no significant evidence that the measles, mumps and rubella vaccination or parenting styles are risk factors for autism.^{174 175}

Autistic disorder is a life-long condition with only a small percentage of individuals able to live and work independently. Despite improvements in some individuals, long-term deficits persist even in the highest functioning adults.

4.16.3. Asperger's disorder

Asperger's Disorder (or Asperger's syndrome) is another PDD that is similar to autistic disorder, except that language acquisition, learning skills, cognitive development are largely preserved. The essential features are severe impairment in social interaction and the development of restricted, repetitive patterns of behavior, interests and activities. In contrast to autistic disorder, mental retardation is not usually present.¹³

AD is diagnosed much more frequently in males (3-5 times greater) than in females. Data regarding the prevalence of AD are limited, but a conservative estimate is 2.5 per 10,000.^{172 176}

Although AD is a lifelong disorder, the prognosis is significantly better than in autistic disorder, with many adults gaining employment and personal independence.

4.16.4. Rett's disorder

The essential feature of RD is the development of multiple specific deficits following a period of normal functioning after birth.¹³ Data are limited, but it appears that RD is much less common than autistic disorder. RD has been reported only in female. RD is typically associated with severe or profound mental retardation. The condition is lifelong; however, slight improvement may occur in late childhood or adolescence.

4.16.5. Childhood disintegrative disorder

The essential feature of CDD is a marked regression in multiple areas of functioning following a period of at least 2 years of apparently normal development.¹³ The social and communicative deficits and behavioral features are similar to those seen in autistic disorder. CC is usually associated with severe mental retardation. Data are limited, but it appears CDD is very rare with the prevalence estimated at around 0.2/10,000.¹⁷²

4.16.6. Pervasive developmental disorder not otherwise specified (NOS)

This diagnostic category is used when the criteria are not met for a specific pervasive developmental disorder, because of features such as atypical age at onset or atypical / subthreshold symptomatology.¹³ The prevalence varies widely depending upon study methodology. The average prevalence was estimated at 15 per 10,000 which is higher than the average prevalence of 10 per 10,000 for autistic disorder.¹⁷²

4.16.7. PDD and the DHB mental health services

This section covers data from the Mental Health Information National Collection (MHINC) on CM domiciled clients seen by DHB mental health services in the 2005 calendar year.

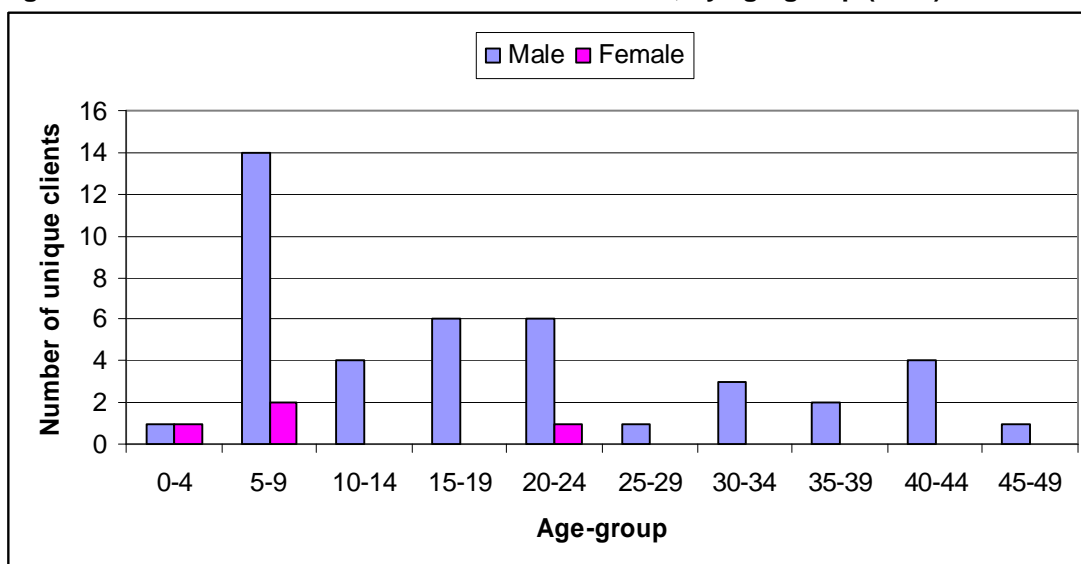
In total, there were 96 people with a diagnosis of PDD, 74 of which were as the principal diagnosis. Approximately half of clients had a diagnosis of autistic disorder with the remainder having a diagnosis of Rett's disorder, Asperger's disorder or Pervasive developmental disorder NOS. No clients had a diagnosis of childhood disintegrative disorder.

Autistic disorder

Of the 46 people with autistic disorder, 33 had the diagnosis as a principal diagnosis. The large majority of clients were male (42 males, 4 females), which is consistent with the literature. Figure 31 shows the age-distribution for each gender. The age-range of clients was 3-48 years with an average age of 18 years.

Table 58 shows the breakdown by ethnic group. More than half of clients were European with the remainder of clients spread fairly evenly among the other ethnic groupings. Numbers were too low to calculate rates.

Figure 31: CM domiciled clients with autistic disorder, by age-group (2005)



MHINC data, 2005 calendar year. CMDHB analysis.
All diagnoses (principal, provisional or other relevant diagnosis)

Table 58: CM domiciled clients with autistic disorder, by prioritised ethnicity (2005)

Ethnic group	n	%
Asian	5	11%
European	26	57%
Māori	7	15%
Other	4	9%
Pacific peoples	4	9%
Total	46	100%

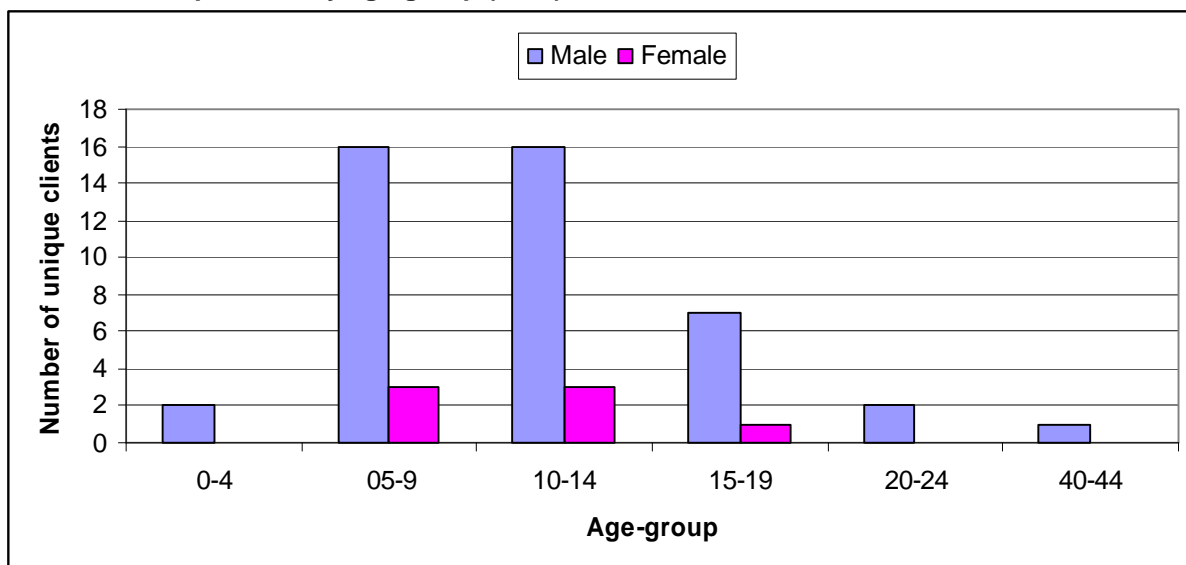
MHINC data, 2005 calendar year. CMDHB analysis.
All diagnoses (principal, provisional or other relevant diagnosis).

Rett's disorder / Asperger's disorder / Pervasive developmental disorder not otherwise specified

In the DSM-IV-TR coding system all these three diagnoses have the same code of 299.80, therefore it is not possible to separate data into the different disorders.

In total, 51 clients had a diagnostic code of 299.80, 41 of which were as a principal diagnoses. The majority of clients were male (n= 44 or 86%). The average age was 12 years with an age-range of 2-44 years (see Figure 32). Almost three-quarters of clients were European. The numbers in the other ethnic groupings were too low to make reliable conclusions.

Figure 32: CM clients with Rett's disorder, Asperger's disorder or Pervasive developmental disorder not otherwise specified, by age-group (2005)



MHINC data, 2005 calendar year. CMDHB analysis.
All diagnoses (principal, provisional or other relevant diagnosis)

Table 59: CM clients with Rett's disorder, Asperger's disorder or Pervasive developmental disorder not otherwise specified, by ethnic group (2005)

Ethnic group	n	%
Asian	5	10%
European	37	73%
Māori	5	10%
Other	3	6%
Pacific peoples	1	2%
Total	51	100%

MHINC data, 2005 calendar year. CMDHB analysis.
All diagnoses (principal, provisional or other relevant diagnosis)
Prioritised ethnicity.

4.17. Attention Deficit and Other Disruptive Behaviour Disorders

4.17.1. Introduction

Note that the NZ Mental Health Survey did not cover these conditions and only looked at people aged 16+.

Disruptive behaviour disorder is an umbrella term that includes more specific disorders, such as Attention-deficit/hyperactivity disorder (ADHD), Conduct disorder and Oppositional defiance disorder.

Disruptive behaviour disorders are common reasons children are referred for health practitioners for assessment and possible treatment.

ADHD is one of the most common childhood psychiatric conditions. ADHD characterised by inattention or hyperactivity, persisting for at least 6 months to a degree that is maladaptive and immature. It is now a very well studied condition and while there is little debate over whether it is valid condition that causes significant impairment, there is debate over the best way to diagnose and treat the condition.

Large US studies suggest that around 7-10% of children/adolescents were given a diagnosis of ADHD at some stage. A very large majority (60-85%) of children with ADHD will continue to meet criteria for the disorder during the teenage years.

Some adults continue to have ADHD, although not always in its full form. Adults with a childhood history of ADHD have higher than expected rates of antisocial and criminal behaviour, accident and other injuries and accidents, health problems, employment and relationship difficulties.

ADHD frequently is comorbid with other psychiatric disorders, particularly oppositional defiant disorder or conduct disorder.

Conduct disorder involves a pattern of repetitive behaviour where the rights of others or the social norms are violated. It may involve aggression to people or animals, destructive behaviour, lying, truancy, theft or violation of rules. Conduct disorder usually occurs in older children and adolescents, with 1-4% of young persons affected. It may develop into antisocial personality disorder as an adult.

Oppositional defiant disorder is a controversial psychiatric category in the Diagnostic and Statistical Manual of Mental Disorders where it is described as an ongoing pattern of disobedient, hostile, and defiant behaviour toward authority figures that goes beyond the bounds of normal childhood behaviour.

4.17.2. Attention deficit / disruptive behaviour disorders and the DHB mental health services

This section covers data from the Mental Health Information National Collection (MHINC) on CM residents seen by DHB mental health services in the 2005 calendar year.

Attention-deficit / Hyperactivity disorder

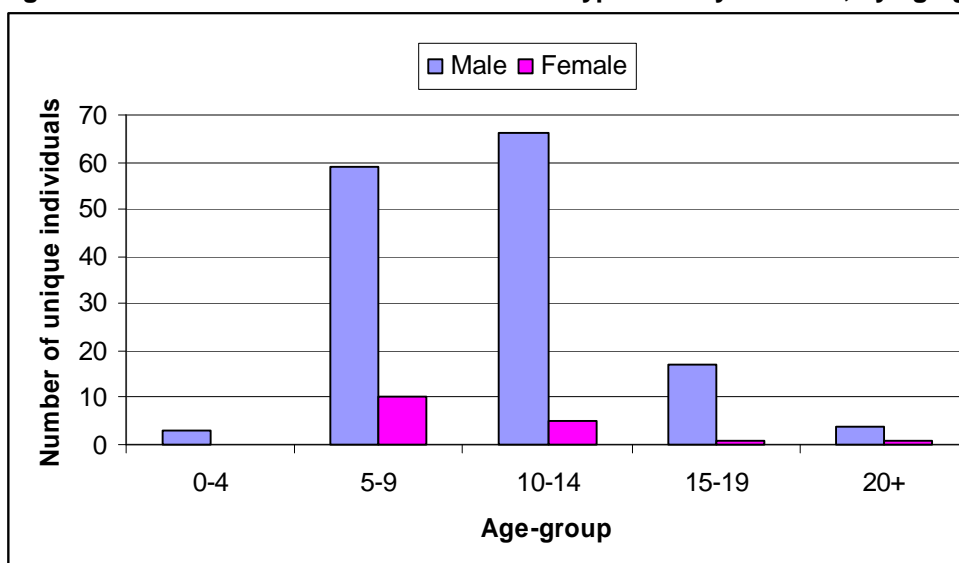
Overall, in 2005 there were 192 CM clients with an ADHD subtype or ADHD not otherwise specified diagnosis.

In total, in 166 individuals the diagnosis was as a principal diagnosis. The large majority of these clients were male (90%, n=149). Figure 33 shows the age-distribution for each gender. Most clients were in the 5 to 14 year range with an average age of 11 years and an age-range of 3 to 49 years.

Table 60 shows the breakdown of clients by prioritised ethnicity. The largest ethnic group was European (60%) followed by Māori (24%).

Age-group specific rates by gender and ethnicity were calculated for clients aged 5-14 (see Table 61). Rates for the other age-groups were not calculated due to low numbers. The denominator populations were taken from the SNZ 2005 population DHB projections with ethnic specific data only available for Māori, Pacific and Other.

Figure 33: CM clients with Attention-deficit / Hyperactivity disorder, by age-group (2005)



MHINC data, 2005. CMDHB analysis. Principal diagnosis only

Table 60: CM clients with Attention-deficit / Hyperactivity disorder, by ethnic group (2005)

Ethnic group	Total	%
Asian	4	2%
European	100	60%
Māori	40	24%
Other	11	7%
Pacific peoples	11	7%
Total	166	100%

MHINC data, 2005. CMDHB analysis. Principal diagnosis only

Table 61: CM clients with ADHD aged 5-14 years, age-specific rates per 100,000 (2005)

Group	n	Rate per 100,000 population
Male	125	324
Female	15	41
Māori	38	211
Pacific	11	55
Other	91	248
Total	140	187

MHINC data, 2005. CMDHB analysis. Principal diagnosis. Prioritised ethnicity.

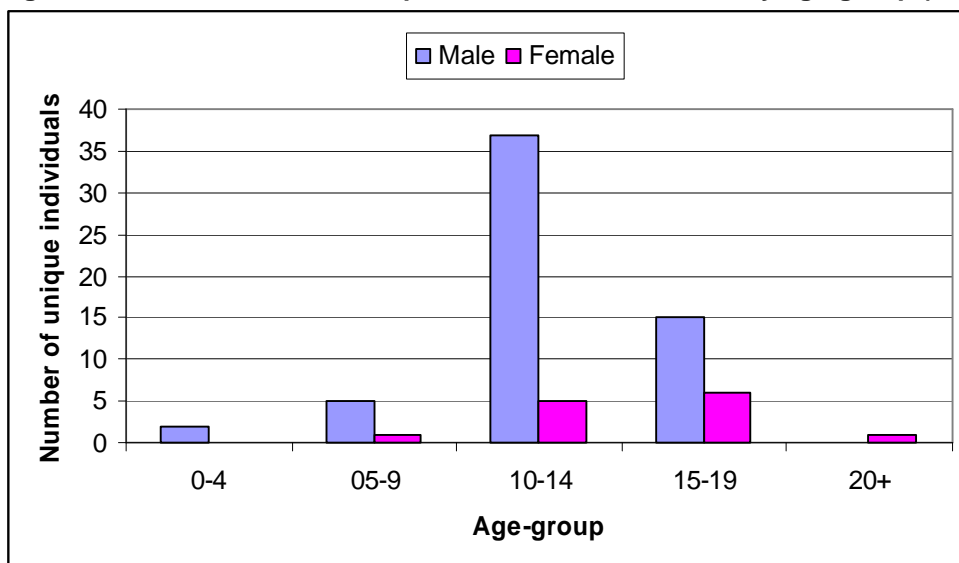
Other disruptive behaviour disorders

Overall, 119 CM clients had a conduct, oppositional defiant or other disruptive disorder diagnosis.

In total, 72 individuals had a disruptive behaviour disorder as a principal diagnosis. The majority of these clients were male (82%, n=59). Figure 34 shows the age-distribution for each gender. Most clients were aged 10 to 19 years with an average age of 13 years and an age-range of 3 to 59 years.

Table 62 shows the breakdown of clients by prioritised ethnicity. The largest ethnic group was European (46%), followed by Māori (33%). Ethnic specific rates were not calculated due to relatively low numbers.

Figure 34: CM clients with Disruptive behaviour disorders, by age-group (2005)



MHINC data, 2005. CMDHB analysis. Principal diagnosis.

Table 62: CM clients with Disruptive behaviour disorders, by ethnic group (2005)

Ethnic group	n	%
Asian	2	3%
European	33	46%
Māori	24	33%
Other	5	7%
Pacific peoples	8	11%
Total	72	100%

MHINC data, 2005. CMDHB analysis. Principal diagnosis. Prioritised ethnicity.

4.18. Relational problems

4.18.1. Introduction

Relational problems include patterns of interaction between or among members of a relational unit that are associated with clinically significant impairment in functioning, or symptoms among one or more members of the relational unit, or impairment in the functioning of the relational unit itself.¹³

The following relational problems are frequently a focus of clinical attention among individuals seen by health professionals:¹³

- Parent-child relational problem
- Partner relational problem
- Sibling relational problem
- Relational problem related to a mental disorder or general medical condition in a family member.
- Relational problem not otherwise specified e.g. problems with co-workers

The following section covers data on CM seen by DHB mental health services with relational problems. Background epidemiology on these conditions is not covered. Also, note that the NZ Mental Health Survey did not cover these conditions and only looked at people aged 16+.

4.18.2. Relational problems and the DHB mental health services

This section covers data from the MHINC on CM domiciled clients seen by DHB mental health services in the 2005 calendar year.

Overall, in 2005 there were 477 unique CM domiciled individuals with a relational problem diagnosis anywhere (principal, provisional or other relevant diagnosis) in the MHINC. In 362 individuals (75%), the diagnosis was as a principal diagnosis, 5% of the total number of principal diagnoses.

Table 63 shows the breakdown by the type of relational problem. Parent-child relational problems made up about two-thirds of diagnoses with partner relational problems the next most common diagnosis (18%).

Table 63: CM clients with relational problems, by type (2005)

DSM-IV-TR Diagnosis	n	%
Parent-child relational problem	247	68%
Partner relational problem	66	18%
Relational problems NOS	42	12%
Sibling relational problem	7	2%
Relational problem related to a mental disorder or general medical condition	0	-
Total	362	100%

MHINC data, 2005 calendar year. CMDHB analysis. Principal diagnosis.

Both genders received a relational problem diagnosis almost equally (47% male, 53% female) and the age distribution by gender was fairly similar (see Figure 35).

Children and adolescents were the groups most likely to have a relational problem diagnosis. The 5-19 year age-groups account for the majority of diagnoses (81%) with numbers dropping off steeply after this age. The average age was 16 years with an age range of 1-79 years.

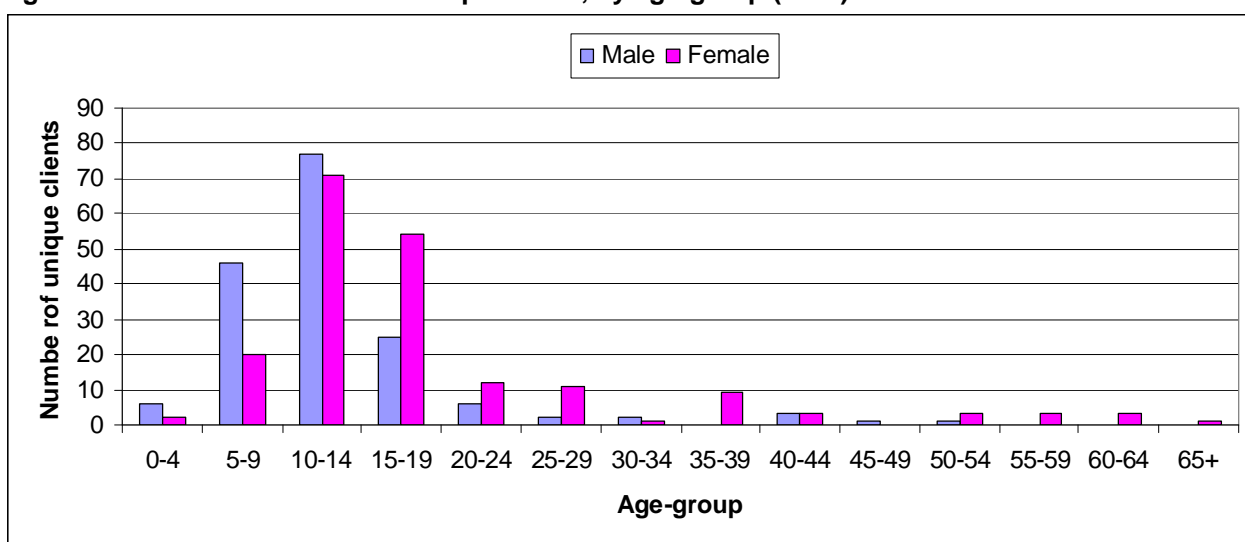
Table 64 shows the breakdown by prioritised ethnic group. The European group accounted for about half of diagnoses with Māori the next largest group (25%) followed by Pacific peoples (12%).

Table 64: CM clients with relational problems, by ethnic group (2005)

Ethnic group	n	%
Asian	28	8%
European	184	51%
Māori	89	25%
Other	18	5%
Pacific peoples	43	12%
Total	362	100%

MHINC data, 2005 calendar year. CMDHB analysis. Principal diagnosis only. Prioritised ethnicity.

Figure 35: CM clients with relational problems, by age-group (2005)



MHINC data, 2005 calendar year. CMDHB analysis. Principal diagnosis only.

4.19. Other Disorders of Infancy, Childhood or Adolescence

This section covers MHINC data for CM clients seen by DHB mental health services in 2005 for a number of other disorders that are usually diagnosed in infancy, childhood or adolescence.

Background epidemiology on these conditions is not covered. Also, note that the NZ Mental Health Survey did not cover these conditions and only looked at people aged 16+.

Table 65 summarises the data on the different diagnoses. Reactive attachment disorders were the most common of these disorders. There were very small numbers for the remaining disorders.

Table 65: CM clients diagnosed with other disorders that are usually diagnosed in infancy, childhood or adolescence (2005)

Disorder	Diagnosis anywhere (n) *	As principal diagnosis (n)
Reactive attachment disorder of infancy or early childhood	42	36
Separation anxiety disorder	12	8
Tourette's disorder	9	4
Tic disorder NOS #	2	
Disorder of infancy, childhood or adolescence NOS #	1	1
Pica	1	1
Selective mutism	1	1
Total	68	51

MHINC data, 2005 calendar year. CMDHB analysis.

* Principal, provisional or other relevant diagnosis. # NOS = Not otherwise specified.

4.20. Adjustment Disorders

4.20.1. Introduction

This section covers data from the MHINC on CM residents seen by DHB mental health services in the 2005 calendar year. Background epidemiology on these conditions is not covered. Also, note that the NZ Mental Health Survey did not cover these conditions.

The essential feature of an adjustment disorder is the development of emotional or behavioural symptoms in response to an identifiable stressor that causes marked distress or significant impairment in social/work/academic functioning (DSM-IV-TR).¹³ There are various subtypes involving depressed mood, anxiety or conduct disturbances.

Adjustment disorders are often viewed as a grey area one of the "subthreshold" diagnoses is not that well defined, overlap with other diagnoses.

4.20.2. Adjustment disorders and the DHB mental health services

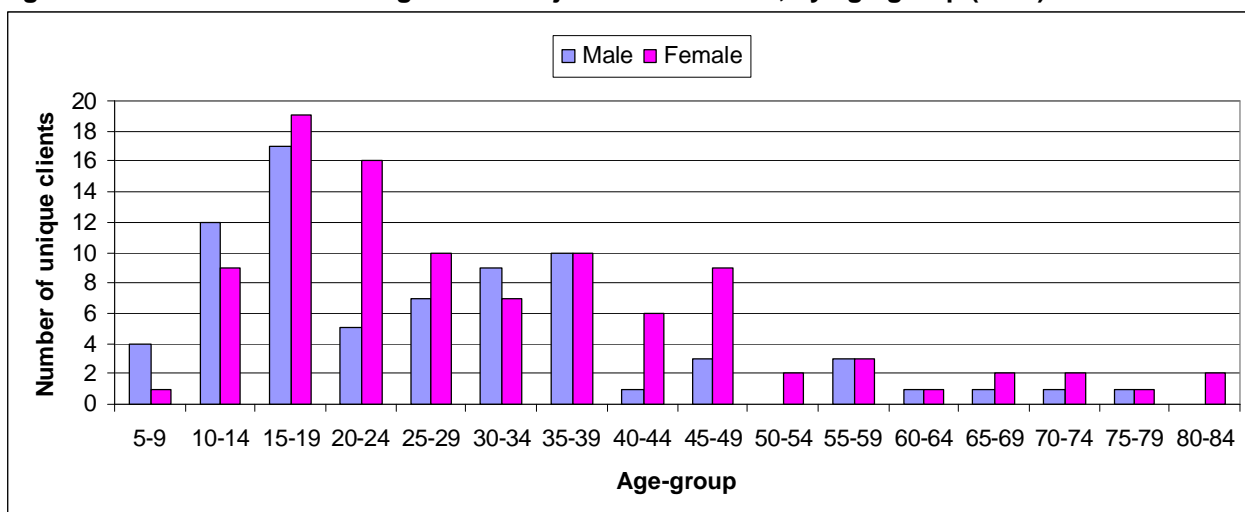
There were 208 CM clients with an adjustment disorder diagnosis recorded in the MHINC. In total, there 175 had the diagnoses as principal diagnosis (2.4% of the total number of principal diagnoses) and the following data are for these clients.

The overall age-standardised rate was 44 per 100,000 (95% CI 38-51). Females accounted for 57% (n=100) of clients. The female age-standardised rate was 50 per 100,000 and the male rate 38 per 100,000, a difference which was nonsignificant.

Figure 36 shows the breakdown for each gender by age-group. The age range was 6-83 years with over 85% of clients aged between 10 and 49 years. The average age was 30 years with the peak in numbers for both genders being in the 15-19 year age-group.

Table 66 shows the breakdown by prioritised ethnicity. The European ethnic group made up half of the client numbers with Māori and Pacific accounting for 15% each. The age-standardised rates for Māori, Pacific and Other (European, Asian and Other) were not significantly different from each other.

Figure 36: CM clients with a diagnosis of adjustment disorder, by age-group (2005)



MHINC data, 2005 calendar year. CMDHB analysis. Principal diagnosis.

Table 66: CM clients with a diagnosis of adjustment disorder, by ethnic group (2005)

Ethnic group	n	%
Asian	16	9%
European	89	51%
Māori	27	15%
Other	17	10%
Pacific peoples	26	15%
Total	175	100%

MHINC data, 2005 calendar year. CMDHB analysis.

Principal diagnosis. Prioritised ethnicity.

4.21. Dissociative disorders

There are a number of adjustment disorders in the DSM-IV. These include Dissociative Amnesia, Dissociative Fugue, Dissociative Identity Disorder (formerly Multiple Personality Disorder) and Depersonalisation Disorder. The essential feature of dissociative disorders is a transient or chronic disruption in the usually integrated functions of consciousness, memory, identity, or perception.

Only six CM residents seen by DHB mental health services in the 2005 calendar year had a dissociative disorder diagnosis recorded in the MHINC. Six of the six people had the diagnoses as a principal diagnosis. The age range was 14-72 years and all but one was female.

Background epidemiology on these conditions is not covered. Also, note that the NZ Mental Health Survey did not cover these conditions.

5. Alcohol-related health status

This chapter covers epidemiological data on alcohol-related problems. Key data sources include the *2002/03 New Zealand Health Survey (NZHS)*, the *Te Ao Waipiro: Maori National Alcohol Survey 2003*, the *Pacific Drugs and Alcohol Consumption Survey 2003* and the recently published *New Zealand Mental Health Survey (NZMHS)*.

Chapter 7 covers data from the Mental Health Information National Collection (MHINC) for CMDHB residents seen by DHB Alcohol and Drug (A+D) services in 2005. Other data from the Community Alcohol and Drug Service (CADS) data are also discussed in chapter 7.

5.1. Chapter summary

Hazardous drinking, alcohol abuse and alcohol dependence are common in New Zealand, particularly affecting males, younger people, Māori and Pacific peoples.

The 2002/03 NZHS indicated that 19% of people aged 15+ may have a potentially hazardous drinking pattern. The prevalence within CM was not significantly different from the NZ rates.

The recent NZ Mental Health Survey found the following:

- The 12-month prevalences of alcohol abuse (2.6%) and alcohol dependence (1.3%) were about twice that of drug abuse (1.2%) and dependence (0.7%).
- The 12-month prevalence of alcohol abuse and dependence declined dramatically with increasing age.
- The overall chance of developing alcohol abuse or alcohol dependence by age 75 years was estimated at 13% and 4.5% respectively.
- The median delay before people with alcohol abuse and dependence disorders made contact for treatment was 16 and 7 years respectively.
- Drug abuse or dependence is common in people with alcohol disorders.

Extrapolation from the NZMHS data resulted in an estimate that approximately 8,000 and 4,000 CM residents may have suffered from alcohol abuse and dependence, respectively, in 2005.

In general, males are significantly more likely to experience abuse or dependence, with prevalences about double those for females.

Data suggests that alcohol abuse and dependence are highest in Māori followed by Pacific peoples.

Limited data suggests that alcohol-related problems may be uncommon in Asian peoples. However, a concern has been raised that the low numbers of Asian people seen by A+D services may be explained in part by cultural factors which affect help-seeking patterns, a low awareness of A+D services and a relative lack of Asian-specific A+D services or health promotion programmes.

5.2. Hazardous drinking prevalence in the New Zealand Health Survey (NZHS)

The 2002/03 NZHS provided data from approximately 14,000 people aged 15 years or older on hazardous drinking.⁶

Hazardous drinking was defined in the NZHS as “an established pattern of drinking that carries a high risk of future damage to physical or mental health, but has not yet resulted in significant adverse effects.” The survey used a score of eight or more out of 40 on the 10-item Alcohol Use Disorders Identification Test (AUDIT) questionnaire to identify potentially hazardous drinking.

The 2002/03 NZHS indicated that overall, one in five to six people (18.9%) in New Zealand, aged 15 years or older, may have a potentially hazardous drinking pattern.

5.2.1. Hazardous drinking prevalence, by gender and DHB

Nationally, the prevalence was significantly higher in men (27.1%) than in women (11.4%). The prevalences for the DHBs within the Auckland region were not significantly different from the national rates.

5.2.2. Hazardous drinking prevalence, by ethnic group

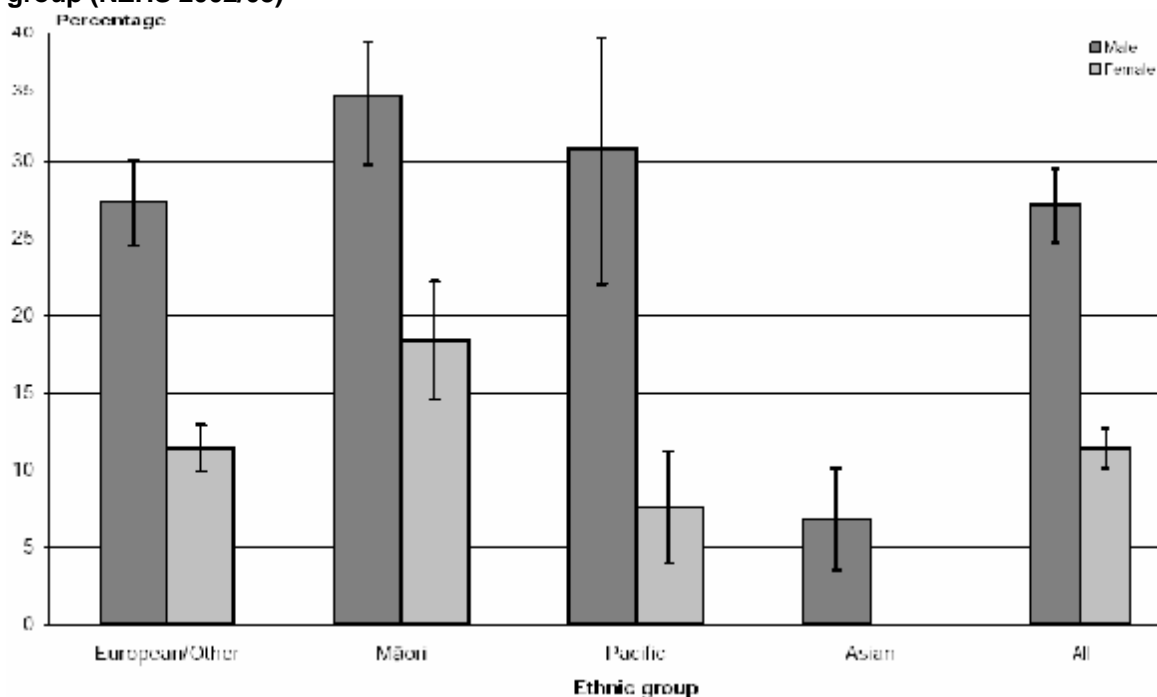
Nationally, the 2002/03 NZHS showed that:

- Māori, Pacific and European/Other males were significantly more likely to have a potentially hazardous drinking pattern than Asian males (see Figure 37).
- Māori females were significantly more likely to have a potentially hazardous drinking pattern than all other ethnic groups.

Nationally, for each ethnic group, the prevalence for males was considerably higher than females. Data were insufficient to comment on differences between Asian males and females.

Within CM, Māori had a significantly higher overall prevalence of hazardous drinking (27%) than the European/Other group (16%) and Asian (10%) – see Figure 38 and Table 67. While the Māori male hazardous drinking rate was not significantly higher, the female rate was significantly higher than other ethnic groups. The overall prevalence for Pacific (16%) was not significantly different from other ethnic groups within CM.

Figure 37: Age-standardised prevalence of hazardous drinking in NZ, age 15+, by gender and ethnic group (NZHS 2002/03)



Note: Data are not shown for Asian females due to low numbers. Vertical lines are 95% CI.

Figure 38: Age-standardised prevalence of hazardous drinking in CMDHB by gender and ethnic group, with 95% CI (NZHS 2002/03)

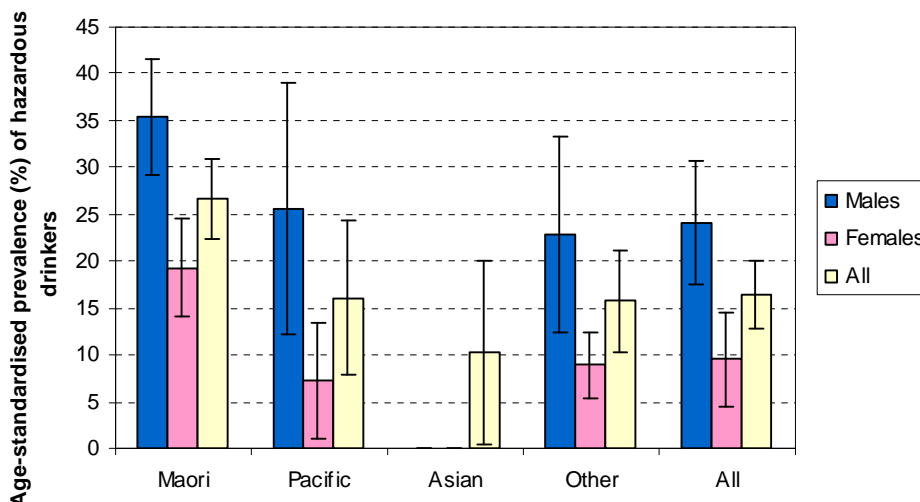


Table 67: Age-standardised prevalence of hazardous drinking according to gender, ethnic group – CMDHB and NZ (NZHS 2002/03)

DHB	Hazardous drinking: age-standardised prevalence (%)														
	Males					Females					Males & females				
	Maori	Pacific	Asian	Other	All	Maori	Pacific	Asian	Other	All	Maori	Pacific	Asian	Other	All
CM	35.4	25.6	No data	22.8	24.1	19.3	7.3	No data	8.9	9.5	26.6	16.1	10.2	15.7	16.5
NZ	34.5	30.8	6.8	27.3	27.1	18.4	7.6	No data	11.4	11.4	25.9	18.6	3.9	19.2	18.9

5.2.3. Hazardous drinking and differences by deprivation

The 2002/03 NZ Health Survey national data suggested that hazardous drinking patterns may be associated with increasing deprivation (as measured by the NZDep2001), however, these differences did not reach significance.⁶

5.3. Alcohol abuse and dependence in the NZ Mental Health Survey

The recent NZMHS of about 13,000 people aged 16+ studied the DSM-IV disorders of alcohol abuse and dependence.⁵

Note that the prevalence of alcohol and dependence may be underestimated as participants who did not ever report experiencing alcohol or drug abuse were not asked dependence questions.

5.3.1. 12-month prevalence of alcohol use and alcohol disorders in the NZMHS

Alcohol was used in the past 12-months by 79% of all people in the NZMHS, a figure similar to that seen in the NZHS 2002/03.

Alcohol disorders were found to be more common than drug disorders. The 12-month prevalences of alcohol abuse (2.6%) and alcohol dependence (1.3%) were about twice that of drug abuse (1.2%) and dependence (0.7%) – see Table 68.

Drug users were much more likely to experience disorder than alcohol users, but alcohol caused more disorder in the population overall as its use is more widespread. Of those people who drank alcohol in the past 12-months, 3.3% had alcohol abuse and 1.6% alcohol dependence, compared to 8.1% and 5.0% for respectively for drug abuse and dependence.

Males were significantly more likely to experience abuse or dependence with prevalences about double those for females.

The decline in alcohol disorders with increasing age was dramatic ($p < 0.001$) with very few cases aged 65+. Note the decline in dependence with age may be exaggerated as the DSM-IV CIDI questionnaire used skipped dependence questions if participants did not report ever experiencing alcohol abuse.

The severity of alcohol abuse was classified as mild in 37% of cases, moderate in 37% and severe in 26%. Dependence was severe in 42% of cases and moderate in 58%. By definition, dependence could not be classified as mild.

Table 68: 12-month prevalence of alcohol disorders in the NZMHS and extrapolation to the CM population aged 16+ in 2005

Disorder	Total	Male	Female	16-24 years	25-44 years	45-64 years	Age 65+
Alcohol abuse	2.6% (2.3-3.0)	3.7% (3.1-4.4)	1.6% (1.3-2.1)	7.1% (5.7-8.9)	3.2% (2.6-3.9)	0.8% (0.6-1.2)	<0.1% (0.0-0.2)
Extrapolation to 2005 CM population *	8200	5600	2600	4600	4000	700	<40
Alcohol dependence	1.3% (1.1-1.5)	1.7% (1.4-2.2)	0.9% (0.6-1.1)	3.0% (2.2-4.1)	1.7% (1.3-2.2)	0.4% (0.2-0.7)	<0.1% (0.0-0.1)
Extrapolation to 2005 CM population *	4100	2600	1500	1900	2100	400	<40

Source: Te Rau Hinengaro: New Zealand Mental Health Survey.⁵ DSM-IV CIDI 3.0 diagnostic criteria. 95% CI in parentheses. * Rounded to nearest 100.

5.3.2. Lifetime prevalence of alcohol disorders in the NZMHS

Of the substance use disorders studied in the NZMHS, alcohol abuse (with or without dependence) was the most common disorder with an overall lifetime prevalence (up to the time of the study) of 11.4%.

The lifetime prevalences were more than twice as high for men than women ($p < 0.0001$).

As with other disorders studied in the NZMHS the reported lifetime prevalences decreased with increasing age. The alcohol disorders were most prevalent in the youngest age group (16-24 years) followed by the 25-44 age group. It is uncertain how much the low prevalence reported in the elderly is due to factors such as recall bias and differential mortality. It is possible that younger people now may have a higher rate of alcohol related disorders than earlier generations.

The chance of developing alcohol abuse or alcohol dependence by age 75 years was estimated at 13% and 4.5% respectively.

Table 69: Lifetime prevalence of alcohol disorders in the NZMHS

Disorder	Lifetime prevalence (up to time of the study) - % (95% CI)							Lifetime projected risk by age 75
	Total	Male	Female	16-24 years	25-44 years	45-64 years	Age 65+	
Alcohol abuse	11.4% (10.7-12.2)	16.3% (15.1-17.6)	6.9% (6.2-7.7)	16.7% (14.6-19.0)	13.4% (12.3-14.6)	9.7% (8.7-10.9)	4.0% (3.1-5.1)	13.0%
Alcohol dependence	4.0% (3.6-4.5)	5.6% (4.9-6.4)	2.6% (2.2-3.0)	6.5% (5.1-8.2)	5.0% (4.3-5.7)	3.1% (2.5-3.8)	0.7% (0.3-1.2)	4.5%

Source: Te Rau Hinengaro: New Zealand Mental Health Survey.⁵ DSM-IV CIDI 3.0 diagnostic criteria.

5.3.3. Age of first onset of alcohol disorders in the NZMHS

The age of first onset of alcohol disorders tends to be in teenage years to early 20s (see Table 70). Half of people had onset of these disorders by age 19 and 75% by age 25.

Table 70: Age of first onset percentiles for alcohol disorders (NZMHS)

Disorder	Age of onset percentiles							
	5	10	25	50	75	90	95	99
Alcohol abuse	14	15	16	19	25	39	45	61
Alcohol dependence	14	15	16	19	25	35	39	46

Source: Te Rau Hinengaro: New Zealand Mental Health Survey.⁵ DSM-IV CIDI 3.0 diagnostic criteria.

5.3.4. Proportion of people with alcohol disorders who make treatment contact (NZMHS)

The NZMHS found that a relatively small percentage (9%) of people with alcohol abuse make treatment contact around the time of onset of alcohol disorders. The proportion was higher for alcohol dependence (19%).

The median delay before people with alcohol abuse and dependence disorders made contact for treatment was 16 and 7 years respectively, (see Table 71). It was estimated that almost 100% of people with alcohol dependence will eventually make contact. The proportion was lower for alcohol abuse (86%).

Table 71: Proportion of people aged 16+ with alcohol disorders who made treatment contact, age of first contact and median duration of delay (NZMHS)

Eating disorder	Percentage making treatment contact at age of onset	Percentage estimated to ever make treatment contact	Median duration of delay (years)
Alcohol abuse	9%	86%	16
Alcohol dependence	19%	99.5%	7

Source: Te Rau Hinengaro: New Zealand Mental Health Survey.⁵ DSM-IV CIDI 3.0 diagnostic criteria.

5.3.5. Prevalence of drug disorders in people with an alcohol disorder (NZMHS)

In the NZMHS, it was common for people with an alcohol disorder, particular alcohol dependence, to also have a drug abuse or dependence problem during a 12-month period.

- Of those with an alcohol abuse disorder, about 20% of people also had a drug abuse disorder and 13% a drug dependence disorder.
- Of those with an alcohol dependence disorder, about 28% of people also had a drug abuse disorder and 24% a drug dependence disorder.

5.3.6. Ethnicity and alcohol disorders in the NZMHS

The *Te Rau Hinengaro: New Zealand Mental Health Survey* included about 2,600 Maori and 2,200 Pacific peoples.⁵ Limited ethnicity data have been reported so far regarding alcohol disorders. More detailed data are available for substance disorders as a group (i.e. alcohol and drug disorders combined) which is presented latter in section 5.7.

The 12-month prevalence of alcohol disorder (alcohol abuse or dependence) were highest for Māori (7.4%), intermediate for Pacific (4.2%) and lowest for the Other ethnic group (2.2%).

For both alcohol abuse and dependence there was a clear pattern for the 12-month and lifetime prevalences to be the highest in Māori followed by Pacific peoples.

Table 72: Prevalence of alcohol disorders in the NZMHS, by ethnic group

Prevalence type	Maori	Pacific	Other	Total
	% (95% CI)	% (95% CI)	% (95% CI)	(95% CI)
12-month prevalence				
Alcohol abuse	6.7% (5.5-8.1)	3.7% (2.8-5.0)	NA	2.6% (2.3-3.0)
Alcohol dependence	3.9% (3.0-5.0)	3.4% (2.4-4.7)	NA	1.3% (1.1-1.5)
Lifetime prevalence (up to the time of study)				
Alcohol abuse	24.4% (22.3-26.7)	17.0% (14.6-19.6)	NA	11.4% (10.7-12.2)
Alcohol dependence	10.1% (8.7-11.7)	7.6% (6.1-9.6)	NA	4.0% (3.6-4.5)

Source: Te Rau Hinengaro: New Zealand Mental Health Epidemiology Study.⁵ DSM-IV CIDI 3.0 diagnoses.

Prioritised ethnicity, except Pacific lifetime prevalence data, which is total response data (i.e. anyone who identified with a Pacific ethnicity).

NA = Not available at time of this HNA.

5.4. Alcohol and Māori

The consistent conclusion from different studies is that the drinking patterns for many Māori are potentially hazardous, with the majority of alcohol consumed in heavier drinking sessions.

Hazardous drinking patterns can result in physical and mental health issues, both for individuals and others. However, more research is needed to ascertain the exact impact of alcohol consumption in Māori on health.¹⁷⁷

Data from the 2002/03 NZHS and the NZMHS has been discussed above. Other key studies are briefly outlined below:

1. The *Te Ao Waipiro: Maori National Alcohol Survey 2003* provides some of the best data on alcohol use and problems in Māori.¹⁷⁸ This was a national telephone survey of almost 2,000 people aged 13-65 years who identified themselves as Māori. Key points from the survey that are particularly relevant to health issues are outlined below:

Drinking patterns

- o Eighty percent of Māori had consumed alcohol in the previous 12 months; a figure very similar to that seen in the 2002/03 NZHS.
- o There was a wide variation in amount consumed on each drinking occasion. The typical amount was 7-8 drinks for men and 5-6 drinks for women.
- o Seventy-six percent of alcohol consumed by Māori was drunk in heavier drinking sessions (defined ≥ 8 drinks for men and ≥ 6 drinks for women).

Alcohol-related problems from own drinking

Respondents were asked if they have experienced any of 15 specific problems related to their own drinking in the previous 12 months.

- o Sixty-seven percent of men and 58% of women reported at least one of the problems.
- o Five or more problems were reported by 20% of men and 12% of women, with the group experiencing the highest proportion being males aged 18-29 years (37%).

Problems from other peoples drinking

- o One-third of people reported some effect of other peoples drinking on their home life, 40% some effect on friendship or social life and 22% reported some effect on their financial position.
- o In addition, respondents were asked if they had experienced certain problems in the past 12 months as a result of someone else's drinking (see Table 73).

Location of alcohol consumption

- o Only 15% of alcohol consumed by Māori was consumed in pubs/taverns/hotels and overall, less than one-third was consumed on licenced premises.
- o About half of all alcohol consumed was consumed in either the respondents home or at other people's homes.
- o The next most common locations were workplaces (7%), nightclubs (6%) and sports clubs (5.5%).

Table 73: Māori National Alcohol Survey – Problems experienced in the past 12 months as a result of someone else's drinking¹⁷⁸

Problem	Male (%) n=888	Female (%) n=1104
Physical assaults	12	11
Sexual harassments	5	13
Motor vehicle accidents	4	2
Other accidents causing injury or major damage	3	2

2. Additional data are provided by Bramley et al (2003) who combined data from five surveys conducted over the period of 1992-1999, in order to perform a Māori / non-Māori analysis on alcohol drinking patterns.¹⁷⁷ The study included data for almost 7,000 Māori and 40,000 non-Māori. Key findings were that:
 - o the overall average daily volume of alcohol consumed was similar for Māori and non-Māori, but the different pattern of drinking in Māori was potentially hazardous
 - o Māori were less likely to drink alcohol, drink less often, but drink more on a typical drinking occasion, compared to non-Maori.

5.5. Alcohol and Pacific peoples

Hazardous drinking data from 2002/03 NZHS and alcohol abuse/dependence data from the recent NZMHS are covered in the previous section.

The *Pacific Drugs and Alcohol Consumption Survey 2003* provides some additional important information on the harms of alcohol in Pacific peoples.^{179 180} About 1,100 Pacific people aged 13-65 years across NZ were interviewed about their patterns of alcohol and drug use, as well as gambling-related harm. Key points are outlined below:

- The proportion of Pacific people who drink (57%) is less than the general NZ population (85%).
- However, Pacific people, on average, consume larger annual volumes and binge drinking is more common than in the general NZ population.
- Harmful behaviour from alcohol was also more common in Pacific peoples, e.g. 20% of people had a serious argument after drinking in the 12 months prior to the survey, 29% were unable to remember their actions after drinking and 12% felt alcohol affected work performance.
- Greater proportions of Pacific peoples reported violence and injury from other peoples' drinking than the New Zealand general population.
- In general, Pacific males drank more and had more alcohol-related problems than Pacific females.

5.6. Alcohol and Asian peoples

Despite the Asian population being the third largest population in New Zealand, specific data on alcohol-related harms in this group are limited. Data from the NZMHS on alcohol disorders in Asian people have not been reported yet.

The 2002/03 NZHS included almost 1,200 Asian people aged 15 years and older. This survey showed that Asian males in New Zealand had a significantly lower prevalence of hazardous drinking than other ethnic groups.⁶ Data were insufficient for Asian females.

A paper by Cheung et al - *Alcohol and Drugs in New Zealand: An Asian perspective*(2004),¹⁸¹ commented that there were very low numbers of Asian people using alcohol and drug services. For example:

- only about 2% of people who used CAD services between 1999 and 2003 were Asian
- <1% of the callers to the nationwide Alcohol and Drug 0800 helpline in 2003 identified themselves as Asian.¹⁸¹

Despite the low number of Asian people accessing these services, the author felt there was some anecdotal evidence that Asian people did have alcohol-related problems, in particular, a small but growing problem with drink-driving. The low numbers of Asian people seen by A+D services may be explained in part by cultural factors which affect help-seeking patterns, a low awareness of A+D services and a relative lack of Asian-specific A+D services or health promotion programmes.

6. Drug abuse and dependence

Epidemiological data in this chapter are predominately from the recent NZ Mental Health Survey (NZMHS). The NZMHS data are supplemented with data from other sources such as the 2001 National Drug Survey and preliminary data from the 2003 Health Behaviours Survey – Drug Use Survey, the successor to the 2001 National Drug Survey.

Chapter 7 provides an overview of the MHINC data for CM residents seen by a DHB Alcohol and Drug team in the 2005 calendar year. Community Alcohol and Drug (CADS) data on new CMDHB residents seen in 2005 are also discussed in chapter 7.

6.1. Chapter summary

Alcohol and other substance abuse are common and are associated with significant problems. People with mental disorders very commonly have co-existing alcohol and other substance use disorders. Alcohol- or drug-related problems are often seen by NGO alcohol and drug services, primary care, non-mental health secondary care services as well as by DHB mental health and addiction services.

About 20% of people may be drinking in a hazardous manner, with male rates significantly higher than female. Of note, Māori females seem to have significantly higher rates than all other females. Very limited data suggests that hazardous drinking in Asian peoples is uncommon; however, there is a concern that they may not be accessing alcohol services.

The NZMHS suggests that the prevalence in the general population during a 12-month period of alcohol abuse and alcohol dependence is about 3% and 1.5% respectively. The predicted lifetime prevalences are 13% and 4.5% respectively.

Almost 15% of the population have used drugs in the last 12-months according to the NZMHS. The prevalence of drug abuse and drug dependence during this period was about 1.2% and 0.7% respectively. The respective estimated lifetime prevalences are about 6% and 2%.

Drug users are much more likely to have abuse or dependence problems than alcohol users; however, alcohol causes more disorder due to its more widespread use. Drug users tend to be male, young and have increased rates of alcohol problems.

The 12-month prevalence of drug disorder in the NZMHS (drug abuse or dependence) were highest for Māori (7.4%), intermediate for Pacific (4.2%) and lowest for the Other ethnic group (2.2%).

Rates of suicidal behaviour for people with substance use disorders are much higher than in people without mental disorders.

In total, 1675 unique CM residents were seen by DHB Alcohol and Drug teams in 2005, which meant that about 20% of all unique CM residents seen by DHB mental health or addiction services were seen an Alcohol and Drug team.

However, the number of alcohol and drug-related principal diagnoses recorded in the MHINC was very low. This was due to almost all of the clients seeing the A+D teams being recorded as having a principal diagnosis of "Diagnosis or Condition Deferred on Axis I or Axis II" by default, rather than a having specific diagnosis recorded in the MHINC.

6.2. NZ Mental Health Survey (NZMHS) data

The recent NZMHS published data on abuse and dependence for all drugs as a group, with more detailed information on the subgroups of marijuana abuse and dependence.⁵ Detailed data on the use of other drugs were not available at the time of this HNA. Diagnostic criteria used were DSM-IV CIDI 3.0.

Note that some individuals in the NZMHS may have been reluctant to disclose that they had used drugs. Also note that the prevalence of drug dependence may be underestimated as participants who did not ever report experiencing drug abuse were not asked dependence questions.

6.2.1. 12-month prevalence of drug use disorders in the NZMHS

Drugs were used in the past 12-months by 14% of all people (aged 16+) in the NZMHS.

Drug disorders were found to be less common than alcohol disorders. The 12-month prevalences of alcohol abuse (2.6%) and alcohol dependence (1.3%) were about twice that of drug abuse (1.2%) and dependence (0.7%) – see Table 74. Approximately 75% of drug users had used marijuana.

Drug users were much more likely to experience disorder than alcohol users, but alcohol caused more disorder in the population overall as its use is more widespread. Of those people who used drugs in the past 12-months, 8.1% had drug abuse and 5.0% drug dependence, compared to 3.3% and 1.6% for respectively for alcohol abuse and dependence.

Males were significantly more likely to experience abuse or dependence with prevalences about double those for females.

The decline in the prevalence of drug disorders with increasing age was dramatic ($p < 0.001$), with very few cases aged 65+. Note the decline in dependence with age may be exaggerated as the DSM-IV CIDI questionnaire used skipped dependence questions if participants did not report ever experiencing alcohol abuse.

The severity of drug abuse was classified as mild in 25% of cases, moderate in 34% and severe in 41%. Dependence was severe in 58% of cases and moderate in 41%. By definition, dependence could not be classified as mild. The marijuana subgroup had slightly more severe cases.

If the NZMHS 12-month prevalence data are extrapolated to the CM population aged 16+, this would mean that there would be about 3,800 people aged 16+ with a drug abuse disorder in CM during a 12-month period. The figures for drug dependence would be about 2,200.

Table 74: 12-month prevalence of drug disorders in the NZMHS and extrapolation to the CM population aged 16+ in 2005

Disorder	Total	Male	Female	16-24 years	25-44 years	45-64 years	Age 65+
Drug abuse (all drugs)	1.2% (0.9-1.4)	1.6%	0.8%	3.8%	1.2%	0.2%	<0.1%
Extrapolation to 2005 CM population *	3,800	2,400	1,300	2,500	1,500	200	<40
Marijuana abuse subgroup	0.9%	1.3%	0.6%	3.2%	0.9%	0.2%	<0.1%
Extrapolation to 2005 CM population *	2,800	2,000	1000	2,100	1,100	200	<40
Drug dependence (all drugs)	0.7%	1.1%	0.4%	2.1%	0.9%	0.1%	<0.1%
Extrapolation to 2005 CM population *	2,200	1,700	700	1,400	1,100	100	<40
Marijuana dependence subgroup	0.5%	0.8%	0.2%	1.5%	0.6%	0.1%	<0.1%
Extrapolation to 2005 CM population *	1,600	1,200	300	1000	800	100	<40

Source: Te Rau Hinengaro: New Zealand Mental Health Survey.⁵ DSM-IV CIDI 3.0 diagnostic criteria. 95% CI in parentheses. * Rounded to nearest 100.

6.2.2. Lifetime prevalence of drug disorders in the NZMHS

As with other disorders studied in the NZMHS, the reported lifetime prevalences decreased with increasing age (see Table 75). The drug disorders were most prevalent in the youngest age group (16-24 years) followed by the 25-44 age group. It is uncertain how much the low prevalence reported in the elderly is affected by factors such as recall bias and differential mortality. It is likely that younger people now have a higher rate of drug use than earlier generations.

The lifetime prevalences were more than twice as high for men than for women ($p < 0.0001$).

The chance of developing drug abuse or drug dependence by age 75 years was estimated at 5.6% and 2.3% respectively.

Table 75: Lifetime prevalence of drug disorders in the NZMHS

Disorder	Lifetime prevalence (up to time of the study) - % (95% CI)							Lifetime projected risk by age 75
	Total	Male	Female	16-24 years	25-44 years	45-64 years	Age 65+	
Drug abuse (all drugs) *	5.3%	7.3%	3.5%	11.3%	7.2%	2.2%	0.0%	5.6%
Drug dependence (all drugs) *	2.2%	2.9%	1.5%	4.1%	3.3%	0.7%	0.0%	2.3%

Source: Te Rau Hinengaro: New Zealand Mental Health Survey.⁵ DSM-IV CIDI 3.0 diagnostic criteria.

* Breakdown for marijuana subgroup not available at time of HNA.

6.2.3. Age of first onset of drug disorders in the NZMHS

The age of first onset of drug disorders tends to be in teenage years to early 20s (see Table 76). Half of people had onset of these disorders by age 18 and 75% by age 21-22.

Table 76: Age of first onset percentiles for drug disorders (NZMHS)

Disorder	Age of onset percentiles							
	5	10	25	50	75	90	95	99
Drug abuse	14	14	16	18	21	25	29	37
Drug dependence	13	14	16	18	22	26	30	38

Source: Te Rau Hinengaro: New Zealand Mental Health Survey.⁵ DSM-IV CIDI 3.0 diagnostic criteria.

6.2.4. Proportion of people with drug disorders who make treatment contact (NZMHS)

The NZMHS found that a relatively small percentage (13%) of people with drug abuse make treatment contact around the time of onset of the disorder. The proportion was higher for drug dependence (25%).

The median delay before people with drug abuse and dependence disorders make contact for treatment was 8 and 3 years respectively, (see Table 77). It was estimated that almost 100% of people with drug dependence will eventually make contact. The proportion was lower for drug abuse (92%).

Table 77: Proportion of people aged 16+ with drug disorders who made treatment contact, age of first contact and median duration of delay (NZMHS)

Eating disorder	Percentage making treatment contact at age of onset	Percentage estimated to ever make treatment contact	Median duration of delay (years)
Drug abuse	13%	92%	8
Drug dependence	25%	98%	3

Source: Te Rau Hinengaro: New Zealand Mental Health Survey.⁵ DSM-IV CIDI 3.0 diagnostic criteria.

6.2.5. Prevalence of alcohol disorders in people with an drug disorder (NZMHS)

In the NZMHS, it was common for people with a drug disorder to also have an alcohol abuse or dependence problem during a 12-month period.

- Of those with a drug abuse disorder, about 45% of people also had an alcohol abuse disorder and 30% an alcohol dependence disorder.
- Of those with a drug dependence disorder, about 50% of people also had an alcohol abuse disorder and 40% an alcohol dependence disorder.

6.2.6. Ethnicity and drug disorders in the NZMHS

The *Te Rau Hinengaro: New Zealand Mental Health Survey* included about 2,600 Maori and 2,200 Pacific peoples. Limited ethnicity data have been reported so far regarding drug disorders. More detailed data are available for substance disorders as a group (i.e. alcohol and drug disorders combined) in section 5.7.

The 12-month prevalence of drug disorder (drug abuse or dependence) were highest for Māori (7.4%), intermediate for Pacific (4.2%) and lowest for the Other ethnic group (2.2%). The 12-month and lifetime prevalences for the individual drug categories are shown in Table 73.

Table 78: Prevalence of drug disorders in the NZMHS, by ethnic group

Prevalence type	Maori	Pacific	Other	Total
	% (95% CI)	% (95% CI)	% (95% CI)	(95% CI)
12-month prevalence				
Drug abuse (all drugs)	3.7%	1.1%	NA	1.2%
Marijuana abuse subgroup	3.0%	1.1%	NA	0.9%
Drug dependence (all drugs)	1.9%	0.7%	NA	0.7%
Marijuana dependence subgroup	1.5%	0.4%	NA	0.5%
Lifetime prevalence (up to the time of study)				
Drug abuse (all drugs)	14.3%	6.1%	NA	5.3%
Marijuana abuse subgroup	12.8%	5.8%	NA	NA
Drug dependence (all drugs)	6.3%	1.9%	NA	2.2%
Marijuana dependence subgroup	5.3%	1.5%	NA	NA

Source: Te Rau Hinengaro: The New Zealand Mental Health Epidemiology Study.⁵ DSM-IV CIDI 3.0 diagnoses. Prioritised ethnicity, except Pacific lifetime prevalence data, which is total response data (i.e. anyone who identified with a Pacific ethnicity).
NA = Not available at time of this HNA.

6.2.7. Additional information on substance use disorders in the NZMHS

Not all data that has been published so far from the NZMHS were divided into separate categories of alcohol-related disorders and drug-related disorders.⁵ Some data have been reported only as a combined category of “any substance use disorder”. Key points from that data are outlined below.

12-month prevalence of any substance use disorder in the NZMHS

- o Estimated at 3.5% (males 5.0%, females 2.2%).

Lifetime risk of any substance use disorder in the NZMHS

- o It was estimated that 13.8% of people will experience a substance use disorder by age 75 years.

Ethnicity and substance use disorder in the NZMHS

The burden of substance use disorder is highest for Māori, followed by Pacific peoples.

However, after adjusting 12-month prevalences for age, gender and socioeconomic factors, the difference between Pacific peoples and Others reduces to non-significance (see Table 79). Although adjustment reduced the difference for Māori, the difference was still double that of Others ($p < 0.0001$) and also significantly greater than for Pacific peoples ($p < 0.0001$).

Similarly, unadjusted and adjusted lifetime prevalences of any substance disorder are significantly higher for Māori and Pacific peoples. Māori and Pacific peoples have lifetime prevalences about 3 times and 1.5 times higher respectively than that of Others ($p < 0.0001$).

Table 79: Ethnic comparisons of 12-month prevalence of any substance use disorder (NZMHS)

Comparison	Māori	Pacific peoples	Other
	% (95% CI)	% (95% CI)	% (95% CI)
Unadjusted	9.1% (7.6-10.6)	4.9% (3.6-6.1)	2.7% (2.3-3.2)
Adjusted for age and gender	7.1% (6.0-8.3)	3.8% (2.8-4.8)	2.9% (2.4-3.4)
Adjusted for age, gender, education status and household income	6.0% (5.0-7.1)	3.2% (2.3-4.0)	3.0 (2.5-3.6)

Source: Te Rau Hinengaro: The New Zealand Mental Health Survey.⁵ DSM-IV CIDI 3.0 diagnostic criteria.

Mental disorder comorbidity in the NZMHS

Table 80 illustrates that mental disorders tend to occur to those who already have an existing disorder. While the 12-month prevalence of any substance use disorder was 3.5% in the general population without mental disorder, people with mood disorders and anxiety disorders had a higher prevalence of substance use disorder (12.9% and 9.4% respectively). People with any substance use disorder were far more likely to have a mood disorder or anxiety disorder than the general population.

Table 80: Twelve-month comorbidity between disorders (NZMHS)

Twelve-month mental disorder group	Twelve-month mental disorder -% (95% CI)		
	Any anxiety disorder	Any mood disorder	Any substance use disorder
Any anxiety disorder	-	26.6% (24.1-29.3)	9.4% (7.8-11.2)
Any mood disorder	49.6% (45.8-53.4)	-	12.9% (10.6-15.6)
Any substance use disorder	40.0% (34.6-45.7)	29.0% (24.3-34.3)	-
Total population	14.8% (13.9-15.7)	7.9% (7.3-8.7)	3.5% (3.0-4.0)

Source: Te Rau Hinengaro: The New Zealand Mental Health Survey.⁵ DSM-IV CIDI 3.0 diagnostic criteria.

Substance use disorders and suicidal behaviour in the NZMHS

Rates of suicidal behaviour during a 12-month period for people with substance use disorders are very high.

Overall, 18% of people with any substance use disorder had suicidal ideation, 9% had a suicide plan and 4% made a suicide attempt. Rates were highest for drug dependence (41%, 23% and 11%) and the subgroup of marijuana dependence (39%, 20% and 7%).

The comparative rates for people without any mental disorder were 0.9%, 0.2% and 0.1%.

6.3. Amphetamine abuse in NZ

Note: the use of the term “amphetamine” in the following sections is a general term to refer to a number of different amphetamine-type substances:

- Amphetamine itself has a number of forms which are used in medications (e.g. Ritalin) for treatment of ADHD and narcolepsy as well as being used as substances of abuse.
- Methamphetamine is also used as a prescription medicine for ADHD and narcolepsy. It is also used for illegal recreational purposes. More potent forms of methamphetamine include a powdered form ('speed'); base methamphetamine ('base'); and crystalline methamphetamine, a high-purity crystalline form, also known as 'P', 'Ice', 'crystal meth', or 'pure'.¹⁸²

Note that although ecstasy can be regarded as an amphetamine-type stimulant, it is covered in the following section, “Other stimulant abuse in NZ”.

Methamphetamine, in particular, has been a problem in NZ since the late 1990s. Its illegal manufacture and sale are closely linked to organised criminal groups. Methamphetamine is also the stimulant most commonly identified with violence, antisocial behaviour and mental health problems in New Zealand.¹⁸³

The base and crystalline forms of methamphetamine seem to have a higher potential to cause dependence than powdered methamphetamine, and are associated with higher rates of psychiatric harm and an increase in psychotic symptoms in methamphetamine users in Australia and New Zealand.¹⁸³

Use of amphetamines in New Zealand

Some preliminary data^{183 184} from the NZ “2003 Health Behaviours Survey – Drug Use Survey” were available at the time of this HNA (full Ministry of Health report forthcoming in 2007). This survey of approximately 3,000 people found that for all people in the survey (people aged 13-65 years); 6.8% had ever used amphetamines and 2.5% had used amphetamines within the last 12 months.¹⁸³

For the subgroup of people aged 15-34, approximately:¹⁸⁴

- 9% had ever used amphetamines
- 4% had used amphetamines within the last year
- 5% of 15-19 year olds, 10% 20-24 year olds, 6% of 25-29 year olds, 3% of 30-34 year olds and <1% of 35-45 year olds used amphetamines within the last year.

Note that the telephone interview methodology used for this survey is likely to underestimate the true extent of drug use to some extent. The previous surveys (1998, 2001) were known as the “New Zealand National Drug Survey”.

Data from the 2001 NZ National Drug Survey showed that over two-thirds of amphetamine users were male. For the group aged 13-45, the proportion of European and Māori last-year users was broadly similar to their respective proportions in the NZ population. The proportion that were Asian users was significantly less, while proportions for Pacific and Others were slightly less than their respective proportions in the general population.

Harms from amphetamine use

Chronic or high-dose amphetamine use can cause hostility, violence, hallucinations and paranoid psychosis. In addition, cardiac, vascular, and neurological damage can occur. The growing use of amphetamines has been also been linked to other problems including mental illness, self-harm, drug dependence, intravenous drug use, family break-down, violence, and crime. In recent years in NZ, there have been a number of high profile, extremely violent crimes committed by individuals under the influence of methamphetamine or suffering from methamphetamine-induced psychosis.¹⁸⁴

Overseas studies suggest that the negative mental health effects of amphetamine-use (such as aggression, paranoia, and depression), rather than physical harms from use, seem to be the problems that cause the greatest concern among users and were most likely to cause them to seek help for their drug use.¹⁸⁴

In New Zealand, approximately 3 out of 10 amphetamine users in 2003 reported harm to at least one area of their life (preliminary data¹⁸⁴ from the 2003 Health Behaviours Survey – Drug Use Survey). Harm to 'energy and vitality' (~17%), 'financial position' (~14%), and 'health' (~10%) were the areas of life most commonly harmed. Other areas harmed were 'friends and social life', 'outlook on life', 'home life', 'work or work opportunities' and 'children's health or wellbeing'.

6.4. Other stimulant abuse in NZ

In addition to amphetamine-type stimulants discussed above, there are a number of other stimulants including ecstasy (MDMA) and cocaine. The currently legal 'Party pills' containing BZP (has stimulant-like properties) or other substances are not covered in this HNA.

Ecstasy

Preliminary data from the 2003 Health Behaviours Survey – Drug Use Survey showed that past-year ecstasy use was reported by 1.9% of New Zealanders, making ecstasy the second most commonly used stimulant.¹⁸³

Ecstasy users in the 2001 National Drug Survey sample were more likely to be male (70%) and the majority (67%) of users were aged 20–29.¹⁸⁵ Users were more likely to be European (84%) or Maori (13%), as opposed to Asian (1%) or Pacific (1%).

Cocaine

In the 2001 survey, 3.2% of participants had tried cocaine and 0.6% had tried cocaine in the past year. Only 0.3% were current users.

6.5. Inhalants and volatile substances abuse in NZ

There are a number of substances that are inhaled for "recreational" purposes such as petrol, butane gas, liquefied petroleum gas (LPG), adhesives, solvents, aerosol sprays, paint and anti-freeze. Abusers are typically teenagers; however, young children and adults also abuse inhalants.

In 2003, 0.1% of people surveyed in the 2003 Health Behaviours Survey – Drug Use (forthcoming Ministry of Health report) reported inhalant abuse in the previous year.¹⁸³

Inhalant abuse can result in euphoria, loss of inhibitions, hallucinations, mood swings and impulsive actions as well as serious medical problems and even death. In NZ from 2001-2003 there were 11 deaths specifically due to inhalant abuse, the majority being males and teenagers.¹⁸⁶

6.6. Hallucinogens use in NZ

Hallucinogens include LSD and "magic mushrooms". Preliminary data¹⁸³ from the New Zealand Health Behaviours Survey – Drug Use in 2003 report (forthcoming report), 1.2% and 1.1% of people respectively reported using LSD and magic mushrooms in the last year.

6.7. Opiate abuse in NZ

There are a number of opiates that are abused including morphine, codeine, opium, heroin as well as pharmaceutical drugs used in the treatment of opiate dependence such as methadone and buprenorphine. Due to New Zealand's isolation it is difficult to import heroin and raw opium, so the majority of opiates abused in New Zealand have been prescription medicines (e.g. morphine sulphate tablets and methadone), poppies and 'home bake'.

The prevalence of opiate use reported in the New Zealand Health Behaviours Survey – Drug Use 2003 (forthcoming report) was low, consistent with previous surveys.¹⁸³ Approximately 0.1% of people reported using poppies, homebake and/or morphine within the last year.

Although the prevalence of opiate use is relatively low, the associated health, crime and other social harms are serious. There is strong evidence from other Western countries that high rates of crime are associated with the injecting of illegal opiates. Reduction in crime have been demonstrated among users in opioid substitution treatment programmes in Europe, North America, Australia and more recently, New Zealand.¹⁸³

7. Overview of clients of the DHB Alcohol and Drug services

7.1. Introduction

This section outlines the MHINC data regarding CM residents seen by a DHB Alcohol and Drug (A+D) team in the 2005 calendar year. Within the MHINC there are five A+D team types listed:

- Alcohol and Drug Team (team type 03) – mainstream adult services
- Alcohol and Drug Kaupapa Māori Team (team type 10) – Māori orientated services
- Alcohol and Drug Dual Diagnosis Team (team type 11) - mental illness and alcohol and/or other drug problem
- Child and Youth Alcohol and Drug Services (team type 21) – services specific for child and youth
- Kaupapa Māori Dual Diagnosis Mental Health and Alcohol and Drug Services (team type 23) – this service is not available in the Auckland region. Of note, there were no clients anywhere in New Zealand recorded under this team type in 2005.

Within the metro-Auckland area, the A+D services are delivered as a regional service with Waitemata DHB as the lead DHB.

Note that NGOs also provide A+D services; however, data for these are excluded from this publication as only a minority of NGOs submit data.

7.2. DHB provided alcohol and drug services - utilisation by CM residents in 2005

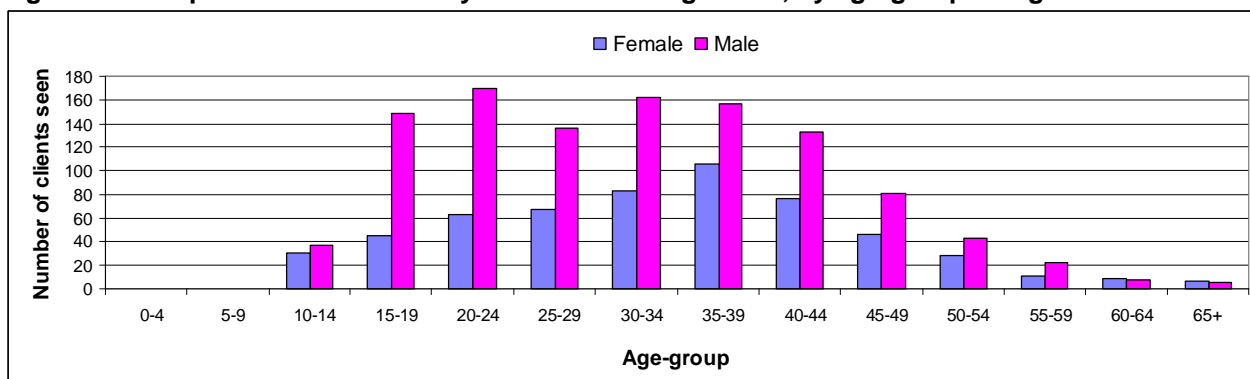
In 2005, 1675 unique CM clients were seen by DHB A+D teams anywhere in NZ. The overall age-standardised rate was 420 per 100,000 population, which was significantly less than the rate of 495 for the rest of NZ (see Table 81).

7.2.1. Age and gender of DHB alcohol and drug clients

For almost age-groups, the number of unique male clients seen by alcohol and drugs teams is greater than for females, particularly in the 10-49 year age-groups (see Figure 39). Overall, more than twice as many males (n=1102) were seen than females (n=571). The peak in numbers occurs at a later age in females than in males.

The CM male age-standardised rate of 570 per 100,000 population is significantly greater than the female rate of 280 (95% CI 535-603 and 259-305 respectively). By comparison, the rates for the rest of NZ in 2005 were significantly higher than for CM - 635 per 100,000 for males and 360 for females (95% CI 624-648 and 350-367 respectively).

Figure 39: Unique CM clients seen by alcohol and drug teams, by age-group and gender – 2005



MHINC data, 2005 calendar year. Unique CM clients seen by any DHB Alcohol and Drug service in NZ. Gender data were not available for two clients. No clients were aged <10 years.

7.2.2. Ethnicity of alcohol and drug clients

The majority of alcohol and drug clients were European/Other (49.1%) or Māori (37.6%).

Age-standardised rates

The age-standardised rates for CM and the rest of NZ show a similar ethnic group pattern with Māori having by far the highest rate, followed by “European and Other” and then Pacific and Asian (see Table 81). The CM rate for Māori (900 per 100,000) was significantly higher than the national rate (755) while the CM rate for “European and Other” (420) was significantly lower than for the rest of NZ (500).

Table 81: Age-standardised rates for clients seen by A+D teams, by ethnic group – CM versus rest of NZ (2005)

	Counties Manukau				Rest of NZ		Significance*
	n	% of total	Age-standardised rate per 100,000	95% CI	Age-standardised rate per 100,000	95% CI	
Asian	43	2.6%	80	55-102	70	62-84	NS
European and Other	823	49.1%	420	393-451	500	490-507	S
Māori	629	37.6%	900	831-972	755	730-778	S
Pacific peoples	180	10.7%	220	189-254	250	228-278	NS
Total	1675	100.00%	420	402-443	495	488-503	S

MHINC data, 2005 calendar year. Unique CM clients seen by any DHB A+D service in NZ.

Age-standardised using 2001 NZ Census population. SNZ level 1 prioritised ethnicity.

* NS = Non-significant difference between CM and rest of NZ, S = Significant difference between CM and rest of NZ.

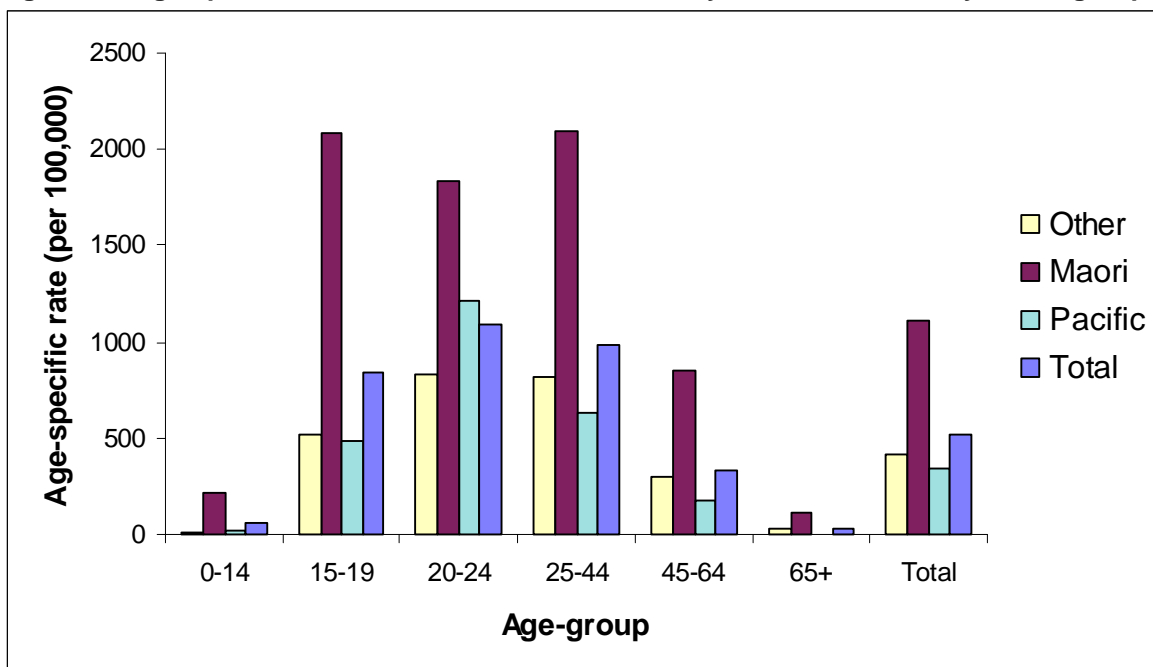
Ethnicity – age-specific rates

Figure 40 and Figure 41 show the age-group rates by ethnic group for males and females respectively. For both genders, the Māori rates were significantly higher than for other ethnic groupings for all age-groups.

The overall Pacific male rate was not significantly different from the “Other” ethnic grouping. However, in comparison to the “Other” ethnic grouping, the rate for Pacific males aged 20-24 was significantly higher and the rates for males aged 25-64 were significantly lower. There were no Pacific male clients aged 65+.

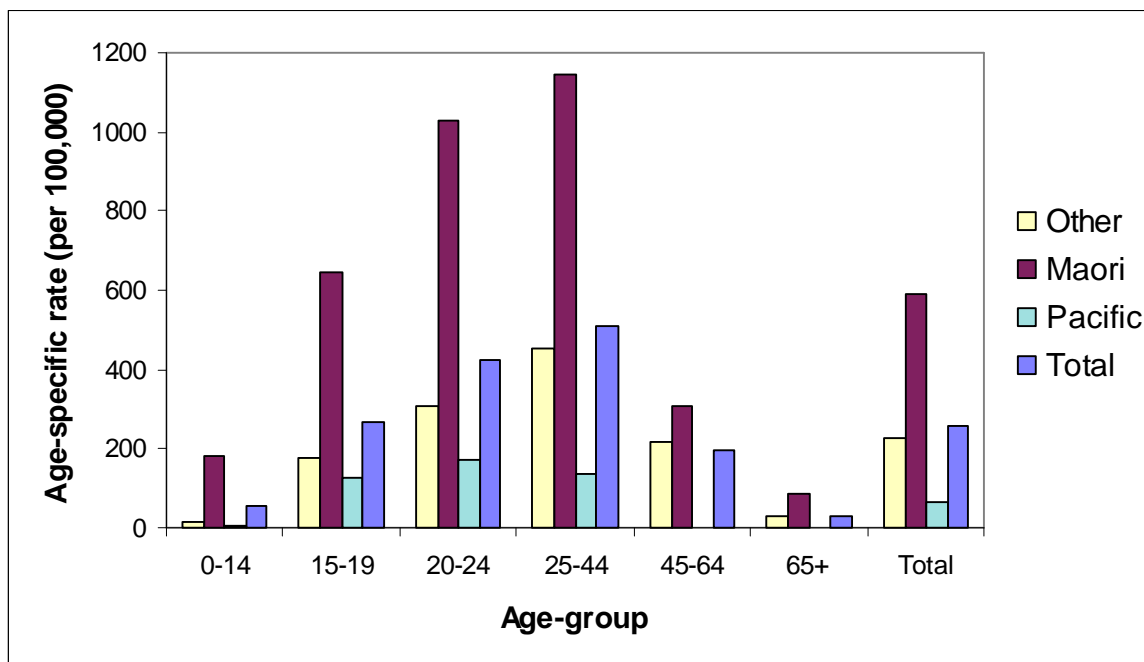
The overall Pacific female rate as well as the rates for all age groups 0-64 years was significantly lower than the “Other” ethnic group. There were no Pacific female clients aged 65+.

Figure 40: Age-specific rates for male CM clients seen by DHB A+D teams, by ethnic group (2005)



MHINC data, 2005 calendar year. Unique Male CM residents (1102) seen by DHB A+D mental health services in NZ. CM population data for 2005 (projections performed by SNZ 2005).

Figure 41: Age-specific rates for female CM clients seen by DHB A+D teams, by ethnic group (2005)



MHINC data, 2005 calendar year. Unique female CM residents (n=571) seen by DHB A+D mental health services in NZ. CM population data for 2005 (projections performed by SNZ 2005).

Use of the different A+D team services - overview and breakdown by ethnicity

Table 82 shows the total numbers and ethnic breakdown of the clients seen by each of A+D Team. Note that these numbers are unique clients for each team type but some clients visited more than one team and they are counted in each team type. Therefore the total number of clients (n=1846) is higher than the unique number of clients who saw any DHB A+D team (n=1675).

Approximately 77% of the 1846 clients were seen by a mainstream A+D Team (03) and 21.5% were seen by an A+D Kaupapa Māori Team (10). Of note is that about 10% of clients seen by an A+D Kaupapa Māori Team (10) were non-Maori.

Of the Māori clients who accessed A+D services, approximately 46% were seen by an A+D Kaupapa Māori Team (10), a Māori orientated service, while 53% used a mainstream A+D Team (03) service. A small number saw an A+D Dual Diagnosis Team or Child and Youth A+D service.

Table 82: CM DHB A + D services clients, by team type and ethnic group (2005)

Ethnic group	03 A+D team		10 A+D Kaupapa Māori team		11 A+D Dual Diagnosis team		21 Child & Youth A+D service	Total
	n	%	n	%	n	%	n	n
Maori	415	29.20%	358	90.20%	8	29.60%	1	782
Pacific	172	12.10%	9	2.30%	1	3.70%	0	182
Asian	42	3.00%	0	0.00%	1	3.70%	0	43
European	709	49.90%	21	5.30%	16	59.30%	0	746
Other	83	5.80%	9	2.30%	1	3.70%	0	93
Total	1421	100.00%	397	100.00%	27	100.00%	1	1846

Note: Number of unique clients for each team type but some clients visited more than one team and they are counted in each team type. Therefore the total number of clients (n=1846) is higher than the unique number of clients who saw any DHB A+D team (n=1675).

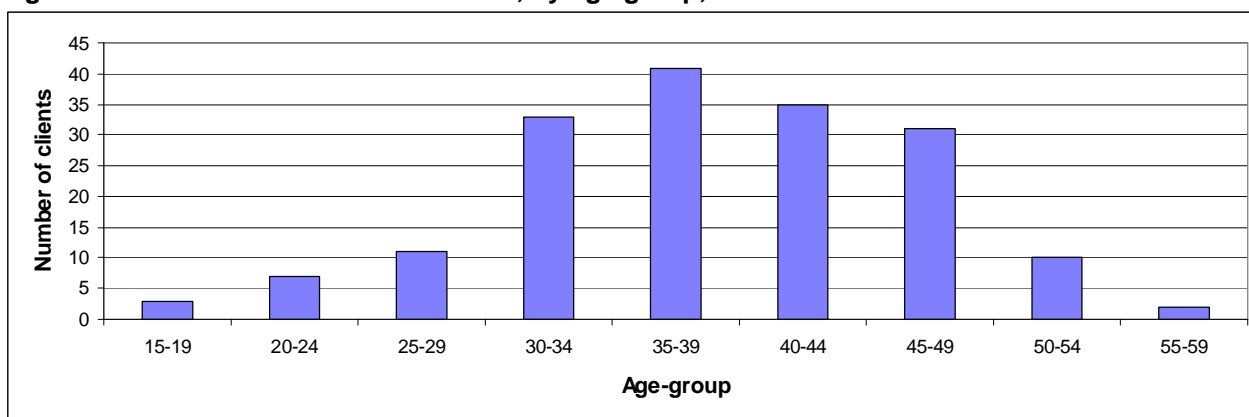
7.2.3. Clients of the methadone services

This section outlines data for clients of the methadone services, a subset of the MHINC A+D data. In 2005, 173 unique CM domiciled clients received methadone treatments, either as clients of DHB specialist methadone services (T18) or authorised GPs (T19) or both. Males accounted for about 60% of the clients.

Clients were all in the 15-59 year age-groups, with most clients in the 30-49 year age-groups (see Figure 42). Age-standardised rates were not calculated due to the low numbers in some age-groups. The age-group specific rate for the CM population aged 15-59 was 65 per 100,000. This compares to 4080 clients in this age-group and an age-group rate of 180 per 100,000 for the rest of NZ, significantly greater than CM.

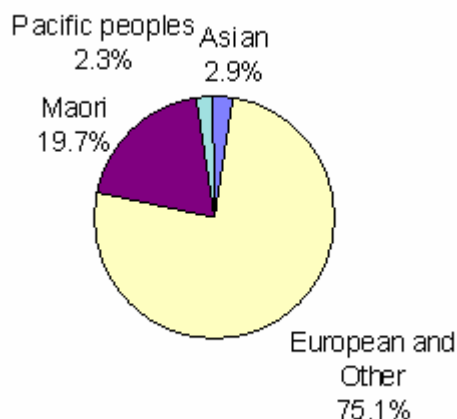
Approximately two-thirds (67.6%) of the 173 CM clients were European, a much larger proportion than the proportion of European in the general CM population (see Figure 43). Māori were the next largest group at 19.7% of the total client numbers. Of note, there were only four Pacific people (2.3% of total) and five Asian people (2.9%), far less than the proportions these ethnic groups in the general CM population. However, some caution is indicated when interpreting these data as the numbers are small. Other ethnic groups accounted for 7.5% of the total numbers.

Figure 42: Methadone service CM clients, by age group, 2005



MHINC data, 2005 calendar year. CM domiciled clients seen by either a DHB methadone service (T18) or authorised GPs (T19) or both. No clients aged <15 older than 60 years.

Figure 43: CM methadone clients, by ethnicity (2005) *



* MHINC data, 2005 calendar year. SNZ level 1 prioritised ethnicity. Unique CM methadone clients (n=173) seen by any DHB A+D service in NZ.

7.2.4. Breakdown of alcohol and drug diagnoses for clients seen by DHB mental health and addiction services

A breakdown of the type of alcohol and drug diagnoses are not given in this report as only a small proportion (6%) of DHB Alcohol and Drug team clients had a definitive diagnosis recorded in the MHINC.

Almost all clients had a principal diagnosis of “Diagnosis or Condition Deferred on Axis I or Axis II”. The A+D Teams do not routinely code diagnoses and so the “Diagnosis or Condition Deferred on Axis I or Axis II” becomes the default diagnosis. As a result of this practice, the number of alcohol and drug-related principal diagnoses is much lower than expected given that in 2005, 1675 unique CM residents were seen by DHB Alcohol and Drug teams.

7.3. CADS data on new CMDHB clients in 2005

The CADS submitted data on the new CMDHB domiciled clients seen in the 2005 calendar year. In total, 1520 new CMDHB clients were referred to the service during this period, approx 26% of the total number of new client referrals.

Of the 1520 new CMDHB clients, only 899 were screened for A&D problems (approximately 60% screening rate). Reasons given by CADS for why not all people underwent a CADS Alcohol and Drug Assessment included that some people were support people, not actual patients. This raises the issue of who should be classified as a client.

Table 83 shows the breakdown of the different types of substance use detected by the CADS Alcohol and Drug Assessment questionnaire. Alcohol dependence was the most common problem followed by cannabis and amphetamine dependence. Note that a client may be using more than one substance.

Table 83: Substance use detected by CADS Alcohol and Drug Assessment for the 899 new CMDHB clients screened for A&D problems in the 2005 calendar year

Substance	n	% of total clients who completed CADS Alcohol and Drug Assessment (n=899)
Alcohol AUDIT score		
• Score suggests at risk of harm from alcohol	654	72.7%
• Score suggests may be alcohol dependent	280	31.1%
• Score suggests significant problems from alcohol	311	34.6%
Leeds (LDQ) Alcohol questionnaire		0.0%
• Low to moderate dependence	331	36.8%
• Moderate to high dependence	139	15.5%
• High dependence	55	6.1%
• Total dependence	525	58.4%
Any cannabis use	390	43.4%
Cannabis use suggesting dependence	250	27.8%
Opiate use	31	3.4%
Benzodiazepine use	23	2.6%
Any amphetamine use	162	18.0%
Amphetamine use suggesting dependence	130	14.5%
GBH (Fantasy)	4	0.4%
Ecstasy	16	1.8%
LSD	3	0.3%
Ketamine	1	0.1%
Solvents	5	0.6%
Other drugs or combinations of drugs	6	0.7%

Data source: CADS

CADS notes on data quality

- The definition of CMDHB clients uses only the client's latest address in PiMS. It does not reference the address at the time of the referral. This introduces a slight inaccuracy in the data, but it is unlikely to be significant.
- The PiMS data contains a certain number of DHB data entry errors, so the number of CADS CMDHB clients may be slightly under-reported. But they are as good as CADS can do at the moment. CADS are currently working on our processes to attempt to improve data accuracy.

CADS data supplied by Jeanette Elley, CADS Information Systems Manager, WDHB.

8. Problem gambling

8.1. Introduction

Pathological gambling has been recognised as a mental disorder since the DSM-III (1980). The term “problem gambling” is used in different ways, but usually involves disruption of personal, family or vocational pursuits.¹⁸⁷

In light of the growing diversity of gambling problems and the need to broaden the scope beyond that of a mental disorder, there has been a shift in NZ from discussing problem gambling in terms of a disorder to problem gambling as a gambling behaviour that causes harm or may cause harm.¹⁸⁷

Parliament passed the Gambling Act in 2003. One of the Act’s purposes is to “prevent and minimise the harm caused by gambling, including problem gambling”. The Ministry of Health was allocated responsibility for developing and implementing an integrated problem gambling strategy. The resulting “Strategic Plan for Preventing and Minimising Gambling Harm 2004–2010” outlines the way in which the Ministry of Health plans to address the continuum of gambling harm.

The services and activities the Ministry fund can be divided into three categories:¹⁸⁷

- Primary prevention – public health programmes and activities
- Secondary and tertiary prevention – intervention services for individuals and families and whānau
- Research, evaluation and monitoring.

Problem gambling is a priority area for the health sector. An aim of the “Te Tāhuhu – Improving Mental Health 2005–2015: the Second New Zealand Mental Health and Addiction Plan (2005) is to “maintain and develop responsive and effective problem gambling services”.

8.2. Chapter summary

Problem gambling is a serious problem in our communities and it has been estimated that approximately 1.3% of the adult population are problem gamblers and another 0.7% are at-risk gamblers.

The effects of problem gambling are wide ranging and can result in increased rates of hazardous drinking, smoking, other substance abuse, poor mental health, suicidal behaviour and mood disorders.

The opportunity to gamble is a fundamental risk factor for problem gambling and gambling-related harm. Gambling opportunities, particularly non-casino gaming machines (NCGMs) and TABs, are much more likely to be located in deprived areas than less deprived areas. This is of particular concern as NCGMs are the major cause of problem gambling in New Zealand.

Māori and Pacific peoples are disproportionately affected by problem gambling and are about four to five times more likely to be problem gamblers than European or Other ethnicities. Gambling harm also disproportionately affects low-income people, with Māori and Pacific peoples overrepresented in this group.

As well as delivering appropriate problem gambling services, a public health approach to gambling-related harm is needed with consideration of the broader environmental context (e.g. social, economic and cultural) in which gambling occurs.

8.3. Harms from problem gambling

The effects of problem gambling are wide ranging and can affect families and communities. Although NZ data on the exact extent of the problem are limited, the Australian Productivity Commission estimated that, on average, a serious problem gambler would adversely affect the lives of seven other people through factors such as family break-ups, workplace problems or contact with the criminal justice system.¹⁸⁷

Problem gamblers suffer from increased rates of bankruptcy, arrest, imprisonment, unemployment, divorce and poor physical and mental health. Problem gamblers may also have higher rates of suicide.¹⁸⁷

8.4. Extent of problem gambling

The 1999 National Prevalence Survey showed that 1.3% of the adult population were problem gamblers. The NZ Health Survey 2002/03 of people aged 15 years+ found that the prevalence of current problem gambling was 1.2%, which equated to almost 33,000 problem gamblers in New Zealand. At-risk gambling affected another 0.7% of the population, making a total of about 50,000 people.¹⁸⁷

Although harm from gambling affects people from all sociodemographic populations, several groups disproportionately experience harm from gambling. Māori and Pacific peoples are particularly affected as

are populations living in areas of high deprivation. Problem gambling are increasing problems for many young people, and there are also significant issues for people who have contact with the criminal justice system. A growing number of people have a gambling addiction and a mental illness.

Gender and problem gambling

Historically, males were considered more likely to be problem gamblers; however, New Zealand data now shows that male and female problem gambling rates and gambling participation rates are now much closer.¹⁸⁷ The closing in the gender gap may be due to the recent widespread availability of electronic gaming machines, which females use more than males.¹⁸⁷

Age and problem gambling

Data from the NZHS 2002/03 indicated that the risk of being a problem gambler was greatest for people aged 25-34 and relatively high for those aged 15-24 and 35-54.¹⁸⁸ People aged 55+ had the lowest risk.

Ethnicity and problem gambling

Māori and Pacific peoples are disproportionately affected by problem gambling. Both groups are about four to five times more likely to be problem gamblers than European or Other ethnicities.^{187,188,189} In addition, these groups are substantially overrepresented in deprived areas in which gambling opportunities are much more likely to be located.¹⁸⁷

About 30% of problem gamblers are Māori and almost 15% are Pacific peoples. By comparison, these groups make up about 11% and 4% respectively of the NZ adult population. Although Māori and Pacific peoples are disproportionally affected, approximately half of problem gamblers are NZ European.¹⁸⁷

Data on Asian peoples are limited, but suggest that overall problem gambling rates are similar to European or Other ethnicities.¹⁸⁸ However, anecdotal evidence suggests that certain Asian subgroups (e.g. recent immigrants from certain regions) may be at increased risk.¹⁸⁷

The ethnic breakdown of people accessing gambling help services nationally in 2004 generally was similar to that of the people with gambling problems.¹⁹⁰ Pacific peoples, however, were not accessing services to the same degree as other ethnic groups.

Socioeconomic factors and problem gambling

Living in areas of higher deprivation is associated with increased rates of problem gambling. Gambling harm disproportionately affects low-income people, with Māori and Pacific peoples overrepresented in this group.¹⁸⁷

Data from the NZ Health Survey 2002/2003 showed a relationship between deprivation (NZDep01) and prevalence of problem gambling (see Figure 44).¹⁸⁸ Problem gambling rates are higher in the most deprived 20% of NZ (1.9%) than in the least deprived 20% of NZ (0.8%). Almost two-thirds of problem gamblers reside in the most deprived quintiles (4 and 5). Having no formal education qualification or being employed are also risk factors for problem gambling.

Given the high exposure to gambling in high-deprivation communities, there is concern about the impact of gambling on these communities, and Māori and Pacific peoples (who are over-represented in them) specifically.

8.5. Availability of gambling opportunities and mode of problem gambling

The opportunity to gamble is a fundamental risk factor for problem gambling and gambling-related harm.¹⁸⁷ Numerous gambling opportunities are easily accessible in New Zealand, non-casino gaming machines (NCGMs), track betting, TABs, casinos and Lotteries Commission products. In 2005, over one billion dollars were spent playing NCGMs, by far the largest amount of all the different types of gambling.

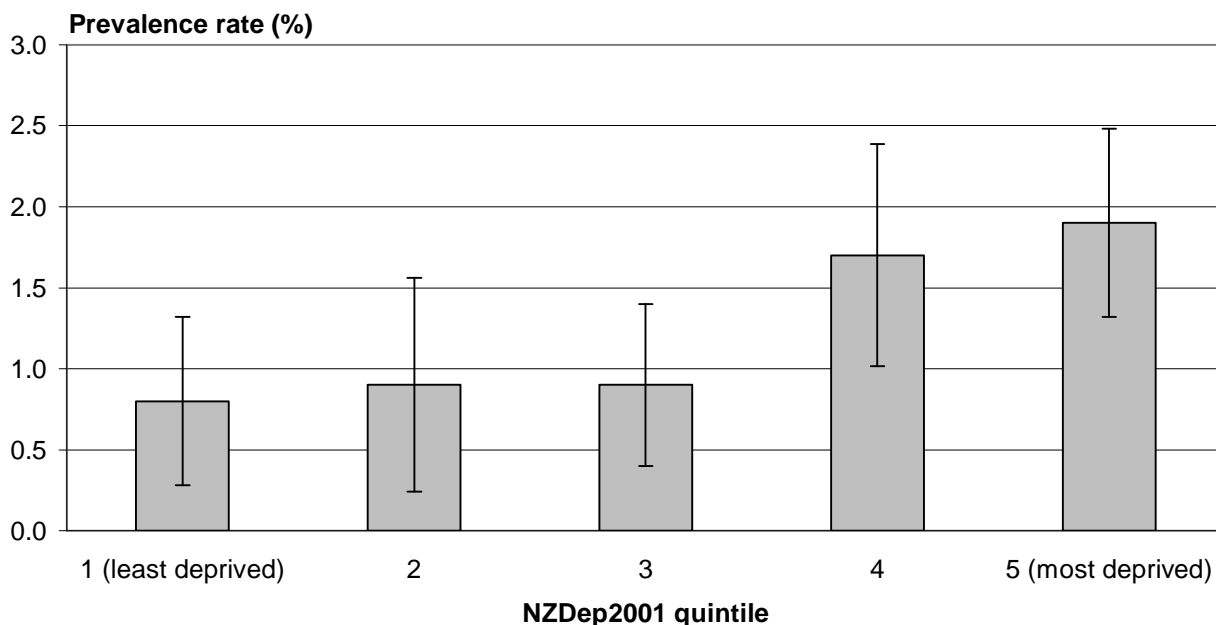
NCGM venues and TABs are much more likely to be located in more deprived areas than less deprived areas (see

Figure 45). Māori and Pacific peoples are more likely to live in deprived areas and have an increased risk of problem gambling.

Significantly, the type of gambling appears to be an important risk factor for the development of problem gambling. Gambling that allows for continuous play and short time spans between staking and outcome (e.g. NCGMs) has been most strongly implicated.¹⁸⁷

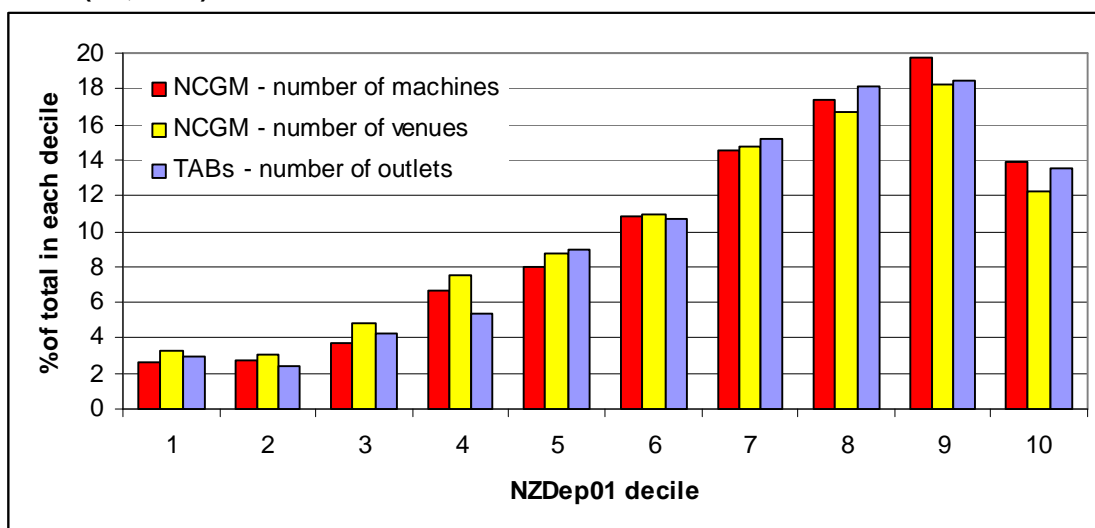
NCGMs are by far the most common mode of gambling cited by problem gambling clients.^{187 191} Telephone helpline data for 2005 shows that almost 80% of new callers cited NCGMs as their primary mode of gambling, with a further 8.7% citing casino-based gaming machines (see Figure 46). Face-to-face intervention data shows a similar picture.^{187 191}

Figure 44: Problem gambling prevalence rates by socioeconomic deprivation (NZDep2001 quintile)



Source: NZ Health Survey 2002/03.¹⁸⁸

Figure 45: Number of NCGM (machines and venues) and TAB outlets, by NZDep01 deprivation decile (NZ, 2005)



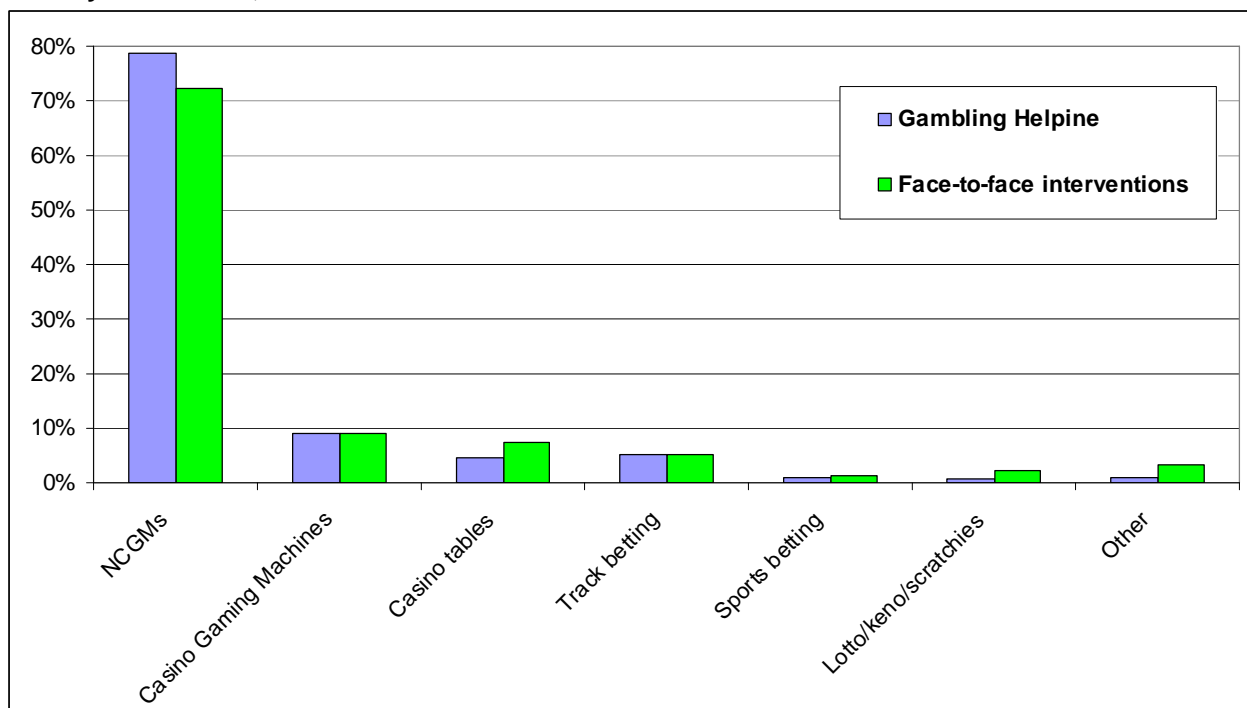
Source: Problem gambling geography of New Zealand 2005.¹⁹² CMDHB analysis.
 NCGM = Non-Casino Gaming Machine; TAB = Totalisator Agency Board; NZDep2001 = 2001 NZ Index of Deprivation.

8.6. Snapshot of gambling and gambling services within Counties Manukau

In the Counties Manukau area in 2005 there were:¹⁹²

- 155 gambling venues
- 113 Non-Casino Gaming Machine (NCGM) venues ; 1,614 NCGMs, a 4% decrease since 2003; 38 NCGMs per 10,000 people, a lower density than the national average of 54
- 42 TABs
- 7 problem gambling service locations
- 7.4 Gambling Helpline calls per 10,000 people per year, below the NZ average of 8.6.

Figure 46: Gambling Helpline and face-to-face interventions - Primary mode of problem gambling cited by new clients, 2005



Data source: Problem gambling intervention services in New Zealand: 2005 service-user statistics.¹⁹¹ CMDHB analysis. NCGMs = Non-Casino Gaming Machines

8.7. Comorbidity and problem gambling

Problem gamblers have been shown to have increased rates of tobacco use, problem drinking, other substance use, suicidal behaviour and mood disorders.^{187,193,194} Note that problem gambling was not surveyed in the NZ Mental Health Survey (2006).⁵ Some of the morbidity data are outlined below.

Alcohol

In the NZ Health Survey 2002/03, problem gamblers had significantly higher prevalence of hazardous drinking.¹⁸⁷ Problem gamblers were four times (95% CI 2.2–7.3) more likely to have potentially hazardous drinking patterns than non-problem gamblers.

Tobacco use

NZHS 2002/03 data showed almost 60% of problem gamblers are daily smokers, three times higher than non-problem gamblers. Problem gamblers are four times more likely to increase the tobacco amount during gambling than non-problem gamblers.

Suicidal behaviour

Gambling Helpline data for 1999-2005 period shows that around 8-13% of new gamblers clients had some form of suicidal behaviour. About 7-9% had thought about suicide, 0.3-1.8% had planned suicide, 0.6-1% had attempted suicide in the last 12-months and 0.3-1.1% were currently at risk.

Self-rated health status

The NZ Health Survey 2002/03 looked at several domains of health using the SF-36 screen. Problem gamblers were 2.5 times more likely to have worse self-rated mental health status than non-problem gamblers.

Comorbidity in general practice

A NZ general practice study found that people concerned about their gambling were also significantly more likely to be concerned about their smoking, alcohol and use of recreational drugs. They were more likely to indicate a problem with depression, anxiety and anger control.¹⁹³

9. Suicide

9.1. Introduction

Suicide and intentional self-harm are important health issues in New Zealand. Reducing the rates of suicide and self-harm is a priority in the *New Zealand Health Strategy*¹⁹⁵ and the *New Zealand Injury Prevention Strategy*.¹⁹⁶ The high youth and young adult suicide rates are of particular concern. In June 2006, the *New Zealand Suicide Prevention Strategy*¹⁹⁷ was published, which updated the previous 1998 *New Zealand Youth Suicide Prevention Strategy* and expanded in scope to cover suicide prevention across all ages.

9.2. Chapter summary

Suicidal behaviours and intentional self-harm are common in NZ, but are more common in some groups than in others

NZ has one of the highest rates of suicide among the OECD countries, with about 500 people dying each year, higher than the number from road traffic crashes. Rates are particularly high for men, youth, young adults and the poor. Suicide rates for CM have fluctuated around the national average.

Suicidal behaviour is common with about 16% of New Zealanders having thought seriously about suicide at some stage. About 5% have made a suicide plan and 4% have attempted suicide. Women, young people and the poor are most likely to have considered suicide in the last year. There are about 4,500 hospital admissions for intentional self-harm each year in NZ.

There are some ethnic variations in suicidal behaviour. Māori and Pacific people have significantly higher rates of making suicidal plans and suicide attempt. Māori suicide rates are consistently the highest, followed by Other, with Pacific and Asian rates the lowest.

Overall, people with mental disorders have rates of suicidal behaviour several times higher than the general population. Most people who commit suicide or make serious suicide attempts had one or more mental disorders at the time of the event.

Of particular note is that in NZ, almost half of the people who reported suicidal behaviour in the previous 12-months did not see any health professional. There is also some emerging evidence that of those people do make contact, only a minority receive adequate treatment.

9.3. Risk factors for suicide

A number of demographic and social factors are associated with a higher rate of suicide:^{198 199}

- male gender
- age (youth and younger adults)
- ethnicity (Maori males >non-Maori males >Maori females >non-Maori females)
- marital status (higher rates occur in males who are divorced, widowed or never married)
- occupation (e.g. police, miners, doctors, nurses, pharmacists, dentists, farmers and veterinarians).

There are also many conditions at an individual level that may contribute to suicide and these include:^{198 199}

- mental disorders
- previous suicide attempt, family history of suicide
- recent stress or life difficulty, childhood adversity and trauma
- unemployment and other socioeconomic/educational disadvantages
- physical comorbidity
- tendencies to react impulsively and aggressively under stress.

9.3.1. Mental disorders as risk factors for suicide

New Zealand and international evidence suggest that mental disorders are consistent and strong factors for suicidal behaviour.^{199 5}

A review of the associations between mental disorders and suicidal behaviour was recently published (Beautrais et al - 2005)¹⁹⁹ with the key points summarised below. Data from the recent NZMHS on suicidal behaviours in people with mental disorder are covered in the following section.

Research internationally and in New Zealand has found that 63-98% of people who commit suicide or make serious suicide attempts had one or more mental disorders at the time of the event. High rates of comorbidity (two or more mental disorders) are associated with suicide risk and occur in more than 50% of suicides or serious suicide attempts.

The mental disorders particularly associated with suicide are mood disorders, substance-use disorders, schizophrenia and personality disorders:

- Mood disorders (including major depression, bipolar disorder and dysthymia) are the mental disorders with the strongest role in suicide and serious suicide attempts, occurring in 25-90% of cases. In individuals with major depression, the risk of suicide is increased 20-fold, 15-fold in those with bipolar disorder and 12-fold for people with dysthymia. Overall, a person with a mood disorder has a lifetime risk of suicide of about 4%.
- Substance-use disorders occur in 19 to 63% of people with suicidal behaviour. In particular, alcohol-use disorders are associated with an increased risk of suicide of about six-fold.
- Personality disorders are associated with a lifetime risk of suicide estimated at 4 to 8%. Antisocial and borderline personality disorders are the personality disorders most commonly associated with suicide.
- People with schizophrenia have a suicide risk is 30-40 times greater than the general population, with a lifetime risk of suicide estimated to be between 4 to 10%.
- Anxiety disorders are found in 3-17% of people with serious suicidal behaviour; however, this figure is likely to be an underestimate. These disorders often occur in people with mood disorders and substance-use disorders.
- Eating disorders in females may be associated with a four-fold higher rate of suicide attempts.

Due to the link between mental disorders and suicidal behaviour, many people will have had contact with mental health services. It has been estimated that more than 20% of suicides that occur in the period shortly after people have been hospitalised with mental illness could be prevented.

9.4. The cost to society of suicide

Suicide is the most common cause of fatal injury in New Zealand, followed by motor vehicle crashes. O'Dea and Tucker (2005) estimated the economic and non-economic costs to New Zealand society of suicide in 2002.²⁰⁰ Economic costs were defined as services used in cases of suicide as well the lost production due to exit from the workforce. Non-economic costs are the lost years of disability-free life as well as the grief of family, whānau and others.

The total cost per suicide was estimated at almost three million dollars, the majority of which is made up of non-economic costs. If these costs are extrapolated to CM, then the approximately 130 suicides in CM for the period of 2001-2003 resulted in economic costs of approximately \$60,000,000 and non-economic costs of \$330,000,000, or an average yearly total cost to the CM region of approximately \$130,000,000.

9.5. Prevalence of suicidal behaviour in the NZ Mental Health Survey

Recently published data on suicidal behaviour from the Te Rau Hinengaro: NZ Mental Health Survey (NZMHS) of almost 13,000 adults aged 16+ are summarised below:^{201 5}

Lifetime prevalence of suicidal behaviour for the general population aged 16+

In total, about 16% of the population reported ever having thought seriously about suicide (suicidal ideation), 6% had made a suicide plan and 5% had made a suicide attempt.

Twelve-month prevalence of suicidal behaviour for the general population aged 16+

In the past 12 months, 3% had suicidal ideation, 1% made a suicide plan and 0.4% made a suicide attempt.

Sociodemographic factors and suicidal behaviour

The 12-month suicidal rates were significantly higher in females, younger people, people with lower educational qualifications, people with a low household income or living in more deprived or urban areas.

Suicide plans and suicide attempt were more common among younger people, people with low household income and people living in more deprived areas. Suicide attempts were also higher in urban areas.

Proportion of people with suicidal behaviour seeing a health professional

Of particular note, less than half of people reporting suicidal behaviour in the previous 12 months had seen a health professional in that period. Less than a third (31.5%) of those who attempted suicide received treatment from a psychiatrist.

The NZMHS concluded that the findings in the survey were generally consistent with NZ and international research that suggest that a substantial proportion of people with suicidal behaviours and the mental disorders with which they are associated with, do not receive treatment. Another comment was that emerging evidence suggests that of those who do have treatment contact, only a minority receive adequate treatment.

Ethnic differences in suicidal behaviour

NZMHS data are currently available for only three ethnic groups – Māori, Pacific peoples and Others (i.e. European, Asian and all others combined).

Māori and Pacific peoples had higher prevalences of suicidal ideation, suicide plans and suicide attempts in the previous 12 months than Others. After adjusting for sociodemographic factors (age, gender, education, household income), there were no differences in suicidal ideation. However, Māori and Pacific peoples still had higher prevalences of:

- suicide plans (Māori 0.9%, Pacific peoples 1%, Others 0.3%)
- suicide attempts (Māori 0.7%, Pacific peoples 0.8%, Others 0.3%).

People with mental disorders and suicidal behaviour

People with mental disorders had much higher rates of suicidal behaviour than the general population. Approximately 12% of people with any mental disorder reported suicidal ideation, 4% made a suicide plan and 1.5% made a suicide attempt during a 12-month period.

Mood disorders, anxiety disorders, substance use disorders and eating disorders were all associated with increased rates of suicidal ideation, suicide plan and suicide attempt. The 12-month rates did, however, vary considerably by individual disorder. Drug dependence and eating disorders were associated with the highest rate of suicide attempts (11% and 9% respectively). The highest rates of suicidal ideation were with drug dependence (41%), dysthymia (28%) and obsessive-compulsive disorder (27%).

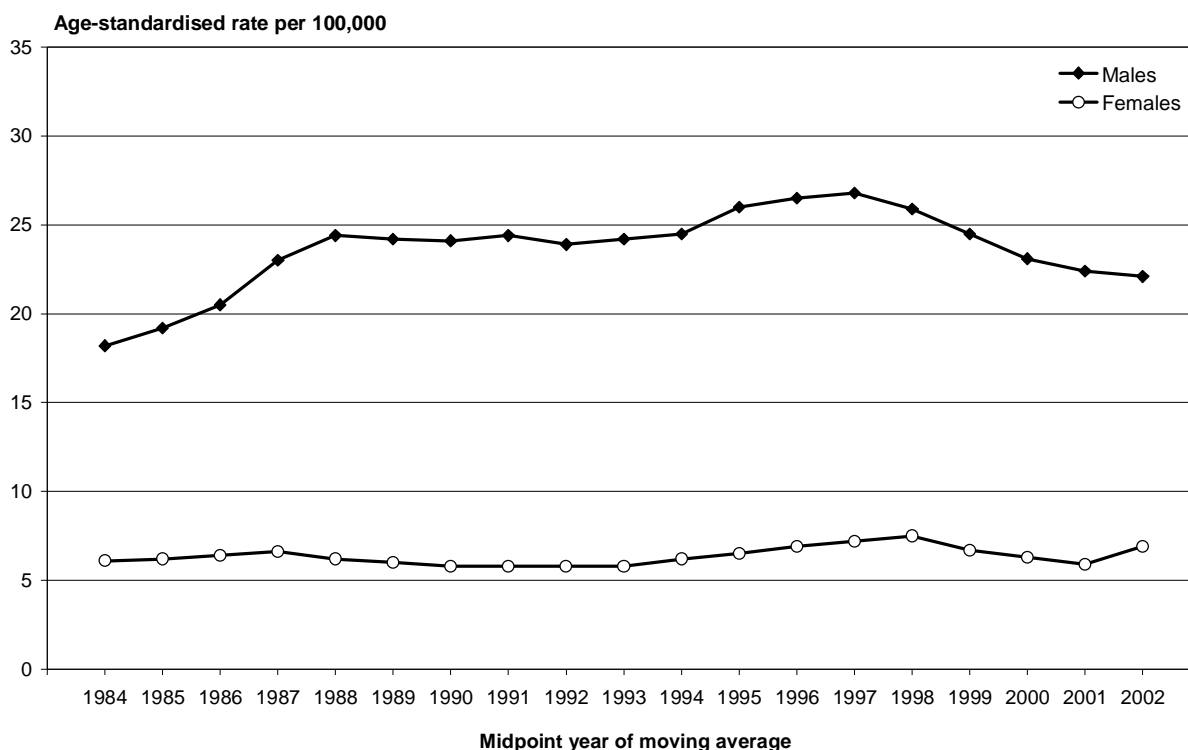
In addition, as the number of mental disorders and individual had increased, the likelihood of suicidal behaviours increased markedly.

9.6. Suicide trends in New Zealand and Counties Manukau

The suicide rates in New Zealand increased over the period from the early 1980s to the mid 1990s, driven almost entirely by an increase in male suicides, particularly youth suicide. Since 1998, suicide rates have declined slightly. For the 2001–2003 period, the overall suicide rate was approximately 14 deaths per 100,000 population, with an average of 494 deaths per year.²⁰²

Female rates have been fairly stable since 1983. Male rates, however, have fluctuated over time with a peak in 1996-1998 and were generally 3-4 times higher than those for females (see Figure 47). The gender difference in CM is similar, with male rates significantly higher than female rates.

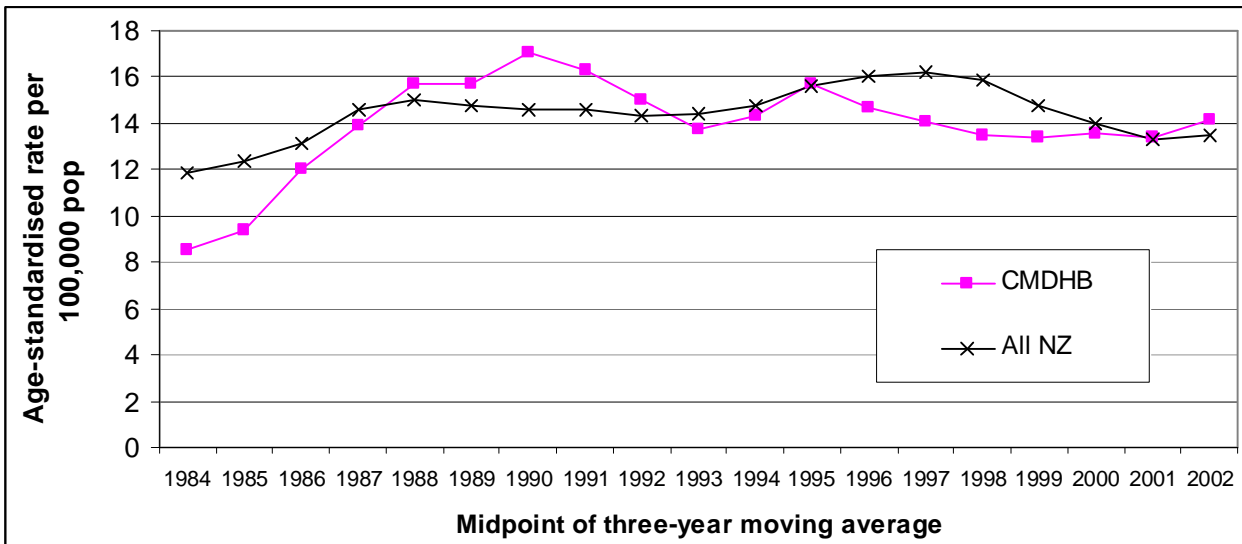
Figure 47: New Zealand suicide rates, 1983–2003



Source: New Zealand Suicide trends: 1921-2003²⁰². Three-year moving average. WHO world standard population.

The suicide rates in CM have also increased since the 1980s and have fluctuated above and below the national rate (see Figure 48). Some caution is recommended when interpreting the CMDHB rates as the number of suicides is relatively small (~40 per year over the 2001-2003 period). Approximately 70% of the suicides in CM are male.

Figure 48: Age-standardised suicide rates per 100,000 – NZ and CM, 1983 to 2003



Data source - New Zealand Suicide trends: 1921-2003.²⁰² WHO world standard population.

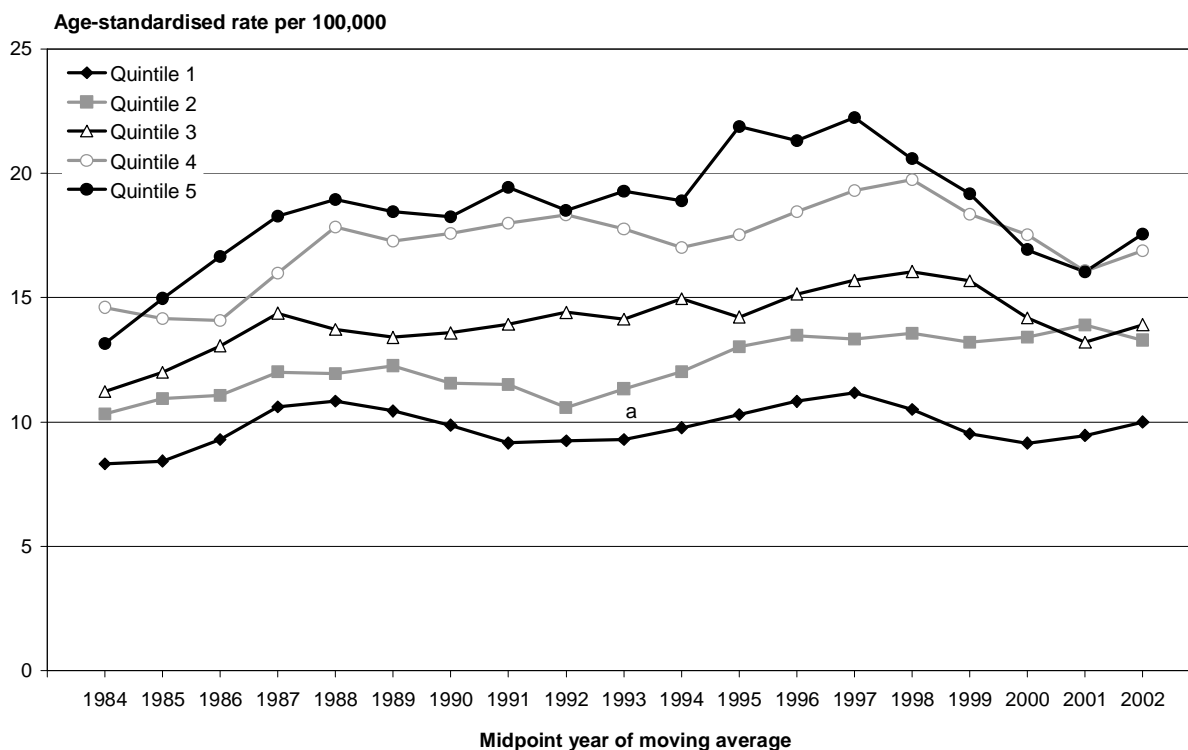
9.7. Suicide trends in NZ, by deprivation status

There is a strong association between deprivation and suicide. Data for the 1983-2003 period showed that the more deprived areas in New Zealand had consistently higher suicide rates than the less deprived areas (see Figure 49).

The least deprived (NZDep01 quintile 1) areas of New Zealand have shown relatively little variation in rates over the last 20 years (8.3-11.2 per 100,000 pop) compared those living in the most deprived areas (13.1-22.2 per 100,000 population) over this period.

The increase in suicide rates in NZ over the late 1980s to mid 1990s was largely limited to those living in the more deprived deciles.

Figure 49: Suicide trends in NZ by deprivation status, as measured by NZDep01 decile

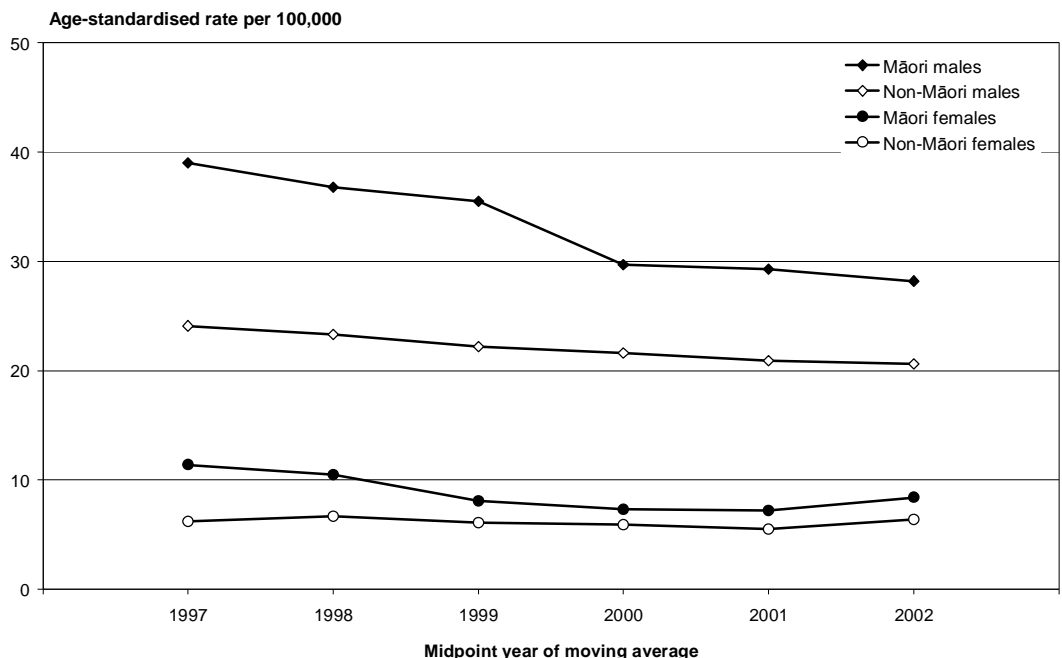


9.8. Suicide trends in NZ, by ethnicity

In NZ from 1996-2003, the age-standardised rates for Māori were consistently higher than for non-Māori; however, these differences are much greater for Māori men than for Māori women (see Figure 50).

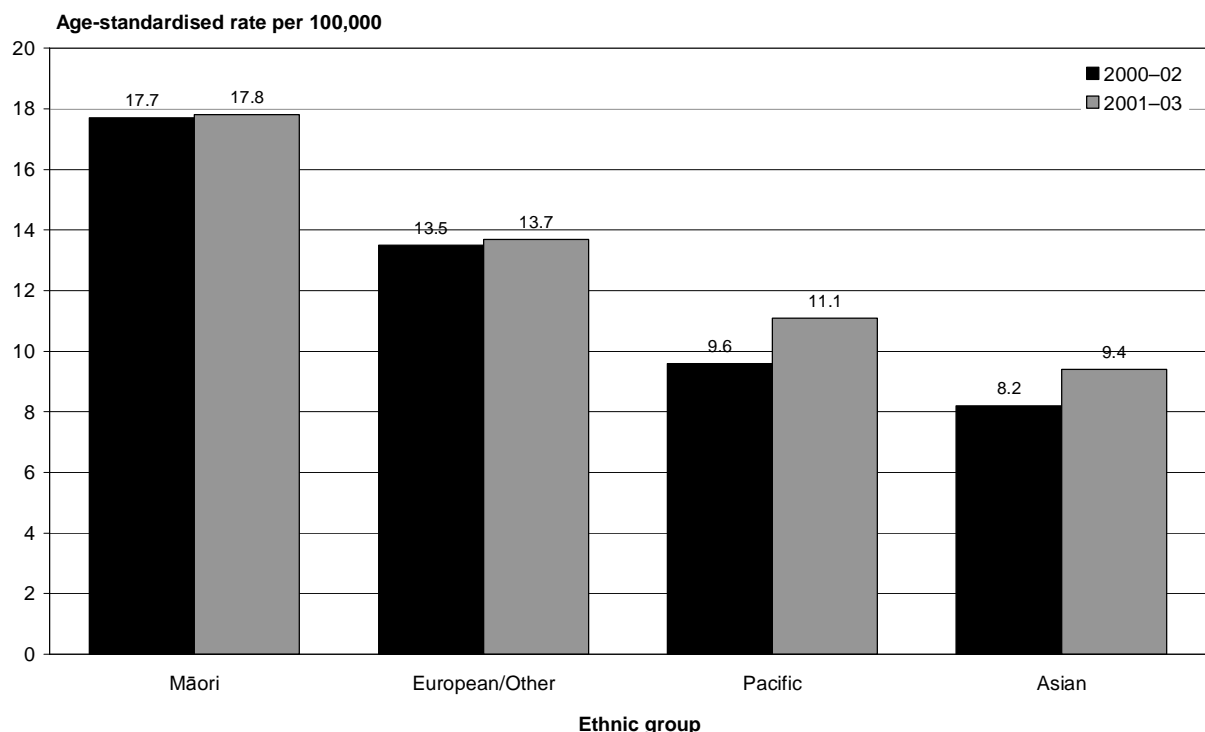
For the three-year period of 2000-2003 (see Figure 51), Māori had the highest age-standardised rates (~18 per 100,000), followed by European/Other (~14 per 100,000). Pacific and Asian rates were similar at about 10 and 9 per 100,000 respectively.

Figure 50: NZ suicide rates, by ethnicity, and gender (three-year moving averages, 1996-2003)



Source: New Zealand Suicide trends: 1921-2003.²⁰² WHO standard population. Note: New Zealand Census Mortality Study (NZCMS) adjustors were applied to mortality counts from 1996-1999 to address the undercount for Māori.

Figure 51: Age-standardised suicide rates, by ethnicity, three-year moving averages, NZ, 2000-2003



Source: New Zealand Suicide trends: 1921-2003.²⁰² WHO world standard population. Note: NZ Census–Mortality Study adjustors can be applied to mortality counts from 1996–1999 to address the undercount for Māori and Pacific peoples. However, it is not valid to compare adjusted and unadjusted mortality figures. From 2000, comparisons across all the ethnic groups are possible as adjustors are not necessary.

9.9. Suicide trends in NZ, by age-group

There have been some marked changes in the suicide rates by age-group over the period from 1983-2003. The trends over time have been driven largely by male suicides.

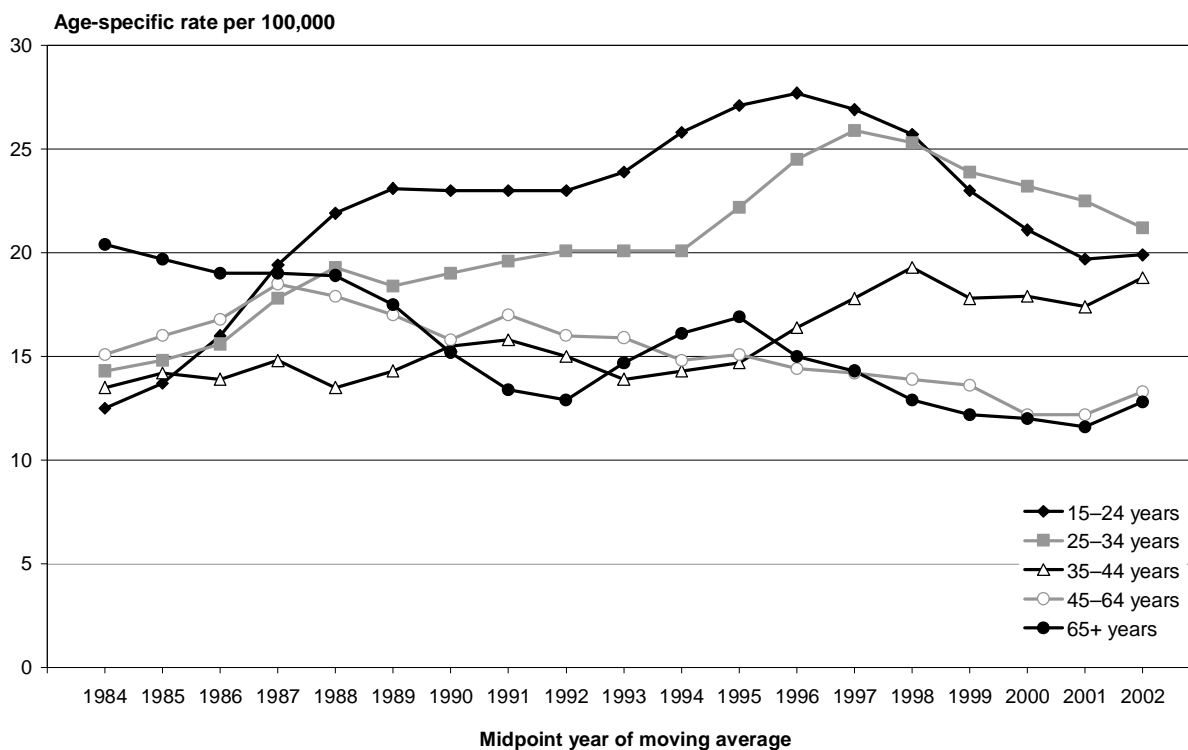
For the 1983-1985 period in NZ, people aged 65 years and over had the highest suicide rate, and youth (15–24 years) had the lowest rate.

By the late 1990s this situation had reversed. Suicide rates for youth and young adults (15 to 34-year olds) increased, while rates for the middle and older age groups (45 years and over) decreased. The suicide rate for adults aged 35 to 44 years increased towards the end of the 1990s.

In the most recent period, 2001-2003, adults aged 25–34 years had the highest suicide rate.

Due to the low numbers it is difficult to draw reliable conclusions on age trends for CM.

Figure 52: NZ age-specific suicide rates, three-year moving average, by age-group (1983-2003)



Source: New Zealand Suicide trends: 1921-2003.²⁰²

10. Mental health and addiction services provided to the Counties Manukau catchment area

This section focuses on the mental health and addiction services provided to the population within the CM catchment area. The catchment area is the CMDHB district plus the adjacent ADHB areas of Otahuhu East and West.

Certain DHB services are provided as a regional or metro-Auckland service. Other services are delivered by CMDHB as a local service. The DHB services focus on supporting people with the most serious mental health needs to achieve recovery of a full life within the community. These services are primarily delivered within the community, with access to inpatient services where necessary.

Local and regional Non-Government Organisations (NGOs) provide a broad range of mental health and addiction services to the population of CMDHB.

Many people with mental illness are seen in primary care. In addition, specific programmes are being undertaken by PHOs (Primary Health Organisations). The Auckland Regional Public Health Service also has specific programmes in the areas of alcohol, family violence and refugee health.

10.1. Regional and metro-Auckland DHB services

Regional mental health services are defined here as services delivered by a lead DHB to the three DHB areas in the Auckland region (ADHB, WDHB and CMDHB) as well as to the Northland DHB.

Metro-Auckland mental health services are services delivered by a lead DHB to the three DHB areas in the Auckland region (ADHB, WDHB and CMDHB).

10.1.1. Community Alcohol and Drug Services (CADS)

The CADS are provided by WDHB and comprise a broad range of community and inpatient metro-Auckland services throughout the Auckland region. These services include:

- CADS Alcohol and Drug Counselling (one branch is located within CMDHB)
- Medical Detoxification Service
- Parenting and Parental Service
- Auckland Methadone Service
- Youth Service (Altered High)
- Pacific Counselling Service (Tupu)
- Dual Diagnosis Service (mental illness and alcohol and/or other drug problem)
- Māori Counselling Service (Te Ātea Marinō)
- Chinese Counselling Service
- Gay and Lesbian Counselling Service
- Community Training Service.

For further information on these services, see www.cads.org.nz.

10.1.2. Forensic Mental Health Services

Adult forensic service

The Auckland Regional Forensic Service led by WDHB and provides inpatient, community liaison and transition forensic services. Based at the Mason Clinic, Pt Chevalier, Auckland.

Youth forensic service

Regional service provided by ADHB. Based at the Kari Centre, Grafton, Auckland.

10.1.3. Eating Disorders Service

Regional service provided by ADHB, based in Ponsonby, Auckland.

10.1.4. Dual Disability Mental Health Service

An adult mental health multi-disciplinary service for people with a Dual Disability (mental disorder, an intellectual disability and / or brain injury and complex needs). Provided by CMDHB via a mobile community service as well as clinics.

10.1.5. Intensive Clinical Support Services

Metro-Auckland Child and Youth service provided by Waitemata DHB.

10.1.6. Starship Liaison Services

Metro-Auckland outpatient and inpatient service provided by Auckland DHB.

10.1.7. Child and Family Unit

Regional inpatient service provided by ADHB and is located in the Starship Hospital.

10.1.8. Tamaki Oranga

CMDHB provided regional beds) and CMDHB (10 beds) inpatient rehabilitation service that is located in Otara, South Auckland.

10.1.9. Segar House

Regional psychotherapy service provided by ADHB. Segar House is based in Kyber Pass Road, Auckland.

10.2. CMDHB local mental health services

A CMDHB local mental health service is defined as a service delivered by CMDHB to people within the CMDHB mental health catchment area. These services involve a diverse range of inpatient and community-based services.

10.2.1. Community Mental Health Teams

Four geographically located CMDHB Community Mental Health Teams provide care for CM clients in a community setting through outpatient and home visits as well as a 24-hour mobile crisis service. The teams are based at Awhinatia (Pakakura), Manukau Community Mental Health Centre, The Cottage in Otahuhu and Te Rawhiti in Highland Park.

10.2.2. ICT: Intensive Community Team

The ICT is a multi-disciplinary team that provides treatment for consumers with high needs living in the community.

10.2.3. Māori Clinical Team

Māori community mental health services are provided by a specialist Māori clinical team that deals with clinical issues and high support needs. Based at the Cottage.

10.2.4. Faleola (Pacific) Mental Health Services

Faleola Services provides clinical community mental health services for Pacific peoples and is based at the Cottage.

10.2.5. Community Child and Youth Mental Health Services

The CMDHB child and youth mental community health services are delivered via the Whirinaki Child and Adolescent Mental Health Service (formally Campbell Lodge), based at in East Tamaki.

Note that there are no CMDHB inpatient child and youth mental health facilities. Inpatient services are provided by the Child and Family Unit at the Starship Hospital.

10.2.6. Early Psychosis Intervention Team

The Early Psychosis Intervention Team addresses the needs of child and youth with emerging or manifest psychotic disorder. Whirinaki Child and Adolescent Mental Health Service

10.2.7. Mental Health Services for Older People (MHSOP)

MHSOP offers a fully integrated community and inpatient assessment and treatment mental health service for older people (65+) within the CM area. Ward 22 at Middlemore Hospital is an acute admitting ward with 15 inpatient beds. People aged <65 years can also be seen if they have an age-related disorder.

10.2.8. Adult Inpatient Mental Health Services (Tiaho Mai)

Tiaho Mai is the acute adult inpatient assessment and treatment unit for CMDHB and is located in Middlemore Hospital, Otahuhu. It provides 50 beds (mix of open and high intensive care) over three wards (Tui, Huia and Kuaka).

10.2.9. Tamaki Oranga Inpatient Rehabilitation Unit

Tamaki Oranga is a 20 bed inpatient rehabilitation unit based in Otara. Ten beds are for people in the CMDHB catchment area. The other 10 beds are for a metro-Auckland service.

10.2.10. Liaison Psychiatry

The Liaison Psychiatry service is based at Middlemore Hospital and provides psychiatric assistance and advice to the Emergency Department and other Middlemore departments.

10.3. NGO mental health services

There are many local and regional NGOs that provide mental health and addiction services to the population of CM in addition to the DHB mental health services. The types of services provided include:

- Alcohol and drug – Community treatment
- Alcohol and drug – Residential services
- Community support work / Iwi support work
- Community living service
- Consumer / family / whanau networking and support
- Early intervention
- Gambling support services
- Mobile community support
- Refugee and migrants
- Residential services
- Subacute services
- Vocational services.

Some of the services provided by NGOs are Kaupapa Māori and Pacific services.

10.4. Primary care mental health and addiction services and initiatives

It has been estimated that 20% of the population in NZ have a diagnosable mental illness at any one time.²⁰³ The large majority of these people have less severe, moderate, and milder illnesses and problems, which usually do not require specialist mental health services. New Zealand and international research suggests that about a third of people who consult general practice have a mental health problem or illness at the time of consultation, or have experienced one in the past year.^{79 204} Primary care has an important role in the detection of mental health conditions and the provision of mental health services.

In addition to the services provided by primary care practitioners, there are a number of specific programmes in place, which are outlined below.

10.4.1. Physical health project

This CMDHB project is developing and implementing a pilot programme aimed at improving utilisation of primary health care services by mental health service users with high needs. There is also a focus on monitoring and addressing potential physical health complications that can arise as a result of the use of atypical antipsychotic medications.

10.4.2. Providing Access to Health Solutions (PATHS)

PATHS is a joint project undertaken by CMDHB, the Ministry of Social Development and WINZ with the aim of assisting people who receive the Sickness or Invalids Benefit to return to the workforce. This service is offered to primary providers and is available for people with stress, depression and/or anxiety disorders. The programme utilises a case management model and also supports clients to access WINZ health and disability systems to ensure they receive appropriate health interventions and assistance.

10.4.3. Chronic Care Management Programme – Depression module

CMDHB has Chronic Care Management (CCM) programmes that target high-risk patients in a number of areas (diabetes, CVD, COPD and CHF). The CCM Depression programme is a new module that is currently undergoing a 2-year pilot in a number of practices across three PHOs (ProCare, Ta Pasefika and Te Kupenga O Hoturoa Charitable Trust) Patients aged 18-64 years with moderate to severe depression are eligible to be enrolled in the programme for a 6-18 month period.

The CCM programmes aim to improve the quality of life of patients, improve the efficiency of health delivery, and prevent hospital admissions. Comprehensive case management is undertaken based upon internationally accepted best practice processes. Increased resources allow increased consultation time for nurses and doctors.

10.4.4. Other PHO Mental Health Services

In addition to the CCM depression programme outlined above, there are other PHO mental health initiatives. For example:

ProCare South

In addition to the CCM depression module, ProCare has the *Sickness Benefit and Invalid's Benefit Programme*, which is aimed at clients with illnesses or disabilities who want to go back to work. Three employment focused pilot initiatives are currently underway and are provided by ProCare and PATHS (Providing Access to Health Solutions) and Workwise.

East Health Services

East Health has a MOH funded mental health initiative to establish and provide a coordinated service for mental health clients with mild to moderate mental illness. There is also a Care Plus initiative which allows people with significant chronic illnesses (e.g. diabetes, heart disease, mental health needs, or a terminal illness) to receive intensive clinical management in primary care at a low cost.

Peoples Healthcare Trust

A nurse specialist case manages mental health clients and facilitates communication between primary and secondary care. There is also a focus on providing emotional and financial support for low socio-economic and immigrant and refugee populations, who have high mental health needs. In addition, there is an alcohol and drug detoxification service.

Pacific PHO coordinating group initiative

This MOH funded initiative is led by Ta Pasefika in collaboration with AuckPac PHO and Tongan Health Society PHO. The objectives are to develop the capacity and capability of the Pacific primary care workforce to identify the risk factors of mental illness and to facilitate appropriate interventions in a primary care setting.

TaPasefika PHO

In addition to leading the Pacific PHO coordinating group' initiative, Ta Pasefika also has the following mental health initiatives:

- Alcohol and Other Drugs Service
- Chronic Care Management – depression module
- School clinics to promote awareness of alcohol and drug issues
- Depression screening
- Family support programme – in collaboration with Plunket. Has a mental health overlay.

10.4.5. General Practitioner Methadone Services

A number of GPs have been authorised by the CADS Auckland Methadone Service (AMS) to prescribe methadone. Patients can be transferred from the AMS to GPs when they have been assessed as being stable and not requiring much input from a case manager.

10.5. Auckland Regional Public Health Service (ARPHS)

The ARPHS provides public health services for the three DHBs in the Auckland region (CMDHB, ADHB and WDHB) across a broad range of areas. Programmes being undertaken in 2006/2007 with a specific mental health or alcohol focus are discussed below.

10.5.1. Refugee and Asylum Seeker Screening Programme

This programme aims to improve the health status of this population in the Auckland region by undertaking health needs assessments, screening for disease and managing health issues. In addition, an aim is to provide mental health promotion services, including working with mental health services to provide better services for this population.

10.5.2. Reducing Alcohol-Related Harm

Legislative and Leadership programme (alcohol and smoking): ARPHS aims to become a leader in regional alcohol- and tobacco-related harm reduction. Programme components include monitoring of liquor licence applications, off-licence server education and Regional Alcohol Project (RAP) Coordination.

Alcohol in Clubs programme: this programme once underway aims to reduce levels of liquor abuse in clubs.

Family Violence Programme: aims to reduce mortality and hospital admissions rates for children as a result of unintentional injury.

11. Utilisation of DHB mental health and addiction services by Counties Manukau residents

11.1. Introduction

This chapter provides an overview of key areas of demography and service utilisation for Counties Manukau residents seen by any DHB mental health service in New Zealand for the 2005 calendar year. DHB mental health and addiction services can be provided directly by CMDHB itself, by another Auckland region DHB as part of a regional service or by DHBs elsewhere in NZ.

All the data in this chapter are from the Mental Health Information National Collection (MHINC), a national database of information collected by the New Zealand Health Information Service (NZHIS) to support mental health policy formation, monitoring and research. See section 2.6 for background on the MHINC and data notes.

Note that this report is restricted to DHB services only. Non-government organisation (NGO) mental health provider data are excluded from this report due to low level of reporting of data by NGOs to the MHINC.

11.2. Client overview and demography

This section provides an overview of the MHINC data regarding client numbers and trends over time as well as the demography of CM domiciled mental health clients seen by any DHB mental health service in New Zealand in the 2005 calendar year. Selected national comparisons are also provided.

11.2.1. Clients seen in 2005

In 2005, a total of 8,424 unique CM residents were seen by a DHB mental health service anywhere in New Zealand.

The Mental Health Commission estimates that in any one year 3% of the population has a mental illness severe enough to benefit from secondary mental health services. This has become a measure of access for the mental health strategy. Using this measure, 1.94% (1,940 per 100,000) of the CM population accessed secondary mental health services in 2005. By comparison, 2.20% of the population resident in the rest of NZ accessed secondary mental health services.

The overall CM age-standardised rate was 2,400 per 100,000, significantly lower than for clients resident in the rest of New Zealand (3,100 per 100,000).

CM clients accounted for 9.5% of the total unique mental health clients seen in NZ in 2005. By comparison, the total CM population in 2005 was 10.6% of the total NZ population.

The total number of visits in the year between the CM clients was 34,259 with the average number of visits being 4.1, slightly less than 4.6 visits for the rest of NZ (see Table 84).

Table 84: Clients seen by DHB mental health services in 2005 – CM and rest of NZ

Parameter	CM	Rest of NZ
Average number of clients seen per month	2,855	30,629
Total number of clients seen in a year	34,529	367,553
Number of unique clients seen in a year	8,424	80,645
Average number of visits per client per year	4.1	4.6
Unique clients seen per year as proportion of DHB population (2005) *	1.94%	2.20%

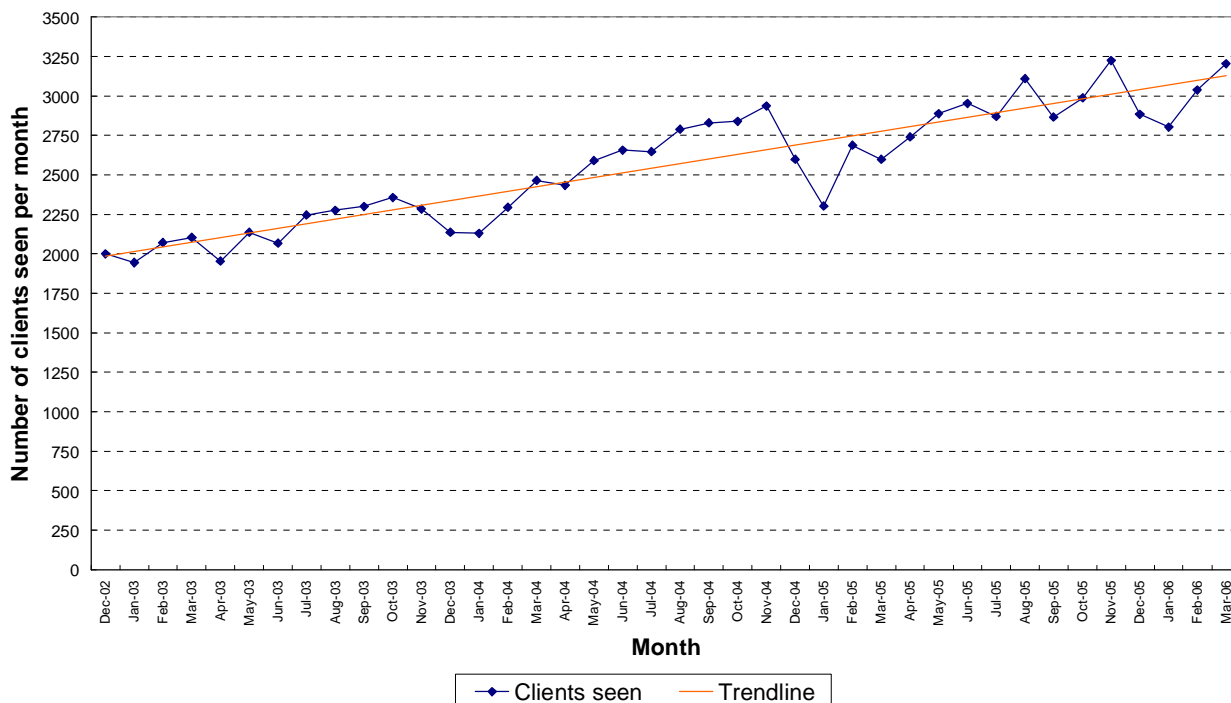
MHINC data, 2005 calendar year.

* CM residents versus clients resident elsewhere in NZ as proportions of respective DHB populations (SNZ 2005 population projections – performed Oct 2005).

11.2.2. Number of CM clients seen – trends

Access rates have been steadily improving in CMDHB. Figure 53 shows visit numbers by month for unique individuals (in that month) rising from around 2000 per month in 2002/03 to over 3000 in 2006.

Figure 53: Numbers of CM clients seen per month, trends Dec 2002 – March 2006



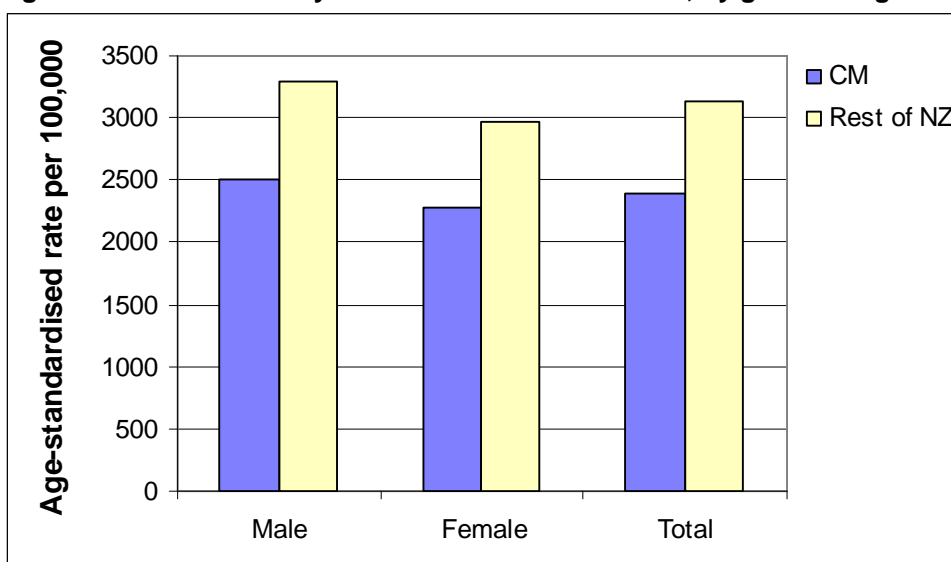
11.2.3. Clients seen, by gender

Of the 8,424 unique CM domiciled clients seen by a DHB mental health service in 2005, 53% were male and 47% were female.

The male access rate was 2.1% (2,100 per 100,000) and the female access rate was 1.8% (1,800 per 100,000). By comparison, for clients resident elsewhere in NZ, the male access rate was 2.3% (2,300 per 100,000) and the female rate was 2.1% (2,100 per 100,000).

The CM male age-standardised rate was 2,500, significantly higher than for females (2,300). The CM rates were significantly lower compared to clients resident in the rest of New Zealand which had a male rate of 3,300 per 100,000 and a female rate of 3,000 (see Figure 54). Note that the rates above have been rounded to nearest 100.

Figure 54: Clients seen by DHB mental health services, by gender – age-standardised rates (2005)

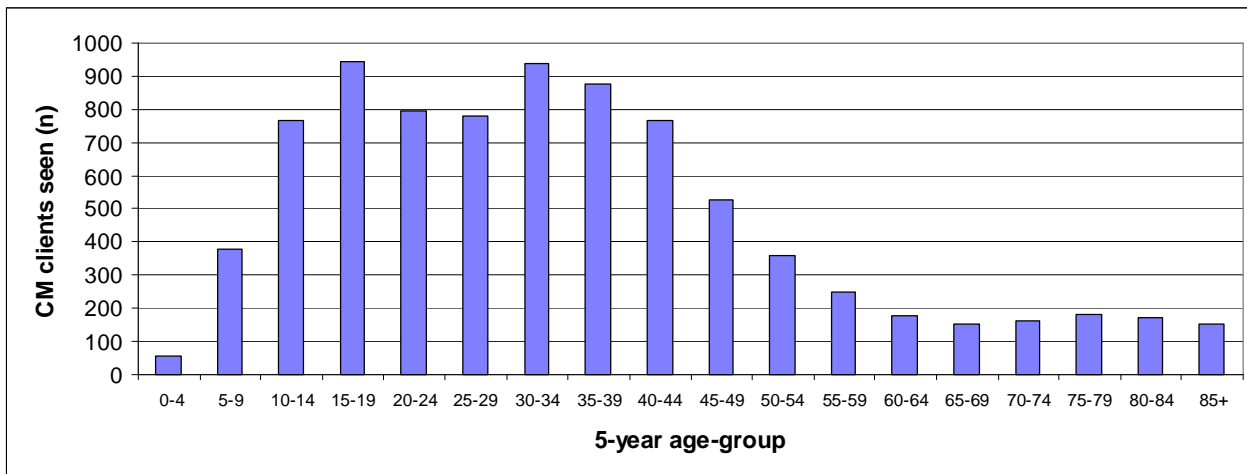


MHINC data, 2005 calendar year. Age-standardised using the 2001 NZ Census population.

11.2.4. CM clients, by age group

In terms of the CM domiciled clients seen in 2005, the age-distribution is skewed (see Figure 55). The majority of clients seen are in the adolescent to early 40s age range. After the early 40s, the numbers of clients seen in each age group declines until the early 60s then remains relatively constant thereafter.

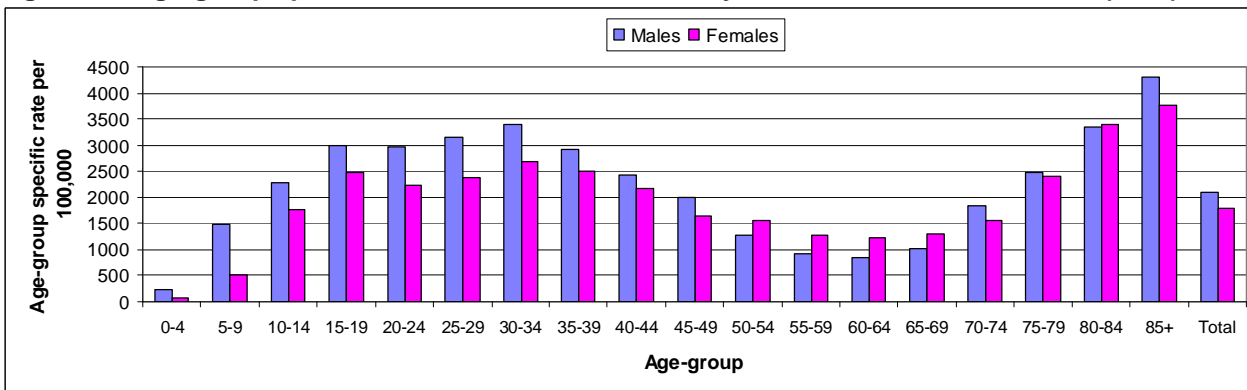
Figure 55: Numbers of CM clients seen by DHB mental health services, by age-group (2005)



MHINC data, 2005 calendar year. CMDHB analysis.

The 5-year age-group rates show a similar pattern to the absolute numbers of clients up to the early 60s for both males and females; however, after this there is a steep increase in rates with increasing age (see Figure 56). The 5-year age-group rates for males are higher than for females in all age-groups except for the 50-69 and 80-84 year age-groups.

Figure 56: Age-group specific rates for CM clients seen by DHB mental health services (2005)

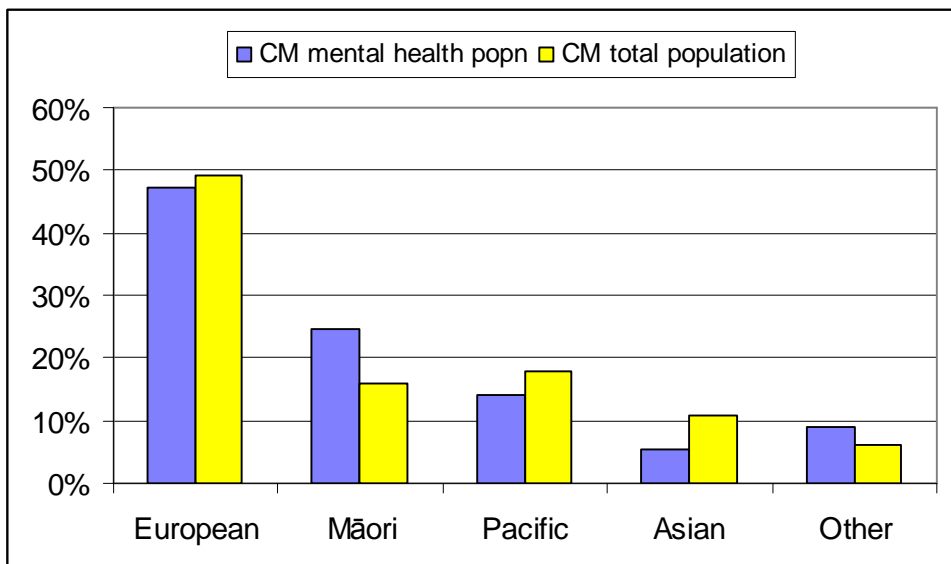


MHINC data, 2005 calendar year. CMDHB analysis.

11.2.5. Clients seen, by ethnic group

Of the 8,424 unique CM domiciled clients seen by DHB mental health services in New Zealand in the 2005 calendar year, the largest ethnic group was European (47%), followed by Māori (24%) and then Pacific peoples (14%) – see Figure 56). By comparison, the ethnic breakdown of the total CM population in the 2001 Census is also shown. Of particular note is that Māori mental health population account for a greater proportion than in the total CM population and the Pacific and Asian mental health populations are less than in the 2001 Census.

Figure 57: Ethnicity of CM domiciled mental health clients (2005) versus the CM usually resident population 2001 Census (prioritised ethnicity)



MHINC data, 2005 calendar year. CMDHB analysis. Prioritised ethnicity.

Note that the “Other” ethnic group also includes 2.2% of clients who have a prioritised ethnicity SNZ code of 99 (not stated).

Table 85 gives a more detailed breakdown of the CM clients by SNZ Level 2 prioritised ethnicity. Of note, 457 (5.4%) had a prioritised SNZ Level 2 ethnicity of “54” (Other) and 203 (2.2%) had a code of “99” (Not stated). It is likely that some of these clients have been miscoded and so the number of clients in other ethnic groupings may have smaller undercounts as a result.

Table 85: Unique CM residents seen in 2005, by ethnic group (prioritised ethnicity)

SNZ Level 1 ethnicity			SNZ Level 2 ethnicity			
Ethnic group	n	%	Ethnic code	Ethnic description	n	%
European	3970	47.1%	10	European NFD	184	2.2%
			11	New Zealand European / Pākehā	3417	40.6%
			12	Other European	369	4.4%
Maori	2064	24.5%	21	Māori	2064	24.5%
Pacific	1180	14.0%	30	Pacific peoples NFD	22	0.3%
			31	Samoan	466	5.5%
			32	Cook Island Maori	287	3.4%
			33	Tongan	192	2.3%
			34	Niuean	108	1.3%
			35	Tokelauan	10	0.1%
			36	Fijian	55	0.7%
			37	Other Pacific peoples	40	0.5%
Asian	456	5.4%	40	Asian NFD	34	0.4%
			41	Southeast Asian	23	0.3%
			42	Chinese	113	1.3%
			43	Indian	202	2.4%
			44	Other Asian	84	1.0%
Other	754	9.0%	51	Middle Eastern	53	0.6%
			52	Latin American / Hispanic	3	0.0%
			53	African (or cultural group of African origin)	38	0.5%
			54	Other	457	5.4%
			99	Not stated	203	2.4%
Total	8424	100%			8424	100.0%

MHINC data, 2005 calendar year. CM domiciled clients seen by any DHB mental health service in NZ.

NFD = Not further defined, SNZ = Statistics New Zealand

Note: 457 clients (5.4%) had a prioritised SNZ Level 2 ethnicity of "54" (Other) and 203 (2.2%) had a code of "99" (Not stated). It is likely that some of these clients have been miscoded and so the number of clients in other ethnic groupings may have smaller undercounts as a result.

Crude ethnicity rates

Table 86 show the crude rates per 100,000 population by ethnic group for unique CM domiciled mental health clients and unique clients domiciled elsewhere in New Zealand.

The overall CM rate (1900) was significantly lower than the rate for the rest of NZ (2200). In contrast, the Māori rate for CM (2800) was significantly higher than for the rest of NZ (2500). For the other ethnic groupings there were no significant differences between CM and the rest of NZ. Within CM, Māori rates were the highest, followed by the "European and Other" group, whereas for the rest of NZ, there were no significant differences between these two groups. Pacific rates were low and Asian rates were the lowest for both CM and the rest of NZ.

Table 86: Unique clients seen by DHB mental health services - crude rates per 100,000 population by ethnic group for CM and rest of NZ (2005)

Ethnic group	Counties Manukau clients (rate per 100,000)	Rest of NZ clients (rate per 100,000)
Asian	700	600
European and Other	2300	2400
Māori	2800	2500 *
Pacific	1300	1400
Total	1900	2200 *

MHINC data, 2005 calendar year. CMDHB analysis. SNZ 2005 DHB population projections used as denominators (performed Oct 2005). * Significant difference between CM domiciled clients and clients domiciled elsewhere in NZ.

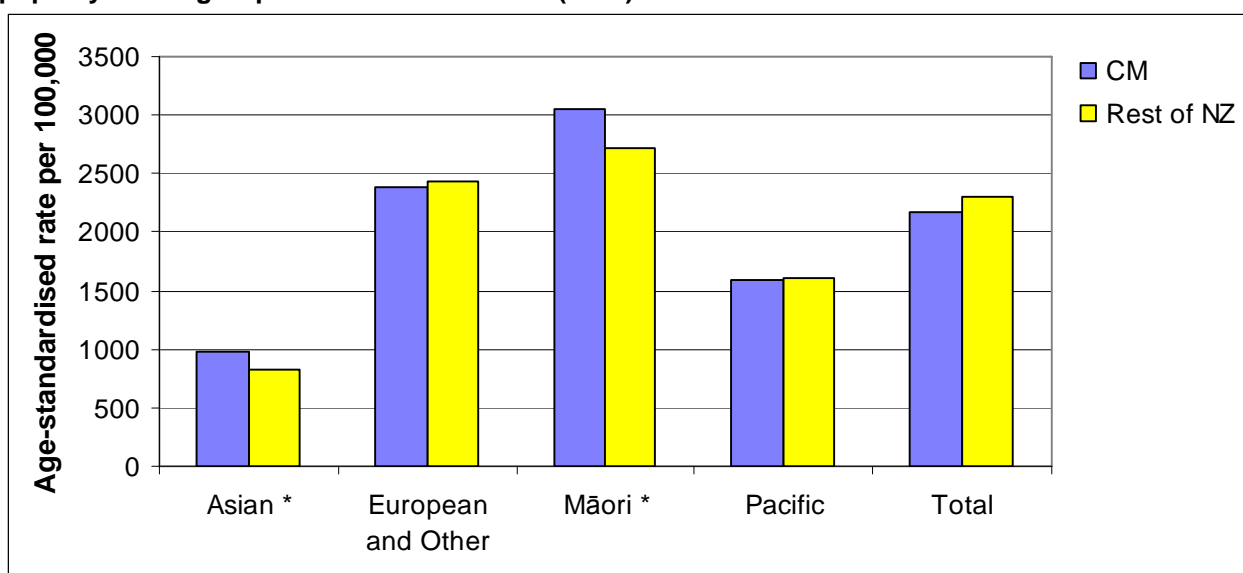
Age-standardised ethnicity rates

Figure 58 and Table 87 show the age-standardised rates per 100,000 population by ethnic group for unique CM domiciled mental health clients and clients domiciled elsewhere in New Zealand.

The pattern in the rates for the different ethnic groups was very similar for CM and the rest of NZ. Asian rates were the lowest with Pacific rates the next lowest, with both these rates significantly lower than the “European and Other” rate. The rate for Māori was significantly higher than all other ethnic groups.

The CM rates for Asian and Māori were significantly higher compared to the rest of NZ. CM rates for the other ethnic groupings were not significantly different from the rest of NZ.

Figure 58: Unique clients seen by DHB mental health services – age-standardised rates per 100,000 popn by ethnic group for CM and rest of NZ (2005)



MHINC data, 2005 calendar year. CM domiciled clients seen by any DHB mental health service in NZ.

SNZ level 1 prioritised ethnicity. 2001 Census NZ population used for age-standardisation.

* Significant difference between CM domiciled clients and clients domiciled elsewhere in NZ.

Table 87: Unique clients seen by DHB mental health services – age-standardised rates per 100,000 population by ethnic group for CM and rest of NZ (2005)

Ethnic group	Counties Manukau clients (rate per 100,000)	Rest of NZ clients (rate per 100,000)
Asian	970	830 *
European and Other	2395	2435
Māori	3055	2710 *
Pacific	1600	1610
Total	2180	2310

MHINC data, 2005 calendar year. CM domiciled clients seen by any DHB mental health service in NZ.

SNZ level 1 prioritised ethnicity. 2001 Census NZ population used for age-standardisation.

* Significant difference between CM domiciled clients and clients domiciled elsewhere in NZ.

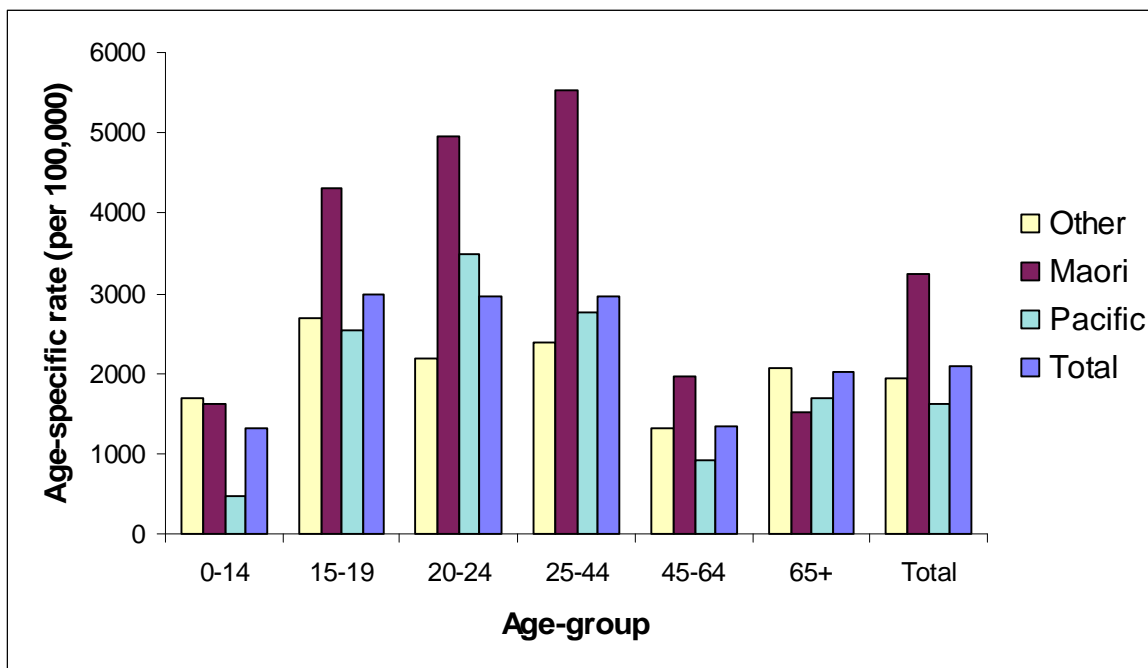
Age-specific ethnicity rates

Figure 59 and Figure 60 show the age-group rates per 100,000 population by ethnic group for CM male and female clients respectively. Male and female rates show a similar pattern with increasing age.

Of particular note is that overall Māori rates for both males and females are significantly higher than for other ethnic groups. The higher rates for Māori are particularly marked in the 15-44 year age-groups for males and 20-44 year age-groups for females.

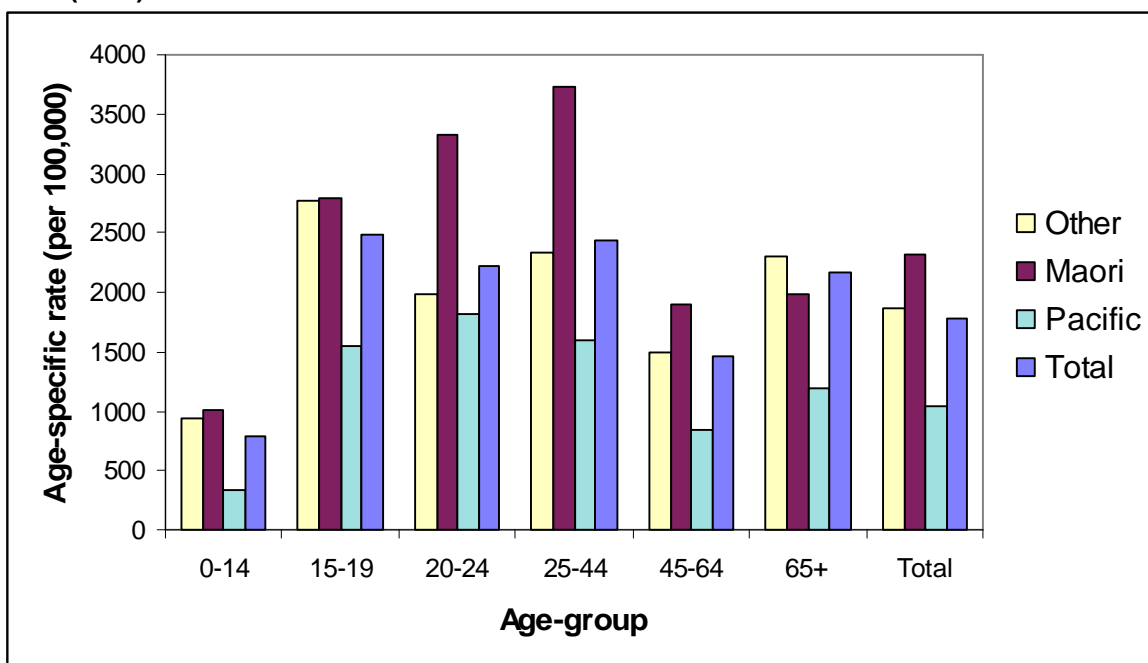
Also of note was that the Pacific female rates were lower in all age-groups compared to Māori and Other. For Pacific males, the overall rate was slightly less than for the “Other” ethnic group; however, the rate for Pacific males aged 20-24 was significantly higher than the “Other” ethnic group.

Figure 59: Unique male CM clients seen by DHB mental health services, by ethnicity - age-specific rates (2005)



MHINC data, 2005 calendar year. Male CM residents seen by any DHB mental health service in NZ. CM population data for 2005 (projections performed by SNZ 2005).

Figure 60: Unique female CM clients seen by DHB mental health services, by ethnicity - age-specific rates (2005)



MHINC data, 2005 calendar year. Female CM residents seen by any DHB mental health service in NZ. CM population data for 2005 (projections performed by SNZ 2005).

11.2.6. Access rates by age and ethnic group for CM and NZ

This section provides an overview of the access rates for unique CM domiciled mental health clients by broad age and ethnic groupings similar to the format used for DHB reporting.[ref]

Table 88 shows the access rates for the different groups in CM. Table 89 has the rates for NZ excluding the CM data. The access rates are calculated as the number of unique clients seen in 2005 divided by the respective 2005 resident population estimates. Note that NGO data are excluded due to the incompleteness of reporting and low numbers involved.

The overall access rate in 2005 for CM (1.94%) was lower than for the rest of NZ (2.20%). However, the CM access rates for Māori in all three age-groups were higher than for the rest of NZ. Overall Māori access rates in CM and nationally were higher than for non-Māori.

For CM domiciled clients, Pacific peoples had the lowest access rates for all age-groupings. The overall Pacific access rates in CM and nationally were lower than for the other ethnic groupings. The overall access rates for the "European, Asian and Other" ethnic grouping in CM were lower than for the rest of NZ

Table 88: Access rates for unique CM domiciled clients, by age and ethnic group (2005)

Age-group	Māori	Pacific	European, Asian and Other	Total
0-19	1.78%	0.75%	1.70%	1.46%
20-64	3.77%	1.86%	1.94%	2.19%
65+	1.81%	1.41%	2.20%	2.10%
Total	2.76%	1.34%	1.91%	1.94%

MHINC data, 2005 calendar year. Unique clients seen by any DHB mental health service in NZ. NGO data excluded. Access rate = number of clients / population in CMDHB. 2005 population data from SNZ projections (performed 2005).

Table 89: Access rates for unique clients (NZ, excluding CM), by age and ethnic group (2005)

Age-group	Maori	Pacific	European, Asian and Other	Total
0-19	1.46%	0.73%	2.06%	1.83%
20-64	3.51%	1.95%	2.41%	2.53%
65+	1.19%	1.50%	1.50%	1.49%
Total	2.49%	1.42%	2.19%	2.20%

MHINC data, 2005 calendar year. Clients seen by any DHB mental health service in NZ. NGO data excluded. Access rate = number of clients / population in NZ. 2005 population data from SNZ projections (performed 2005). Non-Maori includes Pacific, European, Asian and Other. SNZ prioritised ethnicity.

11.3. Overview of services

11.3.1. Introduction

This section provides an overview of the MHINC data regarding the type of DHB mental health and addiction services that clients visited in the 2005 calendar year.

11.3.2. Counties Manukau clients seen, by DHB of service

In total, 69.2% of the 8,424 CM residents seen by DHB mental health services in 2005 were seen by CMDHB delivered mental health and addiction services. Waitemata DHB saw the next largest proportion of clients (24.8%) followed by Auckland DHB at 3.4% (see Table 90).

Most of the CM clients seen by WDHB and ADHB received regional services delivered by these DHBs (e.g. Alcohol and Drug services, Forensic services and Eating Disorders services). Only 2.6% of CM clients were seen by DHBs outside the Auckland region.

However, as previously stated there may be errors in domicile coding, in particular affecting clients of the forensic services, resulting in an undercount of CM client numbers. However, these errors are unlikely to affect the proportions seen by different DHBs to a significant degree.

Table 90: CM clients seen by DHB mental health services, DHB of service (2005)

DHB of service	%
Counties Manukau	69.2%
Waitemata	24.8%
Auckland	3.4%
Other DHBs	1.5%
Waikato	0.6%
Northland	0.5%
Total	100%

MHINC data, 2005 calendar year.

11.3.3. CM clients by team type

The number of clients seen, bed nights and contacts for CM domiciled clients reported in the MHINC by each DHB mental health service team type are shown in Table 91. Please see Appendix C for descriptions of each team type.

Note that the overall number of clients seen (n=11,053) is higher than the number of unique CM clients seen in 2005 (n=8,424) as clients can be seen by more than team type and so can be counted more than once. Also note there may be some inaccuracies in domicile coding resulting in an undercount of CM clients, particularly affecting data for the Forensic team (team type 05)

Table 91: CM clients seen, bed nights and contacts by team type, 2005

Team type	Team type description	Bed nights	Contacts	Clients
01	Inpatient Team *	19,457	3,153	1,517
02	Community Team	1	85,144	3,928
03	Alcohol and Drug Team	524	10,574	1,421
04	Child, Adolescent and Family Team	1,030	15,916	1,523
05	Forensic Team	1,513	2,891	313
06	Kaupapa Māori Team	0	3,750	191
07	Pacific Island Team	0	7,305	445
08	Residential Team	31	1	1
09	Community Skills Enhancement Team	0	92	5
10	Alcohol and Drug Kaupapa Māori Team	0	2,689	397
11	Alcohol and Drug Dual Diagnosis Team	0	402	27
12	Intellectual Disability Dual Diagnosis Team	0	1,267	116
13	Psychogeriatric Team	3,990	5,092	754
14	Youth Specialty Team	4	842	100
15	Maternal Mental Health Team	0	461	107
16	Eating Disorder Team	0	290	17
17	Needs Assessment and Service Coordination Team	0	1,259	161
18	Specialist Psychotherapy Team	0	225	23
21	Children and youth, alcohol and drug services	0	1	1
99	Other	0	11	6
Total		26,550	141,365	11,053

MHINC data, 2005 calendar year. Data are either for bed nights or contacts, never both.

* Inpatient team client and contact data includes psychiatric liaison visits.

11.3.4. Client bed nights and contacts for CM and the rest of NZ

Table 92 shows the number of bed nights and contacts as well as the rate per 100,000 population for DHB mental health clients in 2005.

Note that in the MHINC, data are recorded as either bed nights or contacts, never both. Data are exclusive of forensic data due to concerns over domicile coding that particularly affect forensic data accuracy in the MHINC (see section 10.15 for more information on forensic data).

In both bed nights and contacts, rates for CM domiciled clients were lower than for the rest of NZ.

- o Bed nights: CM rate was approximately 72% of that for the rest of NZ
- o For contacts: CM rate approximately 83% of that for the rest of NZ.

CM in comparison to the rest of NZ appears to have relatively more non-inpatient than inpatient utilisation as the ratio of contacts to bed nights was 5.5:1 compared to 4.8:1 for the rest of NZ.

Table 92: Mental health bed nights and contacts – CM clients versus rest of NZ (2005)

Group	Mental health bed nights		Mental health contacts	
	n	Per 100,000 population	n	Per 100,000 population
CM	25,037	5,800	138,474	31,900
Rest of NZ	292,845	8,000	1,404,148	38,300

MHINC data, 2005 calendar year. CM domiciled clients versus clients domiciled elsewhere in NZ. Rates rounded to nearest 100. Forensic data excluded.

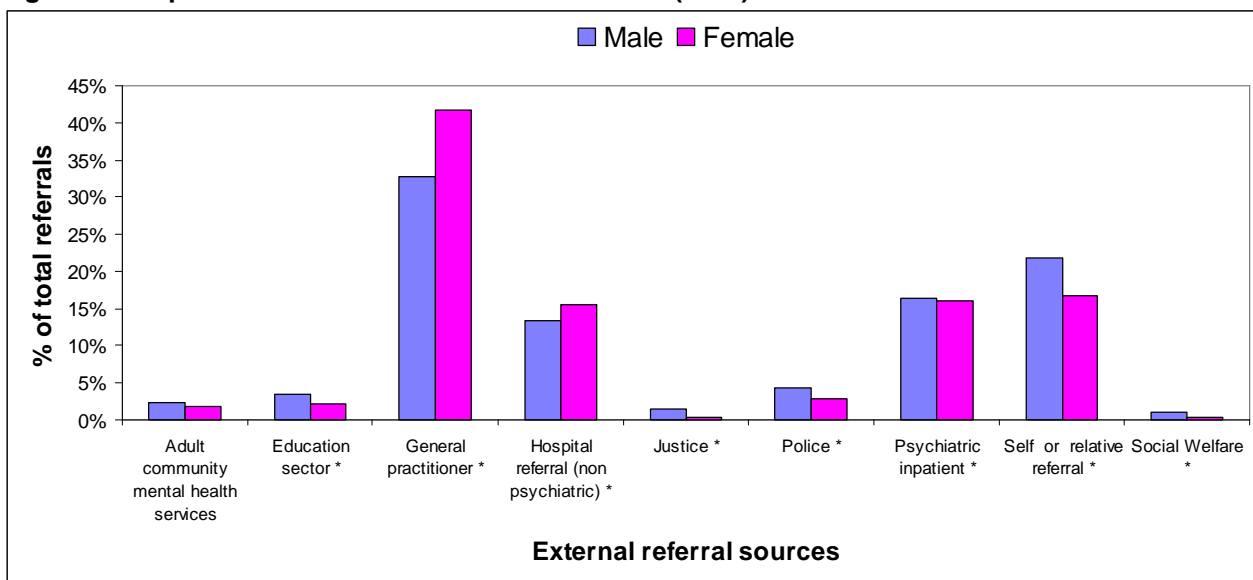
11.3.5. Referrals to DHB mental health services

Only data on referrals from sources external to the mental health services of the DHB agency are reported to the MHINC. Referrals between mental health teams in the *same* DHB are not defined as external referrals and so are not reported to the MHINC. For example, a referral from the police to a mental health team is reported to the MHINC while a referral from an Inpatient team to Community team within the same DHB is not reported.

Figure 61 and Table 93 show the external referral sources recorded in the MHINC for the CM domiciled clients seen by any DHB mental health service in 2005. The four largest referral sources in descending order were general practitioners, self or relative referral, psychiatric inpatient service (of another DHB) and non-psychiatric hospital referrals. These made up 87% of the total number of referrals.

In terms of referral sources, males have a different referral pattern to females. Males were significantly less likely to be referred by a GP and more likely to have self or relative referral than females ($p < 0.05$). Also of statistical significance was that males were more likely to have an education, justice, police or social welfare referral than females.

Figure 61: Top external referral sources – CM clients (2005)



MHINC data, 2005 calendar year, CM residents seen by any DHB mental health service in New Zealand. Male and female totals do not add to overall total as there were 8 referrals with unknown gender.

* Statistically significant differences between males and females.

Table 93: External referral sources, by gender - CM DHB mental health clients (2005)

Referral source	Total		Male		Female	
	n	%	n	%	n	%
Accident and emergency	15	0.23%	9	0.27%	6	0.18%
Adult community mental health services	140	2.10%	76	2.30%	59	1.76%
Alcohol and drug	4	0.06%	3	0.09%	1	0.03%
Child adolescent and family mental health services	4	0.06%	3	0.09%	1	0.03%
Education sector *	186	2.79%	114	3.46%	72	2.15%
General practitioner *	2,478	37.21%	1,080	32.75%	1,398	41.68%
Hospital referral (non-psychiatric) *	957	14.37%	440	13.34%	517	15.41%
Justice *	59	0.89%	45	1.36%	14	0.42%
Māori	5	0.08%	4	0.12%	1	0.03%
Needs assessment and co-ordination service	3	0.05%	2	0.06%	1	0.03%
Paediatrics	2	0.03%	1	0.03%	1	0.03%
Police *	240	3.60%	144	4.37%	96	2.86%
Private practitioner	3	0.05%	2	0.06%	1	0.03%
Psychiatric inpatient *	1,079	16.20%	538	16.31%	539	16.07%
Psychiatric outpatients	11	0.17%	8	0.24%	3	0.09%
Self or relative referral *	1,281	19.23%	720	21.83%	561	16.73%
Social Welfare *	46	0.69%	35	1.06%	11	0.33%
Other	144	2.16%	72	2.18%	71	2.12%
Unknown	3	0.05%	2	0.06%	1	0.03%
Total	6,660	100.00%	3,298	100.00%	3,354	100.00%

MHINC data, 2005 calendar year, CM residents seen by any DHB mental health service in New Zealand.

Male and female totals do not add to overall total as there were 8 referrals with unknown gender.

* Statistically significant differences between males and females.

11.4. Inpatient services

11.4.1. Introduction

This section provides an overview of data for the acute inpatient clients of the Inpatient Team (team type 01) as defined in MHINC. In addition, length of stay data (LOS) will be covered for clients of acute, intensive or sub-acute mental health services as defined in MHINC. This LOS data gives a good approximation of the acute end of mental health services.

11.4.2. Acute adult psychiatric inpatients of Inpatient team type (01)

This section outlines the number of CM domiciled people aged 15+ who were inpatients in 2005 and received psychiatric services at the acute end of the spectrum from a DHB Inpatient Team (team type 01 in the MHINC). There are some data limitations and exclusions which are discussed below.

Exclusions:

- Psychiatric liaison clients – it was possible to only exclude clients who had psychiatric liaison visits (n=959 clients) by the CMDHB Inpatient team. This was the only DHB where there were different Inpatient team names enabling data to be clearly separated. It is therefore possible that for the DHBs other than CMDHB, the number of inpatient clients may be overstated.
- Clients where it was obvious that they were receiving mental health rehabilitation services rather than acute psychiatric services from Inpatient teams. These exclusions included clients of Tamaki Oranga at CMDHB, Buchanan Rehabilitation Centre at ADHB and the Seager Clinic at Canterbury DHB.
- As these data are for the Inpatient Team (01) type, data for inpatients of other team types (e.g. Forensic, Child and Youth, Alcohol and drug, and Psychogeriatrics) are excluded.

Note: some caution is indicated when interpreting data for the DHBs" as some of these inpatient teams may provide both acute and rehabilitation services. As a result, the number of clients receiving acute services may be lower than indicated.

Almost 90% of these CM clients were seen by CMDHB mental health services, with around another 6% seen by another Northern region DHB and 4% by DHBs elsewhere in NZ (see Table 94).

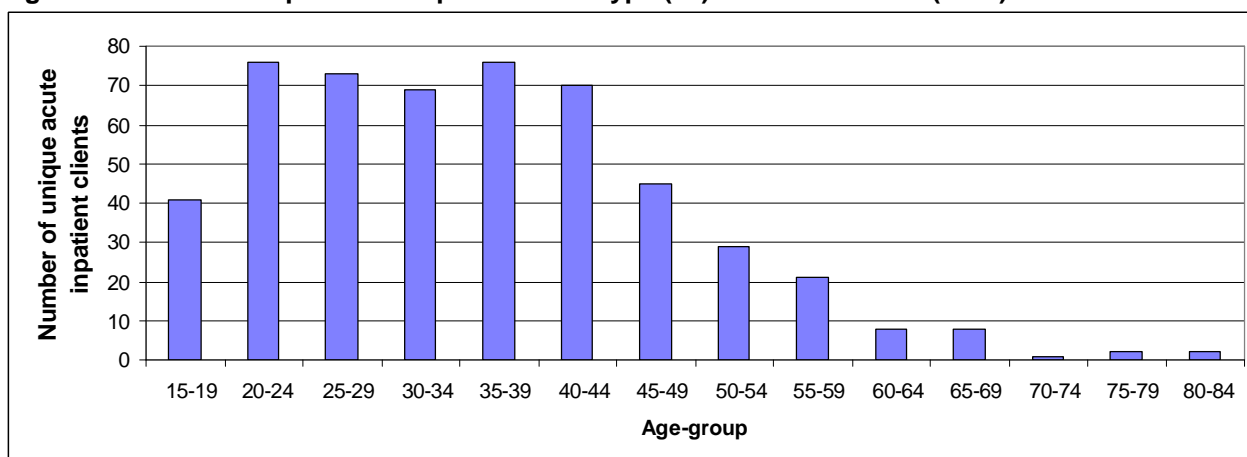
The age profiles of the acute inpatients in terms of numbers and age-specific rates are shown in Figure 62 and Figure 63. The 20-44 age-groups had the highest number of inpatients and the numbers progressively declined with increasing age. The age-specific rates per 100,000 population showed a similar pattern.

Table 94: CM acute inpatient clients, by DHB of service (2005)

DHB	No. of unique acute inpatient clients	% of total
CMDHB	468	89.8%
Auckland DHB	9	1.7%
Waitemata DHB	13	2.5%
Northland DHB	8	1.5%
Other DHBs	23	4.4%
Total	521	100.0%

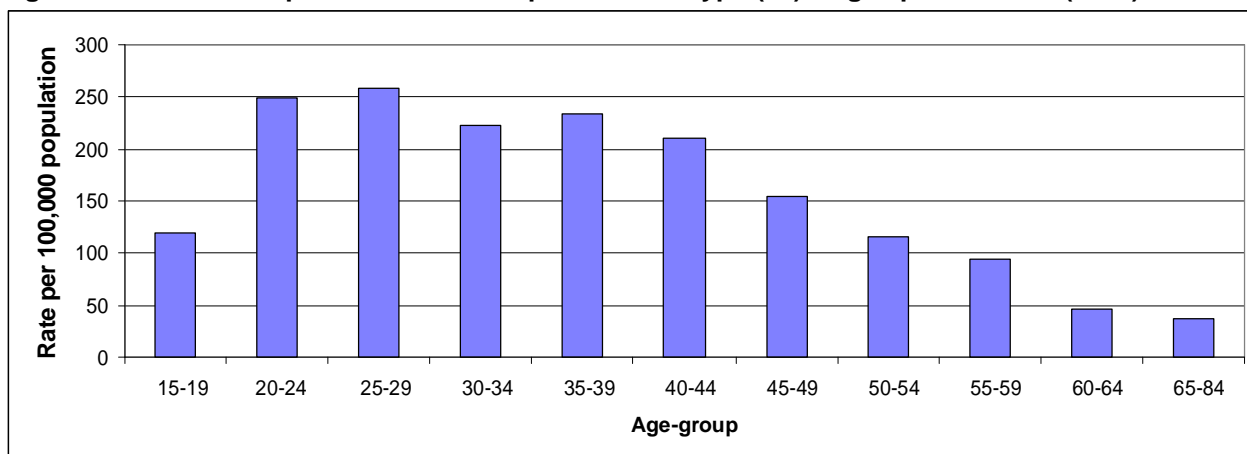
MHINC data, 2005 calendar year. See text for inclusions and exclusions.

Figure 62: CM acute inpatient of Inpatient team type (01) - client numbers (2005)



MHINC data, 2005 calendar year. See text for exclusions. No patients were aged 85+.

Figure 63: CM acute inpatient clients of Inpatient team type (01) – age specific rates (2005)



MHINC data, 2005 calendar year. See text for exclusions. No patients were aged 85+.

11.4.3. Clients of acute, intensive or sub-acute DHB mental health services - Length of stay

This section outlines data for clients who were defined in the MHINC as having a service code of “Acute inpatient service (T03)” and/or an “Intensive care inpatient service (T02)” and/or a “Sub-acute inpatient service (T04)”. These service codes best reflect the acute end of the psychiatric inpatient load. See appendix D for further information on these service codes as defined in the MHINC.

Adult, child and adolescent, and psychogeriatric clients are included.

Exclusions: Inpatients under other service codes (forensic, substance abuse, respite care, psychiatric rehabilitation and community residential care) are not included.

Approximately 43% of clients were female and 57% were male.

Compared to the rest of the NZ, CM had longer admissions but fewer admissions per client in 2005. In CM the overall average length-of-stay (LOS) for these clients was 22.3 days (see Table 95). The average LOS was lowest for Māori and Asian clients. Of particular note was that Pacific peoples had the longest LOS (28.2 days).

For NZ as a whole (CM included), the overall average LOS and LOS for all ethnic groups (except Asian) was much less than for CM (see Table 96). Māori and European ethnic groups had the lowest LOS while Pacific peoples had the longest LOS (21.3).

The average number of inpatient episodes in 2005 per client also varied between CM and NZ a whole, with CM having fewer episodes for all ethnic groups.

Table 95: Inpatient episodes, by length of stay and ethnicity – CM (2005)

Ethnic group	Unique clients (n)	No. of episodes	Total length of stay (days)	Average length of stay (days)	Average No. episodes per client
Asian	36	41	847	20.7	1.14
European	264	344	7608	22.1	1.30
Maori	160	213	4191	19.7	1.33
Pacific peoples	85	109	3069	28.2	1.28
Other	56	70	1619	23.1	1.25
Total	601	777	17334	22.3	1.29

MHINC data, 2005 calendar year.

Clients with T02, T03 or T04 service codes.

Table 96: Inpatient episodes, by length of stay and ethnicity – NZ (2005)

Ethnic group	Unique clients seen (n)	No. of episodes	Total length of stay (days)	Average length of stay (days)	Average No. episodes per client
Asian	215	266	5764	21.7	1.24
European	4535	7024	108799	15.5	1.55
Maori	1614	2657	40993	15.4	1.65
Pacific peoples	315	472	10069	21.3	1.50
Other	450	626	11198	17.9	1.39
Total	7129	11045	176823	16.0	1.55

MHINC data, 2005 calendar year.

Data for NZ includes CM clients.

Clients with T02, T03 or T04 service codes.

11.5. DHB Alcohol and Drug Team clients

Data regarding CM residents seen by the DHB Alcohol and Drug teams are provided in section 5.13 as background information on alcohol and other substance use disorders is also covered in this chapter.

11.6. Child and youth mental health services

11.6.1. Introduction

MHINC mental health data for children and youth can be defined in two main methods: mental health clients who are aged 0-19 years, or clients who see child and youth mental health teams. This section will outline data for both these methods.

11.6.2. Clients seen by child and youth mental health and addiction teams

In the MHINC there are four main child and youth team types:

- Child, Adolescent and Family (team type 04)
- Youth Specialty Team (team type 14)
- Child and Youth Alcohol and Drug Services (team type 21)
- Kaupapa Māori Tamariki and Rangtahi Child and Youth Services (team type 22).

Table 97 shows the number of clients seen, contacts and bed nights by each child and youth team in 2005. The large majority of clients (94%) and contacts (95%) were by the Child, Adolescent and Family Team. Of note, only one CM client was seen by the Child and Youth Alcohol and Drug Services and no CM clients were recorded under team type 22 in 2005.

Table 97: CM clients seen by DHB child and youth teams (2005)

Team type	Team type description	Bed nights	Contacts	Clients
4	Child, Adolescent and Family Team	1030	15916	1523
14	Youth Specialty Team	4	842	100
21	Child and Youth Alcohol and Drug Services	0	1	1
22	Kaupapa Māori Tamariki and Rangtahi Child and Youth Services	0	0	0
Total		1034	16759	1624

MHINC data. 2005 calendar year. DHB child and youth teams anywhere in NZ.

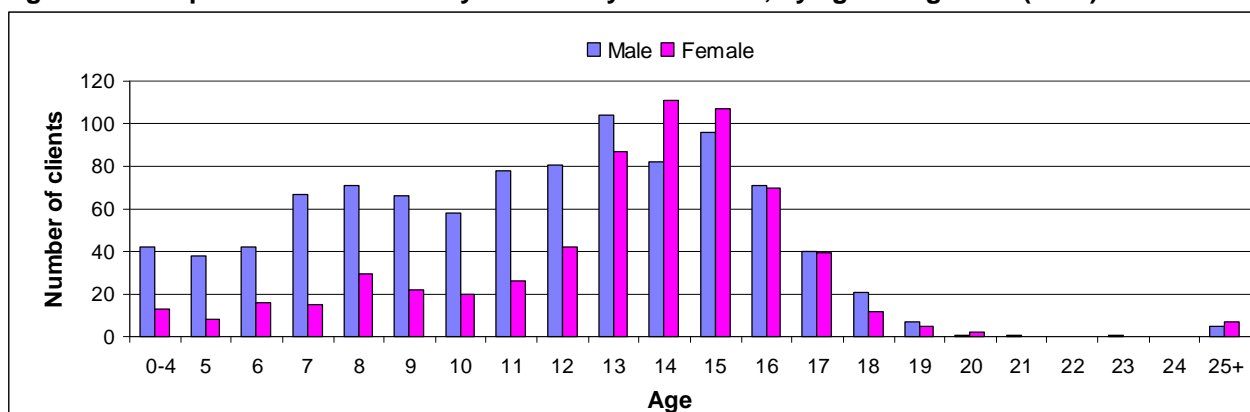
Unique client numbers for each team type. However, some clients visited more than one team type and therefore the total is greater than the number of unique clients overall (n=1604).

Interactions with the mental health system are recorded in the MHINC as contacts or bed nights, never both.

Age and gender of child and youth team clients

Figure 64 shows the age breakdown by gender for the clients seen by the child and youth teams in 2005. Overall, there were 1604 unique clients with males predominating at most ages. In total, 972 (61%) males were seen and 632 (39%) were female. Most child and youth clients were aged <20 years with peak numbers of clients in the age 13-15 period. There was noticeable predominance of males in the 0-12 year age range and approximately equal numbers of males and females after this age. Of note, 12 clients were aged 25 years of older.

Figure 64: Unique CM clients seen by child and youth teams, by age and gender (2005)



MHINC data, 2005 calendar year. Unique CM clients seen by any DHB Child and Youth in NZ (team type 04, 14 or 21). Note: no CM clients were seen under team type 22 in 2005.

Ethnicity of child and youth team clients

Table 98 shows the ethnicity breakdown of the clients seen by child and youth teams. Approximately half of the clients were European and a quarter was Māori.

Table 98: Unique CM clients seen by child and youth teams, by ethnic group (2005)

Ethnic group	n	% of total
Asian	86	5.4%
European	806	50.2%
Māori	423	26.4%
Pacific peoples	182	11.3%
Other	107	6.7%
Total	1604	100.0%

MHINC data, 2005 calendar year.

Unique CM clients seen by any DHB child and youth team in NZ. (team type 04, 14 or 21).

Note: no CM clients were seen under team type 22 in 2005.

SNZ level 1 prioritised ethnicity.

Service setting for clients seen by child and youth teams

Table 99 shows the service setting in which clients of the child and youth teams were seen. See Appendix E for details of the service settings. Note that the totals are for each service setting. As clients may be seen in more than one setting, the overall total is greater than the number of unique clients (n=1604).

The most common setting was Onsite (Clinicians workplace – not covered by other settings) followed by Telephone, Other locations and Domiciliary (client's own residence) settings.

Table 99: CM clients aged 0-19 years - service setting for clients seen by child and youth teams

Service setting	Number of clients	% of total
Onsite	1441	46.4%
Telephone (>10 minutes)	858	27.6%
Other location	416	13.4%
Domiciliary	294	9.5%
Inpatient	72	2.3%
Prison	12	0.4%
Court	3	0.1%
Māori cultural setting	3	0.1%
Non-psychiatric	3	0.1%
Residential	2	0.1%
Day patient setting	1	0.03%
Total	3105	100.0%

MHINC data. 2005 calendar year.

Unique CM clients seen by any DHB child and youth team in NZ. (team type 04, 14 or 21).

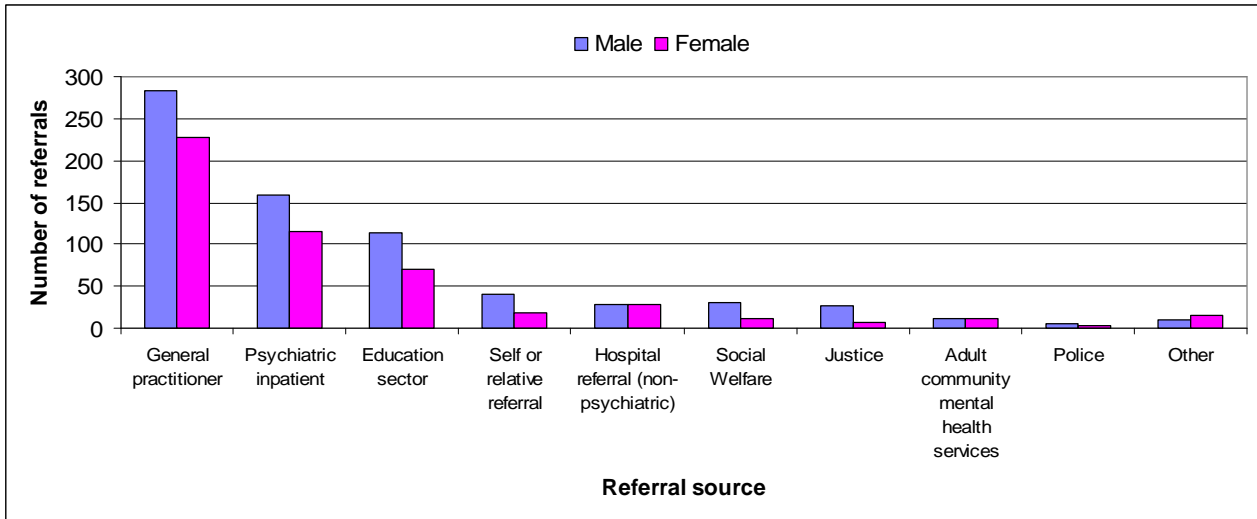
Note: no CM clients were seen under team type 22 in 2005.

Referrals to child and youth teams

The number of referral made to child and youth teams, by referral source are shown in Figure 65.

Overall, general practitioner, psychiatric inpatient, education sector, self/relative referrals and hospital referrals accounted for 89% of referrals. Numbers of referrals for male clients were greater than female clients for most referral sources.

Figure 65: Number of referrals to child and youth teams, by referral source, CM clients (2005)



MHINC data. 2005 calendar year.

CM clients seen by any DHB child and youth team in NZ. (team type 04, 14 or 21). Note: no CM clients were seen under team type 22 in 2005.

11.6.3. CM clients aged 0-19 years

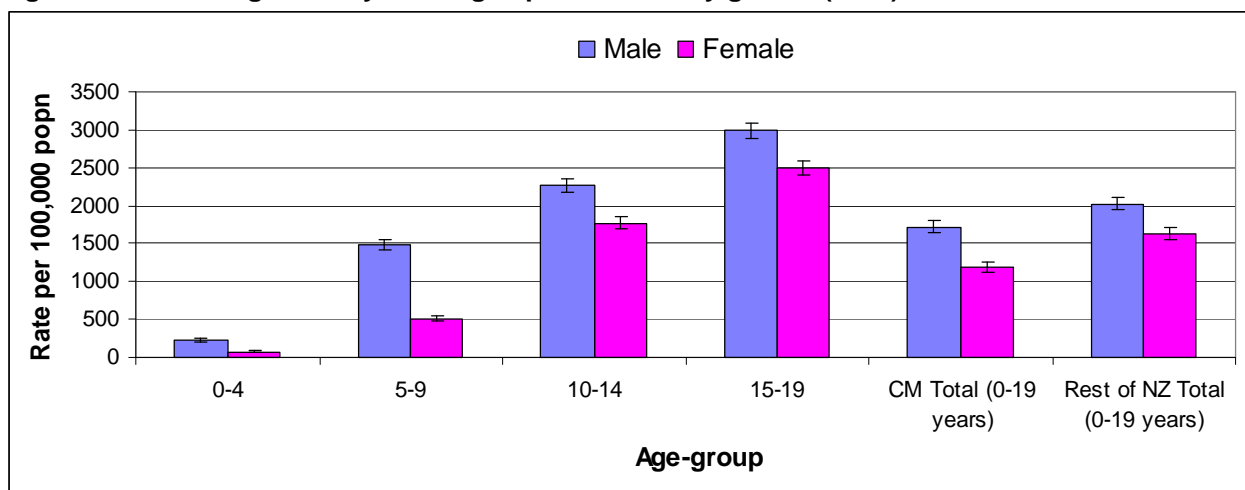
This section covers 2005 MHINC data for all CM domiciled clients aged 0-19 years seen by any DHB mental health team in NZ.

Gender

In total, 2141 unique clients in this age-group were seen, 60.4% (n=1,294) of which were male and 39.5% (n=845) were female. Gender details were not recorded for two clients.

Figure 66 shows the age-specific rates for males and females in CM as well as the overall 0-19 year age-rate for CM versus the rest of NZ. For all age-groups the male rates were significantly higher than female rates in CM. Overall males and female rates in CM were significantly lower than for the rest of NZ.

Figure 66: Clients aged 0-19 years - age-specific rates by gender (2005)



MHINC data, 2005 calendar year. Bars are 95% confidence intervals. Unique CM domiciled clients aged 0-19 years seen by any DHB mental health team in NZ.

Ethnicity

Table 100 shows the breakdown of clients aged 0-19 years by level one prioritised ethnicity. By comparison the estimated CM populations are also shown. The estimates for the European and Other population are combined as separate populations are not available for the European population.

Of note, Asian peoples make up a very small proportion of client numbers. Pacific numbers are also low compared to their overall proportion of the CM population. Māori, European and Other client proportions are higher than the proportions in the general population.

Table 100: Unique CM clients aged 0-19 years, by ethnic group (2005)

Ethnic group	CM clients aged 0-19 years		CM population aged 0-19 years	
	n	% of total	n *	% of total
Asian	106	5.0%	22,300 #	15.3%
Māori	640	29.9%	35,200	24.1%
Pacific peoples	298	13.9%	38,020	26.1%
European	956	44.7%	50,380	34.5%
Other	141	6.6%		
Total	2,141	100.0%	145,900	100%

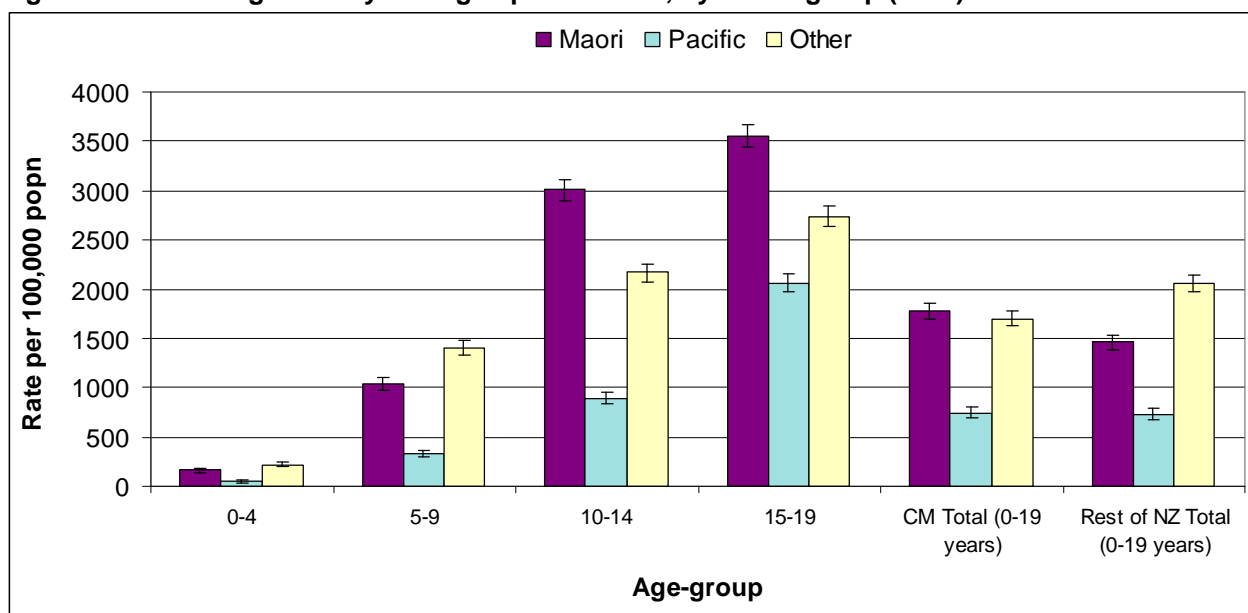
MHINC data, 2005 calendar year. Unique CM domiciled clients aged 0-19 years seen by any DHB mental health team in NZ. Prioritised ethnicity. SNZ population projections for 2005 (performed 2003). # Very approximate estimate.

Figure 67 shows the age-specific rates for Māori, Pacific and Other ethnic groupings for CM as well as the overall 0-19 year age-rates for the rest of NZ.

Of note, in the 10-19 year age-groups, the CM Māori rates were significantly higher than for other groups. Pacific rates were the lowest in all age-groups as well as having the lowest rate for the rest of NZ.

The overall 0-19 year age-group rate in CM was not significantly different for Māori and Other. However, compared to the rest of NZ, the CM Māori rate was higher and the rate for Other was lower.

Figure 67: Clients aged 0-19 years age-specific rates, by ethnic group (2005)



MHINC data, 2005 calendar year. SNZ prioritised ethnicity. Bars are 95% confidence intervals.

CM clients aged 0-19 years, by team type.

Table 101 shows the number of clients, bed nights and contacts for each team type. The large majority of clients and contacts were by Child, Adolescent and Family Teams and Community Teams.

Table 101: Bed nights, contacts and number of clients seen aged 0-19, CM clients (2005)

Team type	Team type description	Clients		Bed nights		Contacts	
		n	%	n	%	n	%
04	Child, Adolescent and Family Team	1509	59.6%	1030	45.2%	15875	70.5%
02	Community Team	317	12.5%	0	0.0%	3445	15.3%
01	Inpatient Team	171	6.8%	1157	50.8%	215	1.0%
03	Alcohol and Drug Team	151	6.0%	0	0.0%	441	2.0%
10	Alcohol and Drug Kaupapa Māori Team	132	5.2%	0	0.0%	707	3.1%
14	Youth Specialty Team	97	3.8%	4	0.2%	836	3.7%
07	Pacific Island Team	61	2.4%	0	0.0%	446	2.0%
05	Forensic Team	40	1.6%	87	3.8%	223	1.0%
06	Kaupapa Maori Team	16	0.6%	0	0.0%	95	0.4%
16	Eating Disorder Team	7	0.3%	0	0.0%	124	0.6%
17	Needs Assessment and Service Coordination Team	7	0.3%	0	0.0%	42	0.2%
18	Specialist Psychotherapy Team	6	0.2%	0	0.0%	22	0.1%
15	Maternal Mental Health Team	5	0.2%	0	0.0%	13	0.1%
12	Intellectual Disability Dual Diagnosis Team	4	0.2%	0	0.0%	24	0.1%
11	Alcohol and Drug Dual Diagnosis Team	3	0.1%	0	0.0%	15	0.1%
13	Psychogeriatric Team	2 *	0.1%	0	0.0%	2	0.01%
09	Community Skills Enhancement Team	1	0.0%	0	0.0%	1	0.004%
21	Children and youth, alcohol and drug services	1	0.04%	0	0.0%	1	0.004%
Total		2530	100.0%	2278	100.0%	22527	100.0%

MHINC data, 2005 calendar year. Unique CM clients seen by any DHB mental health or addiction team in NZ. Data are presented as reported to the MHINC. The validity of the data cannot be determined using the information reported to the MHINC.

* Very likely to be miscoded MHINC data.

11.7. Māori and the Kaupapa Māori mental health and addiction services

11.7.1. Introduction

This section provides an overview of how CM domiciled Māori access the different DHB mental health and addiction teams in NZ. Services provided by kaupapa Māori mental health and addiction teams, a distinct group of mental health services, are also discussed.

In the MHINC there is the capacity to record data for four kaupapa Māori team types:

- Kaupapa Māori – adult mental health services (team type 06)
- Alcohol and drug kaupapa Māori (team type 10)
- Kaupapa Māori Tamariki and Rangatahi (child and youth) mental health services (team type 22)*
- Kaupapa Māori dual diagnosis mental health and alcohol and drug (team type 23).

* The data presented here is for team types 06 and 10 only as no CM domiciled clients were seen by team type 22 or 23 anywhere in NZ in 2005. Of note, there were no clients of any DHB recorded under team type 23 in 2005.

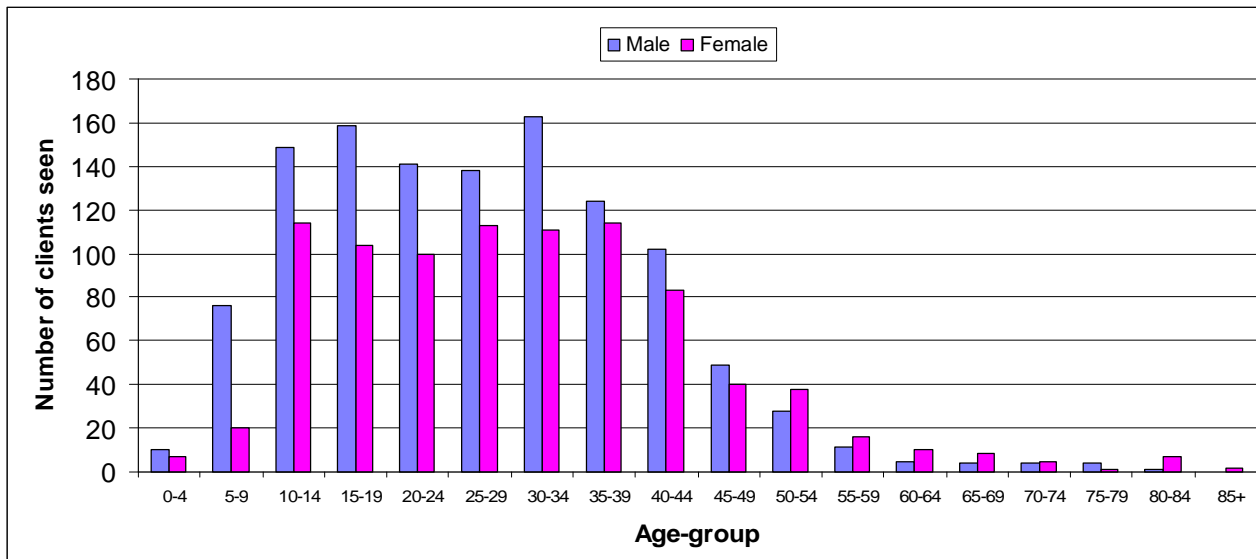
Data on referral sources to the kaupapa Māori teams are not presented due to the small amount of data reported to the MHINC. The ethnicity data presented are SNZ level 1 prioritised data.

11.7.2. CM Māori clients, by age and gender

In 2005, there were 2064 unique Māori CM domiciled clients seen by DHB mental health and addiction services in NZ, which was 24.5% of the total number of unique clients seen (n=8424).

Figure 68 shows age breakdown by gender. Overall males predominated, accounting for 56.6% (n=1,168) of clients, which was significantly higher than the female clients (43.3%, n=893). Gender details were not available for three clients. The greater number of male clients was particularly noticeable in the 5-44 year age groups.

Figure 68: Number of unique CM Māori clients, by age and gender (2005)



MHINC data, 2005 calendar year. Unique CM domiciled Māori clients seen by any DHB mental health team in NZ. SNZ prioritised ethnicity. No male clients aged 85+.

11.7.3. CM Māori clients seen by mental health and addiction teams

Table 102 outlines how Māori clients accessed the DHB mental health services in terms of team types, bed nights, contacts and client numbers.

Note: in MHINC interactions with the mental health system are recorded as contacts or bed nights, never both. Also, the data are unique totals for each team type; however, clients can see more than one team. Therefore the total number of clients is higher (n=2917) than the unique number of Māori seen overall (n=2064).

Of the almost 39,000 contacts, the majority (60.4%) were by the Community Team (02), a mainstream adult mental health service. By comparison, 8.9% of contacts were with the Kaupapa Māori Team (10).

Māori use of Alcohol and Drug services was roughly evenly split between mainstream Alcohol and Drug Teams (03) and Alcohol and Drug Kaupapa Māori Teams (10) in terms of contacts and client numbers. See section 5.8 for further discussion of the DHB alcohol and drug data.

Table 102: CM Māori mental health and addiction clients – by team type (2005)

Team type	Team type description	Bed nights		Contacts		Clients	
		n	%	n	%	n	%
01	Inpatient Team	6200	81.7%	608	1.6%	354	12.1%
02	Community Team	1	0.01%	23536	60.4%	925	31.7%
03	Alcohol and Drug Team	56	0.7%	2238	5.7%	415	14.2%
04	Child, Adolescent and Family Team	227	3.0%	3584	9.2%	403	13.8%
06	Kaupapa Māori Team	0	0.0%	3484	8.9%	145	5.0%
07	Pacific Island Team	0	0.0%	112	0.3%	12	0.4%
09	Community Skills Enhancement Team	0	0.0%	1	0.003%	1	0.03%
10	Alcohol and Drug Kaupapa Māori Team	0	0.0%	2392	6.1%	358	12.3%
11	Alcohol and Drug Dual Diagnosis Team	0	0.0%	149	0.4%	8	0.3%
12	Intellectual Disability Dual Diagnosis Team	0	0.0%	101	0.3%	22	0.8%
13	Psychogeriatric Team	109	1.4%	198	0.5%	41	1.4%
14	Youth Specialty Team	4	0.1%	158	0.4%	26	0.9%
15	Maternal Mental Health Team	0	0.0%	86	0.2%	19	0.7%
17	Needs Assessment and Service Coordination Team	0	0.0%	544	1.4%	55	1.9%
18	Specialist Psychotherapy Team	0	0.0%	33	0.1%	6	0.2%
21	Children and youth, alcohol and drug services	0	0.0%	1	0.003%	1	0.03%
99	Other	0	0.0%	2	0.01%	2	0.1%
Total		7589	100.0%	38955	100.0%	2917	100.0%

- MHINC data, 2005 calendar year. Inpatient data includes psychiatric liaison visits
- Unique totals for each team, but clients can see more than one team. Therefore the total number of clients is higher (n=2917) than the unique number of Māori seen overall in 2005 (n=2064).
- Data for Forensic teams (team type 05) not shown as data may be inaccurate due to errors in domicile coding.
- No Māori clients were seen under team codes 08, 16, 19, 20, 22 and 23 in the MHINC.

11.7.4. CM clients seen by Kaupapa Māori teams – ethnicity and age

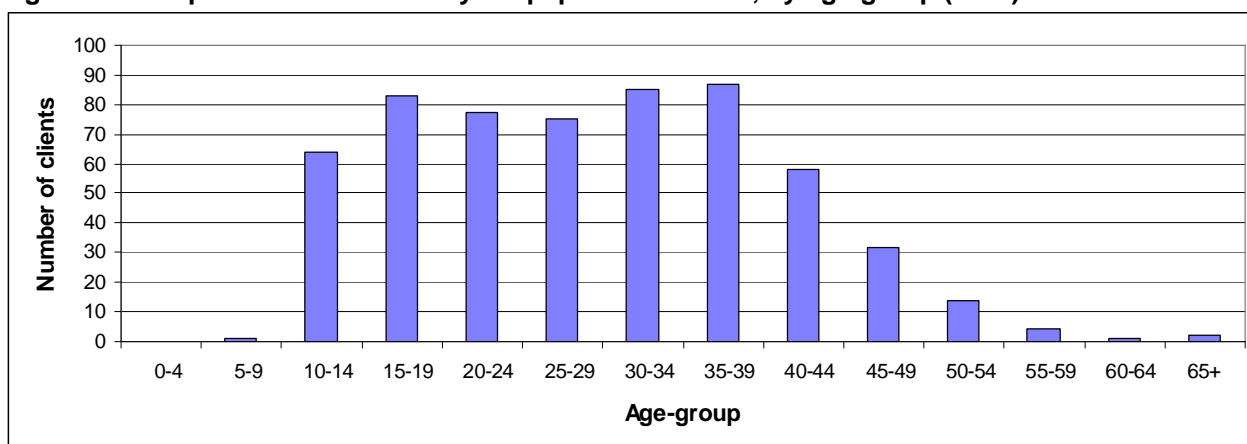
In 2005 there were 583 unique CM clients seen by a DHB kaupapa Māori team in NZ. Of note, although the large majority of these clients were Māori, 15% of clients were of other ethnicities (see Table 103). Most clients were in the 10-44 year age-groups and after this age, numbers progressively declined with increasing age (see Table 103).

Table 103: Unique CM clients seen by kaupapa Māori teams, by ethnicity (2005)

Ethnic group	n	% of total
Asian	1	0.2%
European	44	7.5%
Maori	498	85.4%
Other	22	3.8%
Pacific peoples	18	3.1%
Total	583	100%

MHINC data, 2005 calendar year. Team types 06 and 10. No clients recorded for team types 22 and 23. SNZ level 1 prioritised ethnicity.

Figure 69: Unique CM clients seen by kaupapa Māori teams, by age-group (2005)



MHINC data, 2005 calendar year. No clients aged 0-4, one aged 5-9, one aged 60-64 and two aged 65+. Data for team types 06 and 10. No clients recorded for team types 22 and 23.

11.7.5. CM clients seen by Kaupapa Māori teams – by service setting

Data is recorded in the MHINC on the type of setting in which teams seen clients. See Appendix E for a description of these setting types.

Table 104 shows the settings in which CM clients of kaupapa Māori teams were seen in 2005. The most common settings were telephone contacts (≥ 10 minutes duration), onsite (clinicians place of work not covered by other definitions) and domiciliary (clients own residence).

Table 104: Unique CM clients seen by kaupapa Māori teams, by service setting (2005)

Service setting description	n *	% of total
Court	5	0.4%
Domiciliary	174	15.1%
Inpatient	28	2.4%
Māori cultural setting	36	3.1%
Non-psychiatric	3	0.3%
Onsite	393	34.2%
Other location	91	7.9%
Prison	4	0.3%
Residential	3	0.3%
Telephone	413	35.9%
Total clients	1150	100.0%

MHINC data, 2005 calendar year.

Data for team types 06 and 10. No clients recorded for team types 22 and 23.

Unique number of clients seen in each setting, however, clients can be seen in more than one setting. Therefore the total number of clients (n=1150) is higher than the number unique clients overall (n=583).

11.8. Pacific mental health clients and Pacific Island Team clients

11.8.1. Introduction

This section covers MHINC data for Pacific peoples seen by DHB mental health teams in 2005. Note that NGO data are excluded.

There are two ways to look at MHINC data for Pacific peoples. The first is to look at Pacific clients seen by any DHB mental health team. The second view is clients seen by a Pacific Island Team (team type 07), a particular type of community orientated team.

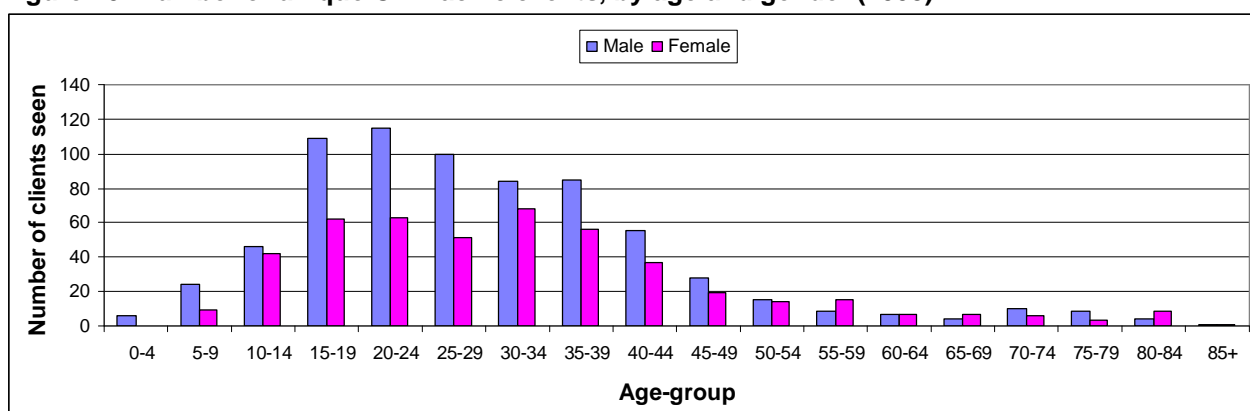
11.8.2. Pacific clients – age and gender

In 2005 there were 1,180 unique CM domiciled Pacific clients seen by a DHB mental health team anywhere in NZ, 14% of the total number of unique clients (n=8,424).

Male clients accounted for 60.1% (n=709) of clients and females for 39.7% (n=468). Gender details were unknown for three clients.

Figure 70 shows the age breakdown of the Pacific clients by gender. Both genders show a similar pattern with increasing age. Male client numbers were greater than female numbers for most age-groups, which was particularly marked in the 15-44 year age-groups.

Figure 70: Number of unique CM Pacific clients, by age and gender (2005)



MHINC data, 2005 calendar year. CM domiciled Pacific clients seen by any DHB mental health team. No female clients age 0-4 years. One male and one female aged 85+.

11.8.3. Pacific clients – by level 2 ethnicity

Table 105 and Figure 71 show the breakdown of the unique CM Pacific clients by the individual Pacific ethnicities (SNZ Level 2 prioritised ethnicity). Samoan, Cook Island Māori, Tongan and Niuean clients accounted for almost 90% of client numbers.

Of note, 22 people were defined as “Pacific peoples NFD”. Almost certainly these clients have been miscoded by the mental health services, as virtually all Pacific peoples can be coded into either one of the main Pacific groups or into the “Other Pacific peoples” group. This group contains approximately 40 other Pacific ethnicities (e.g. Solomon Islander) in the more detailed levels of the SNZ ethnicity classification.

Table 105: Unique CM Pacific clients, by ethnicity (2005)

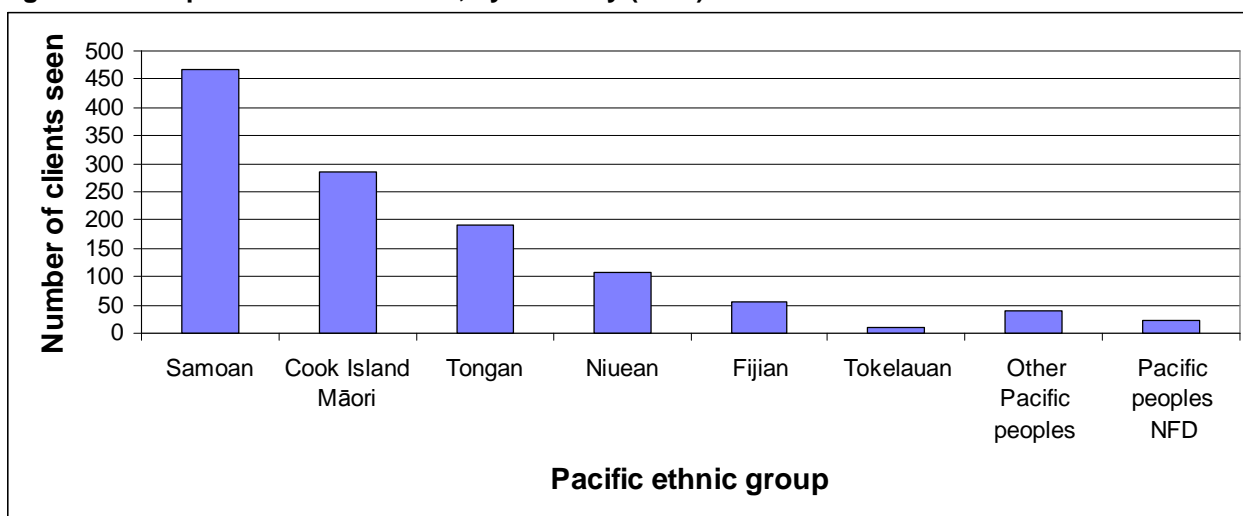
Pacific ethnic group *	Number of clients	% of total
Samoan	466	39.5%
Cook Island Māori	287	24.3%
Tongan	192	16.3%
Niuean	108	9.2%
Fijian	55	4.7%
Tokelauan	10	0.8%
Other Pacific peoples	40	3.4%
Pacific peoples NFD #	22	1.9%
Total	1180	100.0%

MHINC data, 2005 calendar year.

CM domiciled Pacific clients seen by any DHB mental health team in NZ.

* SNZ level 2 prioritised ethnicity. # NFD = Not Further Defined.

Figure 71: Unique CM Pacific clients, by ethnicity (2005)



MHINC data, 2005 calendar year. CM domiciled Pacific clients seen by any DHB mental health team in NZ.
 * SNZ level 2 prioritised ethnicity. NFD = Not Further Defined.

11.8.4. CM Pacific clients by team type

Table 106 shows how CM Pacific clients accessed the different types DHB mental health teams in NZ as recorded in the MHINC. Note that these are unique numbers for each team type. As clients can see more than one team type, the total number of clients (n=1,657) is greater than the unique number of CM Pacific clients seen (n=1,180). Also note that the Inpatient Team (01) data includes some Psychiatric liaison visits and that the Forensic Team (05) data may be affected by inaccuracies in domicile coding.

Community Team and Pacific Team clients accounted for about 53% of client numbers. Of note, males were significantly more likely than females to see Forensic Team (05), Pacific Island Team (07) and Alcohol and Drug Team (03) types. Females were significantly more likely to see Community Team (02) and Inpatient Team (01) types.

Table 106: CM domiciled Pacific clients, by team type (2005)

Team type	Team type description	Male		Female		All clients	
		n	% of total	n	% of total	n	% of total
02	Community Team *	244	24.40%	223	34.30%	470	28.40%
07	Pacific Island Team *	277	27.60%	135	20.70%	412	24.90%
01	Inpatient Team * #	111	11.10%	110	16.90%	222	13.40%
04	Child, Adolescent and Family Team	102	10.20%	73	11.20%	175	10.60%
03	Alcohol and Drug Team *	145	14.50%	27	4.10%	172	10.40%
05	Forensic Team *	53	5.30%	11	1.70%	64	3.90%
13	Psychogeriatric Team	29	2.90%	28	4.30%	57	3.40%
17	Needs Assessment and Service Coordination Team	16	1.60%	7	1.10%	23	1.40%
15	Maternal Mental Health Team	0	0.00%	20	3.10%	20	1.20%
12	Intellectual Disability Dual Diagnosis Team	8	0.80%	5	0.80%	13	0.80%
06	Kaupapa Maori Team	5	0.50%	4	0.60%	9	0.50%
10	Alcohol and Drug Kaupapa Maori Team	5	0.50%	4	0.60%	9	0.50%
14	Youth Specialty Team	4	0.40%	4	0.60%	8	0.50%
09	Community Skills Enhancement Team	1	0.10%	0	0.00%	1	0.10%
11	Alcohol and Drug Dual Diagnosis Team	1	0.10%	0	0.00%	1	0.10%
18	Specialist Psychotherapy Team	1	0.10%	0	0.00%	1	0.10%
Total		1,002	100.0%	651	100.0%	1,657	100.0%

MHINC data, 2005 calendar year. CM domiciled Pacific clients seen by any DHB mental health team in NZ.

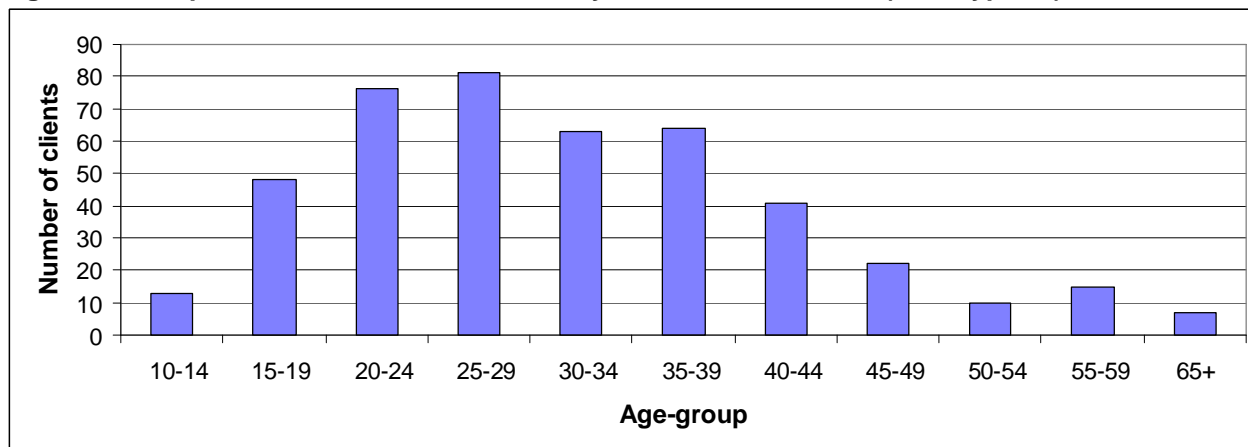
Includes psychiatric liaison visits.

11.8.5. Pacific Island Team clients - age, gender and ethnicity

In 2005, Pacific Teams saw 445 unique CM domiciled clients. Males accounted for the majority (67.9%) of clients and females accounted for 32.1%. Overall, 92% of clients were of Pacific ethnicity, 3% were Māori and 5% were of other ethnicities.

The numbers of clients in each age-group is shown in Figure 72. Most clients were in the 15-44 year age-groups. No clients were aged <10 years.

Figure 72: Unique CM domiciled clients seen by Pacific Island Teams (team type 07), 2005



MHINC data, 2005 calendar year.

11.8.6. CM clients seen by Pacific Island Teams - by service setting

Data are recorded in the MHINC on the type of setting in which teams seen clients. See Appendix E for a description of these setting types.

Table 107 shows the settings in which CM clients of Pacific Island Teams (team type 07) were seen in 2005. The most common settings were telephone contacts (≥ 10 minutes duration), onsite (clinicians place of work not covered by other definitions) and domiciliary (clients own residence).

Table 107: Unique CM domiciled clients seen by Pacific Island Teams (team type 07), 2005

Service setting description	Number of clients seen	%
Telephone	315	29.2%
Onsite	310	28.8%
Domiciliary	288	26.7%
Other location	144	13.4%
Inpatient	8	0.7%
Court	5	0.5%
Prison	4	0.4%
Maori cultural setting	3	0.3%
Non-Maori cultural setting	1	0.1%
Total	1,078	100.0%

MHINC data, 2005 calendar year.

11.9. Community Team services

11.10. Introduction

This section covers CM domiciled clients seen by a DHB Community team (team type 02) anywhere in NZ in 2005. Most adults being treated for a serious mental illness receive their service from this team type.

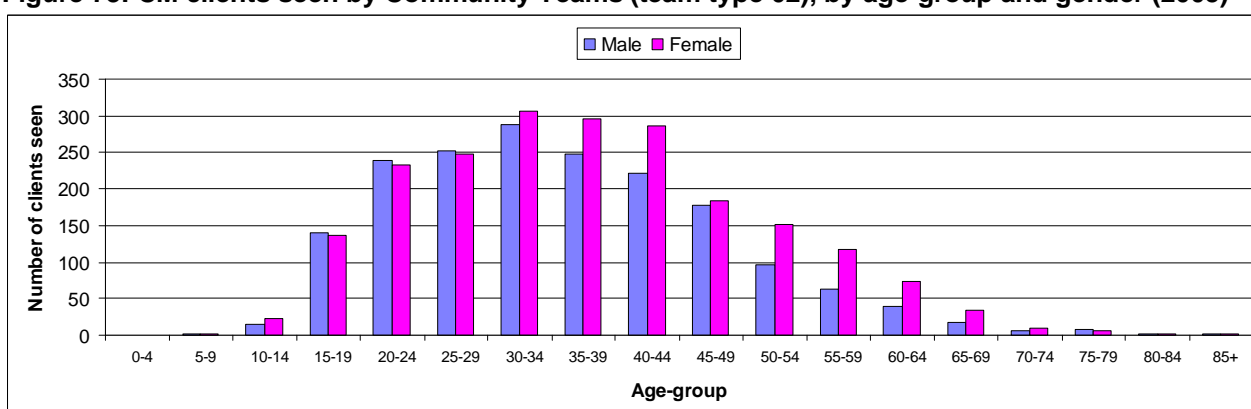
Exclusions: Community teams that are aimed at a specific client group e.g. Child, Adolescent and Family (team type 04), Eating Disorders (team type 16), Forensic team (team type 05) or any of the Alcohol and Drug teams.

11.11. Community team clients by age and gender

Overall, 3928 unique CM domiciled clients saw a community team with females accounting for approximately 54% of the patient numbers and males 46%.

Figure 73 shows the breakdown of the clients for each gender by age-group. Both genders show a similar pattern with increasing age. The predominance of females is particularly noticeable in the 35-64 year age-groups.

Figure 73: CM clients seen by Community Teams (team type 02), by age-group and gender (2005)



MHINC data, 2005 calendar year.

11.12. Clients seen by Community Teams, by service setting

Community teams see clients in a number of different settings. Table 108 shows the number of clients seen in each setting for CM domiciled clients and for all clients seen in NZ.

See Appendix E for a description of each service setting. Note the number of clients is greater than the number of unique clients as clients can be seen in more than one setting.

Table 108: CM clients seen by Community Teams (team type 02), by service setting (2005)

Service setting	CM		All of NZ	
	Number of clients seen	% of total	Number of clients seen	% of total
Onsite	3012	31.8%	39282	37.7%
Telephone	2730	28.8%	19947	19.2%
Domiciliary	1990	21.0%	17807	17.1%
Other location	913	9.6%	9684	9.3%
Prison	331	3.5%	2196	2.1%
Inpatient	227	2.4%	5314	5.1%
Māori cultural setting	93	1.0%	329	0.3%
Court	78	0.8%	597	0.6%
Non-psychiatric	56	0.6%	3116	3.0%
Residential	32	0.3%	3010	2.9%
Emergency Department	12	0.1%	1951	1.9%
Day patient setting	0	0.0%	784	0.8%
Non-Māori cultural setting	0	0.0%	104	0.1%
Total	9474	100.0%	104153	100%

MHINC data, 2005 calendar year data.

11.13. Clients seen by Community Teams, by type of service

The types of services provided by community teams (in terms of numbers of clients receiving each service) are shown in Table 109. Note the numbers of clients are unique numbers under each service code; however, clients can receive more than one service.

The service most commonly provided was individual treatment attendances (T06) with over 75,000 contacts in 2005, or 88.3% of the total. The average number of T06 contacts per client was 21.5.

The next most common services were crisis attendances (T01) followed by co-ordination contacts (T08). Crisis attendance (T01) contacts accounted for 9.3% of the total number of contacts. T01 contacts as proportion of T01+T06+T08 contacts was the same, at 9.3%.

- Individual treatment attendances involve “Assessment, treatment, care planning, review and discharge services provided for less than 3 hours”.
- Crisis attendances involve “Unplanned intervention involving the client in assessment and/or treatment to stabilise symptoms in urgent situations which require an immediate response”.
- Co-ordination contacts involve “Significant contact between mental health professionals and other agencies/persons relating to the care of a client, to ensure continuity of service provision, where the mental health service is the lead agency. Client generally not present.”

See Appendix E for further details on the other service descriptions.

Table 109: CM clients seen by Community Teams (team type 02), by type of service (2005)

Service code	Service description	Clients seen	Contacts	Average No. of contacts per client
T06	Mental health individual treatment attendances	3490	75146	21.5
T01	Mental health crisis attendances	1867	7901	4.2
T08	Mental health care co-ordination contacts	551	1862	3.4
T07	Mental health group programme attendances	15	119	7.9
T32	Mental health contact with family/whanau	36	98	2.7
T09	Early psychosis intervention attendances	7	9	1.3
T15	Court liaison attendances	3	7	2.3
T10	Support needs assessment attendances	1	1	1.0
T22	Mental health day treatment programme attendances	1	1	1.0
T30	Respite care occupied bed days	1	0	1.0
Total		5972	85144	14.3

MHINC data, 2005 calendar year data.

Note: In MHINC, services are either bed nights or contacts, never both. The services in this table are contacts.

11.14.Asian mental health clients

11.14.1. Introduction

This section covers MHINC data for Asian peoples seen by DHB mental health teams in 2005. Note that NGO data are excluded.

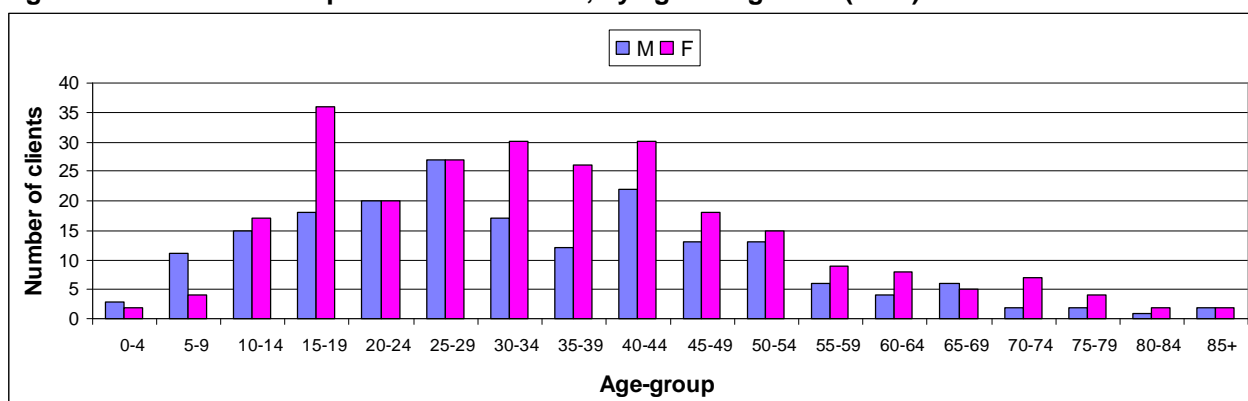
11.14.2. Asian clients – age and gender

In 2005 there were 456 unique CM domiciled Asian clients seen by a DHB mental health team anywhere in NZ, 5.4% of the total number of unique clients seen (n=8,424).

Females accounted for a greater proportion of clients than males (57.5% versus 42.5%), a difference that was statistically significant.

Figure 74 shows the age breakdown of the Asian clients by gender. Both genders showed a roughly similar pattern with increasing age. Female client numbers outnumbered male numbers in many of the age-groups.

Figure 74: Number of unique CM Asian clients, by age and gender (2005)



MHINC data, 2005 calendar year. CM domiciled Asian clients seen by any DHB mental health team.

11.14.3. Asian clients – ethnicity

Table 110 shows the breakdown of the unique CM Asian clients by the individual Asian ethnic groups (SNZ Level 2 prioritised ethnicity). Chinese and Indian clients accounted for almost 70% of client numbers.

Table 110: Unique CM Asian clients, by SNZ level 2 ethnic groups (2005)

Asian ethnic group	Number of clients	% of total
Asian NFD *	34	7.5%
Southeast Asian	23	5.0%
Chinese	113	24.8%
Indian	202	44.3%
Other Asian	84	18.4%
Total	456	100.0%

MHINC data, 2005 calendar year. CM domiciled Asian clients seen by any DHB mental health team in NZ.

* Of note, 34 people were defined as “Asian NFD (Not Further Defined)”. It is likely that these clients have been miscoded by the mental health services, as almost all Asian peoples can be coded into either one of the main Asian groups or into the “Other Asian” group. The “Other Asian” group contains a number of other Asian ethnicities (e.g. Korean) in the more detailed levels 3 and 4 of the SNZ ethnicity classification.

11.14.4. CM Asian clients by team type

Table 111 shows how CM Asian clients accessed the different types DHB mental health teams in NZ as recorded in the MHINC. Community Team, Inpatient Team and Child, Adolescent and Family Team clients accounted for approximately 82% of client numbers.

Note that these are unique numbers for each team type. As clients can see more than one team type, the total number of clients (n=575) is greater than the unique number of CM Asian clients seen (n=456). Also note that the Inpatient Team (01) data includes some Psychiatric liaison visits and that the Forensic Team (05) data may be affected by inaccuracies in domicile coding.

Table 111: CM domiciled Asian clients, by team type (2005)

Team type	Team type description	Number of unique clients	%
02	Community Team	266	46.3%
01	Inpatient Team	119	20.7%
04	Child, Adolescent and Family Team	85	14.8%
03	Alcohol and Drug Team	42	7.3%
13	Psychogeriatric Team	30	5.2%
05	Forensic Team	10	1.7%
15	Maternal Mental Health Team	6	1.0%
17	Needs Assessment and Service Coordination Team	5	0.9%
07	Pacific Island Team	2	0.3%
12	Intellectual Disability Dual Diagnosis Team	2	0.3%
14	Youth Specialty Team	2	0.3%
16	Eating Disorder Team	2	0.3%
06	Kaupapa Māori Team	1	0.2%
11	Alcohol and Drug Dual Diagnosis Team	1	0.2%
18	Specialist Psychotherapy Team	1	0.2%
99	Other	1	0.2%
Total		575	100.0%

MHINC data, 2005 calendar year. CM domiciled Asian clients seen by any DHB mental health team in NZ.

11.15.Forensic services

11.15.1. Introduction

This section presents the MHINC data for all clients (inpatient or community-based forensic user) seen in NZ by forensic mental health teams in the 2005 calendar year.

Separate data for CM domiciled clients are not presented as it appears that MHINC does not capture all CM clients due to issues over inaccurate domicile coding in some cases e.g. clients receiving the domicile of an institution rather than domicile of usual residence. A limited audit of the Northern region forensic data suggested that MHINC may be capturing as little as 25% of the actual bed nights for CM domiciled forensic clients. The accuracy of forensic contact data in MHINC for non-inpatient settings (e.g. court, outpatient, clients home, telephone contacts and residential care) is unknown. Further work is needed in this area to ascertain the true extent of inaccurate domicile coding and to ensure more accurate coding occurs.

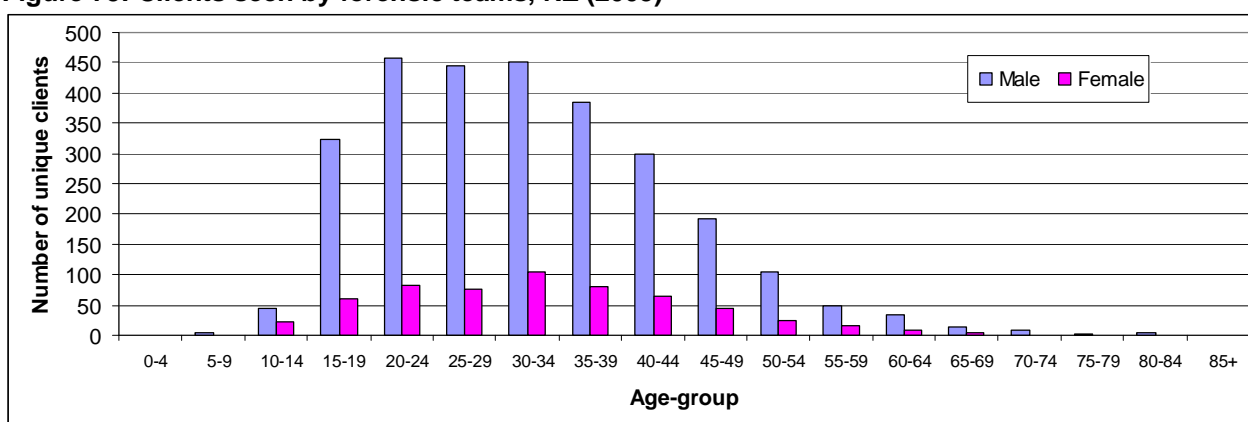
11.15.2. Forensic service clients

Nationally for the 2005 calendar year, there were 3,407 unique forensic clients recorded in the MHINC. In total, these clients had 49,034 bed nights and 32,438 contacts between them. Note that in the MHINC, data are recorded as either bed nights or contacts, never both.

The overall age-standardised rate was 88 per 100,000 population. Males accounted for the large majority (83%) of clients. The male age-standardised rate was 148 per 100,000 and the female rate was 30 per 100,000.

Figure 75 shows the age breakdown for each gender. The male forensic clients are largely confined to the 15-54 age groups with peak numbers in the 20-34 age range. The age-distribution for females is similar to males, although the peak in numbers is less pronounced due to the relatively low numbers.

Figure 75: Clients seen by forensic teams, NZ (2005)



MHINC data. 2005 calendar year. CMDHB analysis.

Table 112 shows the breakdown of clients by ethnic group. European and Māori accounted for the majority of clients. Of particular note, the age-standardised rate for Māori was by far the highest, followed by Pacific peoples. The Asian rate was the lowest and significantly lower than the European/Other rate.

Table 112: Unique clients seen by forensic teams, by ethnicity – NZ (2005)

Ethnic group	n	% of total	Age-standardised rate per 100,000
Asian	57	1.7%	23
Māori	1144	33.6%	221
Pacific peoples	222	6.5%	145
European	1477	43.4%	78 *
Other	507	14.9%	
Total	3407	100%	98

MHINC data, 2005 calendar year. CMDHB analysis. SNZ level 1 prioritised ethnicity. 2001 Census standard population.

* European and Other ethnic groups were combined to give a more accurate age-standardised rate.

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Appendix A: Summary of key mental health strategy documents' high level priorities/strategic directions

The key themes from the various mental health and addiction strategic documents were summarised in the CMDHB Mental health and Addiction Action Plan 2006-2010.¹ The summary is reproduced below.

Inclusive communities

Inclusive communities

Intersectoral integration / partnerships / liaison (for each age group)

Planning inclusive of

- families, communities, other agencies, service users

Prevention, promotion

Early intervention

MH promotion and prevention focus on

- wellness
- suicide prevention
- alcohol and drug (especially youth)
- social inclusion/desigma
- prevention for at risk children

Primary care focus on

- Prevention/promotion
- Early detection and effective treatment
-

Child and youth service focus on

- under 5's

Recovery Orientation

Recovery philosophy

Work with whanau/whanau inclusion

Less use of compulsion, force, seclusion

Peer Service Provision

Funding mechanisms support recovery

Reducing Health Inequalities

Treaty of Waitangi

Cultural competence and assessments

- Maori
- Pacific people
- Asian
- Refugees/Migrants

Services for Maori focus on

- KM services within mainstream
- clinical, cultural and support services, including cultural assessment

Pacific services focus on:

- pacific primary mental health
- partnerships
- quality

Planning to address

- regional equity in service levels
- gaps to Blueprint

Planning and Funding for Maori

- 50% of service users can choose Kaupapa Maori services
- Maori models, outcomes

Planning and Funding for Pacific peoples:

- 50% access for Pacific

Clinical and Support Services

Addictions focus on

- youth
- culture-specific
- gambling
- older people
- crisis

Primary care focus on

- Recovery focused supports
- Chronic Disease Management

Child and youth service focus on

- under 5-12/youth services

Adult services focus on

- alternatives to admission
- specialist services
- psychological treatments
- personalised supports – work, recreation, education, housing
- primary care liaison

Older people service focus on

- aging in place emphasis

Responsive Services

Accessibility

Flexibility and responsiveness

Quality improvement

Responsiveness for

- Family/whanau
- People with disabilities
- Victims of trauma
- Women

Integration/partnerships/liaison

- mental health/addictions
- intra-sectoral: community, inpatient, NGO, primary
- regional/ between DHBs

Funding mechanisms support best practice, seamlessness and flexibility

Infrastructure

Workforce: Building Capacity

- Expand workforce
- Enhance current workforce esp.
 - Maori, Pacific, Asian workforce
 - Consumer workforce
 - Child and Youth workforce
 - Addictions workforce
 - Leadership
- Build external capacity (primary healthcare, other sectors)

Provider Development

- Kaupapa Maori
- Pacific

Get better information (outcomes incl.)

Use information better to

- inform consumers re services
- improve planning
- improve services
- improve equity of outcomes

Appendix B. Statistics NZ level 2 ethnicity codes and descriptions

Ethnic group level 2 code	Ethnic group level 2 code description	Ethnic group priority order
10	European nor further defined	20
11	NZ European	21
12	Other European	19
21	NZ Māori	1
30	Pacific Island not further defined	9
31	Samoan	7
32	Cook Island Māori	6
33	Tongan	5
34	Niuean	4
35	Tokelauan	2
36	Fijian	3
37	Other Pacific Island	8
40	Asian not further defined	14
41	Southeast Asian	10
42	Chinese	12
43	Indian	11
44	Other Asian	13
51	Middle Eastern	17
52	Latin American / Hispanic	15
53	African	16
54	Other	18
99	Not stated	99

Source: Ministry of Health. Ethnicity data protocols for the health and disability sector. *Wellington: Ministry of Health* 2004.²

Appendix C: MHINC team type descriptions

Team type code	Team type description	Team type definition
01	Inpatient Team	Inpatient teams provide services in a medical environment such as a hospital to eligible persons who are in need of a period of close observation, intensive investigation or intervention. Note: Inpatient teams aimed at a specific healthcare user group or purpose, eg, A&D, CAFS, Kaupapa Māori, should be mapped to the specific team below.
02	Community Team	Community teams provide non-residential assessment and treatment services including outpatient services. Note: Community teams aimed at a specific healthcare user group or purpose, eg, A&D, CAFS, Kaupapa Māori, should be mapped to the specific team below.
03	Alcohol and Drug Team	Alcohol and drug teams provide assessment and treatment services to people with alcohol and other drug problems. Includes inpatient, residential or community-based alcohol and drug teams. Note: Alcohol and Drug Kaupapa Māori teams should be mapped to '10'. Children and youth alcohol and drug teams should be mapped to '21'.
04	Child, Adolescent and Family Team	Child, adolescent and family teams provide assessment and treatment services to people aged 0-19 years inclusive. Includes inpatient, residential or community-based child, adolescent and family teams. Note: Children and youth, alcohol and drug teams should be mapped to '21'. Kaupapa Māori Tamariki and Rangatahi (child and youth) mental health teams should be mapped to '22'.
05	Forensic Team	Forensic teams provide assessment and treatment services to alleged offenders charged with criminal offences, who have or are thought to have a psychiatric illness. Also includes individuals who are unable to be managed safely with general mental health services due to a high level of serious and persistent danger to others. Includes inpatient, residential or community-based forensic teams.
06	Kaupapa Maori Team	Kaupapa Māori teams provide assessment and treatment services to people within a Māori Kaupapa. Includes inpatient, residential or community-based teams within a Māori Kaupapa (including child, adolescent and family, youth specialty and psychogeriatric services). Note: Alcohol and Drug Kaupapa Māori teams should be mapped to '10'. Kaupapa Māori Tamariki and Rangatahi (child and youth) mental health teams should be mapped to '22'. Kaupapa Māori dual diagnosis mental health and alcohol and drug teams should be mapped to '23'.
07	Pacific Island Team	Pacific Island teams provide assessment and treatment services under a Pacific model. Includes inpatient, residential or community-based teams working under a Pacific model (including teams providing alcohol and drug, child, adolescent and family, youth specialty and psychogeriatric services).
08	Residential Team	Accommodation, rehabilitation and support provided in a community residence to eligible persons with psychiatric disabilities.
09	Community Skills Enhancement Team	Community skills enhancement teams provide non-residential, activity-based services to assist people with psychiatric disabilities to improve their life skills, overcome social isolation and return to optimal functioning.
10	Alcohol and Drug Kaupapa Maori Team	Alcohol and Drug Kaupapa Māori teams provide assessment and treatment services within a Māori Kaupapa to people with alcohol and other drug problems. Includes inpatient, residential or community-based Alcohol and Drug Kaupapa Māori teams. Note: Kaupapa Māori dual diagnosis mental health and alcohol and drug teams should be mapped to '23'.

11	Alcohol and Drug Dual Diagnosis Team	Alcohol and drug dual diagnosis teams provide assessment and treatment services to people with co-existing problems of mental illness and alcohol and drug use. Includes inpatient, residential or community-based alcohol and drug dual diagnosis teams. Note: Kaupapa Māori dual diagnosis mental health and alcohol and drug teams should be mapped to '23'
12	Intellectual Disability Dual Diagnosis Team	Intellectual disability dual diagnosis teams provide assessment and treatment services to people with co-existing problems of mental illness and intellectual disability. Includes inpatient, residential or community-based intellectual disability dual diagnosis teams.
13	Psychogeriatric Team	Psychogeriatric teams provide assessment and treatment services to people aged 65 and older with some flexibility based on the nature of the presenting problems. Includes inpatient, residential or community-based psychogeriatric teams.
14	Youth Specialty Team	Youth specialty teams provide assessment and treatment services to people aged 15-19 years inclusive. Includes inpatient, residential or community-based youth specialty teams.
15	Maternal Mental Health Team	Maternal mental health teams provide assessment and treatment services to pregnant women, women in the postpartum period and their infants. Includes inpatient, residential or community-based maternal mental health teams.
16	Eating Disorder Team	Eating disorder teams provide assessment and treatment services to people with eating disorders. Includes inpatient, residential or community-based eating disorder teams.
17	Needs Assessment and Service Coordination Team	Needs assessment and service coordination teams provide comprehensive assessment of needs and facilitation of ongoing provision of services and support to people with psychiatric disabilities. The assessment process meets the Standards for Needs Assessment for People with Disabilities (MOH). These teams are usually community-based.
18	Specialist Psychotherapy Team	Specialist psychotherapy teams provide assessment and psychotherapy treatment to people with severe psychological disorders. These teams are usually community or outpatient based.
19	Services for Profoundly Deaf Team	Services for profoundly deaf teams provide assessment, therapy and referral services for profoundly deaf people who require specialist mental health services. These teams are usually community-based.
20	Refugee Team	Refugee teams provide specialist assessment, treatment and liaison services that meet the particular mental health needs of refugees. These teams are usually community-based.
21	Children and youth, alcohol and drug services	Children and youth, alcohol and drug teams provide assessment and treatment services to people aged 0-19 years inclusive with alcohol and other drug problems. Includes inpatient, residential or community-based teams.
22	Kaupapa Maori Tamariki and Rangatahi (child and youth) mental health services	Kaupapa Māori Tamariki and Rangatahi mental health teams provide assessment and treatment services within a Māori Kaupapa to people aged 0-19 years inclusive. Includes inpatient, residential or community-based teams.
23	Kaupapa Maori dual diagnosis mental health and alcohol and drug services	Kaupapa Māori dual diagnosis mental health and alcohol and drug teams provide assessment and treatment services within a Māori Kaupapa to people with co-existing problems of mental illness and alcohol and drug use. Includes inpatient, residential or community-based teams. Note: Alcohol and Drug Kaupapa Māori teams should be mapped to 10.
99	Other	Any teams not specifically covered above.

Appendix D: MHINC service code descriptions

Service code	Service description	Service full description
T01	Mental health crisis attendances	Unplanned intervention involving the client in assessment and/or treatment to stabilise symptoms in urgent situations which require an immediate response.
T02	Mental health intensive care inpatient occupied bed days	Time spent by a client in a mental health intensive care inpatient service; 24-hour care and treatment services provided to manage people with serious acute mental health disorders whose condition presents a danger to themselves or other people. These clients are generally the subject of a compulsory assessment or treatment order.
T03	Mental health acute inpatient occupied bed days	Time spent by a client in a mental health acute inpatient service; 24-hour care and treatment services provided to people experiencing severe acute symptoms requiring intensive input for a short period of time (generally up to 3 weeks).
T04	Mental health sub-acute inpatient occupied bed days	Time spent by a client in a mental health sub-acute inpatient service; 24-hour care and treatment services provided to manage unwell people requiring less intensive input for a longer period of time.
T05	Mental health crisis respite care occupied bed days	Time spent by a client in a mental health crisis respite care service. Home-based or residential services provided as an option for people who would otherwise require admission to acute inpatient mental health services.
T06	Mental health individual treatment attendances	Individual assessment, treatment, care planning, review and discharge services provided for less than 3 hours. Family / whānau or significant others may be present. Note: family or couple therapy should be coded as T32.
T07	Mental health group programme attendances	Assessment, treatment, care planning, review and discharge services provided in a group setting for less than 3 hours.
T08	Mental health care co-ordination contacts	Significant contact between mental health professionals and other agencies/persons relating to the care of a client, to ensure continuity of service provision, where the mental health service is the lead agency. Client generally not present.
T09	Early psychosis intervention attendances	Assessment and treatment services provided to people experiencing a first psychotic illness, aimed at minimising the risk of chronicity.
T10	Support needs assessment attendances	Comprehensive assessment and review of client's living and support needs the goal being return to optimal levels of functioning.
T11	Mental health maximum secure inpatient occupied bed days	Time spent by a client in a mental health maximum secure inpatient service; 24-hour care and treatment services provided to eligible people who require higher levels of observation and intensive treatment and/or secure care over longer periods than can be provided in medium secure units.
T12	Mental health medium secure inpatient occupied bed days	Time spent by a client in a mental health medium secure inpatient service; 24-hour care and treatment services provided to eligible people who are in need of more intensive assessment and/or treatment than can be provided in a less secure setting.
T13	Mental health minimum secure inpatient occupied bed days	Time spent by a client in a mental health minimum secure inpatient service; 24-hour care and treatment services provided for eligible persons as part of recovery oriented process.
T14	Mental health forensic pre-discharge hostel occupied bed days	Time spent by a client in a mental health forensic pre-discharge hostel; 24-hour care and treatment services in a step-down facility within forensic services and usually with the hospital site.
T15	Court liaison attendances	Attendance at court by a staff member to provide advice, assessment and referral in respect of a client.
T16	Substance abuse detoxification occupied bed days (medical)	Time spent by a client in a medical substance abuse detoxification service; 24-hour care and detoxification services provided by or on behalf of contracted alcohol and drug providers or facilities in an inpatient setting.
T17	Substance abuse detoxification attendances (social)	Detoxification services provided by or on behalf of contracted alcohol and drug providers or facilities in a community setting.
T18	Methadone treatment specialist service attendances (clients of specialist services)	Treatment or counselling services provided by staff from an alcohol and drug treatment provider or facility for people receiving methadone under specialist A&D service case management (excludes clients of authorised GPs).
T19	Methadone treatment specialist service attendances (clients of authorised GP's)	Treatment or counselling services provided by staff from an alcohol and drug treatment provider or facility for people receiving methadone prescribed by GPs under specialist service authority while receiving case management from specialist A&D services.
T20	Substance abuse residential service occupied bed days	Time spent by a client in a substance abuse residential service; 24-hour care and treatment services provided to people with particular requirements unable to be met in less structured or supported settings.
T21	Psychiatric disability	Time spent by a client in a mental health psychiatric disability rehabilitation

	rehabilitation occupied bed days	unit.
T22	Mental health day treatment programme attendances	Provision of non-residential assessment, treatment and recovery oriented rehabilitative programme for more than 3 hours to non-inpatient clients requiring specialised programmes and/or more intensive care than can be provided within outpatient services.
T23	Mental health day activity programme attendances	Provision of non-residential therapeutic, recreational, social or other related programmes for more than 3 hours to non-inpatient clients.
T24	Work opportunities programme attendances	Training in basic skills needed to seek, find and maintain employment.
T25	Community mental health residential level 1 occupied bed days	Time spent by a client in level 1 community residential home. Brief/daily support provided by experienced non-clinical staff.
T26	Community mental health residential level 2 occupied bed days	Time spent by a client in level 2 community residential home; 24-hour support provided by non-clinical staff. May include sleepovers.
T27	Community mental health residential level 3 occupied bed days	Time spent by a client in level 3 community residential home; 24-hour support provided predominantly by non-clinical staff with some clinical staff available short term (day hours/sleep over).
T28	Community mental health residential level 4 occupied bed days	Time spent by a client in level 4 community residential home; 24-hour intensive support provided by a mix of clinical/non-clinical staff.
T29	Community mental health residential long-term occupied bed days	Time spent by a client in long-term community residential home; 24-hour support for clients with complex needs over long term.
T30	Respite care occupied bed days	Time spent by a client in a respite care service or receiving home based respite care for use by people who require a short break from their usual living situation (usually planned).
T31	Home based care contacts	Non-clinical support services provided to clients with a psychiatric disability to enable them to stay in their own homes.
T32	Mental health contact with family / whānau	Time spent in contact with family / whānau or significant other discussing family / whānau issues related to the treatment/care/management of the service user, engaging in couple or family therapy. The service user may or may not be present. <ul style="list-style-type: none"> – Excludes situations where family / whānau members accompany the service user to support them (coded T06 or T09), whichever applies. – Excludes treatment to be coded T01. – Excludes care co-ordination (eg, family group conferences and strengthening families meetings), to be coded T08.

Appendix E: MHINC service setting codes and descriptions

Service Setting code	Service Setting description	Service setting definition
CM	Community	Service provided to a client in a non-hospital setting which is not specifically covered by any of the other definitions
CO	Non-Māori cultural setting	Services provided in a cultural setting which is not kaupapa Māori
CT	Court	Services provided in a Court, including when the court is held at the healthcare agency
DM	Domiciliary	Services provided to a client in their own home or place of residence. Services provided in mental health residential settings are deemed to be community not domiciliary
DP	Day patient setting	Services provided to day patients at a day hospital on a hospital site
ED	Emergency Department	Services provided in a hospital-based emergency department
IP	Inpatient	Services provided in a hospital setting while the client is an inpatient
MC	Māori cultural setting	Services provided in a setting working under kaupapa Māori
NP	Non-psychiatric	Services provided in other parts of hospital
OP	Outpatient	Services provided in a hospital psychiatric outpatient service
PR	Prison	Services provided in a Prison, including police cells
PH	Telephone	Services provided where the contact with the service user is a clinically significant telephone call lasting for 10 minutes or longer
AV	Tele-psychiatry/Audio Visual	Services provided over a television or video conference link
OS	Onsite	Services provided in a mental health or alcohol and drug service that is the clinicians place of work, not specifically covered by any of the other definitions
OL	Other Location	Services provided in a location that is not specifically covered by any of the other definitions
RE	Residential	Services provided in a community-based residential rehabilitation mental health or alcohol and drug service

Appendix F: DSM-IV code groupings for service utilisation report

This section shows the groupings of DSM-IV-TR descriptions and codes used for analysis of the Mental Health Information National Collection dataset.

Diagnosis category groupings	Subgroup	DSM-IV codes to roll-up into subgroup	DSM-IV description	
No Axis I diagnosis	-	-		
No Axis I or II diagnosis	-	-		
Major mental illness (Axis I)				
Schizophrenia and other psychotic disorders	1	295.30	Schizophrenia paranoid type	
		295.10	Schizophrenia disorganised type	
		295.20	Schizophrenia catatonic type	
		295.90	Schizophrenia undifferentiated type	
		295.60	Schizophrenia residual type	
	2	295.40	Schizophreniform disorder	
	3	295.70	Schizoaffective disorder	
	4	297.1	Delusional disorder	
		298.8	Brief psychotic disorder	
		297.3	Shared psychotic disorder	
		298.9	Psychotic disorder NOS	
	Bipolar Disorder	1	296.0x	Bipolar disorder single manic episode
			296.40	Bipolar disorder most recent episode hypomanic
296.4x			Bipolar disorder most recent episode manic	
296.6			Bipolar disorder most recent episode mixed	
296.5			Bipolar disorder most recent episode depressed	
296.7			Bipolar disorder most recent episode unspecified	
301.13			Cyclothymic disorder	
296.80		Bipolar Disorder NOS		
2	296.89	Bipolar II disorder		
Depressive Disorders	1	296.2x	Major depressive disorder single episode	
		296.3x	Major depressive disorder Recurrent	
	2	300.4	Dysthymic disorder	
	3	311	Depressive disorders NOS	

Diagnosis category groupings	Subgroups	DSM-IV codes to roll-up into subgroup	DSM-IV description
Anxiety disorders	1	300.01	Panic disorder without agoraphobia
		300.21	Panic disorder with agoraphobia
		300.22	Agoraphobia without history of panic Disorder
		300.29	Specific phobia
		300.23	Social phobia
		308.3	Acute stress disorder
		300.02	Generalised anxiety disorder
		293.84	Anxiety disorder due to medical condition
		300.00	Anxiety disorder NOS
	300.3	Obsessive compulsive disorder	
	2	309.81	Post-traumatic stress disorder
Dissociative Disorders	1	300.12	Dissociative amnesia
		300.13	Dissociative fugue
		300.14	Dissociative identity disorder
		300.15	Dissociative disorder NOS
		300.6	Depersonalisation disorder
Eating Disorders	1	307.51	Bulimia nervosa
	2	307.1	Anorexia nervosa
	3	307.5	Eating disorder NOS
Alcohol-related			
Alcohol	1	305.00	Abuse
		303.90	Dependence
	2	291.89	Induced anxiety, mood or sexual disorder
		291.1	Induced persisting amnestic disorder
		291.2	Induced persisting dementia
		291.5	Induced psychotic disorder, with delusions
		291.3	Induced psychotic disorder, with hallucinations
		291.82	Induced sleep disorder
	3	303.00	Intoxication
		291.0	Intoxication delirium
	4	291.9	Related disorder NOS
	5	291.8	Withdrawal
		291.0	Withdrawal delirium

Other substance abuse	Subgroups	DSM-IV codes to roll-up into subgroup	DSM-IV description
• Amphetamine (Or Amphetamine-Like) Disorders	1.	305.70	Abuse
		304.40	Dependence
• Cannabis Disorders	2.	304.30	Dependence
		304.20	Abuse
• Cocaine Disorders	3.	305.60	Abuse
		304.20	Dependence
• Hallucinogen Disorders	4.	304.50	Dependence
		305.30	Abuse
• Inhalant Disorders	5.	304.60	Dependence
		305.90	Abuse
• Nicotine	6.	305.1	Dependence
• Opioid Disorders	7.	304.00	Dependence
		305.50	Abuse
• Phencyclidine (Or Phencyclidine-Like) Disorders	8.	304.60	Dependence
		305.90	Abuse
• Sedative-, Hypnotic-, or Anxiolytic Disorders	9.	304.10	Dependence
		305.40	Abuse
• Polysubstance Disorder	10.	304.80	Polysubstance dependence
• Other/Unknown substance use	11.	304.90	Dependence
		305.90	Abuse
• Other substance related disorders	12.	292.89	Intoxication
		292.81	Intoxication delirium
	13.	292.0	Withdrawal
		292.11	Induced psychotic disorder with delusions
		292.12	Induced psychotic disorder with hallucinations
		292.84	Induced mood disorder
		292.85, 292.89	Induced anxiety/sexual dysfunction/sleep disorder
		292.9	Related disorder NOS
		292.82	Induced persistent dementia
		292.83	Induced persistent amnesic disorder
14.			
Personality disorders (Axis II)			
1. All personality disorders excluding Borderline personality disorder		301.0	Paranoid personality disorder
		301.20	Schizoid personality disorder
		301.22	Schizotypal personality disorder
		301.7	Antisocial personality disorder
		301.50	Histrionic personality disorder
		301.81	Narcissistic personality disorder
		301.82	Avoidant personality disorder
		301.6	Dependent personality disorder
		301.4	Obsessive compulsive personality disorder
301.9	Personality disorder NOS		
2. Borderline personality disorder as a subgroup		301.83	Borderline personality disorder

Dementia			
Dementia	1	290.0	Alzheimer's types
		290.1X 290.2X 290.3	
		290.4X	Vascular dementia
	294.8	Dementia NOS or amnesic dDisorder NOS	
2	294.1	Due to HIV or other general medical condition	
Other Mental Disorders Due to Medical Condition			
Other Mental Disorders Due to Medical Condition	1	294.0	Amnesic disorder due to
		293.84	Anxiety disorder due to
		293.89	Catatonic disorder due to
		293.0	Delirium due to
		293.9	Mental disorder NOS due to
		293.83	Mood disorder due to
		307.89	Pain disorder associated with
		310.1	Personality change due to
		293.81,281.82	Psychotic disorder due to
		V61.9	Relational problem related to
780.5 / 327.XX	Sleep disorder due to		
Mental retardation (Axis II)			
Mental Retardation	1	317	Mild
		318.0	Moderate
		318.1	Severe
		318.2	Profound
		319	Severity unspecified
General Medical Conditions			
General Medical Condition as principal diagnosis (AXIS III)		Axis III	
Adjustment Disorders			
Adjustment Disorders	1	309.0	With depressed mood
		309.24	With anxiety
		309.28	With mixed anxiety and depression
		309.3	With disturbance of conduct
		309.4	With mixed disturbance of emotions and conduct
		309.9	Unspecified
Abuse V Code			
Abuse	1	V61.21/995.54	Physical abuse of child – focus on victim
		995.81	Physical abuse of adult focus on victim
	2	V61.21/995.53	Sexual abuse of child – focus on victim
		995.83	Sexual abuse of adult focus on victim
Relational Problems V Code			
V Code		V61.20	Parent child relational problem
		V61.10	Partner relational problem
		V61.8	Sibling relational problem
		V62.81	NOS

Specific Conditions of Childhood and Adolescence	Subgroups	DSM-IV codes to roll-up into subgroup	DSM-IV description
1. Pervasive Developmental Disorders	1	299.00	Autistic disorder
	2	299.80	Rett's disorder
		299.10	Childhood disintegrative disorder
	3	299.80	Asperger's disorder
2. Attention Deficit and Disruptive Behaviour Disorders	1	314.01	ADHD combined type
		314.00	ADHD predominantly inattentive type
		314.01	ADHD predominantly hyperactive impulsive type
		314.9	ADHD NOS
	2	312.81	Conduct disorder childhood onset type
		312.82	Conduct disorder adolescent onset type
		312.89	Conduct disorder unspecified onset type
		313.81	Oppositional defiant disorder
		312.9	Disruptive disorder NOS
3. Other Mental Disorders of Infancy Childhood and Adolescence	1	309.21	Separation anxiety disorder
	2	313.23	Selective mutism
		313.89	Reactive attachment disorder of infancy or early childhood
		307.3	Stereotypic movement disorder
		313.9	Disorder of infancy, childhood or adolescence NOS
		307.52	Pica
		307.53	Rumination disorder
		307.23	Tourette's disorder
		307.22	Chronic motor or vocal tic disorder
307.21	Transient tic disorder		
		307.20	Tic disorder NOS
Other diagnoses		All codes not included elsewhere	All diagnoses not included elsewhere