



Duty to Care

Physical illness in people
with mental illness

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Foreword

The latter half of the Twentieth Century saw considerable strides taken in the way society cares for people with mental illness. Whilst the days of institutionalisation are on the whole behind us, there is still much to be done to ensure that the mentally ill are offered equitable health care. They face many barriers in life which prevent them from achieving their full potential. The stigma of mental illness is still all too pervasive. Many people with mental illness are unable to work full-time, are disenfranchised from family and friends, lack social networks, and exist on meagre means of financial support.

This is the first study to paint a comprehensive picture of the overall health of people with mental illness. The study used the unique record linkage system that has been built here in WA making it possible to build a comprehensive picture of each person's contact with health services throughout their life. The study reviewed the health experience of over 240,000 people who have been registered on the Mental Health Information System (representing 8% of the population at any point in time). The study covered the period 1980-98 and the comprehensiveness of the data make the findings difficult to sweep under the carpet.

The study found alarmingly high rates of physical illness in people with mental illness. It was able to pinpoint a trend that showed that people with mental illness and serious physical illness were not hospitalised anywhere near as often as expected. Physical illness impacts on a person's mental illness and the double whammy results in the health of people with mental illness being further compromised.

The findings of this study are an indication that our health system has failed to meet the full health needs of people with mental illness. Whilst the physical health of these people is neglected, they not only live with serious illness, but their life expectancy is significantly reduced. They should not be neglected any longer. The health system must respond with resources and service models that meet the primary health care needs of this group. General practitioners have an important role to play in developing integrated service models to assess and follow up the health requirements of people with mental illness. Mental health services should not exist in isolation. A service wide approach that is adaptive and responsive to the physical health needs of people with mental illness is urgently required. The high rate of smoking, alcohol and drug use in people with mental illness is a major factor in their poor physical health. Comprehensive programmes to deal with addictions, particularly smoking and alcohol, should be a fundamental part of caring for people with mental illness.

I hope that these findings will be read widely and used wisely by those who care for people with mental illness, in Western Australia and elsewhere. These vulnerable people have been in the shadows for too long. We cannot leave people with mental illness on the margin while so many others in our society enjoy a high standard of comprehensive health care.



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Summary

People with mental illness are among the most marginalised people in our community. The consequences of mental illness often extend beyond the direct symptoms of the illness to affect people's social and economic well being and all aspects of their lives. The aim of this study was to examine the physical health of people with mental illness. The purpose was to provide data that can be used to improve health services and design health promotion activities that can be specifically targeted at people with mental illness.

People with mental illness are often isolated from family and friends. Mental illness can also affect people's job prospects and make it difficult to secure and retain full-time employment. They face a continual stigma based on fear of mental illness. The separation of medical care for physical illness from psychiatric care often fragments the total care offered to this group. These factors combined often lead to people with mental illness not receiving adequate health care in relation to their health needs.

This study was able to determine the extent to which users of mental health services (who comprise 8% of the population of WA) have different rates of physical illness compared to the general population for the period 1980–98. The study compared deaths, the total number of cancers that were diagnosed and hospital admission rates in people with mental illness with the general population.

This report describes the main findings of the study. More detailed description of the study is contained in the report "Preventable physical illness in people with mental illness".

It is hoped that the results of this study can be used to improve the way the health system treats physical illnesses in people with mental illness.

Key Findings

- ◆ Death rates from all main causes are higher in people with mental illness. The overall death rate of people with mental illness was 2.5 times higher than the general population of WA.
- ◆ Almost one half of all suicides in WA occurred in people who have used mental health services. The rate of suicide in people with mental illness has been increasing over the period 1980–98, and almost entirely explains the net increase in the total WA suicide rate.
- ◆ The greatest number of excess deaths in people with mental illness was due to heart disease (at 16% of excess deaths) and double the number of excess deaths due to suicide (8%). (The expected number of deaths in people with mental illness from any given cause can be worked out by applying the general population death rate to the population of people with mental illness. Deaths above this number are called excess deaths.)
- ◆ Despite a downward trend in the death rate due to heart disease in the general population, in people with mental illness the death rate due to heart disease has increased in women and remained steady in men.
- ◆ Medical procedures to improve blood flow to the heart (revascularisation) were undertaken less often in people with mental illness, particularly those affected by psychoses.

Summary

- ◆ Hospitalisation rates were considerably lower than death rates for many conditions. This suggests people with mental illness do not receive the same level of medical treatment in hospital, based on need considering the seriousness of the illness, as the general population.
- ◆ Despite very high rates of smoking in people with mental illness, their cancer rate was about the same as for the general population. However, once a cancer was diagnosed, there was a 30% higher death rate in users of mental health services.
- ◆ 44% of Hepatitis C cases and 19% of Human Immunodeficiency Virus (HIV) cases in WA occurred in users of mental health services.
- ◆ Infectious diseases associated with high-risk personal behaviours such as drug use and unsafe sexual practices occurred at a higher rate in people with mental illness. People with psychoses and alcohol or drug disorders were most at risk.
- ◆ Deficiency anaemias were a major problem in people with mental illness with residents of psychiatric hostels being at particularly high risk.
- ◆ There was a strong relationship between mental illness, particularly schizophrenia, affective psychoses and dementia, and the onset of Parkinson's disease.
- ◆ People with mental illness had higher rates of digestive system disorders which are linked to alcohol abuse and higher rates of respiratory disorders which are linked to smoking.
- ◆ People with mental illness were at higher risk for all types of injuries, particularly drug-related poisonings and those inflicted by other people.
- ◆ People with mental illness undergoing surgery were more likely to have complications, leading to hospital readmission.

Conclusions

The following conclusions can be drawn from the study:

- ◆ People with mental illness have more physical illnesses than the general population. They are already a marginalised and vulnerable group and these findings raise doubts about equity in the delivery of health care for their physical illnesses.
- ◆ People with mental illness have high rates of physical illnesses related to behavioural factors such as smoking, alcohol and drug abuse, obesity, poor diet and other lifestyle factors. They also die at a higher rate from major diseases than the general population.
- ◆ Physical illnesses were more likely to not be diagnosed in people with mental illness. This led to lower hospital admission rates resulting in higher than expected death rates. This

Summary

raises questions as to whether people with mental illness receive an appropriate level of care for their physical health problems.

- ◆ People with mental illness are at high risk of many physical illnesses which could be reduced by better targeting of public health programs such as:
 - regular physical assessment by medical practitioners;
 - better integrated physical and mental health care services;
 - encouragement to reduce their particularly high rates of smoking;
 - encouragement to reduce alcohol and drug use;
 - more commitment to screening for commonly occurring cancers; and
 - better diet and exercise regimes.
- ◆ Health services should be structured to allow medical practitioners to provide properly coordinated and accessible health care to people with mental illness for their physical illnesses. Services should be delivered by doctors who are accountable for addressing the majority of health care needs of people with mental illness.
- ◆ A partnership between people with mental illness and doctors should be developed and evaluated. There are opportunities for collaboration between GPs, Divisions of General Practice and mental health services.

The results of this study paint a picture of the neglect of the physical health needs of people with mental illness. These findings suggest a number of opportunities that could be explored to improve the general health care of people with mental illness. Mental illness is a barrier to treatment for physical illnesses and more attention to the primary medical care of people with mental illness is required.

Introduction

This study sought to identify areas of greatest risk of physical illness in users of mental health services with the intention of having the results used to better target health care for people with mental illness. Unlike the general population, this group (which comprises 8% of the population of WA) has not experienced the same reductions in the rates of physical illness that have resulted from various public health campaigns (*eg* heart disease). It appears that these campaigns have had little impact on the physical health of people with mental illness.

This report describes how the study was conducted and the main findings. Further details can be found in the report “Preventable physical illness in people with mental illness”.

Background

The nature and delivery of psychiatric services has changed dramatically in the 20th century. This has resulted in a large reduction in the number of mentally ill people in hospitals and other mental health care facilities. More effective treatment for mental disorders, particularly the introduction of newer and more effective medicines during the 1950’s has been the main reason for this trend. It has allowed many people with mental illness to be treated outside of institutions and helped them on the path to more normal lives.

Despite these advances, people with mental illness remain one of the most marginalised groups in society. They find it more difficult to obtain and keep regular employment, have fewer friends and may be cut off from family members. These problems often lead to lower living standards, which in turn can result in high death rates and earlier death.

After heart disease, mental illness is the most common cause of premature death. Also, about 30% of the non-fatal disease burden on the community is due to mental illness. Depression is the most common cause of non-fatal disease burden. A range of effective treatments exist for most mental disorders. However, a powerful stigma, based on fear of mental illness, remains a significant barrier to effective treatment and rehabilitation. Premature death is more common among people with mental illness, from both natural and unnatural causes. This is due to their higher rates of physical illness (*eg* heart disease, respiratory problems) and the fact that they tend to acquire much more serious physical illnesses. Higher rates of physical illness in people with mental illness add to the difficulties of living with a mental illness.

Physical Illness

Many factors combine to contribute to physical illness in people with mental illness. For example, drinking alcohol can cause psychosis and diseases in the digestive system. Physical illness may also be the result of treatment of mental illness (*eg* side effects of some medications). Physical illness may not be diagnosed or properly treated and people with mental illness may have their physical illness diagnosed at a later stage. The general consequences of mental illness may also be a contributing factor as it affects people’s behaviour. Social stigma can also play a part and these factors combined can affect the well being of people with mental illness. In some circumstances, mental illness can prevent a person obtaining and maintaining employment, and they may be isolated from family and friends. This leads to greater numbers of people with mental illness living alone than in the general community. The 1997 Survey of Mental Health and Wellbeing found that people with diagnosable psychiatric disorders in WA were more likely to be never married, to live alone, be unemployed and not to have completed secondary school.

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Mental illness is associated with behaviours that carry high health risks, such as smoking, alcohol and other substance abuse, obesity, poor diet and lack of exercise. The behavioural consequences of mental illness can create difficulty in communicating symptoms of physical illness which can complicate diagnosis. People with mental illness are also less likely to be in contact with general health services and less likely to have their illnesses identified and treated.

Mental Illness and Risk Factors for Disease

Cigarette smoking is a major risk factor for many commonly occurring physical illnesses in Australia, including a variety of cancers, heart and respiratory diseases. Smoking is common among people with mental illness. The highest rates and heaviest consumption are among those with the most serious disorders. The 1997/98 Survey of Mental Health and Wellbeing found that 43% of Western Australians with diagnosable mental illnesses were current smokers compared with 24% of the general population. Despite the adverse effects smoking can have on people with mental illness, they are rarely encouraged to quit.

Mentally ill smokers would undoubtedly be healthier if they quit. The idea that smoking can be a form of self-medication disadvantages people with mental illness. Even if nicotine is the most effective drug for treating a mental illness, there is no evidence that it is best taken in by smoking. The cost of cigarettes to this generally low-income group is a major financial burden and often excludes the purchase of other necessities.

Mentally ill smokers who don't use alcohol and illicit drugs experience similar quit rates to those without mental illness. However, those who also either drink alcohol or use illicit drugs are less likely to quit.

Alcohol abuse and use of illicit drugs are also common problems among people with mental illness. The use of drugs not prescribed by a doctor is common among Australians with psychotic disorders. In one study a total of 48% of participants reported illicit drug use.

People with mental illness also have high rates of obesity and poor nutrition. Many people with mental illness in residential houses are obese and in one study none met commonly accepted dietary guidelines. Weight gain can also be a side effect of various medications. Anxiety and depression have also been linked to weight gain and associated lower levels of physical fitness.

Mental Illness and Health Care Services

The reluctance of people with mental illness to discuss their problems, the fragmentation of the health system and limited access to appropriate care are all barriers to people with mental illness getting treatment for their physical illness. If a mentally ill person has a physical illness when being treated for a mental illness, there is a strong possibility that the physical illness will not be diagnosed. This can occur even when the physical illness is either causing or exacerbating the mental disorder.

Proper treatment of physical and mental conditions at the same time improves the overall well being of the consumer. Barriers to effectively treating people with mental illness in general practice have been identified. People with mental illness can be disruptive and some health providers may be prejudiced against them. In addition, some psychiatrists tend to regard themselves as specialists who shouldn't be called upon to diagnose physical illnesses.

Introduction / The WA Linked Database

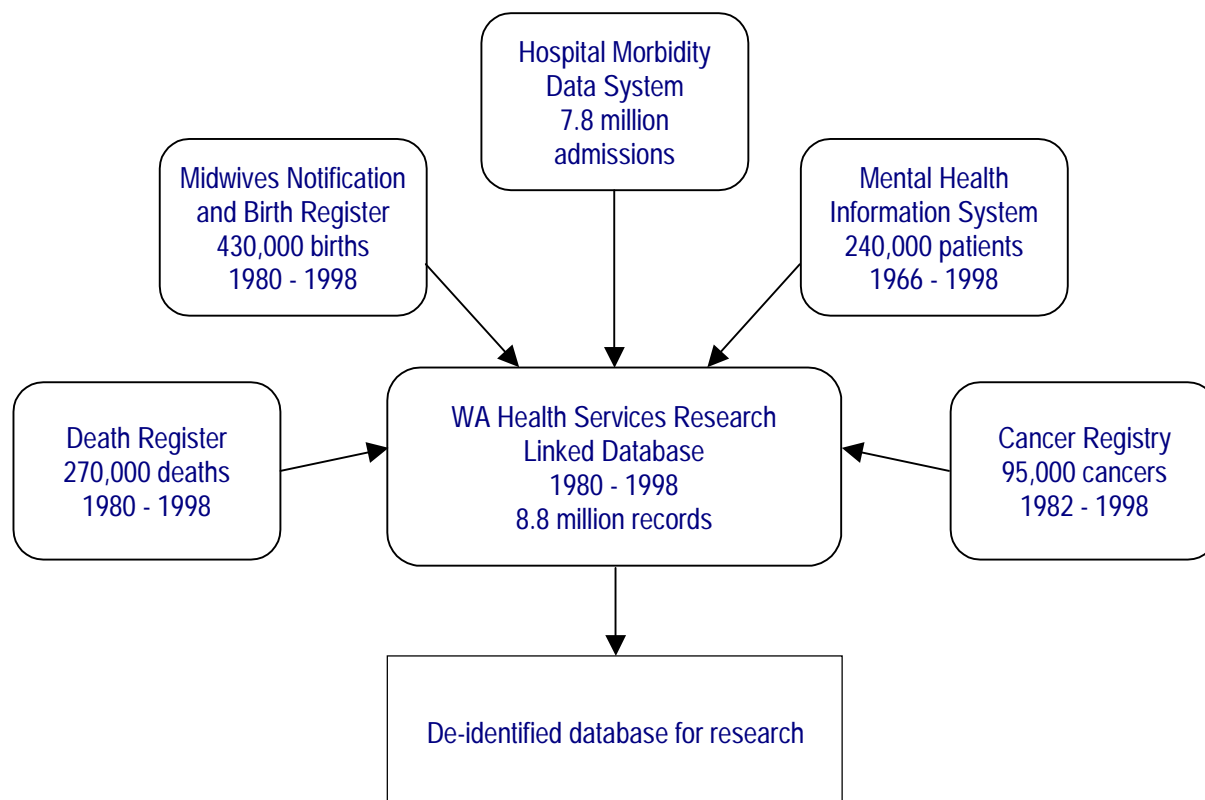
The separation of mental health services has led to fragmented care for people with mental illness. In one study, psychiatrists did not routinely perform physical examinations. Another study suggested that people with mental illness who were considered difficult to treat by general health services need to be treated for their physical illnesses by mental health services. These services need to take on the general practitioner role. Strategies to address the problem include check lists for assessing newly referred consumers and the establishment of interdisciplinary teams with multi-specialty staff who can treat both physical and mental illnesses together.

The WA Linked Database

This study makes use of the Western Australian Health Services Research Linked Database (WA Linked Database) which has been jointly established by the Department of Public Health at The University of Western Australia and the Health Department of Western Australia's Health Information Centre. It links together all major sources of health data for the population of Western Australia. It is unique in Australia and is one of only a small number of combined record linkage systems in the world.

The main sources of information for the WA Linked Database are shown in Figure 1. The database has so far brought together all acute hospital discharge summaries. This is known as the Hospital Morbidity Data System (HMDS). Other parts of the system are the Mental Health Information System (MHIS), WA Cancer Registry, Birth Records and Death Records. The MHIS is the database of contacts with mental health services.

Figure 1: Core Data Sets on WA Health Services Research Linked Database



The WA Linked Database brings together all of an individual's records and is the source of data used in this study. It currently contains over 8 million records. In this study all private details (*eg* name, address) have been removed (*ie* de-identified) to protect the confidentiality of individual consumers and the information contained in their health records. This study uses data covering the period 1980–98.

Mental Health Information System (MHIS)

The MHIS was established in 1966 and now holds the records of over 240,000 users of mental health services in WA. It is a register of people with mental illness who have had contact with mental health services in WA or who have been a psychiatric inpatient of any public or private hospital in the state. It covers inpatient admissions to psychiatric facilities in WA, admissions for treatment of psychiatric disorders in acute hospitals in WA and attendances at community psychiatric services and outpatient clinics. The MHIS does not cover psychiatrists in private practice or general practitioners treating psychiatric disorders.

The MHIS records basic demographic information about people with mental illness as well as their treatment history. This is made up of a series of recorded events known as *movements*. Each movement represents a contact with mental health services, and includes information on clinical diagnoses. It does not include any information on drug treatments or other therapies. People with mental illness who have multiple episodes of care can have several diagnoses recorded on the system. These can change as people with mental illness may have multiple conditions or be diagnosed differently on separate occasions. It is common for the admission diagnosis to be revised following a period of observation. In this study a principal psychiatric diagnosis was assigned to each person using the International Classification of Diseases (ICD). Essentially, preference was given to the latest diagnosis, although a hierarchical approach was also used to give preference to more specific diagnoses rather than more general symptoms and comorbidities. Full details of the procedure used are described in the report "Preventable Physical Illness in People with Mental Illness". The psychiatric diagnoses used were grouped into the following categories:

- ◆ *Dementia*: is a progressive disease of the brain that leads to a decline in intellectual functioning and memory. It includes Alzheimer's disease and vascular dementia.
- ◆ *Alcohol/drug disorders*: includes alcohol or drug induced psychoses, and alcohol or drug dependence.
- ◆ *Schizophrenia*: is a psychotic disorder characterised by disturbances in form and content of thought, mood, sense of self and relationship to the external world and behaviour.
- ◆ *Affective psychoses*: includes bipolar disorder and major depression and causes profound changes in mood, either to severe depression with reduced levels of activity, or elation with over activity.
- ◆ *Other psychoses*: are disorders characterised by impaired sense of reality including delusions and hallucinations. They include delirium, paranoia, amnesia and acute confusional states.
- ◆ *Neurotic disorders*: include phobias, hysteria, obsessive-compulsive, panic and other anxiety disorders where symptoms of stress impair normal functioning.
- ◆ *Personality disorders*: involve deeply ingrained and enduring behaviour patterns that deviate from cultural norms and impair normal functioning. They include paranoid, aggressive, histrionic, borderline and antisocial personality disorders.

- ◆ *Adjustment reaction:* is a response to environmental stress or change that causes symptoms such as stress and anxiety that impairs normal functioning. It includes grief reactions, post-traumatic stress disorder and depressive reactions.
- ◆ *Depressive disorder:* is where symptoms such as depressed mood, loss of interest, reduced energy, suicidal tendencies, sleep and appetite disturbance exceed normal mood fluctuation.

Selection of physical conditions

There are a large number of physical health problems and causes of death which are recorded in the WA Linked Database. Physical conditions were selected for inclusion in this study based on their public health importance, their potential preventability through possible health promotion and disease control programmes, their frequency of occurrence and their severity. Also there is no data on the WA Linked Database relating to general practice care, and therefore conditions that are principally treated in general practice were not included in the study. The results of this study only relate to hospitalised cases during 1980–98, which are likely to be the more serious cases for some illnesses.

Physical illnesses included in the study were:

- ◆ Infectious diseases;
- ◆ Cancer;
- ◆ Nutritional deficiencies and deficiency anaemias;
- ◆ Parkinson's disease;
- ◆ Circulatory system diseases;
- ◆ Diseases of other body systems (respiratory, digestive and genito-urinary systems); and
- ◆ Injury and poisoning.

Mental Health Services in WA

In WA, as the world over, there has been a major shift from inpatient-based to community based treatment for mental illness. In WA this commenced in the 1960s, and has continued up to the present time. Over time, inpatient services for people with mental illness have been reduced or decommissioned, and outpatient and community based treatment has developed. Models of community based psychiatric services have evolved over time. At first, outpatient clinics and residential hostels were established, but the model of care has now evolved to include supportive living services, rehabilitation services, and field-based case management services by multidisciplinary health teams.

Adequate funding of mental health services has always been a difficult problem. A general run down of mental health services in the 1980s and early 1990s lead to a government taskforce being established. As a result of the recommendations of the taskforce in 1996, several major changes have been made in mental health services. Inadequate resources and low staff numbers have stretched services to their limit. Despite the best of intentions, there have been areas of unmet need. Due to the deficit in the number of psychiatrists in WA, a new award was established with a substantial increase in pay, which had some success in attracting additional psychiatrists into the system. In 1996, the Mental Health Division was established with a separate budget within the Health Department of WA, headed by a chief psychiatrist responsible directly to the Commissioner for Health. Government injected an additional \$40 million into

Mental Health Services in WA

mental health services over three years, which has resulted in the commissioning of new facilities and the expansion of others. A new mental health act was passed by parliament in 1996 and came into force in November 1997.

As well as a significant increase in services, there has been a marked change in recent years in the philosophy of community mental health services, away from the traditional outpatient clinic and towards integrated, community facilities and intensive case management. Even so, with resources stretched, home visits are rare.

Psychiatric inpatient facilities

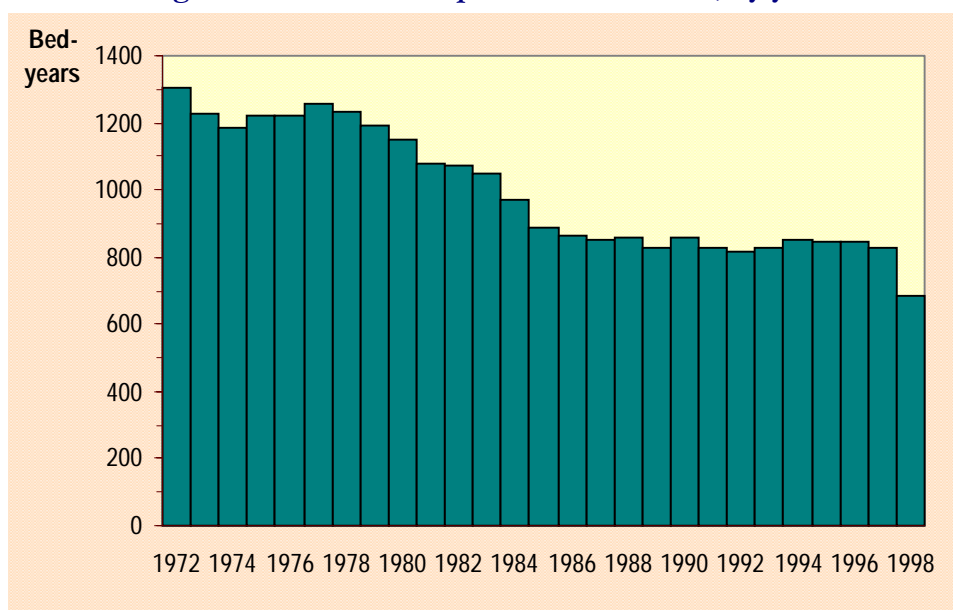
Graylands Hospital has been and remains the main psychiatric inpatient facility in WA. It has been reduced in size from around 450 beds when first created in 1972 to its present 235 beds. It takes admissions from all over WA with people with mental illness requiring extended inpatient psychiatric treatment being transferred to Graylands Hospital from district hospitals. Graylands Hospital includes a secure unit.

A smaller psychiatric inpatient facility, Heathcote Hospital was closed in 1994 and replaced by two separate smaller facilities in Bentley.

Each of the teaching hospitals in Perth (Royal Perth Hospital, Sir Charles Gairdner Hospital and Fremantle Hospital) has a psychiatric inpatient facility. Of these, only Fremantle Hospital is authorised under the Mental Health Act to accept involuntary patients. All of the regional hospitals can and do treat patients with mental illness as required. There are also private psychiatric facilities at Cambridge, Niola, Stirling and Hollywood private hospitals and the recently opened Perth Clinic.

Figure 2 shows that there has been a marked decline in the use of inpatient beds in Western Australia since 1972. The decline is due to a reduction in bed numbers in psychiatric facilities.

Figure 2: Number of inpatient beds in WA, by year



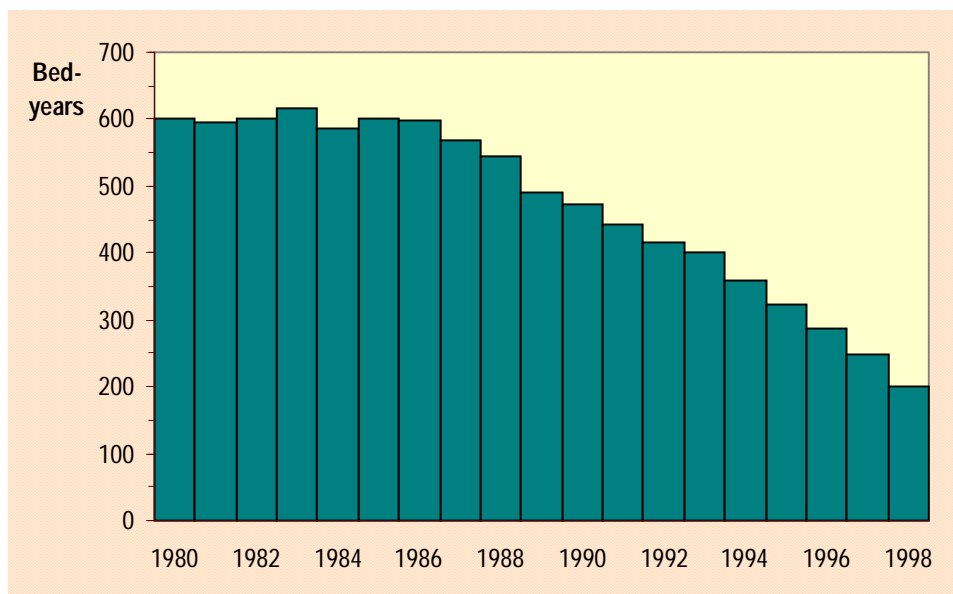
Facilities for elderly psychiatric patients

Swanbourne Hospital was the main inpatient facility for elderly psychiatric patients until its closure in 1985. It was replaced by five purpose-built Psychiatric Extended Care Units (PECUs) of between 24 and 48 beds each which were built in various locations across the metropolitan area to provide psychiatric residential care for the elderly. Additional facilities were provided by the Lemnos Hospital which was originally built for war veterans with psychiatric disorders. This has now been integrated into the PECU system. Additional beds are available in psychiatric hostels.

Psychiatric residential hostels

In 1995 there were 27 hostels run under the Community Accommodation Support Programme (CASP). Some were private-for-profit facilities with the balance run by church and community groups. The poor state of some of these facilities was one of the catalysts behind the 1995 government taskforce into mental health services. Figure 3 shows that the number of beds in psychiatric hostels has decreased from 600 in 1980 to only 200 in 1998. There are additional hostels outside the CASP system that provide emergency and crisis accommodation and accommodation for people who would otherwise be homeless. Some of the residents in these facilities have mental illnesses, but they fall outside the scope of the MHIS.

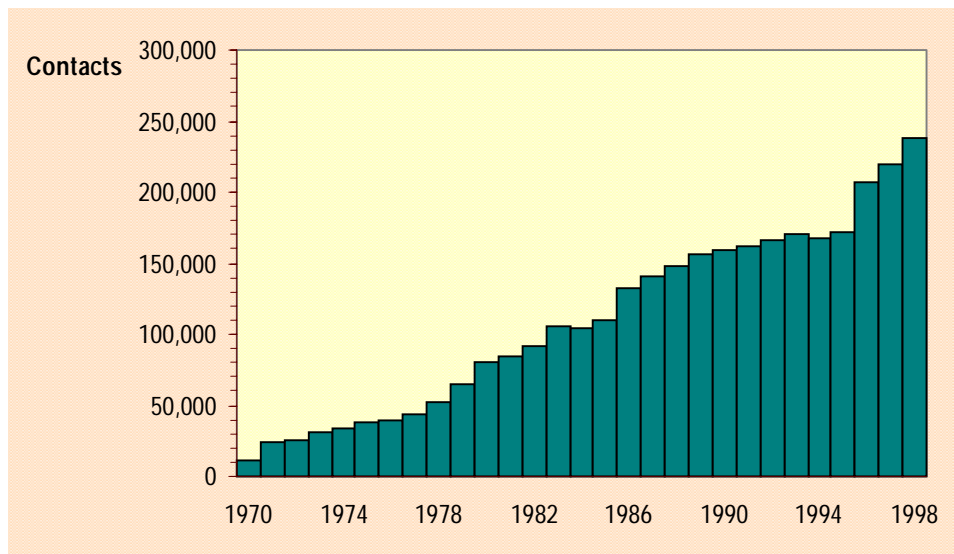
Figure 3: Bed-years of patient care provided in residential hostels, 1980–98



Mental health outpatient clinics

Figure 4 shows that there has been a marked increase in outpatient and day patient contacts since 1970. However, it is widely considered that this increase has not kept pace with the demand for community based psychiatric services. This problem was acknowledged by the government taskforce in 1995 and in the state's Mental Health Plan.

Figure 4: Outpatient psychiatric contacts, 1970–98



In 1989, a Psychiatric Emergency Team (PET) was established in the metropolitan area. It provides a 24-hour crisis and emergency response team, which also refers patients to community services. Due to resource limitations calls are dealt with over the telephone as much as possible. Most callers receive telephone intervention only.

Deinstitutionalisation of people with mental illness has been a worldwide phenomenon. There have been many deficits in the treatment provided for people with mental illness not only in Australia but in other developed countries around the world. Governments worldwide have been challenged to extend their health budgets to provide total health care for people with mental illness.

Over the period of this study (1980–98), there have been major changes in the way in which mental health services were delivered in WA. The results of this study should be interpreted in the light of these major service changes that occurred over the period and the problems with erosion of resources and shortage of skilled staff that eventually led to the establishment of a government inquiry. People with mental illness in this study have not all been afforded the best possible care and problems with access to care will most likely have impacted on their overall health experience. However the problems seen in WA are not unique to this state, and there is no reason to believe the general standard of mental health care is significantly different in WA than in other states of Australia, and indeed in comparable developed countries.

Characteristics of Consumers of Mental Health Services

Different mental illnesses tend to affect different groups within the population and the way these groups use psychiatric services. This information is useful when comparing the risk of physical illness in different groups of people with mental illness. It is therefore useful to consider significant differences in the demographic characteristics of people with mental illness on the Mental Health Information System (MHIS).

Characteristics of Consumers of Mental Health Services

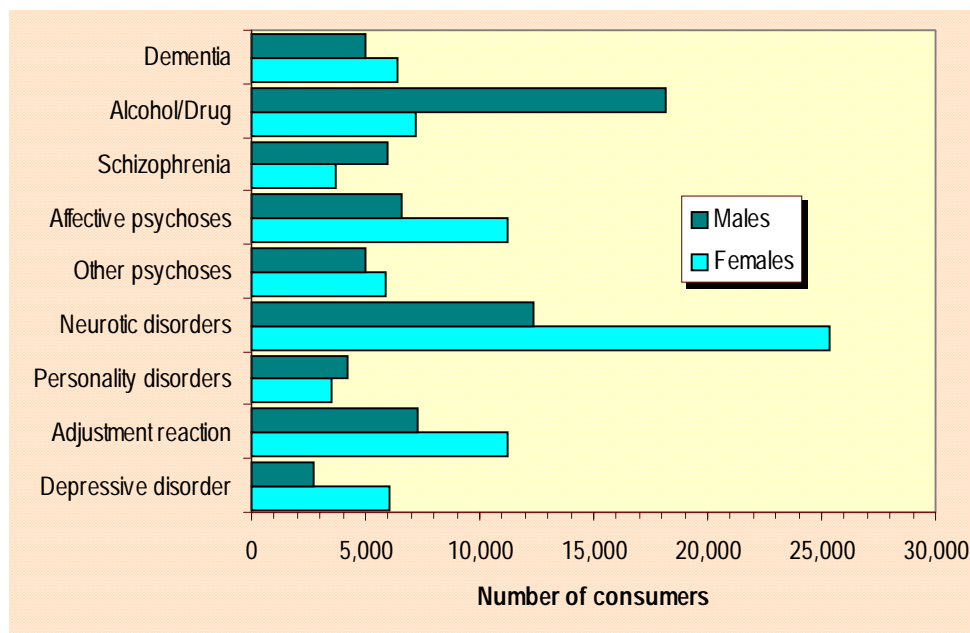
Analysis of people with mental illness on the MHIS revealed the following:

- ◆ 54% were female;
- ◆ males tended to be younger than females, reflecting the different mental illnesses in males and females;
- ◆ people of Aboriginal or Torres Strait Islander descent made up 4.2% of people with mental illness on the MHIS, although they make up only 3% of the general WA population;
- ◆ a higher proportion of males were single compared with females, reflecting the younger age distribution of males with mental illness on the MHIS;
- ◆ more females were widowed, divorced or separated, in part due to the longer life expectancy of females in WA;
- ◆ overall, 52% of males and 72% of females were not in the labour force;
- ◆ 27.5% lived outside of the Perth metropolitan area, roughly in line with the WA general population (28.9%); and
- ◆ the incidence of mental illness is higher among the socio-economically disadvantaged.

Psychiatric Diagnosis

Figure 5 shows the distribution of patients on the MHIS by main psychiatric diagnosis.

Figure 5: People on the MHIS by principal psychiatric diagnosis and sex



Dementia is primarily a disease of old age. Over 85% of people with mental illness with dementia were over 65 years of age. People with alcohol or drug disorders were much younger. The majority of these were unmarried. For schizophrenia the age of onset was most frequently in the range 15-24 years. The age of onset was typically earlier in males than females. The mean age of onset of affective psychosis was higher than that of schizophrenia. The age distribution peaked in the range 25-34 years. People with mental illness with other psychoses were much older than either the schizophrenia or affective psychoses groups. For neurotic disorders the

Characteristics of Consumers of Mental Health Services

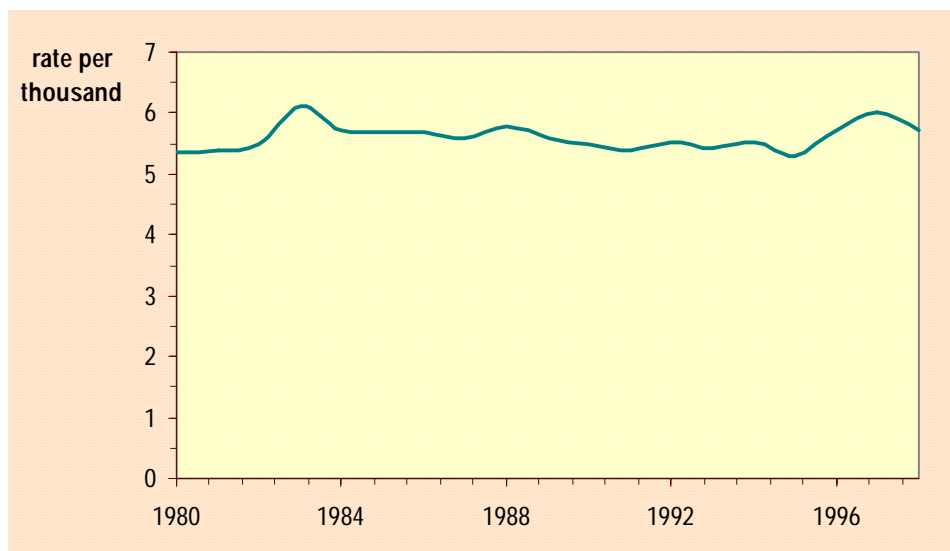
most common age was around 30 years, while for personality disorders the most common age was around 20 years. For males with adjustment reaction adolescence was the most common age and for females the average age of first contact was 27 years. There were very few children or adolescents with depressive disorder, which was otherwise fairly uniform across adult ages.

Males were more likely than females to have alcohol or drug disorders and schizophrenia. Whereas females were more likely to have affective psychosis, neurotic disorders, adjustment reaction or depression.

Trends in Patient Numbers

There has been a steady growth in number of people in contact with mental health services, in line with the growth in the WA population. Figure 6 shows that after allowing for population growth, the rate of consumers receiving treatment for mental illness has remained very steady.

Figure 6: Rate of new consumers seen by mental health services, by year



The main types of mental health services are inpatient services, outpatient services, regular day clinics, rehabilitation units and psychiatric residential hostels. With the move to increased community care, the average length of inpatient stay has dropped markedly.

Almost as many people received treatment in outpatients clinics as received inpatient treatment. The nature of treatment provided varies according to the nature of the illness. People with dementia, alcohol/drug disorders, schizophrenia, affective disorder, other psychoses and depressive disorder mostly received inpatient treatment. However, the average length of stay was greatest in people with dementia and schizophrenia. For both of these illnesses, a proportion of people with mental illness required long-term inpatient care. People with personality disorders, adjustment reaction and other mental disorders usually received outpatient care, along with people with schizophrenia. Those with schizophrenia showed the highest number of contacts with outpatient clinics. Many of these people require ongoing treatment over long periods.

Characteristics of Consumers of Mental Health Services

Only 7% of males and 5% of females with dementia, schizophrenia and affective psychoses received treatment in a day patient facility. The number of day patient attendances was highest for schizophrenia and dementia. A much smaller percentage of people with other psychiatric disorders received day patient treatment over shorter periods.

In this study people with mental illness have been classified into five groups based on the types of mental health services used. The categories are:

- ◆ *Involuntary inpatient*: under the provisions of the Mental Health Act people can be admitted to a psychiatric facility against their will. The Mental Health Review Board periodically reviews their case.
- ◆ *Voluntary inpatient*: someone voluntarily treated in a hospital or other institution requiring at least one overnight stay.
- ◆ *Day patient*: a person attending a regular day programme at a mental health treatment facility where they attend regularly during the day but do not stay overnight.
- ◆ *Hostel resident*: a person living in a licensed psychiatric hostel.
- ◆ *Outpatient*: a person receiving care from a community mental health service.

The categories were assigned hierarchically, so that someone who had been both an involuntary inpatient and a voluntary inpatient at different times was classified as an involuntary patient for the purpose of this study.

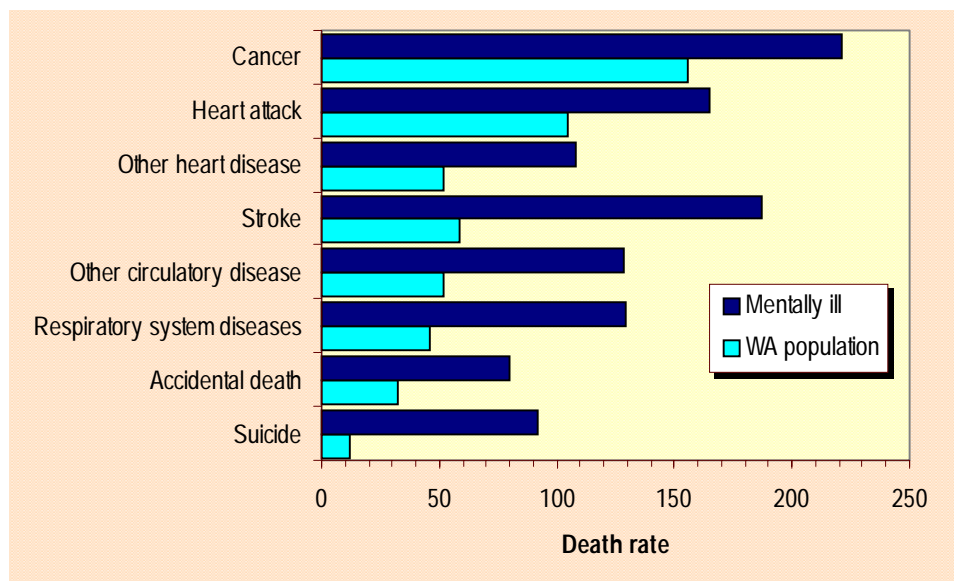
Involuntary patients consistently had longer lengths of stay than voluntary patients in all categories, which is to be expected as involuntary orders are only taken out for the most severe cases. People with schizophrenia were most likely to be given involuntary treatment.

Results

Death

There were 165,696 people with mental illness whose first contact with mental health services was during 1980–98. Of these people 20,064 (12%) died during the same period. The death rate in people in contact with mental health services was two and a half times higher than the death rate in the WA population. Figure 7 shows death rates in people with mental illness and the WA population for each main cause of death.

Figure 7: Death rates in people with mental illness compared to the WA population



At any one time, the MHIS covers about 8% of the WA population. According to the 1997 Survey of Mental Health and Wellbeing conducted by the Australian Bureau of Statistics (ABS) almost one in five people in WA have a diagnosable psychiatric disorder. About 60% of those with a disorder seek no treatment at all. The MHIS does not cover people who only see GPs or private psychiatrists in their consulting rooms. People with mental illness on the MHIS probably represent the more serious cases. The high risk of death associated with mental disorders makes this a very important public health issue.

The many changes in the treatment of mental illness, such as new treatments, higher general standards of care and the move to community based care, have significantly altered the lifestyle of people with mental illness. Despite this the death rates from various causes in people with mental illness remain significantly higher than for the general population. While suicide remains a significant cause of death, physical health problems, particularly heart disease, contribute strongly to death rates.

Smoking is a contributing factor to the higher death rate in people with mental illness from heart disease, respiratory disease and a number of other conditions. Twice as many people in WA with a diagnosable mental health condition smoke (43% compared with only 24% among people without a mental disorder).

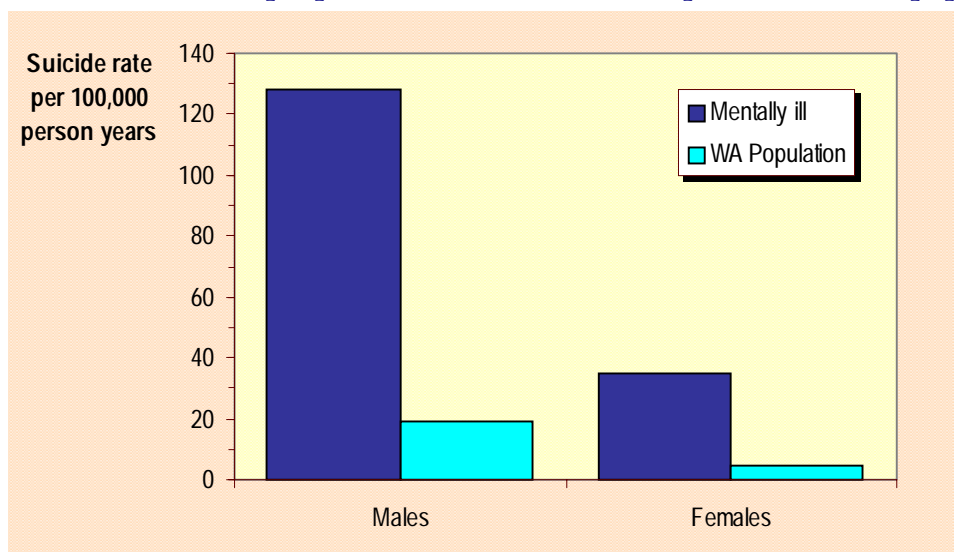
A major contributing factor to the increase in life expectancy in the general population over recent years is the reduced death rate from circulatory disease. It could be that people with mental illness have not benefited from the public health effort that has gone into promoting

avoidance of cardiovascular risk factors. People with mental illness may benefit from specifically targeted health promotion programmes.

Suicide

This topic was analysed in detail because of the public health importance of the high rate of suicide and the strong link between suicide and mental illness. About 45% of suicides were in people in contact with mental health services. It is likely that some of the remaining cases would also have mental illness but were people who were not in contact with mental health services. Suicide rates were seven times higher in people with mental illness (Figure 8). The highest rate was observed in males with a previous history of suicide attempts but such limited contact with mental health services that a diagnosis of mental illness was never made. The majority of these people had only one short contact with a mental health service immediately following a suicide attempt. They had subsequently committed suicide before receiving any follow-up. This suggests that more attention should be paid to people who are hospitalised following a suicide attempt. The initial assessment should be comprehensive and a case exists for improved follow-up and ongoing risk assessment. A review of policy might be appropriate to ensure that a minimum standard of diagnosis and risk assessment is applied, with a period of intensive follow-up in the community.

Figure 8: Suicide rates in people with mental illness compared to the WA population



Suicide rates in people with mental illness compared to the general population were higher across the board. They were highest in those who had received involuntary inpatient treatment. People who had received inpatient treatment for mental illness accounted for 90% of all suicides. People with mental illness who were only treated on an outpatient basis or were residents of psychiatric hostels were at lesser risk of suicide, although their risk was still more than double that in the general population.

The highest risk of suicide was in the first seven days after discharge from care with the risk reducing over time (Figure 9). Even so, the suicide rate for those discharged from care remained above the general population rate even 5–10 years after discharge. The suicide rate was lowest during inpatient care and comparable to the suicide rate in the general population. The first two

Suicide

weeks after discharge are the period of dramatically highest risk, when people with mental illness must make the transition from the hospital setting to independent living. For men, the risk decreases gradually over time after the first two weeks. For women, there were very few suicides in the third and fourth weeks after discharge, with suicide risk increasing again after the first month. The decline in suicide risk with time since discharge would reflect remission of illness in some people.

Figure 9: Suicide rates by time since discharge

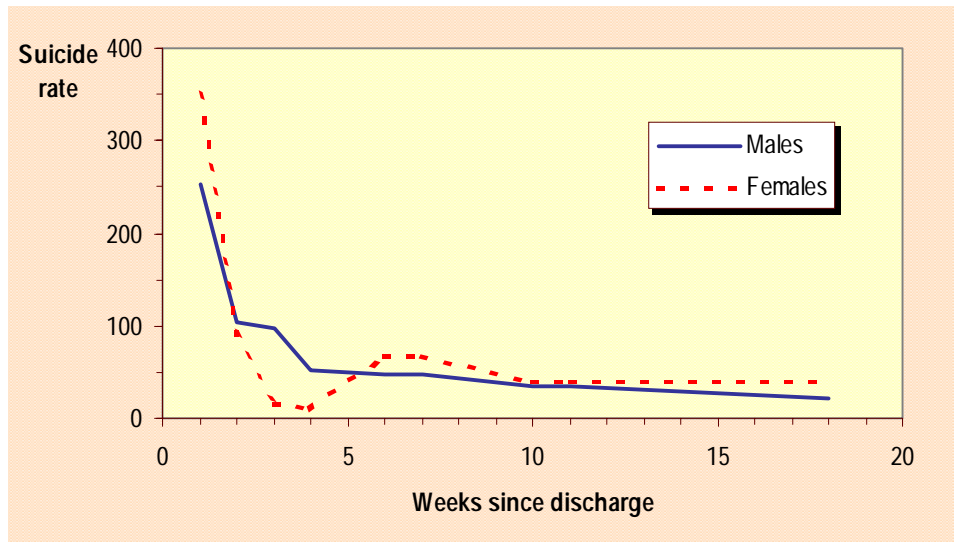


Figure 10: Suicide rates by principal psychiatric diagnosis

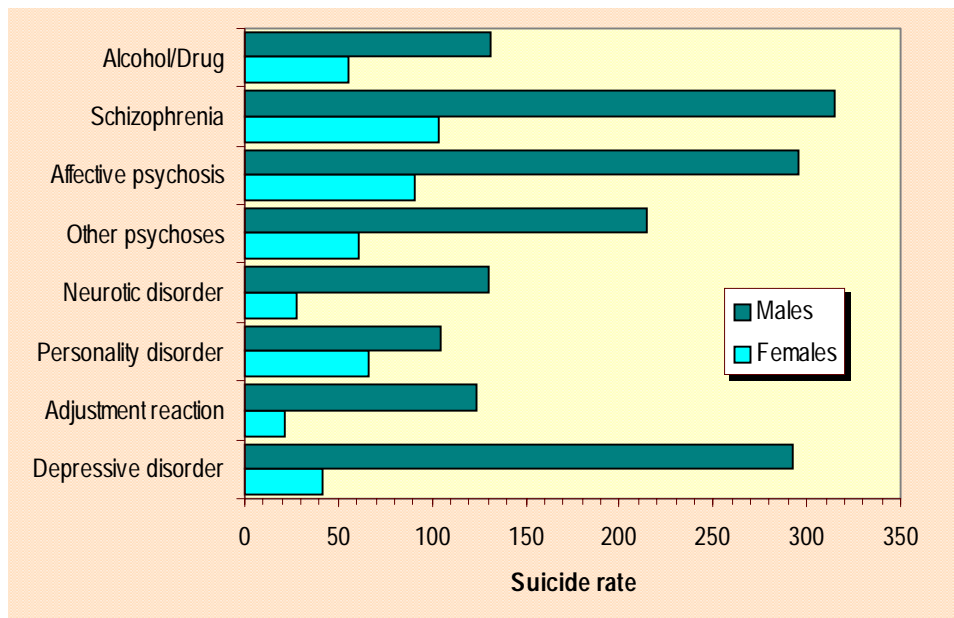


Figure 10 shows suicide rates by psychiatric diagnosis. Highest rates were seen for schizophrenia, affective psychosis and depressive disorder. Males were four times more likely to commit suicide than females, in line with the general population. Suicide risk increased with

Suicide

longer inpatient stays probably because those with more severe mental illnesses are at higher risk and likely to stay longer.

For all other mental conditions, the suicide risk was highest in the period immediately after first contact with mental health services, while for those with schizophrenia, the higher suicide risk remained roughly constant throughout the follow up period.

In terms of the physical well being of people with mental illness, reduction in suicide rates is a key goal of the national mental health plan. Suicide risk is raised for all mental disorders.

There are many factors which contribute to the risk of suicide making it difficult to identify risk factors and develop appropriate treatments. Predicting possible suicide risk is therefore difficult, as the vast majority of people with mental illness do not commit suicide.

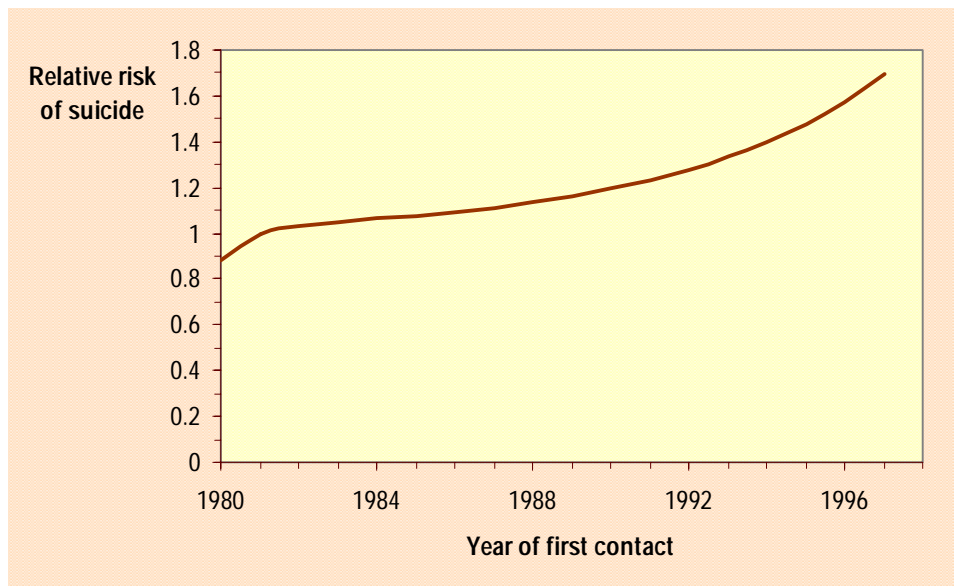
The approach now is to treat people with mental illness at home during the initial acute phase of an illness as much as possible. Even those admitted to hospital are only kept in for short periods before discharge to home care. Research indicates that community care outside hospitals and other mental health care facilities may contribute to increased suicide risk.

Several issues to arise from the increase in community care are:

- ◆ adequate resourcing of the inpatient and community based components of services;
- ◆ effective continuity of care between the two;
- ◆ the difficulty of monitoring the move from hospital to community based care; and
- ◆ identification of responsibilities for the well being of people with mental illness at every stage of care.

Between 1980 and 1985, there was an almost 50% reduction in the number of inpatient psychiatric beds, while there was a deliberate shift away from inpatient-based treatment of mental disorders in favour of community-based treatment. A similar trend has been observed in many other countries. While bed numbers have remained roughly constant since 1985, there has been a continuing trend towards shorter hospitalisations. The average inpatient stay has declined from 5 days to 3 days between 1980 and 1998. During the same period there has been an increase in the rate of suicide in people using mental health services. This increase has been on average 3.5% per year but it has not been a uniform increase each year. Figure 11 shows how the risk of suicide in the first year after first contact with mental health services has changed over time. The rate of increase was greatest in the early to mid 1980s and again in the late 1990s. By contrast, the suicide rate in the general WA population has increased by only 1.2% per year over the same period. While a variety of factors are likely to contribute to the high suicide rates in people with mental illness, the changes in the pattern of mental health care delivery may have relaxed some of the protective barriers that existed in the hospital treatment of people with mental illness.

Figure 11: Relative risk of suicide by year of first contact with mental health services



Adequately resourced community-based mental health services have significant advantages for people with mental illness over inpatient services. However, a reduction in supervision may lead to increased suicide risk. This highlights the importance of adequate follow-up and aftercare services for people with mental illness discharged from inpatient facilities, and the need for adequate resources for the provision of community-based services.

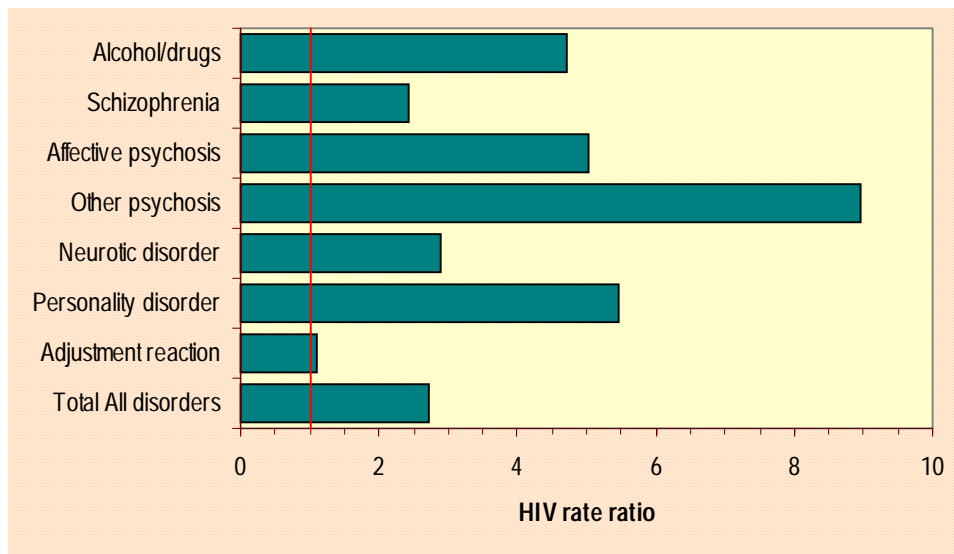
Infectious Diseases

There are many different ways an individual can be exposed to an infectious disease. These include food, water, blood, sexual and close personal contact. Due to their living conditions, people with mental illness may be at greater risk of exposure to infectious diseases than the general community. Some infectious diseases last a short time (acute) and a complete recovery is expected. Others such as HIV and hepatitis C can last for long periods (chronic) with little or no prospect of a complete recovery. The highest rates of hospitalisation were for HIV and viral hepatitis. With the exception of HIV, the infectious diseases are usually not fatal. The death rate from infectious diseases in people with mental illness is about the same as for the general community.

Human Immunodeficiency Virus (HIV)

A high percentage (19%) of people with HIV have had prior contact with mental health services. Figure 12 shows rate ratios for HIV. The rate ratio compares the hospitalisation rate for people with mental illness to the hospitalisation rate for the WA population. If the figure is greater than one, there is a higher hospitalisation rate in people with mental illness, while a figure less than one indicates a lower rate of hospitalisation in people with mental illness. For instance, Figure 12 shows the overall rate ratio is slightly higher than 3. This means people with mental illness were more than three times more likely to be hospitalised for treatment for HIV than the general population. Those with other psychoses were nine times more likely to be hospitalised for HIV and those with affective psychoses, personality disorders and attempted self-harm five times more likely than the general population.

Figure 12: HIV rate ratios, people with mental illness compared to the WA population



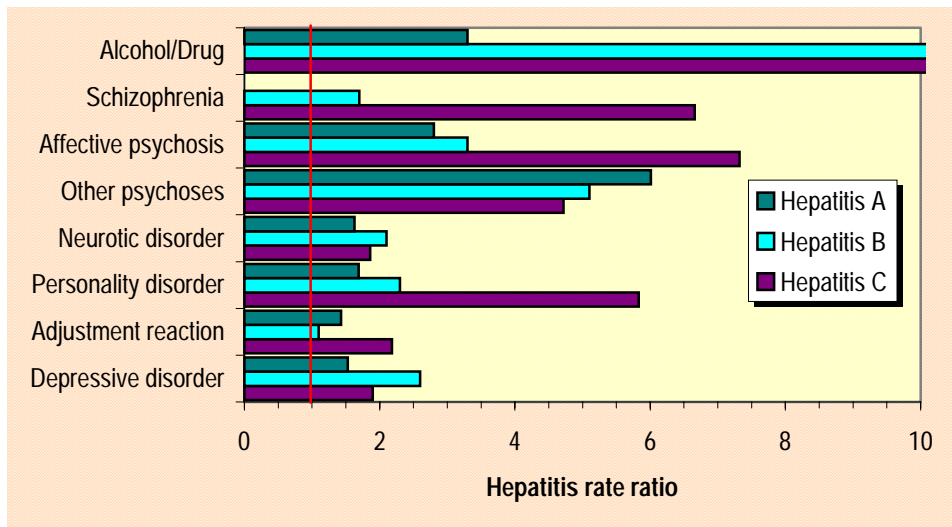
The seriously mentally ill are at greatly increased risk of HIV infection due to intravenous drug use and high-risk sexual behaviours. In this study, a primary psychiatric diagnosis has been assigned to each person. In some cases this is an alcohol or drug use problem, if that is what they have been specifically treated for. However, drug use is a significant problem in people with most mental illnesses.

Viral Hepatitis

There are three main types of hepatitis infection. The hepatitis A virus is found in the faeces of infected people, and is spread via the faecal-oral route. The best protection from the spread of hepatitis A is good sanitation and personal hygiene. Hepatitis B is passed by contact with the blood or other bodily fluids of someone who has the virus. The three main modes of transmitting the virus are unprotected sex, sharing needles and syringes and from infected mother to baby. Hepatitis C is similarly transmitted to Hepatitis B. However it is mainly linked with injecting drug use, and medically acquired Hepatitis C through transfusion of infected blood products. There is no vaccine available for hepatitis C, unlike hepatitis A and B. About 70% of people with hepatitis C have a chronic condition, compared to only 10% of people infected with hepatitis B. Hepatitis A is almost always a short-lasting infection.

Figure 13 shows that hospitalisations for viral hepatitis were about four times more frequent in people with mental illness than in the general population. They were particularly common in those with alcohol/drug disorders, psychoses, and personality disorders. Hepatitis C is of particular concern as there was a hospitalisation rate more than five times that for the general population.

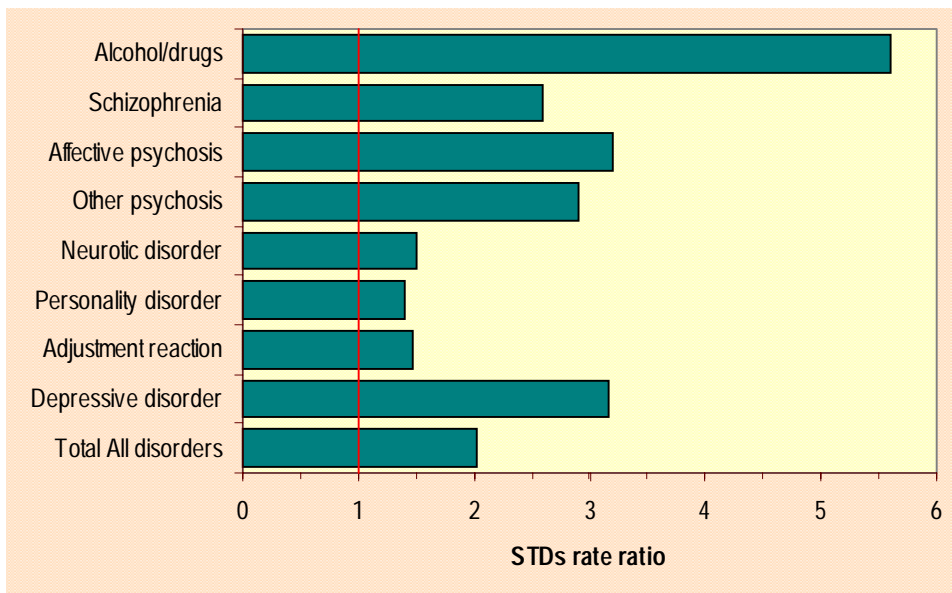
Figure 13: Viral hepatitis rate ratios



Higher rates of hospitalisation were observed in people with mental illness for each of the three main types of hepatitis, with those diagnosed with alcohol or drug use disorders at highest risk. Hepatitis C infection is probably the single most significant issue to address in terms of infectious disease control measures among people with mental illness.

Sexually transmissible diseases

Figure 14: STD rate ratios, people with mental illness compared to the WA population



Only a small number of people with mental illness were hospitalised for sexually transmissible diseases (STDs). STDs are usually treated in outpatient settings, and only the most serious cases result in hospitalisation. For each STD considered (syphilis, gonorrhoea, genital herpes and genital warts) the rates of hospitalisation among people with mental illness were higher than expected. This was particularly so for those with alcohol and drug disorders who showed among

the highest rates for each STD. People with schizophrenia and depressive disorder had very high rates of gonorrhoea hospitalisations, and people with affective psychoses had a very high rate of hospitalisation for genital herpes. The research identifying high risk behaviours for HIV infection has shown that injecting drug users also have high risk sexual behaviour which naturally exposes this group to risks for each of the STDs.

High usage of intravenous drugs and high-risk sexual behaviours among people with mental illness has been identified. Actions to reduce exposure to high-risk behaviours among people with mental illness may have the greatest potential to reduce their high rates of infectious disease.

Cancer

For the purposes of this study, people with mental illness with a cancer diagnosed prior to their first contact with mental health services were excluded. Only data from 1982 was included in this analysis (as this is when the WA cancer registry started) and during this period 8,067 people with a mental illness had a cancer diagnosed. The most common cancers in WA are female breast cancer, prostate cancer and lung cancer.

Figure 15: Cancer incidence and death rates

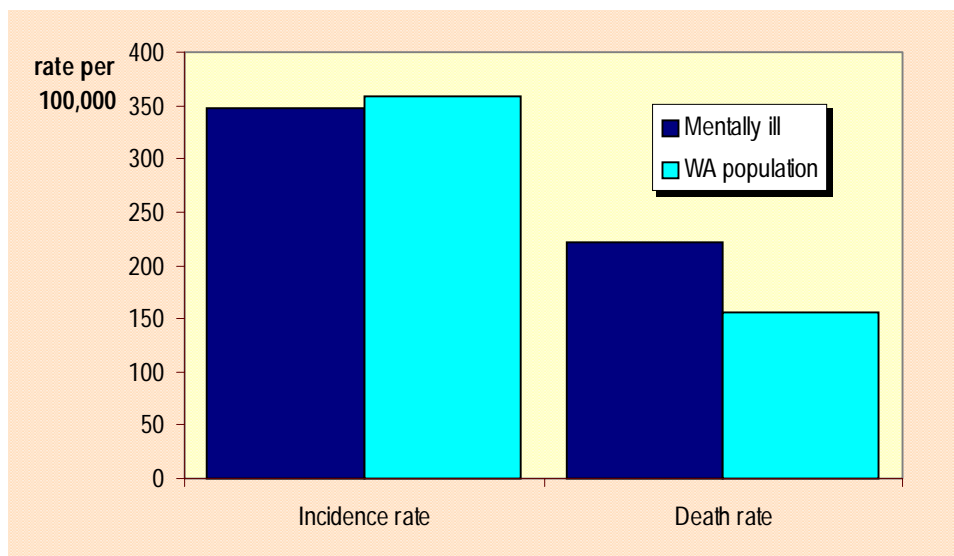


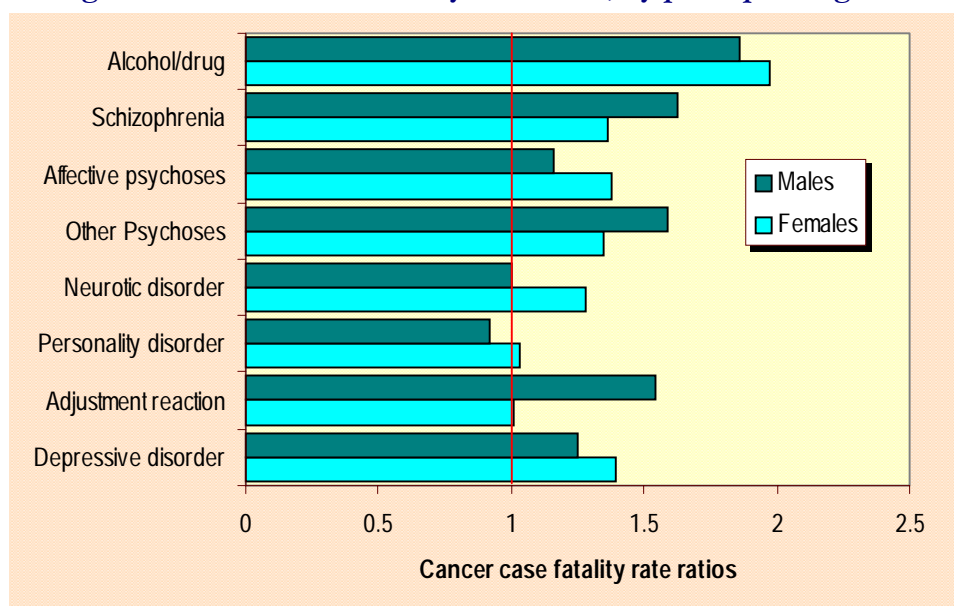
Figure 15 compares cancer incidence rates in people with mental illness with the WA population. Overall there was no evidence of any difference in the rate of cancer in users of mental health services. Figure 15 also compares cancer death rates, and the death rate was substantially higher in people with mental illness.

The study found a much higher number of cases of brain tumour than expected. A review of these cases found the majority were elderly people with no previous psychiatric history who had depressive or neurotic symptoms. Typically the tumour was diagnosed late (in many cases only at the time of death). These results suggest the elderly who have no history of psychiatric symptoms should be carefully assessed to exclude any physical illness.

The lack of elevated numbers of cancers is unexpected given the high level of smoking in people with mental illness. Particularly high are the rates of smoking among people with psychotic disorders, of whom 73% of males and 56% of females are current smokers. The National Survey of Mental Health and Wellbeing showed that 43% of Western Australians with a diagnosable mental health condition were current smokers compared to 24% among people without a mental disorder.

Overall there were no more cancers in people with mental illness than in the general population, whereas deaths from cancer were 55% higher in males and 35% higher in females. Taking into account the fact that some cancers are more deadly than others, the case fatality rate can be used to compare the survival of people with mental illness with cancer compared to people with the same cancer at the same age and sex who were not users of mental health services. Figure 16 shows cancer case fatality ratios by principal psychiatric diagnosis. These figures showed that males were 33% more likely to die following cancer diagnosis than the general population and females were 30% more likely to die from their cancer diagnosis. People with alcohol and drug disorders had the highest rate of death of all the main psychiatric diagnoses examined.

Figure 16: Cancer case fatality rate ratios, by principal diagnosis

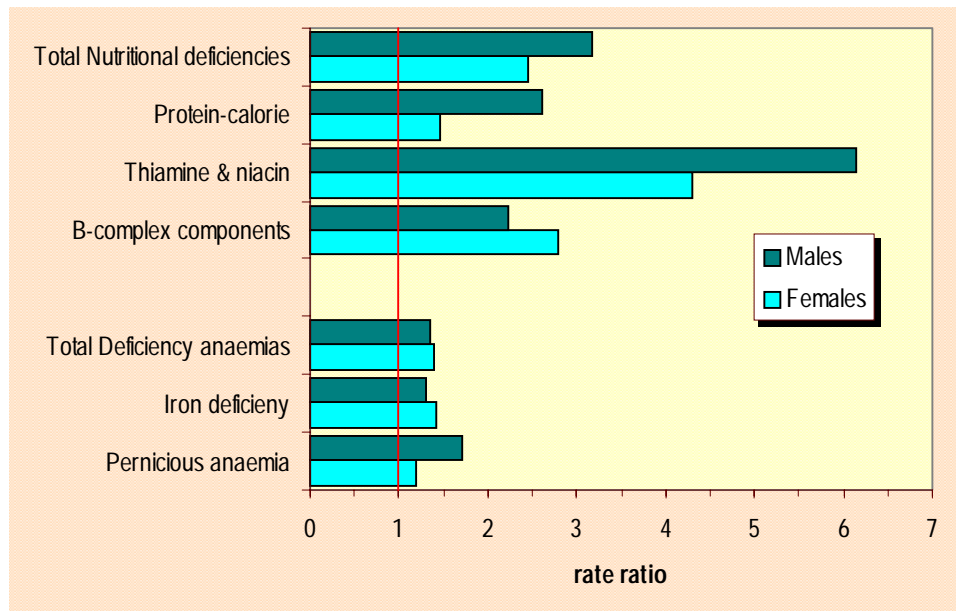


There are many factors affecting these figures. For instance some people with mental illness may have difficulty accessing health care including cancer screening programmes. As a result, their cancers may be missed or diagnosed later resulting in a less favourable prognosis. People with mental illness may also have difficulty in effectively communicating their physical symptoms. They may also find that their cancer treatment is complicated by their mental illness, or they may be less willing to undergo the more aggressive cancer treatments.

The elevated number of cancers among people with alcohol and drug disorders is probably due to both the risk associated with drug and alcohol use and the poor living standards common in this group. Overall, people with mental illness don't get cancer any more than anyone else but they are more likely to die of it and sooner.

Nutritional Deficiencies and Deficiency Anaemia

Figure 17: Rate ratios, by deficiency or anaemia



Nutritional deficiencies are caused by either an insufficient intake of food, or an imbalanced diet lacking in important nutrients. Deficiency anaemia is a condition characterised by too few red blood cells in the blood stream. It is most commonly caused by iron deficiency. Nutritional deficiencies and deficiency anaemia are not frequent causes of hospitalisation in WA. The majority of cases are treated by general practitioners and only the most serious of cases would result in hospitalisation.

Nutritional deficiencies were a cause of hospitalisation almost three times as frequently as expected in users of mental health services. Deficiency anaemias were a cause of hospitalisation around 30%-40% more frequently than expected in people with mental illness (Figure 17).

Nutritional deficiencies

Nutritional deficiencies were a less frequent cause of hospitalisations than deficiency anaemias, however the increased risk in people with mental illness was much higher. The results show that the higher rate of hospitalisations is almost entirely restricted to people with psychoses, alcohol or drug problems and dementia. Worst affected were residents of psychiatric hostels.

Over the period of the study 1980–98 the rates of nutritional deficiencies have been declining in both the general population and in people with mental illness. However, the rates in people with mental illness remained higher for the entire period than that in the general population.

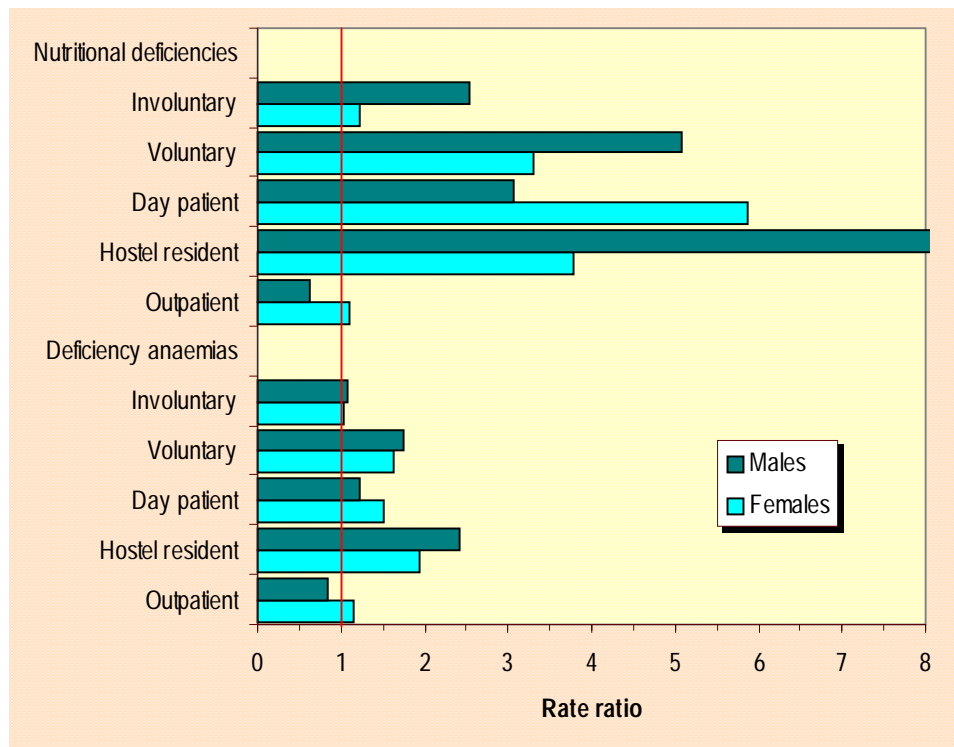
Deficiency Anaemias

Deficiency anaemias (caused by inadequate diet or severe blood loss) were a more frequent cause of hospitalisation than nutritional deficiencies. The worst affected were people with alcohol and

Nutritional Deficiencies and Deficiency Anaemias

drug disorders and males with other psychoses. As was the case with nutritional deficiencies the worst affected were residents of psychiatric hostels (Figure 18). Rates of deficiency anaemias have been increasing both in the general population and in people with mental illness. The difference in rates between the two groups has remained roughly constant over time.

Figure 18: Deficiency rate ratios, by type of care



Nutritional deficiencies are predominantly diet related. Protein-calorie malnutrition is related to insufficient consumption of food. An imbalance in the diet, insufficient consumption of food and alcohol consumption can result in deficiencies of thiamine, niacin and other B-group components. Inadequate diet is a significant factor in the greater occurrence of nutritional deficiencies and deficiency anaemias in people with mental illness.

The problem seems to be particularly concentrated among those with psychoses and residents of psychiatric hostels. There is some evidence of poor nutrition among people with mental illness. However, while dietary composition may be poor in terms of overall malnutrition, most research suggests that overeating and obesity is the main problem in people with mental illness rather than under eating. Malnutrition is a known problem among alcohol and drug abusers. A dietitian could be employed in registered psychiatric hostels in WA to review the nutritional value of food served. Other identified issues such as adequate portions could be followed up as hostel residents may have problems communicating their needs.

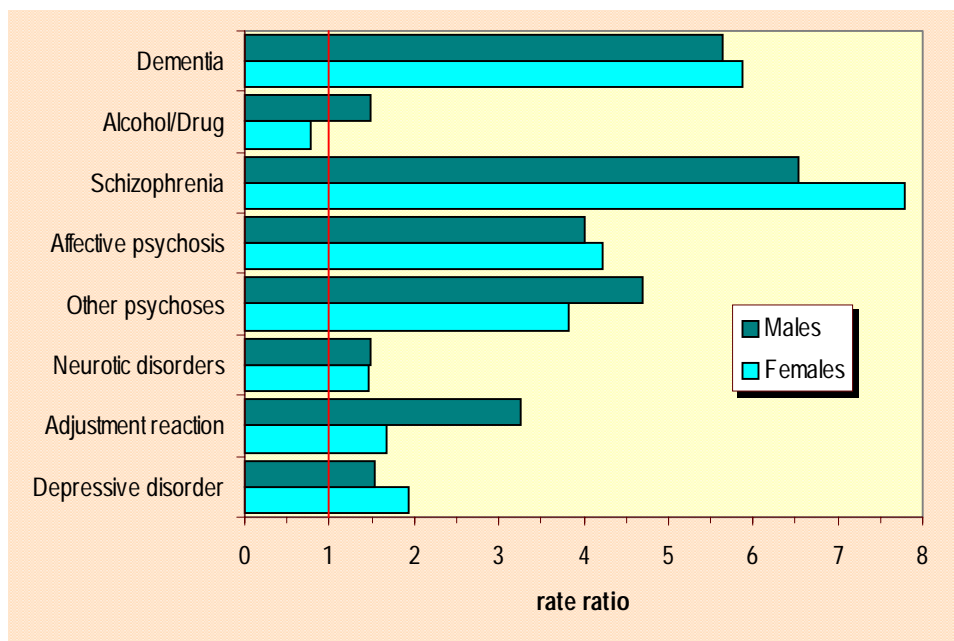
Strategies to reduce alcohol and drug use among people with mental illness could prevent a great deal of physical illness in this population, including nutritional deficiencies and anaemias. People with mental illness who have an alcohol or drug problem, and have another illness may be most likely to suffer nutritional deficiencies. Good overall physical and mental health care combined with balanced nutrition in residential settings should ensure that people with mental illness are less susceptible to serious nutritional disorders requiring hospitalisation.

Parkinson's Disease

Parkinson's Disease

Parkinson's disease is an incurable chronic progressive disorder of the central nervous system that is a result of brain degeneration. It produces tremor, rigidity of the limbs, and slowness and difficulty of movement. It occurs mainly in later life.

Figure 19: Rate ratios for Parkinson's disease



Overall people with mental illness were at almost two and a half times the risk of being hospitalised for Parkinson's disease compared to the general population. For both schizophrenia and dementia more than five times as many people with mental illness were hospitalised for Parkinson's disease compared to the general population (Figure 19).

During 1980–98 there were 783 deaths due to Parkinson's disease, of which 182 occurred in people with mental illness. Overall mentally ill males were more than six times more likely to die from Parkinson's disease than males in the general community, and females four times as likely.

Parkinson's disease has long been recognised as a side effect of some medications used in the treatment of people with mental illness. It is possible that there is a complex relationship between Parkinson's disease, the development of some of the manifestations of schizophrenia and the effects of major tranquillisers used for the treatment of schizophrenia. The number of first time hospitalisations for Parkinson's disease was steady over the period 1980–98. This study has found a strong relationship not only between Parkinson's disease and schizophrenia but also of Parkinson's disease with dementia, affective disorder and other psychoses. It has been estimated that possibly as many as one in three sufferers of Parkinson's disease will develop dementia.

Circulatory System Diseases

Circulatory System Diseases

Circulatory system diseases are the leading cause of death in WA and they account for 16% of excess deaths among people with mental illness. (The expected number of deaths in people with mental illness from any given cause can be worked out by applying the general population death rate to the population of people with mental illness. Deaths above this number are called excess deaths.) People with mental illness are at increased risk of death from circulatory system diseases compared to the general community (Figure 20). Deaths are higher for all conditions in both men and women, particularly for stroke. A consistent pattern of increased death emerged. People with dementia were at a particularly high risk of death from stroke. People with alcohol/drug disorders showed consistently higher risk of death from circulatory system diseases.

Figure 20: Heart disease death rates, people with mental illness and WA population

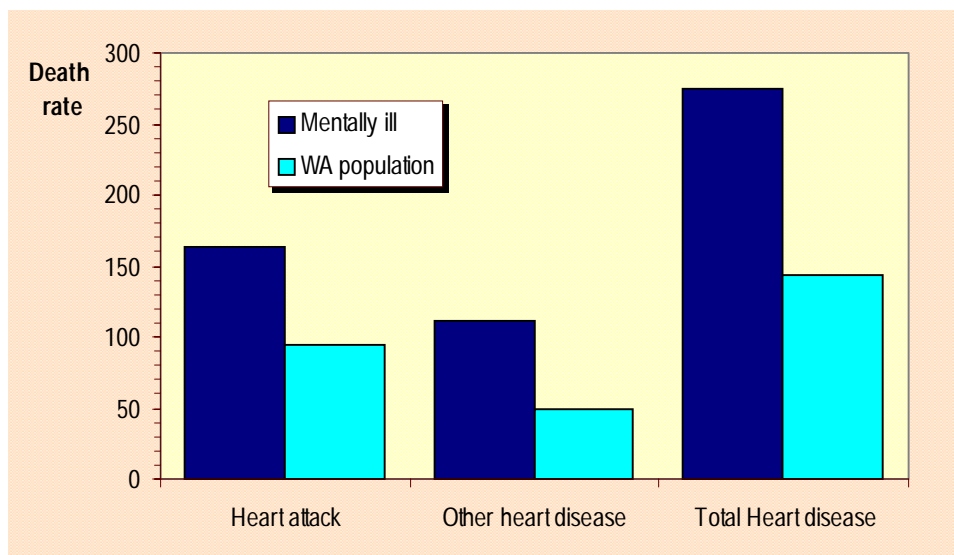


Figure 21 shows death rates from heart disease in people with mental illness and the WA population over the period 1980–98. During this period there has been a steady decline in deaths from heart disease in the general population overall, with rates dropping for both males and females. In contrast the death rate due to heart disease over this period for people with mental illness has remained higher than the general population. The death rate has been increasing in females, and steady in males with mental illness.

Circulatory System Diseases

Figure 21: Heart disease death rate, by year

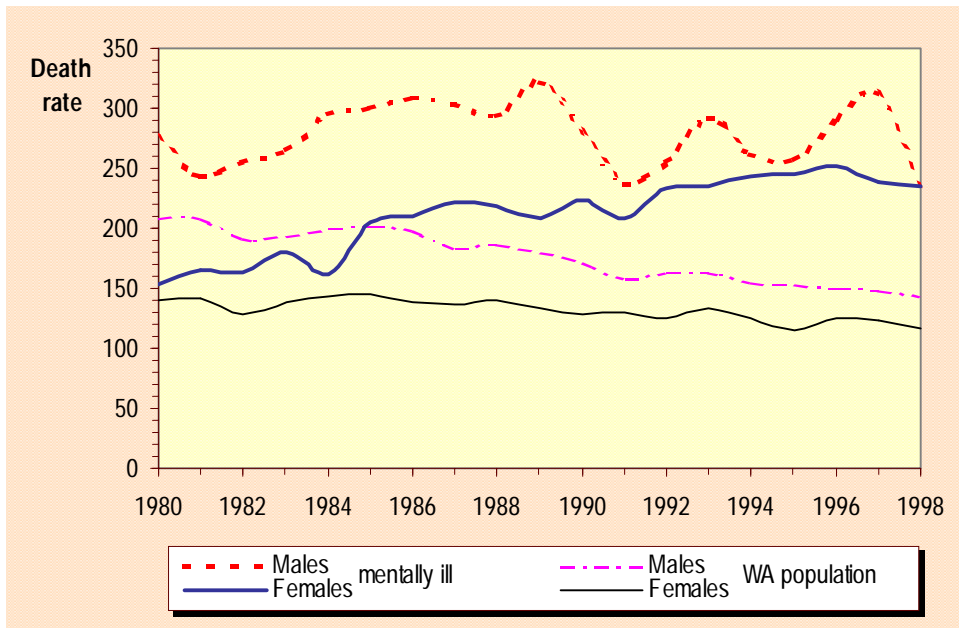
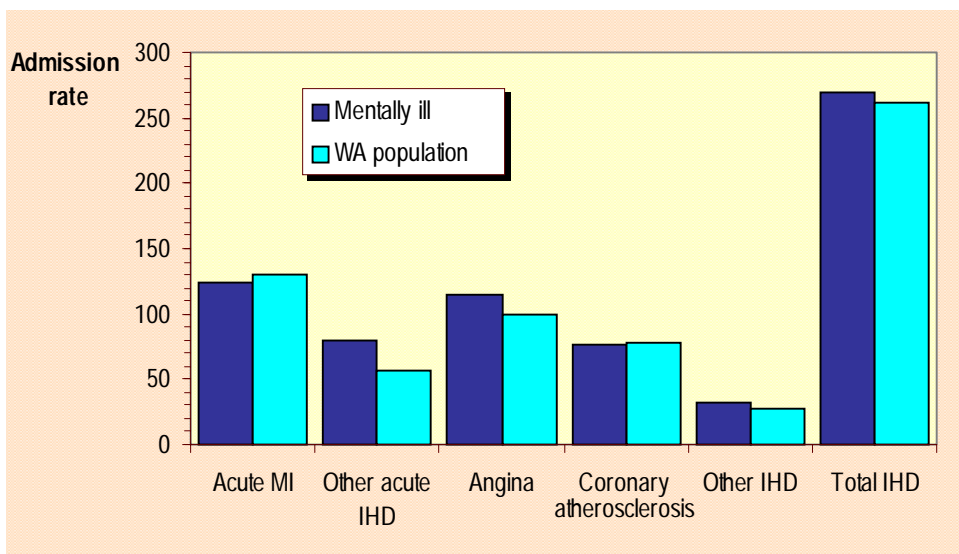


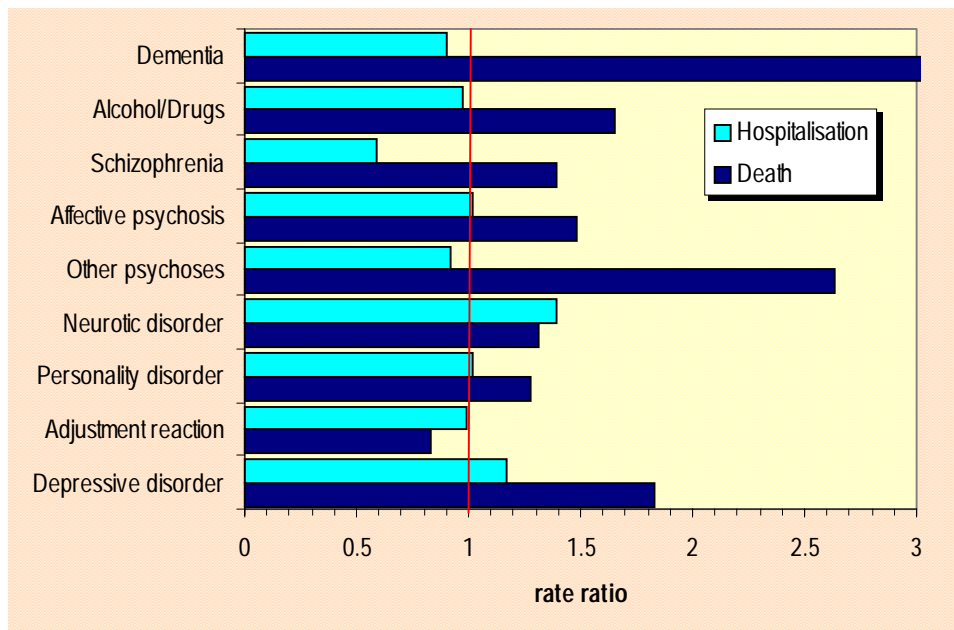
Figure 22 shows hospitalisation rates for heart disease, comparing people with mental illness with the WA population. Higher than expected rates of hospitalisation were observed in people with mental illness with complications of high blood pressure, acute heart disease, angina and stroke, as well as coronary atherosclerosis (the narrowing and hardening of the arteries over time) and kidney disease associated with high blood pressure in women.

Figure 22: Heart disease hospitalisation rates



Circulatory System Diseases

Figure 23: Heart disease hospitalisation and death rates, by principal diagnosis



People with mental illness with heart disease have conditions that vary according to how severe and fatal they are. Overall there was little difference in rates for heart attacks. Involuntary patients had a reduced risk of suffering a heart attack.

In contrast to the results for heart attack the findings for other acute and subacute forms of heart disease show a significant increase in hospitalisation rates among people with mental illness who overall were hospitalised around 40% more often than expected.

Angina is more often a persistent condition and overall a slightly elevated hospital admission rate for angina was observed in people with mental illness, with those with neurotic disorders being at highest risk.

Figure 23 shows hospitalisation and death rate ratios from heart disease comparing people with mental illness to the general population. The number of deaths from circulatory system diseases in people with mental illness far exceeds the expected number of admissions to hospital for the same diseases. This suggests that circulatory system diseases are not detected and treated as frequently in people with mental illness as in those without mental illness.

In 1980–98 there were 30,593 hospital admissions for heart revascularisation procedures representing 23,900 individuals. Of these 1,807 had contact with mental health services prior to their revascularisation procedure.

Circulatory System Diseases

Figure 24: Heart procedure rate ratios, by principal diagnosis

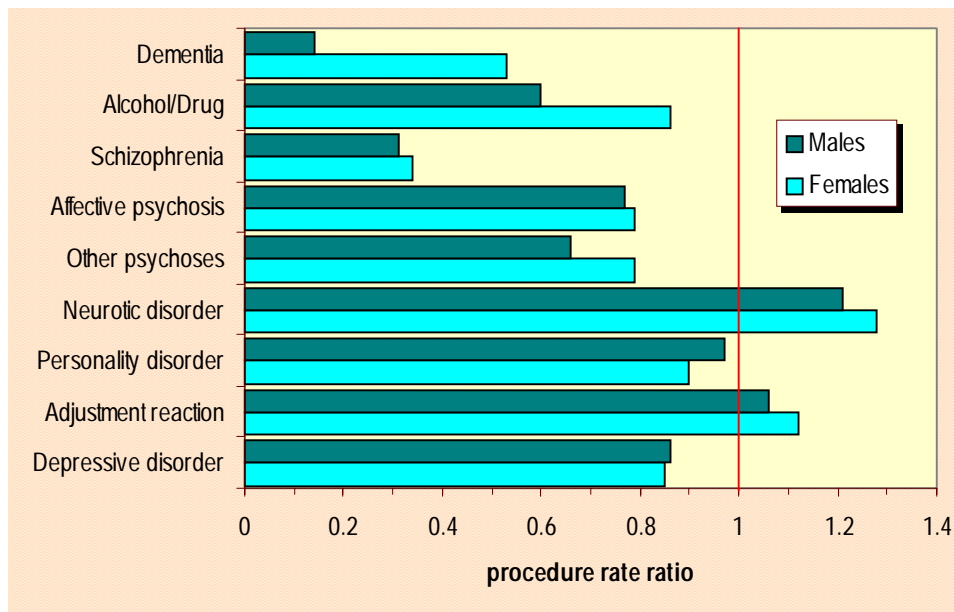


Figure 24 shows comparative rates for heart procedures, which include coronary artery bypass grafts and removal of coronary artery obstructions. People with dementia rarely underwent these coronary artery procedures, particularly in males. People with schizophrenia also had consistently lower rate for these procedures, with the difference being stronger in males than females. The rates were consistently higher in females than in males. People with neurotic disorders had higher procedure rates.

Overall a small increase was found in stroke in people with mental illness of around 30%. Highest rates were in those with dementia, alcohol/drug disorders, other psychoses, neurotic disorders and depressive disorders.

Circulatory system diseases are of great public health importance as they are the leading cause of death in WA, and a frequent cause of hospital admissions. People with mental illness show a consistent pattern of increased death due to circulatory system diseases, and for many of these conditions an increase in hospitalisation as well.

Risk factors for cardiovascular disease include family history, smoking, poor diet, high cholesterol, obesity, lack of exercise, and stress levels. As previously mentioned, smoking prevalence is known to be very high among people with mental illness. This may be one contributing factor to the worse outcomes in people with mental illness. People with mental illness may also be at risk of poor nutrition and obesity. Many studies have found higher rates of abdominal obesity in those with chronic mental illness. The higher level of obesity can be linked to overeating, underactivity and lack of awareness of correct dietary principles. Another concern raised was the possibility that weight gain may be a side effect of certain medications used to treat mental illness. There is lots of evidence that there are high levels of obesity in people with mental illness and dietary intake may be quite imbalanced. Surveys of people with schizophrenia found that they were not only more likely to be obese but also had high intake of saturated fats with low consumption of vegetables and fibre and low dietary intake of vitamin C and vitamin E.

Circulatory System Diseases

Research has shown that people with mental illness have lower levels of physical fitness than expected due to physical inactivity.

High blood pressure is a risk factor for heart disease. It is normally treated in general practice, and the study only included hospitalised cases, which would be the most serious ones.

People with mental illness have a higher rate of death from heart attack than the general community, although their rate of hospitalisation was marginally lower than expected. A vital issue in treating people with heart attack is how quickly emergency medical treatment can be administered. The lower rates of hospitalisation (which were particularly noticeable for those with dementia and schizophrenia) could be due to people with mental illness with heart attack dying before they are brought to an emergency department. Mental illnesses such as dementia and schizophrenia can prevent effective communication of symptoms and may result in delay of treatment contributing to more deaths in time critical conditions such as heart attack.

The rates of cardiovascular death in the general population have been in steady decline over the period 1980–98. This has been due to a reduction in cardiovascular risk factors, with reductions in smoking and alcohol consumption, dietary changes and a healthier, more active lifestyle, as well as the introduction of medications for treating heart disease such as beta blockers.

While public health campaigns and the introduction of new treatments have been shown to be very successful in the general population, people with mental illness have not benefited from this progress. Cardiovascular death rates have increased over the same period among people with mental illness. As the current campaigns have not benefited people with mental illness it would be worthwhile to develop campaigns specifically targeted towards this group.

People with schizophrenia have a much lower rate of cardiovascular procedures, even though they have among the highest rates of smoking, obesity and other cardiovascular risk factors. Why is this the case? Are circulatory system disorders under-diagnosed in people with mental illness, contributing to the large number of deaths? Alternatively, are people with mental illness more likely to die suddenly as a result of acute heart attack? Are heavy smoking, and even possibly medications for psychiatric disorders, a cause of fatal arrhythmias (abnormal heart beat)?

The majority of cardiac deaths now occur in people with known and established heart disease, rather than sudden unexplained cardiac death. There are now a comprehensive range of drugs, technical (*eg* coronary angioplasty) and surgical (*eg* bypass grafts) interventions to reduce the risk of cardiac death in people with established disease. These results raise questions as to whether people with mental illness are receiving these interventions, if they have established heart disease, at a level that is equitable to that in the general population.

Research into whether people with mental illness receive adequate care for cardiovascular problems is warranted. Strengthening general practice care for people with mental illness would be one way of improving the health of people with mental illness with circulatory disease, if their illnesses can be better managed and a coordinated approach to total health care be adopted then there is less chance of being admitted to hospital.

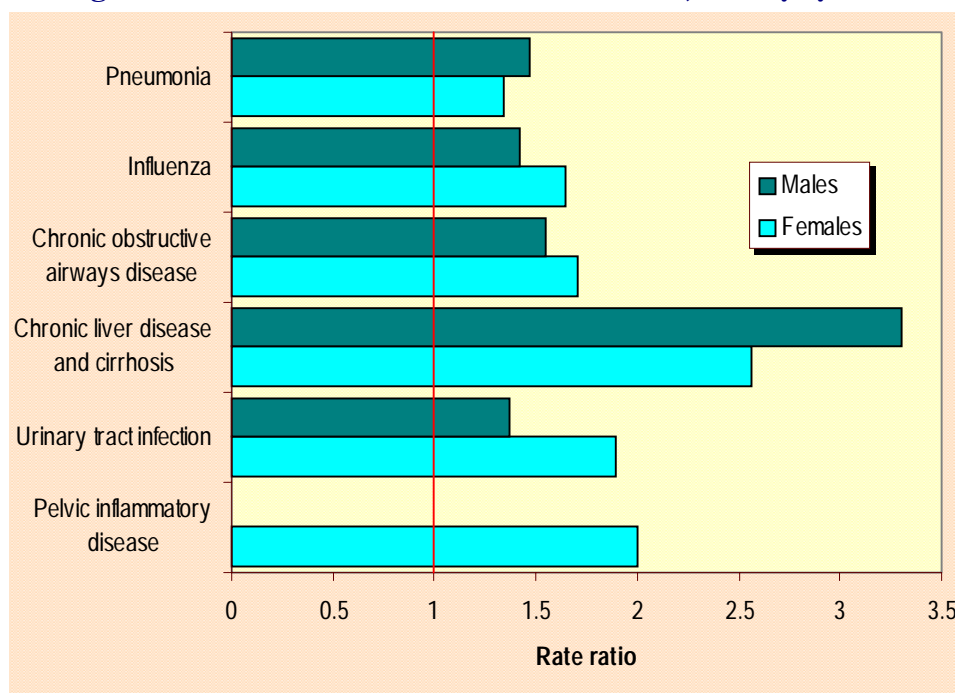
Diseases of other major body systems

Diseases of other major body systems

Deaths

Although there were fewer deaths than hospitalisations for respiratory system illnesses, the death rate in people with mental illness was much greater than expected based on the hospitalisation rate for each illness. People with mental illness were hospitalised at about 1.5 times the rate of the general population but died at over 5 times the rate. This same pattern was observed for each respiratory illness considered and it was more prominent for males than females. Normally, diseases of the digestive and genito-urinary system are not major causes of death in WA. As a result they have not been included in this study.

Figure 25: Rate ratios for diseases of other major body systems



Pneumonia, influenza and chronic obstructive airways disease

Higher rates of pneumonia and influenza were observed in people with mental illness with males 47% more likely and females 34% more likely to be hospitalised for pneumonia than the general population (Figure 25). Worst affected were those with dementia, alcohol/drug disorders and other psychoses.

Overall there was a 42% higher rate of hospitalisation for pneumonia and influenza in people with mental illness. There was an increased rate of hospital admissions in people with mental illness both for males and females with bronchitis, emphysema and other chronic airway obstructions excluding asthma.

As has been mentioned earlier, the smoking rates among people with mental illness are significantly higher than among those without a mental illness. In light of these figures and given

Diseases of other major body systems

that chronic obstructive airways disease is mostly associated with smoking it is hardly surprising that people with mental illness have higher rates of hospitalisation for airway disease and higher death rates from the same condition.

One study of the long-term mentally ill attending 16 general practices in England found that there were higher rates of respiratory symptoms such as cough, shortness of breath and wheezing, as well as an excess rate of smoking. Despite these risk factors usually being recorded in the general practice records, the GPs had made few attempts to intervene. Programmes to encourage people with mental illness to quit smoking should be adopted as a high priority. When offered supported programmes with nicotine replacement and counselling, people with mental illness are able to quit smoking at equivalent rates to the general population.

Chronic liver disease and cirrhosis

Liver disease (which is usually related to excess alcohol consumption) was particularly common in people with mental illness with alcohol and drug disorders (Figure 25). It was also high in several other diagnostic categories, particularly psychoses where a high level of alcohol abuse occurs.

Liver disease is linked to alcohol abuse. Excess hospitalisations in people with mental illness for liver disease is consistent with that observed for other alcohol and drug related diseases throughout this study. People with alcohol and drug related disorders show the highest rates followed by those with affective psychoses, schizophrenia and other psychoses among whom there is considerable alcohol and drug use comorbidity. Consequently, reducing alcohol and drug use in people with mental illness would significantly reduce the incidence of physical disease. Alcohol and drug addiction programmes should be integrated into the medical care of people with mental illness.

Urinary tract infections

Urinary tract infections include infections of the kidney, cystitis (inflammation of the bladder), non-sexually transmitted urethritis and other miscellaneous urinary tract infections. These infections occur in the general population more commonly in women than men. Females with mental illness were almost twice as likely to be hospitalised with a urinary tract infection than the general population. Mentally ill males had a 37% higher rate overall (Figure 25).

High rates of urinary tract infection have previously been observed in psychogeriatric facilities. Alcohol abuse and liver disease have been associated with urinary tract infections.

Pelvic inflammatory disease

Pelvic inflammatory disease is the genito-urinary system disorder responsible for the highest number of hospitalisations in women. Women with mental illness were over twice as likely to be hospitalised from the condition as women in the general population.

Pelvic inflammatory disease is associated with high risk sexual practices and sexually transmitted diseases such as chlamydia. It occurs most frequently in young women and particularly women with alcohol and drug use problems.

Diseases of other major body systems / Injury and Poisoning

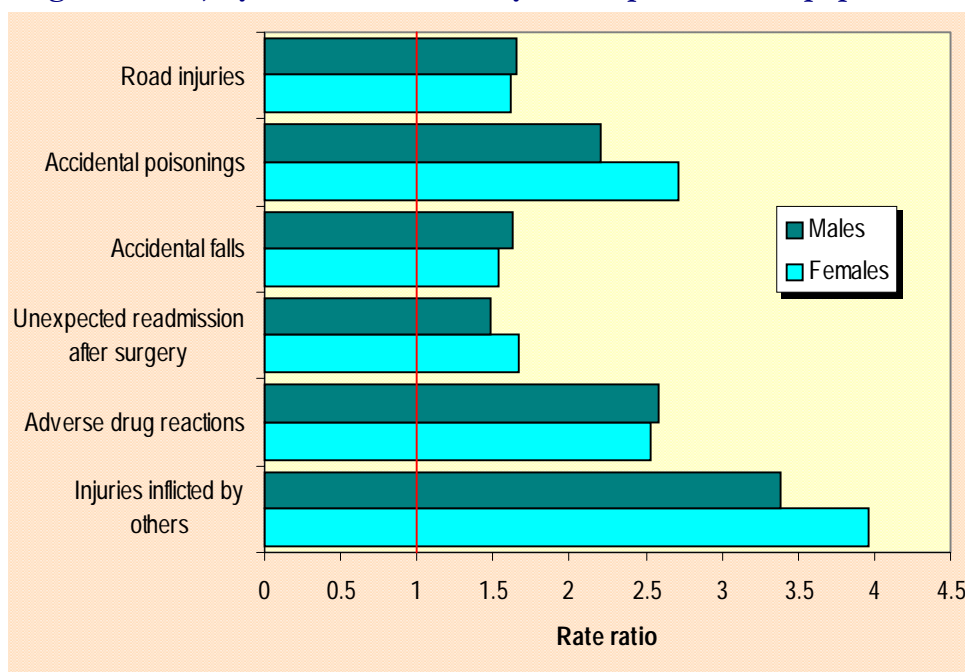
A point of concern emerging from these results, which has also been seen in the results for circulatory system disorders and cancer, is that the rate of death from most of the illnesses considered was considerably greater than the rate of hospitalisations for the same condition. For instance, for the majority of the respiratory conditions considered, there was an increase of hospitalisation in people with mental illness of around 50%. However, the death rate varied from double to seven times as high. While the digestive and genito-urinary system disorders are not common causes of death a similar pattern was observed in many of these conditions. This raises the question as to whether people with mental illness are receiving the same level of care as people without mental illness, especially since none of the illnesses examined are typically so acute and fast-acting as to prevent there being sufficient time for the severely ill to be taken to hospital.

These results suggest action is needed on two fronts. There is strong evidence in terms of both hospitalisations and deaths that people with mental illness suffer from higher rates of respiratory illnesses. Programs aimed at reducing smoking among people with mental illness have the potential for significant long term benefits. Similarly, alcohol abuse is a major factor in digestive system disorders and efforts to reduce alcohol abuse in people with mental illness would also have potential for significant long term benefits. The evidence also suggests that, despite the higher rates of physical illness, it is possible that the greater number of deaths could be reduced if people with mental illness received the same level of care for their physical conditions as afforded to those without mental illness. Further work should be done aimed at identifying barriers to effective treatment among people with mental illness.

Injury and Poisoning

Injuries are a major cause of hospitalisation in WA and a significant public health issue. Accidental falls, surgical misadventure and road injuries were the most commonly occurring injuries requiring hospitalisation during the period 1980–98. Figure 26 shows hospitalisation rate ratios for injuries, comparing people with mental illness to the WA population. Higher rates of hospitalisation were observed in people with mental illness for all injuries. The highest rates were for injuries inflicted by others, accidental poisoning by drugs and adverse drug reactions.

Figure 26: Injury rate ratios, mentally ill compared to WA population



Road Injuries

Road injuries are commonly occurring injuries in WA and a major public health issue. Higher hospitalisation rates were observed for all diagnostic groups except dementia and males with schizophrenia, even though people with mental illness (particularly the more serious disorders) are less likely to own a car. The highest rates were in people with alcohol and drug disorders. Drink driving remains a significant problem in WA.

Accidental Poisoning

Determining whether a non-fatal poisoning was accidental or an attempt to take one's life can be difficult, and is mainly determined by the person's stated intent after the event, while still in hospital. It is quite possible that some hospitalisations due to attempted self-harm via poisoning could be mis-coded as accidental.

The rates for accidental poisoning among people with mental illness by drugs (*eg* tranquillisers, psychotropic agents) are higher than poisoning by other agents (*eg* agricultural chemicals, petroleum products or poisonous foods).

Accidental Falls

Falls are most common in the elderly and higher risk was found in people with dementia and other psychoses. Those with alcohol or drug disorders are younger but still have higher rates of falls than the general population. Hostel residents who tend to be older had the highest rate of falls.

Unexpected readmission after surgery

There were over 200,000 hospital admissions in the period for people who experience an adverse outcome following surgery. The vast majority of these cases (82%) were due to complication of a surgical procedure arising after discharge that required readmission to hospital. There are differences in the rates of surgery in users of mental health services compared with the general population. People with mental illness do have lower rates of cardiac revascularisation procedures (despite evidence of higher rates of heart disease), particularly those with dementia and schizophrenia. Despite the possibility that underlying rates of surgical procedures may be lower in people with mental illness, a 50% increase in surgical misadventure was observed in people with mental illness. The higher rates of surgical complications highlight the importance of post-discharge follow-up and after-care in people with mental illness, even when they are admitted to hospital for physical problems.

Adverse drug reactions

There are a large number of different drugs that can cause serious adverse reactions requiring admission to hospital. During the study period adverse drug reactions requiring hospitalisation were caused most frequently by cardiovascular agents (12%), analgesics (12%), and antibiotics (11%). Hospitalisation rates for adverse drug reactions were over two and a half times higher in people with mental illness than in the general population.

Injuries inflicted by others

Hospitalisation for injuries as a result of violence was much more common in people with mental illness than the general community. This was true for all mental illnesses except dementia. Overall the rate was well over three times higher in people with mental illness than the general population. Highest rates occurred in people with mental illness with alcohol and drug disorders (especially women), followed by those with psychoses, personality disorders and depressive disorder. Overall, women with mental illness were at greater relative risk than men of injuries inflicted by others. One in every four women hospitalised due to injuries inflicted by others were users of mental health services. By comparison, one in five males hospitalised due to injuries inflicted by others were users of mental health services, although in terms of numbers of people, males represented 70% of victims of injuries inflicted by others.

Deaths

People with mental illness were more likely to die accidentally than the general population. The higher death rate for injury exceeds the excess hospitalisation rate by a wide margin for several injury types—accidental poisonings, accidental falls and fire injuries.

This pattern has been observed for many conditions considered throughout this study, and suggests that the injuries of people with mental illness are likely to be more serious or they are less likely to be hospitalised following a serious injury.

One relevant factor concerning injuries is contact with the dangerous situation or agent. People with mental illness showed very high rates of accidental poisonings, mostly from drugs commonly prescribed for people with mental illness. However, people with mental illness also

Injury and Poisoning / Summary by mental illness

had higher rates of road accidents, despite being less likely to own a car, and higher rates of surgical misadventure, even though the rate of surgical interventions may be lower in this group.

The high prevalence of alcohol and drug abuse among people with mental illness is well known, as is the relationship between alcohol and drug abuse and road traffic accidents. A study of outpatients with schizophrenia found that they were less likely to drive, that those who did drive drove on average smaller distances, but that their accident rate was still higher than in people without mental illness. Impaired thinking can also play a role in motor vehicle accidents, which is particularly a problem in those with dementia.

It is often difficult to determine if an injury was accidental or purposefully inflicted. With the strong association between mental illness and suicide, it is quite possible that a proportion of injuries among those with mental illness could be the result of attempted self-harm, but not recorded as such.

Falls are most common in the elderly, and are well known to be a risk for people with dementia. Altered mental states and impaired physical mobility contribute to the rate of falls. People with mental illness may be most at risk shortly after admission to a residential facility, or transfer to another ward due to disorientation. Depression and taking of tranquillisers have also been identified as a risk factor for falls.

Research has shown that people with mental illness are more likely to commit violent crime and some are prone to violent behaviour. Part of the higher rate of violent injuries in people with mental illness may reflect the higher likelihood of a violent response to violent behaviour. Research has also identified the problem of violent victimisation of people with mental illness. There is a much greater rate of violent criminal victimisation of people with severe and persistent mental illness. Substance abuse and homelessness make criminal victimisation more likely. The results of this study showed high rates of injuries inflicted by others in people with mental illness. High rates of violent injuries may be expected in people with mental illness with alcohol and drug disorders as they are possibly living in a more violent sub-culture associated with drug use.

It is possible that these figures understate the true extent of violence against people with mental illness due to under-reporting of violent crime and the subsequent lower rate of presentation to hospital following a violent crime.

Summary by mental illness

Previously in this report the association between physical illness or injury and mental illness in WA has been examined. These results covered deaths, the occurrence of diseases as measured by hospital admission rates, and cancer cases based on the cancer registry. The presentation of the results was on a physical disease by disease basis. Now the results will be summarised by psychiatric diagnosis, to show the overall burden of physical illness associated with each psychiatric condition. This section presents the summary of the results by psychiatric diagnosis.

Dementia

Very high hospital admission rates were found for Parkinson's disease, accidental falls and adverse drug reactions. There was an almost six times elevated rate of pneumonia in males, but no elevation in females, and an almost five-times elevated rate of nutritional deficiencies in

Summary by mental illness

males. Conversely females displayed highly elevated rates of chronic liver disease and cirrhosis, with no elevation in males. By contrast there were significantly increased death rates from all major causes of death except cancer.

Treating physical illness in people with dementia raises complex issues. Dementia is an incurable, progressive and terminal illness. Especially in the more advanced stages of the illness, there are doubts as to whether people with dementia can even properly communicate symptoms of physical illness. People with dementia may also be unwilling to cooperate with investigations and there are ethical issues in obtaining informed consent for a procedural intervention. With the terminal nature of the illness and low quality of life in the advanced stages, physicians and carers may not wish to pursue extensive investigations or interventions for physical conditions.

The average life expectancy after diagnosis of Alzheimer's disease is five to eight years, and the progression from a subclinical stage to a very severe clinical stage can be slow. At least in the mild and moderate phases of the disorder, quality of life can be improved by diagnosing and treating presenting physical conditions.

Alcohol or drug disorders

People with alcohol or drug use disorders showed consistently the worst physical disease outcomes of all the mental illnesses. Highest rates were seen for those disorders known to be directly related to alcohol and drug use, such as viral hepatitis and liver disease. Significantly elevated rates were also seen for most other conditions. For instance highly elevated rates of sexually transmitted diseases and nutritional deficiencies suggest that harmful alcohol and drug use are correlated with other high risk behaviours and lack of proper self-care. People in this group also had substantially elevated death rates from almost all major causes of death. The cost of alcohol and drug use to the community is of major public health importance and demands ongoing efforts at prevention and rehabilitation from governments and health care providers. There is a clear need for services that address mental illness and addictions together.

Schizophrenia

Overall the physical health of people with schizophrenia was very poor. Conditions associated with alcohol and drug use such as HIV and hepatitis were elevated in people with schizophrenia. This is not surprising as substance abuse is common in people with schizophrenia. Accidental poisonings and violent injuries occurred much more than expected. A number of diseases showed lower rates, although questions must be asked as to whether this reflects a true lower occurrence of these diseases or a lower rate of detection and treatment. For instance in spite of higher death rates from heart disease there was little difference in hospitalisation rates and a much lower rate of cardiac procedures in people with schizophrenia.

Many health care professionals may overlook physical illnesses and concentrate on the mental illness. Psychiatrists often pay little attention to physical illnesses and general practitioners are often reluctant to treat people with severe mental illness.

There is a need to ensure that physical illnesses are properly diagnosed. Previous research has investigated issues associated with the detection and treatment of physical illness in people with schizophrenia. These included a higher threshold to pain, poor ability to describe medical problems, reluctance to discuss physical problems, a fragmented health care system, lack of

Summary by mental illness

access to care (including general practice care) and lack of continuity of care. All of these factors are barriers to the diagnosis and treatment of physical disorders. Treatment of physical illness in people with schizophrenia is complicated by difficulties in obtaining informed consent for treatment, and the extra effort involved in ensuring that people with schizophrenia understand and are able to comply with treatments.

Research indicates that substance abuse, smoking, obesity, lack of exercise and unsafe sexual practices are major contributors to physical illness. All these factors compromise the health of people with schizophrenia. Mental health services cannot afford to wait until consumers volunteer symptoms, as many are reluctant to do so. It takes time to undertake regular, comprehensive, physical examinations and to ensure that people with mental illness understand any treatments provided.

Affective psychoses

Affective psychoses and schizophrenia have some similarities and share common features. Affective psychosis is more common in women while schizophrenia is more common in men, and people with affective psychosis have an older age distribution than people with schizophrenia. Nevertheless, many of the risk factors for poor physical health outcomes such as smoking and alcohol and drug use, poor nutrition and lack of exercise are common in affective psychosis as well as in schizophrenia. Highest risks for people with affective psychoses were seen for HIV infection, viral hepatitis, nutritional deficiencies, Parkinson's disease, adverse drug reactions and injuries inflicted by others. Alcohol and drug abuse is an important factor in the elevated rates of many conditions. Issues such as regular comprehensive physical examinations, and treatment of addictions to address physical illness in people with mental illness are equally relevant to people with affective psychosis as in people with schizophrenia.

Other psychoses

People with mental illness in this group tend to have an older age distribution. The most frequently occurring diagnoses in this group are unspecified psychosis and acute confusional state. These people have poor outcomes from many of the diseases examined in this study. These people have a greater amount of physical illness as well as worse survival from most conditions. The physical health of this group was amongst the worst found in this study.

Neurotic disorders

The rest of the mental illnesses in this study are generally regarded as less disabling and generally involve fewer and shorter contacts with mental health services. Almost half of people with neurotic disorders do not receive inpatient treatment. Contact with mental health services was generally brief. The two main conditions in this group were general anxiety disorder and neurotic depression.

Once again in this group behavioural factors such as substance abuse, smoking, poor diet and lack of exercise were factors in many of the conditions where poor outcomes were found.

People with neurotic disorders had excess death rates compared to their hospitalisation rates suggesting that under detection and under treatment is less of an issue in this group than in patients with psychoses. The fact that excess deaths were seen in this group suggests that the

Summary by mental illness

excess rate of hospitalisation represents genuine rather than imagined physical illnesses. People with neurotic disorders who complain of physical symptoms should be thoroughly assessed for physical illness. Symptoms of physical ill health should not be discounted as a component of the neurotic illness.

Personality disorders

In people with personality disorders highest risks were seen for injuries (particularly injuries inflicted by others), viral hepatitis and digestive system disorders. These results imply exposure to alcohol and drug abuse is a major risk factor for poor physical health outcomes in personality disorders. Higher death rates occurred not only from suicide, but also from circulatory system diseases, as well as chronic obstructive pulmonary disease in males. There was no excess of hospitalisations for any of the circulatory system diseases, which again suggests that the hospitalisation results may have underestimated the true occurrence of physical disease in this group due to under-diagnosis or under-treatment. Treatment of substance abuse issues needs to be an integral part of the treatment for personality disorders.

Adjustment reaction

Adjustment reactions include both short term and chronic conditions with a wide range of severity. Most of these conditions are treated by outpatient or community based services. In males, higher rates of hospitalisation were found from some injuries, while in females higher rates were also found from pelvic inflammatory disease, some digestive system disorders and Parkinson's disease. Viral hepatitis was common in both sexes. Excess death was mainly due to suicide. Apart from the risk of accidental or deliberate injury and self harm this group did not appear to be at particularly high risk of physical illness, particularly males. The short-term nature of some stress reactions probably does not pose special risks for chronic physical diseases. The males in this group had a younger average age of onset. There was a higher proportion of widowed and divorced females, an older age of first diagnosis and slightly longer average duration of treatment. There may be a higher proportion of chronic reactions to stress among the females in this group. Chronic conditions may have a greater longer term effect on social and behavioural factors and lead to higher exposure to risk factors for poor physical health.

Depressive Disorder

Depressive disorder may be used as a convenient catch-all diagnosis in cases where the neurotic or psychotic basis of the depressive illness is unclear or clinicians prefer not to distinguish between the two. Over 90% of people in this group have received inpatient treatment, but the average length of stay was short and only a small minority of these patients also had contact with outpatient or community based services. There was substantial excess hospitalisation associated with many conditions. There were also high death rates for almost all major causes of death. Highest hospitalisation rates occurred for influenza, injuries inflicted by others and adverse drug reactions, urinary tract infections and pelvic inflammatory disease. Although people with depressive disorder had only limited contact with mental health services, there was substantial physical illness, injury and death. This suggests that this group warrant closer medical attention. It appears this group has been under-served by health services.

Conclusions

This study set out to establish the relationship between diagnosed mental disorders and physical illness. The results paint a picture of poor health outcomes across a very broad spectrum of physical diseases. The key conclusions that can be drawn from this research are as follows:

- ◆ People who are users of mental health services in WA comprise 8% of the total population of the state.
- ◆ People with mental illness have considerably elevated death rates from all main causes of death.
- ◆ The highest death rate was observed for suicide. Almost one half of all suicides in WA occur in people who have used mental health services. The rate of suicide in people with mental illness has been increasing over the period 1980–98 and almost entirely explains the increase in the total population suicide rate.
- ◆ The greatest number of excess deaths in people with mental illness were due to heart disease. The number of excess deaths from heart disease was double the number of excess deaths due to suicide.
- ◆ Contrary to a downward trend observed in the general community, the death rate from heart disease in people with mental illness has increased in women and remained steady in men. People with mental illness have not participated in the marked decline in deaths from heart disease in Australia observed over the last two decades.
- ◆ Lower rates of heart revascularisation procedures were found, particularly in people with mental illness with psychoses.
- ◆ Despite very high rates of smoking, the number of cases of cancer was no different in psychiatric patients than the general population. However, once a cancer was diagnosed there was a 30% higher rate of deaths in people with mental illness.
- ◆ 44% of Hepatitis C cases and 19% of HIV cases in WA came from the group of people with previous contact with mental health services.
- ◆ Infectious diseases associated with high risk personal behaviours such as drug use and unsafe sexual practices occurred at a significantly higher rate. People with psychoses and alcohol or drug disorders were at highest risk.
- ◆ Deficiency anaemias were a significant and growing problem in people with mental illness, and residents of psychiatric hostels were at particularly high risk.
- ◆ Parkinson's disease was strongly related with mental illness, particularly schizophrenia, affective psychoses and dementia.
- ◆ People with mental illness had high risks of digestive system disorders associated with alcohol abuse, and high risks of respiratory disorders linked to smoking.

Conclusions

- ◆ People with mental illness were a high-risk group for all types of injuries, particularly drug-related poisonings and injuries inflicted by others.
- ◆ People with mental illness were at high risk of complications from surgical procedures requiring unplanned readmission to hospital.
- ◆ Hostel residents had the highest rate of excess death, and also the worst outcomes for several diseases including nutritional deficiencies and deficiency anaemias.

There were several themes that were observed consistently throughout the study. One example is the effects of substance abuse in people with mental illness. This is not limited to people with alcohol and drug related disorders. Substance abuse is a common problem in mental illness, and causes considerable physical illness. Services to deal with addictions need to be incorporated into the everyday care of people with mental illness.

A second consistent theme is that people with mental illness were more likely to die from their physical illnesses. Excess deaths from physical illness is a major issue in people with mental illness, raising questions as to whether people with mental illness receive an appropriate level of care for their physical health problems based on their need. Mental health services are often run independently of other health services. As a result mental illness and physical illness are often treated by separate groups of practitioners. It is unclear if all psychiatrists see their role as including management of the physical well being of people with mental illness. At the same time, do people with mental illness receive an appropriate level of medical care from GPs, other medical practitioners and other health services? Psychiatrists may miss physical conditions because they are focussing on psychiatric symptoms or by regarding complaints about physical problems as psychosomatic. At the same time people under psychiatric care may not be seen concurrently by GPs and some may not have a regular GP at all.

Recommendations

The question of physical illness in the users of mental health services cannot be examined independently of the environment in which they live and the health services that are provided for people with mental illness. This study was undertaken during a period of significant change in mental health service delivery in WA, with a major programme of deinstitutionalisation being implemented along with significant organisational changes and the development of community-based services. Proper funding and staffing of mental health services has always been problematic, and some services have been stretched beyond capacity.

Questions must be raised as to whether the increase in suicides has any relation to the change in the dynamics of service delivery, as have been raised in a number of other countries where similar policies of deinstitutionalisation have been pursued. Further, the question must be asked as to whether a greater level of support can be provided in the community during the critical first weeks after a discharge from inpatient care. Adequate resources for community-based services are vital to the success of the deinstitutionalised model of treatment. A staged return to independent living with strong support in the initial phases is necessary to combat the extra pressures that people with mental illness may face after discharge from inpatient care. There are encouraging signs in this regard. The Mental Health Division of the Health Department implemented a new policy early in 1999 requiring people discharged from inpatient care to

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receive an appointment at a community-based service within four days of discharge. Previously, people with mental illness discharged from hospital were placed on waiting lists and had to wait up to six weeks for an appointment.

Smoking

Smoking is a major factor in a number of the main diseases identified as occurring at high rates among in people with mental illness. Although there was no evidence of excess cancers, higher rates of heart and respiratory conditions were observed, and these are common causes of hospitalisation and death in people with mental illness. Smoking rates among people with mental illness are known to be almost twice that of people without mental illness, and smoking is particularly common among people with psychoses. Smoking and other substance abuse in people with mental illness is sometimes regarded as self-medication. Because of this smoking is often not discouraged, and may even be tolerated and encouraged. There have been reports that nicotine increases the metabolism rate of neuroleptic drugs and may affect the release of neurotransmitters in the brain. While these factors may suggest why smoking is favoured, particularly by people with schizophrenia, it seems doubtful that nicotine is the best therapeutic drug for people with schizophrenia or that smoking cigarettes is the best way of administering it. It is recommended that people with mental illness not be encouraged to smoke, and that they be encouraged and supported to quit smoking if they currently smoke. Programmes should be developed to help people with mental illness combat smoking, including the use of nicotine replacement therapy and counselling.

Alcohol and drug use

Although alcohol and drug use is not as frequent in people with mental illness as smoking, they clearly contribute to the poor physical health outcomes in people with mental illness. There is little evidence of any therapeutic benefits of substance abuse in people with mental illness. A recent article in *The West Australian* reported the Acting General Manager of Graylands Hospital (the main psychiatric inpatient facility in WA), as saying that it is impossible to stop patients using illicit drugs even in the locked wards of the hospital. There are expert health services in WA set up to help people deal with addictions to alcohol and drugs, but there is no major programme set up to deal with mental illness and addiction simultaneously. The Central Drug Unit maintains a 17 bed residential detoxification service, where priority is given to patients who experience combined medical, psychological or psychiatric conditions and substance abuse. It seems that more is needed to properly address the problem of substance abuse in people with mental illness. Providers of mental health services should actively discourage substance abuse, and joint programmes should be established that work to address psychiatric disorders and addictions together. Because substance abuse is so pervasive in people with mental illness, addiction services should be integrated into routine mental health care services.

Integrated health care

More integrated and cooperative approaches to health care are required to effectively meet all of the health needs of people with mental illness. An approach where mental health service providers only address symptoms of mental illness and regard physical health problems and addictions as someone else's problem does not meet all the needs of people with mental illness. There are opportunities for collaboration between providers of primary health and medical care, such as Divisions of General Practice, and mental health services. Residents of licensed

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psychiatric hostels and other psychiatric residential facilities are a priority target group, whose physical health and well being may currently not receive regular attention.

Public health campaigns to address cardiovascular risk factors and improvements in acute care are some of the reasons for the ongoing decline in cardiovascular deaths in WA. By contrast cardiovascular deaths have been rising in people with mental illness, and people with mental illness have not benefited from these public health campaigns. People with mental illness may benefit from specially targeted programmes to address their needs. Health promotion messages could be developed that deliver messages about health risk factors in terms of the day to day lives of people with mental illness. General practitioners also have a role to play in improving the coordination of care of chronic physical health problems such as heart disease. Health care providers must be proactive in assessing the overall physical health of people with mental illness. There needs to be more outreach services to take appropriate health care to people with mental illness. Traditional health services wait for people to come to see them. There are barriers to people with mental illness accessing these services, and unless more creative approaches are developed for people with mental illness, at risk mentally ill will continue to miss out on vital health care.

Physical illness in people with mental illness would obviously be reduced if the incidence of mental illness were reduced. While cures and preventions for many mental illnesses are hopes and dreams for the future, steps can be taken now to reduce physical illness in people with mental illness. Principal among these are steps to reduce smoking and other substance abuse, promote healthier lifestyles, and to develop integrated health services that make diagnosing, treating and managing physical health problems a priority in the overall health care of people with mental illness.

Glossary

Acute hospitals: general hospitals that diagnose and treat acute surgical and medical patients.

Age distribution: the proportion of people in each age group.

Angina: pain due to deficiency of blood to the heart muscle.

Atherosclerosis: the progressive narrowing and hardening of the arteries over time.

Case: an episode of illness or injury.

Chronic obstructive airways disease: a respiratory disease characterised by decreased airway size and increase airways secretions. It includes chronic bronchitis, abnormalities of the bronchi and emphysema.

Comorbidity: two or more coexisting medical conditions or unrelated diseases.

Coronary: a term applying to vessels, nerves, ligaments of the heart and the surrounding structures such as the coronary arteries that supply the heart muscle.

Deinstitutionalisation: a change in the location and focus of mental health care from an institution to community setting.

Divisions of General Practice: provide the organisational structure for general practitioners to work together to improve continuity of care, meet local goals and targets, promote preventative care and respond more rapidly to changing community health needs.

Genital herpes: a chronic infection caused by herpes simplex virus usually transmitted by sexual contact. It causes painful vesicular eruptions on the skin and mucous membranes of the genitalia of males and females.

Genital wart: a small red swelling in the genital area that may be a solitary growth or a cauliflower like group. It is caused by the papilloma virus and is contagious.

Gonorrhoea: a common sexually transmitted disease that most often affects the genito-urinary tract and occasionally the pharynx, conjunctiva or rectum. Infection results from contact with an infected person or secretions containing the causative organism.

Hepatitis: an inflammatory condition of the liver characterised by jaundice, enlarged liver, anorexia, abdominal and gastric discomfort, and abnormal liver function. The condition may be caused by a viral or bacterial infection, parasitic infection, alcohol, drugs, toxins or transfusion of infected blood.

Human Immunodeficiency Virus (HIV): a retrovirus that causes acquired immunodeficiency syndrome (AIDS). It is transmitted through contact with an infected individual's blood, semen, breast milk, cervical secretions, cerebrospinal fluid, or synovial fluid.

Involuntary patients: Under the provisions of the Mental Health Act people can be admitted to a psychiatric facility against his or her will. The Mental Health Review Board periodically reviews their case.

Glossary

Morbidity: an illness or abnormal condition and the rate at which it occurs in a particular area or population.

Mortality: the death rate which reflects the number of deaths per unit of population in any specific region, age group, disease or other classification, usually expressed as deaths per 100,000.

Neuroleptic drugs: are medicines that cause an altered state of consciousness characterised by quiescence, reduced motor activity and decreased anxiety. They are used to treat psychoses.

Public health: a field of medicine that deals with the physical and mental health of the community. It is concerned with what we as a society and especially our governments can do to prevent disease and improve the health in the population.

Rate: a numerical ratio often used in compilation of data concerning the prevalence and incidence of events in which the actual occurrence appears as the numerator and the number of people at risk appears as the denominator. A rate of 5 per 100,000 would mean 5 cases are expected in each 100,000 people in the population.

Rate ratio: the ratio of two rates, which describes the relative risk in one group compared to another. In this study rate ratios compare people with mental illness to the general population. For instance, a rate ratio of 2 means twice the proportion of events occurred in people with mental illness compared to the total population.

Revascularisation: the restoration by surgical means of the blood flow to the heart, *eg* coronary artery bypass grafts.

Screening programmes: an examination of a large sample or population to detect a specific disease or disorder *eg* breast cancer screening.

Stroke: a condition caused by lack of oxygen to the brain which may lead to reversible or irreversible paralysis. It is often due to interrupted blood flow, caused by a blood clot or blood vessel bursting. Depending on the area of the brain that is damaged, a stroke can cause coma, paralysis, speech problems and dementia.

Syphilis: a sexually transmitted disease characterised by distinct stages of events over a period of years. Any organ system may become involved.