Australian expenditure on mental disorders in comparison with expenditure in other countries

A report by the
Australian Institute of Health and Welfare

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RESOURCES DIVISION WORKING PAPER
Number 1

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June 2003

Australian Institute of Health and Welfare
Canberra

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Suggested citation

Australian Institute of Health and Welfare (AIHW) 2003. Australian expenditure on mental disorders in comparison with expenditure in other countries. Canberra: AIHW.

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Acknowledgments

This report was prepared by Justine Boland and John Goss of AIHW with advice and assistance from David Braddock, Jenny Hargreaves and Tony Hynes.

This work was funded under the AIHW Memorandum of Understanding with the Department of Health and Ageing (DHA). Liaison on this project was with Mick O'Hara and Kim Walker of the Mental Health Branch of DHA.

Summary

Comparing Australian health expenditure for mental disorders with this expenditure in other countries is difficult. There are differences in what is included in the 'mental disorders' categories, differences in institutional arrangements and what is considered health expenditure, and differences in methods for allocating costs by disease.

Four countries—the Netherlands, the USA, Canada and Australia—are compared in some detail. After adjustments to make the data as comparable as possible, we estimate that these four countries spend between 9.5% and 11.5% of their health expenditures on dementia, substance abuse disorders and other mental disorders. The amount spent on other mental disorders specifically, ranges from 6.2% for Australia to 6.6% for the Netherlands and 7.3% by the USA. Given the uncertainties with these data, there is no evidence from this disease costs information that any of these four countries are under-spending or over-spending on mental disorders relative to each other.

Background

A broad array of services and treatments exist to help people in Australia with mental disorders, as well as those at risk of developing them. This paper examines the expenditure on health services to treat and prevent mental disorders.

The definition of 'health services' used in this paper is that used internationally—health services relate primarily to activities to prevent and remedy impairment. Therefore it excludes most care activities such as disability support services for people with mental illness, as these services do not have a principal purpose of remedying impairment. These care activities are classified as welfare expenditure.

'Mental disorders' is defined according to the Ninth Revision of the World Health Organization's International Classification of Diseases (ICD-9). Chapter 5 of ICD-9—Mental disorders (290–319), includes substance abuse disorders, intellectual and developmental disabilities (formerly known as 'mental retardation'), dementias, schizophrenia, depression, anxiety disorders and other mental disorders.

Available data on mental disorders expenditure that are internationally comparable are limited. A number of other countries have undertaken disease costing studies. However, the methodologies used are not entirely consistent with that followed by Australia. This paper provides expenditure data from some of these other countries, but caution should be exercised in making comparisons. The most notable difference is in the definition of health services used. Health service costs in these other studies sometimes include costs of 'welfare' services, such as residential care facilities for people with disabilities. Such services comprise a significant proportion in the case of expenditure on mental disorders, which includes intellectual and developmental disabilities.

Estimates of Australia's mental disorders expenditure

The Australian Disease Costs and Impact Study carried out a comprehensive accounting of disease costs across all chapters of the ICD-9 Classification of Diseases for 1993–94. Estimated health system expenditure for mental disorders in 1993–94 is shown in Table 1. The total health system costs of mental disorders were estimated at $3.0 billion or 9.6% of the total recurrent health expenditure of $31.4 billion that could be allocated by disease (Table 1).

Direct costs of health services are estimated by taking into account aggregate expenditures on health care and apportioning them to disease categories using Australian data on the relative costliness of different health services. Indirect costs, which are not included, usually focus on lost production due to sickness and premature death, but can include costs impacting outside the health care sector (such as police and court costs associated with drug use, for example).

Table 1: Mental disorders: health system costs, Australia, 1993–94 ($'000)

	Australian $'000	Per cent total mental disorders	Per cent total health
Senile dementias including Alzheimer's disease	713.8	23.6	2.27
Substance use disorders	348.4	11.5	1.11
Other mental disorders	*1,934.3*	*64.0*	*6.2*
Schizophrenia	454.2	15.0	1.45
Other non-drug psychosis	128.3	4.2	0.41
Affective disorders	643.6	21.3	2.05
Anxiety disorders	239.2	7.9	0.76
Personality disorders	53.0	1.8	0.17
Stress and adjustment disorders	112.1	3.7	0.36
Disorders of psychological development	15.8	0.5	0.05
Eating disorders	22.2	0.7	0.07
Disorders of childhood and adolescence	54.7	1.8	0.17
Behavioural syndromes and other mental disorders	174.1	5.8	0.55
Unspecified mental disorders, prevention and screening	37.1	1.2	0.12
Total mental health expenditure less intellectual and developmental disabilities	***2,996.5***		***9.54***
Health treatment of people with intellectual and developmental disabilities (formerly 'mental retardation')	25.8	0.9	0.08
Total mental disorders expenditure	**3,022.3**	**100.0**	**9.63**
Total recurrent health expenditure allocated by disease	**31,397.0**		
Total recurrent health expenditure	**34,615.0**		

Source: AIHW 1999.

The Australian estimate of mental disorders expenditure has been modified from a strict ICD-9 Chapter 5 definition of mental disorders to include all costs of senile dementias, including Alzheimer's disease much of which is in Chapter 6. This assists a more accurate allocation of expenditure on nursing homes, as there is insufficient detail in nursing home data to apportion expenditure between Alzheimer's disease (Chapter 6) and other dementias (Chapter 5).

Comparative data

Few countries have undertaken detailed disease costing studies. Table 2 lists those countries who have undertaken detailed disease costing studies which are considered in this report. The sources for these studies are referenced.

Table 2: Disease costing studies examined

Country	Reference year of study	Reference
Australia	1993–94	AIHW: Mathers et al. 1998b.
Canada	1993	Minister of Health 1997
Netherlands	1994 and 1999	National Institute for Public Health and the Environment 1998 and 2002
USA	1996	Surgeon General, US Public Health Service 1999

The methodologies vary quite significantly among these countries. Services comprising 'health expenditure' differ considerably between countries and the classification of mental disorders is not always consistent.

Also, there are inherent differences between countries that militate against comparisons of their expenditures. These include:

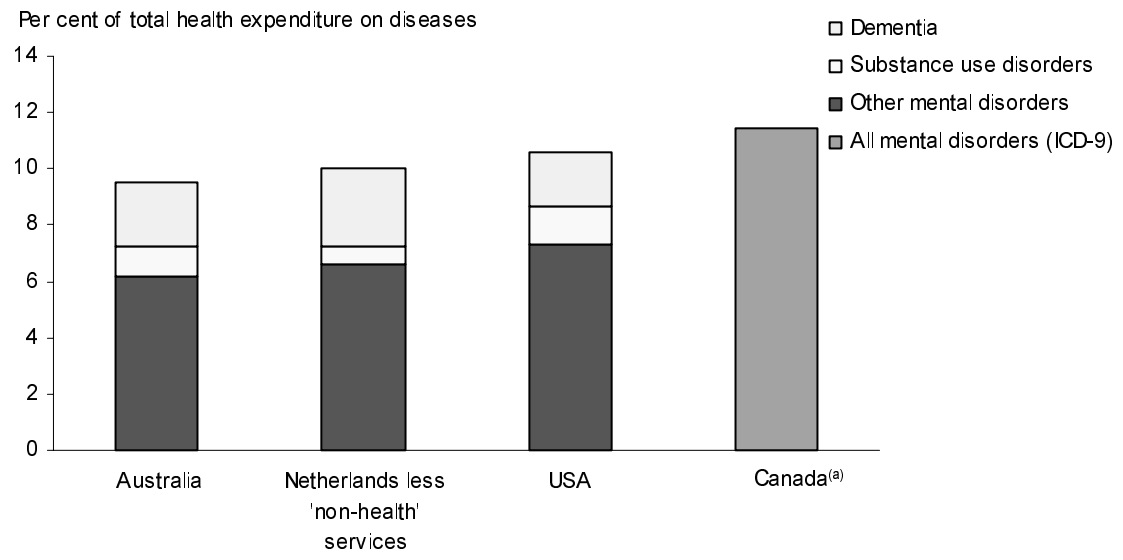
- population demographics (that is, age/sex structure)
- the geographic distribution of the populations and infrastructure supporting the delivery of services. For example, Australia's relatively small population base is spread over a large geographic area.

Notwithstanding these problems, a comparison of total health expenditure on mental disorders, as a proportion of total health budget is presented in Figure 1. Expenditures on services for people with intellectual and developmental disabilities are not shown for Australia, the Netherlands and the United States. These costs could not be isolated in the data for Canada, and are included in the figure.

Data for the Netherlands have been adjusted to remove expenditures on 'non-health' services. After adjustments their expenditure on mental disorders is comparable to the other countries shown. (These adjustments are not perfect, and the final result could be in error by plus or minus 10%).

The total recurrent health expenditure by Australia, the Netherlands, Canada and the United States is also shown in Table 3. Disease costing estimates appear to have been more thorough for Australia and the United States, as the difference between total expenditure allocated to disease and total recurrent expenditure is low.

Total expenditure on mental, addictive and dementia disorders in the early to mid 1990s was 9.6% of expenditure allocated to diseases for Australia, 10.1% for the Netherlands and 10.5% for the USA. As there are differences in the definitions and methods used in the disease costing processes, it is not possible to say with any confidence that these countries differ in the proportion of health expenditure that they allocated to mental disorders.



(a) Includes intellectual and developmental disabilities. Data unable to be split by disorders.

Source: AIHW analysis of disease costing studies.

Figure 1: Per cent of total health expenditures on diseases spent on mental, addictive and dementia disorders

Table 3: Expenditures on mental disorders, all diseases and total recurrent health by country, in national currency units

	Dementia	Substance use disorders	Other mental disorders	Total exp. on mental, addictive & dementia disorders[a]	All mental disorders (ICD-9)[b]	Total exp. on diseases	Total recurrent exp. on health
Australia							
1993–94 millions Aust dollars	A$714	A$348	A$1,934	A$2,997	A$3,022	A$31,397	A$ 34,935
Per cent of total exp. on disease	2.3%	1.1%	6.2%	9.5%	9.6%		
Netherlands							
1994 millions Dutch guilders	Hfl 3,309	Hfl 486	Hfl 5,145	Hfl 8,940		Hfl 59,463	Hfl 53,967
Per cent of total exp. on disease	5.6%	0.8%	8.7%	15.0%			
1994 millions Dutch guilders[c]	Hfl 1,532	Hfl 337	Hfl 3,594	Hfl 5,464		Hfl 54,342	
Per cent of total exp on disease[c]	2.8%	0.6%	6.6%	10.1%			
USA							
1996 billions US dollars	US$18	$US13	US$69	US$99		US$943	US$1,004
Per cent of total exp. on disease	1.9%	1.4%	7.3%	10.5%			
Canada							
1993 millions Canadian dollars					C$5,051	C$44,130	C$68,971
Per cent of total exp. on disease					11.4%		

(a) Sums expenditure on dementia, substance abuse disorders and other mental disorders.

(b) Includes expenditure for people with intellectual and developmental disabilities.

(c) These figures represent estimates of expenditure after the removal of expenditure on 'non-health' services. Expenditure on 'Care for the handicapped' has been removed from total expenditure on diseases. The per cent of total expenditure on mental disorders is calculated as a percentage of total expenditure on diseases after removal of these services. Further details of adjustments made are in Table 4.

Mental health program estimates of expenditure

Some countries publish information about their expenditure on mental health programs, and the WHO World Health Report Atlas listed some of these data in their 2002 report (WHO 2002). Expenditure on mental health programs depends on the particular institutional and funding arrangements in a country so is particularly inappropriate for international comparisons. In Australia, for example, the Mental Health Report estimated $2.24 billion was spent by third party funders in 1997–98 (DHAC 2000). This was 6.5% of national total gross recurrent expenditure on health services for Australia in that year, but this estimate does not include expenditure on dementia, treatment and prevention of substance use disorders and health treatment of people with developmental and intellectual disabilities. Also as it is a program approach it includes some health expenditures by mental health units for people who do not have a mental illness.

In Canada it was reported that 9% of health expenditure was for mental health programs. This is less than the disease costing estimate of 11.4% (Table 3).

In the USA it was reported that 6% of health expenditure was for mental health programs. This contrasts with the disease costing estimate of 10.5% of health expenditure spent on dementia, substance use disorders and other mental disorders (Table 3).

International comparisons of mental health program expenditures provide information about expenditure that occurs through a particular program, but does not give a valid picture of total expenditure for mental disorders or what should be spent on mental disorders.

Composition of estimates

Analyses of the composition of these data by health sector highlight the differences in estimates between countries. The level of detail for a full analysis was only available for the Netherlands and Australia.

The most striking difference between expenditures presented Table 3, is that spent by the Netherlands on dementia. After removal of 'non-health' services, such as residential care and community care facilities for the elderly, the proportions are similar.

An attempt to map expenditures by sector into comparable groupings is represented in Table 4. Services provided by Australia in the category of 'nursing homes' are different to those comprising 'care for the elderly' in the Netherlands. In addition to nursing homes these services include community and residential care for the elderly.

The effects of adjustments for the removal of 'non-health' services from the Netherlands are shown in the final column of Table 4. Much of these modifications were informed by combining details in the 1994 study (National Institute for Public Health and the Environment 1998) and a more recent costs of illness study undertaken in the Netherlands, for which more detailed breakdowns of expenditure by sector are available (National Institute for Public Health and the Environment 2002).

Table 4: Comparison of mental health costs by health sector, Australia and the Netherlands

Health sector	Millions of Australian dollars (1993–94)	Mental health expenditure as % of Australia's total health	Millions of Dutch guilders (1994)	Mental health expenditure as % of the Netherlands' total health	Per cent of total after adjustment for removal of 'non-health' services[a]
Hospitals[b]	1,019	3.2	3,683	8.3	6.8
Nursing home[c]	802	2.5	1,075	5.6	2.0
Medical services[d]	438	1.4	277	0.6	0.5
Pharmaceuticals	199	0.6	412	0.7	0.8
Other health services[e]	564	1.8	16	0.0	0.0
Total expenditures on mental health	**2,997**	**9.5**	5,464	**15.2**	[f]**10.1**
Total health expenditure allocated by disease	**31,397**		**59,463**		

(a) Information on the types of services provided by the Netherlands in 1999 have enabled adjustment to remove 'non-health' services. The following adjustments were made:

- 'Care for the handicapped' has been removed. Under international standards, this expenditure is not considered part of health expenditure;
- 71% of expenditure on 'care for the elderly' was removed to adjust for expenditure on community care and residential hostel type care;
- Medical services, which includes 'primary health care', has been adjusted to remove the costs of general social work, which represented a quarter of primary health care expenditures; and
- 'Mental health care' reported in hospital expenditures, has been reduced by 40%. This category included extramural services and intramural services, which incorporate expenditure on social welfare, home help services, day centres for the handicapped and social pedagogic services.

(b) Includes out-patient treatment. For the Netherlands 'Mental health care' is included in this category, this includes both intramural and extramural care. Extramural care is care provided on a non-residential basis, it includes out-patient departments, home nursing and home care.

(c) Termed 'Care for the elderly' in the Netherlands, this category includes all residential care facilities for the elderly and community care facilities.

(d) Includes all private medical services apart from those to hospital in-patients.

(e) Includes specialised community mental health services, residential and non-residential treatment services run by non-government organisations, and allied health services.

(f) Expenditure by the Netherlands on 'Care for the handicapped', amounting to Hfl 5,121 million, have been removed from total health expenditure in this calculation. The total health expenditure without this is Hfl 54,342.

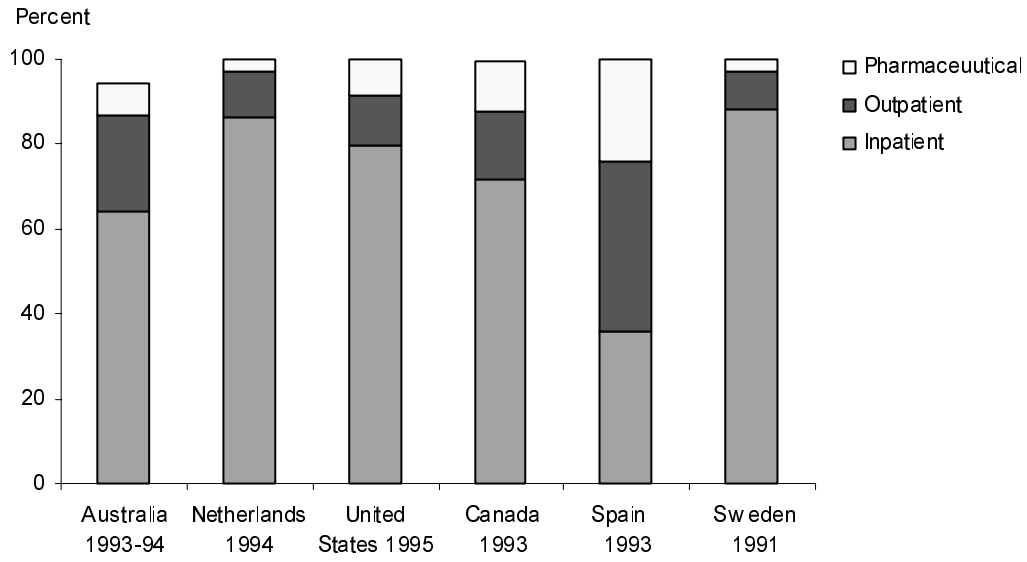
Although these adjustments are approximate only, they serve two important functions. First they show both countries spend a more similar percentage of total health expenditure after 'non-health' services are taken out of the equation. Second, they demonstrate the difficulties with trying to compare expenditure by disease for different countries.

OECD data

Limited data on the composition of expenditures on mental disorders by health sector are available in the OECD database. Figure 2 represents the contribution of in-patient, out-patient and pharmaceutical expenditures to total direct expenditures on mental disorders.

Again, the composition of these estimates is important to an interpretation of the differences. The preceding information on the Netherlands' expenditure exemplifies the need for caution. The data presented for the Netherlands include all institutional care in 'inpatient' expenditure. But Australian data splits hospital expenditure between inpatient and outpatient care.

The information shows differences in the distribution of expenditure across the different treatment settings and modalities. Australia's expenditure on outpatient services for mental disorders comprise a greater proportion of total mental disorders expenditure than for all of the other countries shown, other than Spain. This could indicate that Australia spends more in the outpatient setting, then again, there may be different definitions of outpatient care, or it may be that Australia's disease costing estimates have been more thorough in making more complete estimates of outpatient expenditures. Since 1993-94, the policies of the National Mental Health Strategy will have increased the outpatient proportion—which includes Community mental health services—and decreased the inpatient proportion.



Source: OECD database.

Figure 2: Composition of direct expenditures on mental disorders, various countries

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Appendix A Technical notes

These technical notes provide more detailed explanation of the methodologies used to estimate national expenditures on mental disorders. This information should assist in an understanding of the differences between estimates for different countries.

Classification of mental disorders

Mental disorders have been classified using the Ninth Revision of the World Health Organization's International Classification of Disease (ICD-9).

Table A1: Classification of mental disorders by ICD-9

Disease category	ICD-9 codes
Senile dementias including Alzheimer's disease	290, 331.0
Schizophrenia	295
Other non-drug psychoses	293, 294, 297–299
Affective disorders	
Depressive disorders	296.2, 296.3, 296.90, 300.4, 311
Bipolar disorder	296.0–296.8, 296.99
Anxiety disorders	300.0-300.3,300.5–300.9
Personality disorders	301
Substance use disorders	302
Alcohol dependence and abuse	
Tobacco dependence and abuse	291, 303, 305.0
Drug dependence and abuse	305.1
Stress and adjustment disorders	292, 304, 305.2–305.9
Depressive reaction	308-309
Post-traumatic stress disorder and other	309.0–309.2,309.9
Mental retardation (labelled 'Intellectual and developmental disabilities' in this paper)	308,309.3-309.8
Disorders of psychological development	317–319
Eating disorders	315
Disorders of childhood and adolescence	307.1, 307.5
Behavioural syndromes and other	
Unspecified and prevention	314
	307.0, 307.2–307.3, 307.6, 307.7, 307.9, 312 (b), 313
	306, 307.4, 307.8, 310, 312(b), 316
	V11,V15.4,V17.0,V18.4,V40,V65.2,V66.3,V67.3, V71.0,V79

Definition of health

The international definition of health expenditure is expenditure on activities where the primary function is to diagnose or treat pathological conditions, or restore function of the human body that has been affected by disease or injury, or to prevent injury or disease.

Detailed comparisons of expenditures on mental disorders by Australia and the Netherlands

The composition of Australia's mental disorders expenditure in 1993–94 is shown in Table A2. After hospital services, nursing home services comprise the largest proportion of expenditure. Residents of such facilities have high levels of dependency and require 24-hour nursing services.

Table A2: Mental disorders: health system costs by health sector, Australia, 1993–94 ($ million)

	Total mental disorders expenditure ($ million)	Total less intellectual and developmental disabilities[a] ($ million)	Per cent of total mental disorders less intellectual and developmental disabilities	Per cent of total health expenditure
Hospital[b]	941	925	30.9	2.9
Medical[c]	438	438	14.6	1.4
Nursing homes	802	799	26.7	2.5
Pharmaceuticals	199	198	6.6	0.6
Other health[d]	334	332	11.1	1.1
Other[e]	308	306	10.2	1.0
All sectors[f]	**3,022**	**2,997**	**100.0**	**9.5**
Total health expenditure[f]	**31,397**			

Notes

(a) Intellectual and development disabilities was labelled as "mental retardation" in ICD-9.

(b) Public and private acute hospitals, repatriation hospitals and psychiatric hospitals. Excludes public hospital non-admitted patient services.

(c) Medical services for private patients in hospitals are included under Hospitals.

(d) Includes hospital non-admitted patient services, specialised community mental health services, residential and non-residential treatment services run by non-government organisations, and allied health services.

(e) Includes National Drug Strategy funding for prevention, research expenditure and other institutional, non-institutional and administration expenditure.

(f) Does not include expenditure for public health services not listed in (d), non-specialised community health services, ambulances, or medical aids and appliances.

Source: AIHW 1999.

Expenditures by the Netherlands by area of expenditure are provided in Table A3. (Expenditures on intellectual and developmental disabilities are retained in these data, explaining the substantially higher proportion of total health expenditure than that depicted in Figure 1). The removal of 'care of the handicapped', which comprises the majority of expenditure on intellectual and developmental disabilities lowers the per cent of total health expenditure to 16.7%. Mental disorders care and care for the elderly comprise the largest components of remaining expenditure.

Table A3: Mental disorders: health system costs by 'health sector', the Netherlands, 1994 (millions of Dutch guilders)

	Total mental disorders expenditure (millions of Dutch guilders)	Per cent of total mental disorders expenditure	Per cent of total health expenditure
Hospitals[a]	779	5.7	1.4
Primary health care	365	2.7	0.7
Pharmaceutical care and devices	412	3.0	0.8
Mental health care[b]	4,182	30.5	7.7
Care for the handicapped[c]	4,663	34.0	8.6
Care for the elderly[d]	3,312	24.1	6.1
Other care and management	16	0.1	0.0
All sectors	**13,729**	**100.0**	**25.3**
All sectors (less 'Care for the handicapped'[c])	**9,066**		**16.7**
Total health expenditure	**54,342**		

Notes

(a) Includes out-patient treatment.

(b) Includes both intramural and extramural care. Extramural care is care provided on a non-residential basis, it includes out-patient departments of specialty hospitals, home nursing and home care.

(c) Care for the handicapped includes intramural care for the intellectually disabled and other care for the handicapped. None of the services in this sector are likely to equate to 'health services' as defined in the Australian disease costs study.

(d) Termed 'Care for the elderly' in the Netherlands, this category includes all residential care facilities for the elderly and community care facilities.

As detailed in Table 3 of this paper, the Netherlands total expenditure allocated to diseases (59.463 billion Dutch guilders) is higher than their recurrent health expenditure (53.967 billion). This is further demonstration of their inclusion of expenditures on 'non-health' services in disease costing estimates.

Methodology for expenditure allocation in the Australian Disease Costs and Impact Study

The approach of Australia's Disease Costs and Impact Study was to take known costs of aggregate expenditures on health care and apportion these to disease categories using available administrative and survey data. A description of the methodology for each of the health sectors is included below. Full details may be found in AIHW: Mathers et al. 1998a.

Hospital admitted patient services

Disease costs for in-patients were estimated by apportioning the total admitted patient expenditure for each State and Territory to individual episodes of hospitalisation with an adjustment for resource intensity of treatment for the specific episode (using diagnosis related groups and length of stay).

Public psychiatric hospital data for New South Wales and Victoria were used to allocate public psychiatric hospitals admitted patient costs. These costs all fall in the mental disorders chapter of ICD-9.

It is notable that some other countries have less detailed information available to estimate expenditure on admitted patients by disease. The Netherlands notes that their estimates of

admitted patient costs have not been weighted for resource intensity. Consequently, hospital costs of disease, such as mental illness, which often do not require intensive care per episode, will be overestimated.

Outpatient and emergency department services

Expenditure on outpatient and emergency department services were allocated on the assumption that all visits had the same cost.

Nursing homes

Since the 1993–94 disease costing was undertaken, nursing homes and hostels have been integrated into a single residential aged care system. The Disease Costs and Impact Study included only the costs of nursing homes. Generally residents of such facilities have high levels of dependency and require nursing services. Allocation of nursing home costs by disease was in proportion to bedday use.

Medical services

This sector includes expenditure on all private medical services apart from those to hospital inpatients. It includes consultations with general practitioners and specialists, as well as pathology tests and screening and diagnostic imaging services.

Allied health services

Allied health services include services provided by chiropractors, osteopaths, dietitians, opticians, physiotherapists, psychologists and podiatrists in private practice. Survey data on the use of these services was used to allocate expenditure to disease categories. Expenditure is allocated assuming that all visits to allied health professionals have the same cost.

Pharmaceuticals

Expenditure on pharmaceuticals includes prescription and non-prescription drugs. Prescription drugs were allocated by disease according to data from a survey of prescriptions written by GPs.

Pharmaceuticals dispensed in hospitals are included in the estimates of hospital costs.

Community and public health programs

Due to the difficulties in obtaining comprehensive disease data for community and public health programs, the study did not include estimates for all of these health sectors. Breast cancer and cervix screening programs were included, together with a proportion of expenditure on lung and skin prevention programs.

Research

Research funds were allocated to age-sex-disease groups in proportion to total health expenditure for other health sectors.

Methodological differences between expenditure estimates

A summary of the key differences in the methodologies of other countries' estimates of health expenditure by disease is provided below. The methodology for the Australian Disease Costs and Impact Study is provided in the preceding section.

Canada

- Expenditure on drugs dispensed in hospitals is included in estimates of pharmaceutical expenditure.
- Costs of care in other institutions includes care and treatment of those with conditions classified as mental disorders: the developmentally delayed, the psychiatrically disabled, clients with alcohol and drug addictions, and emotionally disturbed children.
- Mental disorders represent 14% of total hospital expenditure

Netherlands

- Estimates include expenditure on non-health services. Such services include residential care, general social work and home help.
- As outlined in Table 5, the Netherlands estimates that 8.% of their total health budget is spent on intellectual disability.
- Hospital costs calculated as the average cost per bed day, rather than weighted by intensity of service.

New Zealand

The Ministry of Health in New Zealand advised that information on mental disorders expenditure for New Zealand is not available. Some data are available at the aggregate level by main expenditure category including mental health and disability services (Ministry of Health 2002), but this is a health program picture of mental health so underestimates expenditure on all mental disorders. Data do not allow categorisation by the ICD-9 classification of mental disorders. Furthermore, there are difficulties distinguishing between health services and disability support services in the mental health program expenditure data.

USA

The data in this report are US data for 1996 (Surgeon General, US Public Health Service 1999). These data were detailed enough to allow for reporting of expenditures on mental, addictive and dementia disorders. These were estimated to comprise US$99 billion (10.5%) of national expenditures on diseases. The methodology used to prepare this estimate was similar to that followed by Australia; expenditure on non-health services was excluded. The authors also excluded codes for mental retardation.

Other data available for the US also indicate total expenditure to be in the range of 9% to 11% of total expenditures on diseases. OECD data for 1995 health expenditure by ICD-9 chapters reports mental disorders as 9.4% of expenditure on diseases. A report by the Substance Abuse and Mental Health Services Administration (SAMHSA 2000) examining 1997 expenditures examined mental health and substance abuse disorders only. Detailed data for total expenditures on diseases was not available in that report, however deflation of their

results indicate that the findings were marginally lower than expenditures estimates reported by the Surgeon General.

Other Australian estimates of expenditure on mental disorders

Australia's expenditure on mental health programs delivering specialised mental health services was published in the National Mental Health Report 2000 (DHAC 2000). That report estimated $2.24 billion was spent by third party funders in 1997–98 (i.e. out-of-pocket payments by individuals not included). This was 6.5% of national total gross recurrent expenditure on health services for Australia. This estimate does not include expenditure on dementia, treatment and prevention of substance use disorders and health treatment of people with developmental and intellectual disabilities. Also as it is a program approach it includes some health expenditures by mental health units for people who do not have a mental illness. Thus the Mental Health Report estimates of expenditure are not in any way comparable with the disease costing estimates for mental disorders discussed in this report

Burden of disease

Information on the health status of a population is important for policy-making, as is gaining an understanding of the magnitude of health problems. The 'disability-adjusted life year' or DALY is a composite measure of the health impact of disease. Burden of disease work undertaken by the Australian Institute of Health and Welfare has used the DALY to measure the total impact of mortality and non-fatal health outcomes in a consistent way across a comprehensive range of diseases and illnesses.

The disease cost estimates presented in this paper 'cannot be directly related to the DALY estimates because, to the extent that health expenditures for prevention and treatment are effective at reducing the burden of disease, they relate to the burden currently averted by the health system. The burden estimates given […], on the other hand, relate to the current incident burden that is not averted at present by health interventions' (Mathers et al. 1999:83).

Thus the burden of disease for a particular condition reflects the success of a country in treating and preventing that condition, as well as reflecting the burden of disease that the country initially had to deal with. When other countries complete burden of disease estimates it will be possible to use this data to make some estimates of the success of each country's efforts in preventing and treating mental illness.

The burden of mental disorders is dominated by years lost due to disability. Mental illness was responsible for 13.3% of total DALYs in 1996.

Table A4: The burden of mental illness[a] by major category of mental disorder, 1996

	YLL	YLD	DALYs	Per cent of total mental health DALYs
Affective disorders[b]	258	110,457	110,715	33.2
Substance use disorders	17,056	62,487	79,543	23.8
Anxiety disorders	4	75,672	75,676	22.7
Childhood conditions	0	18,856	18,856	5.6
Schizophrenia	272	17,416	17,688	5.3
Borderline personality disorder	0	16,371	16,371	4.9
Eating disorders	255	10,921	11,176	3.3
Other mental disorders	371	3,506	3,877	1.2
Total	**18,216**	**315,685**	**333,901**	

(a) Dementia and intellectual and development disabilities not included.

(b) Includes depression and bipolar disorder

Source: AIHW: Mathers et al. 1999.