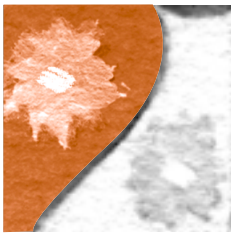

Appendixes

Methods, classifications and data sources

Glossary

Methods, classifications and data sources

This appendix describes the statistical methods and data classifications used to produce the estimates presented in this publication. The major data sources used to compile information given in this report are also described.

The large amount of material presented in the body of the report and the variety of data sources accessed for generating this information attest the presence of well-developed statistical systems in Australia. However, the information base has some limitations for monitoring certain aspects of chronic diseases, and this issue is also discussed.

Statistical methods

Estimated resident population

The estimated resident population (ERP) of Australia and its subdivisions, as produced by the Australian Bureau of Statistics (ABS), has been used in the calculation of various rates and ratios included in this report. ERPs are based on the 5-yearly ABS Census of Population and Housing to which several adjustments are made. ERPs are updated each year using indicators of population change such as births, deaths, net migration and overseas visitors.

Estimates at the statistical local area (SLA) level were aggregated to generate regional population estimates, such as those for the rural and remote parts of Australia. Estimating the size of the Indigenous population, however, has been problematic (ABS & AIHW 2001). In view of this, experimental population projections produced by the ABS were used.

Age-specific rates

Age-specific rates were calculated by dividing the number of events (such as deaths, disease cases or hospital separations) occurring in each specified age group by the estimated resident population (ERP) for the corresponding age group. The rates are expressed as events per 1,000 or per 100,000 population.

Age standardisation

To control for the effects of different age structures, direct age standardisation was applied to death, incidence, prevalence and hospitalisation rates. Unless otherwise specified, the 1991 Australian population was used as the standard (AIHW: de Looper & Bhatia 2001).

In interpreting age-standardised rates, it must be remembered that these rates are for comparison purposes only. The magnitude of an age-standardised rate has no intrinsic value since it is only an index measure. Therefore an age-standardised rate is not a substitute for age-specific rates.

Summary measures

Summary measures, such as disability-adjusted life years (DALY), years of life lost (YLL) and years of healthy life lost due to disability (YLD), have been quoted in this report to describe the burden of chronic diseases. The estimates are all from the AIHW's Australian Burden of Disease and Injury Study (AIHW: Mathers et al. 1999). The Australian study adapted the methods of Global Burden of Disease study (Murray & Lopez 1996) to the local context, drawing extensively on Australian sources of health data.

Aetiological fractions

To outline the contribution of various risk factors to the impact of chronic diseases,

aetiological fractions were used. An aetiological fraction—also known as an attributable proportion or attributable risk—is a form of indirect quantification of morbidity and mortality due to a specified risk factor. This involves the estimation of a probability measure of the likelihood of causation by the risk factor which is then applied to the total number of deaths or illnesses resulting from a specific cause. The fractions used in this report are those determined by AIHW: Mathers et al. (1999) and AIHW: Ridolfo and Stevenson (2001).

Data classification

Mortality classifications

The causes of death described in this report were classified following WHO's ninth revision of the International Classification of Diseases (ICD-9) (WHO 1977). Most of the mortality-related information is based on the underlying cause of death. The underlying cause is the disease or injury that initiated the sequence of events leading directly to death, or as the circumstances of the violence or accident that produced the fatal injury (WHO 1948). In order to facilitate comparisons with earlier periods, the numbers of deaths reported here for 1997 and 1998 have been adjusted to account for the change from manual to automatic ICD-9 coding, and thus they may differ from other published numbers. It is also important to note, when interpreting long-term mortality trends, that between 1967 and 1968 and between 1978 and 1979 there were coding changes from ICD-7 to ICD-8 and ICD-8 to ICD-9, respectively.

Since 1997, information on additional causes of death has also been made available by the ABS (Gaminiratne 2001). This additional information is useful in the context of chronic diseases, many of which are not immediately life-threatening or fatal but may contribute directly or indirectly to various processes leading up to death.

Morbidity classifications

Hospital statistics (i.e. separations) were classified using the International Statistical Classification of Diseases and Related Health Problems, tenth revision, Australian modification (ICD-10-AM) (NCCH 1998). Most of the hospital separation-related information is based on first-listed or principal diagnosis. This is the condition established to be chiefly responsible for occasioning the admission to the hospital. The principal diagnosis is not necessarily the underlying cause of disease; it may only be a manifestation of the disease (AIHW 2000a). Information on additional diagnoses, whether contributing to the reason of principal diagnosis or not, is also listed and is useful for seeking insight into the contribution of various chronic diseases to illness and morbidity.

The general practice data follow the International Classification of Primary Care, second edition (ICPC-2) (WICC 1997). The ICPC classification has a bi-axial structure, with 17 chapters based on body systems along one axis and seven components covering signs, symptoms, process of care and diagnoses along the other. The processes of care, including referrals, non-pharmacological treatments and orders (pathology and imaging), were classified by the process components of the ICPC-2 (AIHW: Britt et al. 2001).

Disability characterisation

The loss of healthy life due to non-fatal conditions can be categorised using a variety of classifications. The International Classification of Functioning (ICF), a core member of the WHO family of health-related classifications,

conceptualises disability as multidimensional, relating to the body functions and structures of people, the activities they do, the life areas in which they participate and the factors in the environment which affect these experiences (WHO 2001). The ABS Survey of Disability, Ageing and Carers (ABS 1999) operationalises these concepts into 17 different types of limitations, restrictions or impairments. These characteristics can be further related to specific diseases and conditions.

The extent of disability associated with various diseases and conditions can also be categorised using disability weights, or health state preferences (Murray & Lopez 1996). However, no Australia-specific disability weights have been generated. Another numerical categorisation of disability is based on the years of healthy life lost due to time lived in states other than the reference state of good health, or YLD (AIHW: Mathers et al. 1999). Both disability weights and the YLD categorisation give a broader interpretation of morbidity or ill health, concepts that are not fully picked up by the ABS survey instrument.

Socioeconomic indexing

The ABS has constructed a number of socioeconomic indexes to classify geographic areas on the basis of social and economic information (ABS 1998a). The Index of Relative Socioeconomic Disadvantage (IRSD), used in this report, is one such index. The IRSD is derived from social and economic characteristics of an SLA, such as income, educational attainment, levels of public sector housing, unemployment and jobs in various occupations.

Individual records were classified into quintiles of socioeconomic disadvantage, based on the IRSD value for the SLA of usual residence. Quintile 1 includes the least disadvantaged households, while Quintile 5 covers the most disadvantaged households. It is important to note that the IRSD relates to the average disadvantage of all people living in an SLA and does not necessarily reflect an individual's socioeconomic status.

Geographical classification

Regional areas were mapped using the Rural, Remote and Metropolitan Areas (RRMA) classification, developed by the Department of Primary Industry and Energy and the then Department of Human Services and Health (DPIE & DHSH 1994). The RRMA classification assigns each SLA to one of seven regional categories: capital cities, other metropolitan, large rural centres, small rural centres, other rural areas, remote centres, and other remote areas. These categories can be regrouped into three larger zones: metropolitan, rural and remote.

The RRMA classification is based primarily on population estimates and an index of remoteness. Other related classifications, such as the Accessibility and Remoteness Index of Australia (DHAC & GISCA 1999), have also become available lately but were not used in this report in order to maintain continuity with the historical data reported earlier (AIHW: Strong et al. 1998).

Data sources

Information has been combined from a variety of data sources to generate profiles of various chronic diseases and their risk factors. The data sources interrogated include administrative collections, population surveys, registries, social indexes and maps (AIHW 2000b; Glover et al. 1999).

The description has been organised around the impact components of chronic diseases, their risk factors and their management, specifically the data sources for reporting on mortality,

morbidity (incidence/prevalence, professional encounters), disability, risk factors, health service use, and other measures of health and quality of life.

Mortality

The cause of death statistics were extracted from the National Mortality Database, maintained at the AIHW. The database contains a time series beginning in 1907 on the underlying causes of death, as supplied by the medical practitioner certifying the death or by the coroner.

Registration of deaths in Australia is the responsibility of State and Territory Registrars of Births, Deaths and Marriages. Registrars provide the information to the ABS for coding the cause of death (AIHW 2000b).

On 1 January 1997, the ABS introduced new, automatic coding software that identifies multiple causes of death. This information is useful for monitoring co-morbid conditions and complications that are a hallmark of chronic diseases. In this report, the death data relate mostly to the underlying cause of death.

Morbidity

Information on the extent of illness and morbidity was derived from a variety of data sources. The capacity to combine various, sometimes disparate, pieces of information into an ensemble is limited by a general lack of incidence/prevalence data, incomplete case ascertainment and limited identification of the clinical stage of the disease. Information on the duration of illness or morbidity is also sketchy.

Incidence/prevalence

Two major sources of incidence/prevalence data for chronic diseases are population surveys and disease registries.

A variety of health surveys are conducted in Australia to generate information on the prevalence of various chronic diseases, their risk factors and complications, and professional encounters. Most of these (the National Nutrition Survey, the Survey of Mental Health and Wellbeing, and the National Aboriginal and Torres Strait Islander Survey) were one-off, providing baselines for the 1990s. Other surveys such as the National Health Survey (NHS) have been conducted periodically, are ongoing and form the basis for a reasonable time series. Some disease-related information is also available from surveys planned with another objective in mind, e.g. the Survey of Disability, Ageing and Carers.

National registries have been established in Australia to identify and ascertain disease cases through a variety of sources. Data from three national registries, one each for cancer (National Cancer Statistics Clearing House, or NCSCH), insulin-treated diabetes mellitus (National Diabetes Register, or NDR) and end-stage renal disease (Australia and New Zealand Dialysis and Transplantation Registry, or ANZDATA), have been utilised in this report.

For the purpose of this report, disease prevalence and other related information was extracted from the surveys and registries described below.

National Health Survey (NHS)

The NHS, conducted by the ABS, is designed to collect information on the health status of Australians, their use of health services and facilities, and health-related aspects of their lifestyle. Historical information is available from four NHS surveys, conducted in 1977, 1983, 1989–1990 and 1995. The 1995 survey collected information from a sample of 57,600 people over a 12-month period (ABS 1997). The latest NHS was conducted in 2001, information from which has not yet become available.

Survey of Mental Health and Wellbeing

The Survey of Mental Health and Wellbeing, conducted by the ABS in 1997–1998, has three components: the adult component, the child and adolescent component, and the low prevalence component (Jablensky et al. 1999). The adult component sampled 10,600 Australians aged 18 years and over (ABS 1998b). The survey was designed to obtain information on the prevalence of a range of mental disorders including information on the level of disability associated with mental disorders, health services used, and help needed as a consequence of a mental health problem. The child and adolescent component sampled 4,700 persons aged between 4 and 17 years (Sawyer et al. 2000).

Australian Diabetes, Obesity and Lifestyle Study (AusDiab)

The AusDiab, conducted by the International Diabetes Institute, is a comprehensive survey of the prevalence and impact of diabetes and its risk factors (Dunstan et al. 2001). The survey collected self-reported information on diabetes as well as cardiovascular risk factors, features of the metabolic syndrome, health knowledge, attitudes, and health services utilisation and practices from approximately 10,000 adults aged 25 years and over throughout Australia (excluding the Australian Capital Territory).

Dental health surveys

National data on oral diseases and conditions, based on clinical dental examinations are available for children from the Child Dental Health Survey (CDHS), and for both children and adults from the National Oral Health Survey of Australia (NOHSA). The National Dental Telephone Interview Survey (NDTIS) provides information on self-reported oral health status and dental behaviour.

The CDHS has been collected annually by the AIHW Dental Statistics and Research Unit (DSRU) in conjunction with State and Territory health authorities since 1989, and forms part of a series of annual surveys beginning in 1977. The CDHS monitors the dental health of children enrolled in school dental services operated by State and Territory health authorities. Data are collected on oral health status, demographics and service provision at the time of routine clinical examinations by dental therapists and dentists. In 1996, information was collected from a total of 80,559 children aged between 4 and 15 years.

The NDTIS has been conducted by DSRU in 1994, 1995, 1996 and 1999. The NDTIS collects information on the basic features of oral health and dental care within the Australian population, providing information on issues such as access to care, social inequalities and dental behaviours. The survey is based on samples of Australians aged 5 years and over from all States and Territories, and conducted using computer-assisted telephone interviewing (CATI) techniques.

The NOHSA was carried out in 1987–1988 by health departments in each State and the Australian Capital Territory. Information on oral health status and treatment needs, and dental behaviour was collected. Over 6,800 households participated in the survey. Of the 16,897 individuals (aged 5 years and over) interviewed, 14,432 received a clinical dental examination in their home.

National Cancer Statistics Clearing House (NCSCH)

The NCSCH, located at the AIHW, receives records from individual State and Territory cancer registries on new cases of cancer diagnosed in residents of Australia (AIHW & AACR 1999). This commenced with cases first diagnosed in 1982. The data items provided to the NCSCH by the State and Territory cancer registries enable analysis of cancer by site and behaviour.

The NCSCH produces annual reports of national incidence and mortality data. Periodically, analyses of specific cancer sites, cancer histology, differentials in cancer rates by country of birth, geographical variation, trends over time and survival are undertaken on an accumulation of data which permits examination of these issues in greater detail.

The registry currently maintains data for cancer incidence to 1998 and for mortality to 2000.

National Diabetes Register (NDR)

The NDR collects information about people who began using insulin as part of their treatment for diabetes from 1 January 1999 onwards (AIHW 2001a). This includes persons with Type 1, gestational, Type 2 or any other form of diabetes. Current objectives of the NDR are to monitor and report on the incidence of insulin-treated diabetes mellitus (ITDM) and Type 1 diabetes, and to provide a research database for epidemiological studies of ITDM and Type 1 diabetes.

The NDR obtains information from two different data sources, the National Diabetic Services Scheme (administered by Diabetes Australia) and the Australasian Paediatric Endocrine Group (State-based registers which collect information about young people, aged less than 15, with diabetes).

Australia and New Zealand Dialysis and Transplantation Registry (ANZDATA)

ANZDATA is the source of national data on the incidence, prevalence and outcome of dialysis and transplant treatment for patients with end-stage renal failure (Disney et al. 2000). The registry collects and records data from all dialysis and transplant units in Australia and New Zealand. Data for patients is collected twice a year, at 31 March and 30 September.

Professional encounters

General practitioners (GP) are usually the first point of call for medical services in Australia. Information on GP–patient encounters is collected through the Bettering the Evaluation and Care of Health (BEACH) Survey, an ongoing national data collection looking at the clinical activities of general practitioners (AIHW: Britt et al. 2001). The General Practice Statistics and Classification Unit (an AIHW collaborating unit within the Family Medicine Research Centre, University of Sydney) conducts the survey.

BEACH began in April 1998 and involves a random sample of approximately 1,000 general practitioners per year, each collecting data on 100 consecutive patient encounters. The information available includes problems managed, medications, referrals, tests and investigations, and patients' reasons for professional encounters.

Hospital administration data

The National Hospital Morbidity Database, maintained at the AIHW, contains demographic, diagnostic, procedural and duration of stay information on episodes of care for patients admitted to hospital (AIHW 2000b). The data items are supplied to the AIHW by the State and Territory health authorities, and by the Department of Veterans' Affairs. In this report, disease data relate to the principal diagnosis of hospitalisations except for hospital statistics for end-stage renal disease, which is attributed to diagnosis code 'care involving dialysis'. Information on other diagnoses is also provided, where necessary.

Disability

The disability-related information was extracted from the Surveys of Disability, Ageing and

Carers, conducted by the ABS. The surveys collect national information on disability levels of Australians, their current and future care needs, and the role of carers. The last survey, conducted in 1998, was based on a sample of about 42,100 people (ABS 1999).

The disability surveys contain information about the role of various diseases and health conditions as disabling conditions. A disease condition may be defined as the main disabling condition—a long-term condition identified by a person as the one causing the most problems—or as another disabling condition. Multiple conditions are listed.

The disability information may be further grouped into categories, such as intellectual disability and physical disability. This grouping not only takes into consideration the underlying health condition but also impairment, activity limitations, participation restrictions and related environmental factors (AIHW 2001b).

Health risk factors

Information on health risk factors, both behavioural and biomedical, in Australia is sketchy and irregular. This makes recognition of any underlying trends in chronic disease susceptibility and outcomes difficult; no comprehensive picture of the extent of the problem emerges. Most of the information is based on self-reports and is often piecemeal. In addition to the sources described below, health risk factor information is also collected through the NHS.

Behavioural risk factors

Physical activity

Baseline information on physical activity patterns and knowledge of the benefits of physical activity among adult Australians is collected in the Active Australia Baseline Survey. The survey, conducted in 1997, obtained information from a national sample of 4,821 persons (Bauman & Owen 1999).

Another source of physical activity data was the National Physical Activity Survey, which sampled 3,841 persons to assess current patterns of physical activity and the impact of the Active Australia campaign in 1999 (AIHW: Armstrong et al. 2000).

Drug use

Information on drug use in Australia, both tobacco smoking and alcohol misuse, was extracted from the National Drug Strategy and Household Surveys (NDSHS), conducted by the Commonwealth Department of Health and Ageing (AIHW: Adhikari & Summerill 2000). These surveys began in 1985, and have been carried out every 2 or 3 years since. The sixth in the series was conducted between June and September 1998, with 10,030 Australians aged 14 years and over participating. The survey respondents were asked about their knowledge of drugs, their attitudes towards drugs, their drug consumption histories and related behaviours. The most recent survey was undertaken in 2001, but information from it has not yet become available.

Another regular survey from which information about tobacco smoking was extracted is conducted by the Anti-Cancer Council of Victoria. These surveys form a time series on smoking patterns since 1984 (Hill et al. 1998).

Diet and nutrition

The largest and most comprehensive Australian survey of food and nutrient intake, dietary habits and body measurements, the National Nutrition Survey (NNS), was a joint project between the ABS and the then Commonwealth Department of Health and Aged Care (DHAC). The one-off 1995 NNS collected information from a sub-sample of respondents to the 1995 NHS, approximately 13,800 people from urban and rural areas of Australia (ABS & DHFS 1997).

Biomedical risk factors

Information on biomedical risk factors in Australia is limited in scope and dated. Piecemeal information is available on a small set of markers.

Three surveys were conducted by the National Heart Foundation of Australia in the 1980s to generate a national time series on biomedical (and behavioural) risk factors (AIHW 2001c). Although the data are somewhat dated now, in the absence of other suitable data they remain an important source of national information for biomedical risk factors. The surveys collected information from a sample of around 22,000 adults living in capital cities of Australia (Canberra and Darwin were not included in the 1980 and 1983 surveys) between May/June and December of 1980, 1983 and 1989.

As described earlier, the AusDiab study also collected information on a variety of biomedical risk factors, including blood pressure, cholesterol levels and measured body mass index, from approximately 10,000 adults aged 25 years and over throughout Australia (excluding the Australian Capital Territory).

Health service use

In addition to throughput information provided by the National Hospital Morbidity Database and BEACH on GP visits, information on health service use is available from emergency department admissions, Medicare statistics and National Health Surveys. Limited information from these sources has been included in the report.

Health expenditure

The impact of chronic diseases is also presented in economic terms, i.e. health system costs of various diseases. The information is based on a Disease Costs and Impact Study conducted by the AIHW in collaboration with the National Centre for Health Program Evaluation. The study ascribed 92% of recurrent health expenditure in 1993–94 to disease-age-sex groups, using available casemix and cost weight information for hospital inpatients, non-inpatients, medical services, pharmaceutical drugs, nursing homes and dental and allied health services (AIHW: Mathers and Penm 1998). This information is now dated but has been included in the report to complete the picture.

Overall burden of disease

The report also provides baseline information on the overall burden of disease associated with each disease and some of their risk factors using DALY statistics. The information is based on an AIHW study, undertaken using methods developed for the Global Burden of Disease Study but adapted to the Australian context (AIHW: Mathers et al. 1999). The study provides estimates of the extent of ill-health and disability in Australia in 1996. The study also provides estimates of the burden associated with a range of risk factors.

Data quality issues

This attempt to develop national baseline information has raised the awareness of the gaps in information to effectively monitor chronic diseases in Australia. This section outlines some data quality issues that should be taken into consideration when interpreting the statistics presented in this report.

A particular problem with the use of a variety of data sources for generating profiles of individual diseases is that the available data vary greatly by disease. Diseases such as lung cancer can be reasonably well described, using information, for example, from the NCSCH, in conjunction with mortality, hospitalisation and disability information. Some insight into

underlying trends and risk factors is also possible from the existing collections and surveys. In contrast, there is a paucity of information for diseases such as osteoporosis.

Another issue that requires careful attention in the context of chronic diseases is the limitations of the administrative collections such as the National Mortality Database and National Hospital Morbidity Database in relation to multiple causes of death or diagnoses. Additional causes of death or secondary diagnoses are recorded with variable accuracy depending on the nature of the disease or underlying cause of death. Conditions such as diabetes and cancer tend to be relatively well recorded as additional causes of death or secondary diagnoses. On the other hand, conditions such as depression and arthritis are poorly recorded. There is a need to validate additional causes of death or diagnoses (secondary) in interpreting the role of chronic diseases in mortality and morbidity.

Data quality issues exist in the identification of Indigenous Australians across a range of population surveys and administrative data collections (ABS & AIHW 2001). Deficiencies in health data for Indigenous Australians occur in both mortality and hospitalisation databases. Mortality data for Western Australia, South Australia, the Northern Territory and the Australian Capital Territory only are considered to have more than 90% coverage of Indigenous Australian deaths. Indigenous mortality data for the Australian Capital Territory are not included in this report due to small numbers.

Another concern in using currently available datasets such as AusDiab, is the response rate. In the AusDiab study, approximately 50% of eligible households participated in the household interview, and 55% of eligible adults in these households took part in the physical examination. The effect of any non-response bias on estimates from AusDiab is yet to be determined.

Some of the information included in this report is dated, but has been included for the sake of completeness, given the lack of more suitable or more recent data. These data sources, however, can not be used for marking baselines. The most prominent of such data sorces is the information on biomedical risk factors, which is seriously out of date.

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Glossary

angina: Temporary chest pain or discomfort when the heart's own blood supply is inadequate to meet extra needs, as in exercise.

associated causes of death: All morbid conditions, diseases and injuries (separate from the *underlying cause of death* recorded on the death certificate) contributing to death. See *cause of death*.

asthma: An inflammatory disease of the air passages that makes them prone to narrow too easily and too much in response to 'triggers', causing episodes of shortness of breath and wheezing or coughing. The triggers include exercise, pollen, dust mite, cold weather, throat and chest infections, tobacco smoke and other factors.

atherosclerosis: A process that gradually clogs arteries, through fatty and fibre-like deposits building up on the inner walls of the arteries and can lead to *cardiovascular disease*.

atopy: A genetic tendency to develop allergic reactions.

atrial fibrillation: A disorder of heart rate and rhythm in which the upper heart chambers (atria) are stimulated to contract in a very rapid and/or disorganised manner.

blood cholesterol: Fatty substance produced by the liver and carried by the blood to supply the rest of the body. Its normal function is to provide material for cell walls and for steroid hormones, but if levels in the blood are too high it can lead to *atherosclerosis*.

blood pressure: It is the force exerted by blood against the walls of the arteries. The force is created by the pumping action of the heart, at contraction (systolic) and at relaxation (diastolic).

body mass index (BMI): The most commonly used method of assessing whether a person is normal weight, underweight, overweight or obese. Calculated by dividing the person's weight (in kilograms) by their height (in metres) squared, i.e. kg/m2.

bronchiectasis: An abnormal dilation (expansion) of the main air passages (bronchi) of the lungs.

bronchitis: A respiratory disease in which the membranes of the bronchi (main air passages in the lungs) are irritated and inflamed. This causes the tiny airways in the lungs to narrow or shut off, resulting in coughing spells accompanied by thick phlegm and breathlessness.

cardiovascular disease: Any disease of the heart or blood vessels, including *heart attack, angina, stroke* and *peripheral vascular disease*.

cause of death: The disease or factor contributing to the death. When used technically, this term is usually applied to the 'underlying cause' listed on the medical certificate issued at death. The *underlying cause of death* is defined as the main disease that initiated the train of events leading directly to death, distinct from *associated causes of death* which are conditions, diseases or injuries that contributed to the death, directly or indirectly.

cerebrovascular: Of or relating to blood vessels and the supply of blood to the brain. See *stroke*.

co-morbidity: When a person has two or more health problems at the same time.

chronic bronchitis: Long-term condition with inflammation of the bronchi, the main air passages of the lungs, causing frequent coughing attacks and coughing up of mucus.

chronic disease: A disease persisting for a long period (at least 3 to 6 months).

chronic obstructive pulmonary disease (COPD): A collection of disorders, predominantly *chronic bronchitis* and *emphysema*, which commonly result from smoking. The condition is characterised by difficulty in breathing, wheezing and a chronic cough.

complications: Conditions and illness resulting directly or indirectly from another disease or condition.

congestive heart failure: A condition where there is inadequate pumping of the heart leading to an accumulation of fluid in the lungs. Typical symptoms include shortness of breath with exertion, difficulty in breathing when lying flat and leg or ankle swelling.

coronary heart disease (CHD): *Heart attack* and *angina* (chest pain). Also known as *ischaemic heart disease*.

cor pulmonale: *Heart failure*, caused by chronic lung conditions.

corticosteroid: A steroid hormone produced by the cortex (outer layer) of the adrenal gland, such as cortisol.

dental caries: Tooth decay.

depression: A mood disorder with prolonged feelings of hopelessness and being sad, low and inadequate, with a loss of interest or pleasure in activities and often with suicidal thoughts or self-blame.

dialysis: A method of removing excess waste substances from the blood when the kidneys are unable to work effectively.

disability: When used technically, disability refers to the presence of one or more of a defined set of limitations, restrictions or impairments.

disability-adjusted life year (DALY): A summary statistic to describe years of healthy life lost through disability and/or premature mortality.

eczema: A common, typically long-term, skin condition marked by an itchy rash and often found among people with allergies.

edentulous: Loss of all natural teeth.

emphysema: A long-term lung disease where over-expansion or destruction of the lung tissue blocks oxygen intake, leading to shortness of breath and other problems.

encounter (general practitioner): Any professional interchange between a patient and a general practitioner.

glomerulonephritis: Inflammation in the primary filtration units of the kidney (the glomeruli); frequently follows infections, especially those of the skin and upper respiratory tract caused by particular strains of bacteria.

glucose: The main sugar that the body uses for energy. Glucose comes from the breakdown of carbohydrates in the diet as well as from the breakdown of glycogen (the storage form of glucose) in the liver.

HDL cholesterol: Cholesterol packaged in high-density lipoprotein particles. The HDLs are good acceptors of membrane-free cholesterol and transport it back from tissues to the liver.

health risk factor: Any factor that represents a greater risk of a health disorder or other unwanted condition. Some risk factors are regarded as causes of disease, others are regarded as mere contributors.

heart attack: Life threatening emergency that occurs when a vessel supplying blood to the heart muscle is suddenly blocked completely. The event may lead to the death of a part of the heart muscle. The medical term commonly used for a heart attack is *myocardial infarction*.

heart failure: When the heart cannot pump strongly enough to keep the blood circulating around the body at an adequate rate.

hospital separation: The formal process by which a hospital records the completion of treatment and/or care for an admitted patient. The episode of care may be completed by an admitted patient's discharge, death, transfer to another hospital, or change in the type of care.

hypercholesterolaemia: This refers to high or elevated levels of cholesterol in the blood stream.

hyperglycaemia: High blood *glucose* levels.

hyperinsulinemia: The presence of excess *insulin* in the blood.

hypertensive disease: Long-term high blood pressure; may damage the vessels of the heart, brain or kidneys.

hypertriglyceridaemia: High levels (1.0 mmol/L or above) of *triglycerides*; a marker of lipid abnormalities.

hypoglycaemia: A low blood *glucose* level (i.e. 3.5 mmol/L or less).

impaired glucose tolerance: Slower metabolism of *glucose* due to *insulin resistance* or deficiency. Classified as fasting plasma glucose less than 7.0 mmol/L and 2-hour plasma glucose 7.8–11.0 mmol/L after oral glucose tolerance testing (OGTT).

incidence: The number of new cases (of a disease, condition or event) occurring during a given period. Compare with *prevalence*.

insulin: A hormone produced in the *pancreas* that helps *glucose* to enter body cells for energy metabolism.

insulin resistance: A condition in which *insulin* works inefficiently and the body compensates by producing an excess supply.

International Classification of Diseases (ICD): The World Health Organization's internationally accepted statistical classification of disease and injury.

ischaemia: Reduced or blocked blood supply. See *ischaemic heart disease*.

ischaemic heart disease: See *coronary heart disease*.

LDL cholesterol: Cholesterol packaged in low-density lipoprotein particles. LDLs carry cholesterol to the various tissues for use.

malocclusion: Faulty closing or meeting of opposing teeth in the upper and lower jaws.

metabolic syndrome: Also called Syndrome X, is a symptom cluster associated with a high risk of coronary heart disease and stroke. Central to metabolic syndrome is *insulin resistance*. Other common signs are: impaired glucose tolerance, excessively high blood insulin levels, high blood pressure, abnormal blood cholesterol levels (specifically high levels of triglycerides and low levels of HDL cholesterol), increased uric acid, and central obesity.

morbidity: Refers to ill-health in an individual and to levels of ill-health in a population or group.

myocardial infarction: See *heart attack*.

obesity: Increased adiposity or fat mass, associated with several chronic diseases and their risk factors. Usually defined as *body mass index* ≥ 30, or waist circumference ≥ 102 cm for males or ≥ 88 cm for females.

Organisation for Economic Co-operation and Development (OECD): An organisation of 30 developed countries, including Australia.

osteoarthritis: The most common form of arthritis; it is associated with a breakdown of cartilage in joints and commonly occurs in the hips, knees and spine.

osteoporosis: Reduction in bone mass caused by the loss of calcium from the bones, making them weaker and thus more prone to fractures.

pancreas: An organ that produces digestive substances and hormones, including *insulin*.

patient-days: The number of full or partial days of stay for patients who were admitted for an episode of care and who underwent separation during the reporting period. A patient who is admitted and separated on the same day is allocated 1 patient-day.

periodontal: Refers to the supporting structures of the teeth; including the gums, connective tissue and bone.

peripheral vascular disease: Pain in the legs due to an inadequate blood supply to them.

polyps: Projecting growths from a mucous surface such as the inside of the bowel; may be benign (non-cancerous) or able to develop into a cancerous growth.

prevalence: The number or proportion (of cases, instances, etc.) present in a population at a given time. Compare with *incidence*.

principal diagnosis: The diagnosis established after study to be chiefly responsible for occasioning the patient's episode of care in hospital (or attendance at the health care facility).

rheumatoid arthritis: A chronic inflammatory disease where the person's immune system attacks his or her own body tissues (an auto-immune condition) causing destruction of the joints.

risk factor: See *health risk factor*.

Rural, Remote and Metropolitan Areas classification: A classification that assigns geographic areas into one of seven categories: capital cities, other metropolitan centres, large rural centres, small rural centres, other rural areas, remote centres and other remote areas.

saturated fats: Fats that are solid and are found in the diet, mostly from animal sources. In excess, they tend to raise blood cholesterol.

separation: See *hospital separation*.

sinusitis: Inflammation of a sinus (cavity or space in the skull bone).

sleep apnoea: Cessation or prolonged break in breathing during sleep.

stent: A metal mesh tube placed permanently in a narrowed artery to hold the vessel open.

stroke: When an artery supplying blood to the brain suddenly becomes blocked or bleeds, often causing paralysis of parts of the body or speech problems.

subcutaneous: Under the skin.

triglycerides: A hydrophobic (non-water soluble), neutral lipid, packaged with proteins and cholesterol in various lipoprotein particles.

underlying cause of death: The main disease or injury initiating the sequence of events leading directly to death. See *cause of death*.

uric acid: A substance present in small amounts in human urine, and also found in the joints in gout.