

# Glossary

**Age-specific rate:** rate for a specific age group. The numerator and the denominator relate to the same age group.

**Age standardisation:** a method for removing the influence of age when comparing two populations with different age structures.

**Air toxics:** toxic air pollutants. See 'hazardous air pollutants'.

**Allergen:** a substance that causes an allergic reaction.

**Allergy:** an immune response to a foreign antigen.

**$\alpha$ -1-antitrypsin (AAT) deficiency:** hereditary deficiency of a protein that blocks the destructive effects of some enzymes in the lungs and liver.

**Antigen:** any substance capable of inducing a specific immune response.

**Associated cause of death:** any condition, disease or injury, other than the underlying cause of death, recorded on the death certificate.

**Asthma:** a chronic inflammatory disorder of the airways characterised by reversible airflow obstruction and resulting in cough, wheeze, chest tightness and shortness of breath.

**Atopy:** a genetic predisposition for allergic reactions.

**Bronchi:** the airways leading from the trachea (windpipe) to the lungs.

**Bronchiectasis:** chronic abnormal dilation and distortion of the bronchi characterised by persistent infection and cough.

**Chronic bronchitis:** chronic inflammation of the main airways of the lungs (the bronchi) causing frequent coughing attacks and coughing up of mucus.

**Chronic obstructive pulmonary disease (COPD):** a disease characterised by progressive development of airflow limitation, which is not fully reversible, causing difficulty in breathing, wheezing and chronic cough. In most instances emphysema is the underlying condition, although people with COPD often also have chronic bronchitis.

**Chronic respiratory disease:** a disease of the airways or lungs persisting for a long period.

**Chronic sinusitis:** a chronic inflammation of the lining of one or more of the sinuses due to a recurring or long-lasting infection, or an allergy.

**Comorbidity:** the presence of two or more health problems or conditions at the same time.

**Cor pulmonale:** variously referred to as right-sided heart failure or enlargement of the right ventricle of the heart resulting from diseases of the lungs or pulmonary arteries.

**Dander:** small scales from the skin or hair.

**Disability:** a concept of several dimensions relating to an impairment in body structure or function, a limitation in activities, a restriction in participation, and the affected person's physical and social environment.

**Emphysema:** a chronic lung disease where over-expansion or destruction of the lung tissue blocks oxygen intake, leading to shortness of breath and other problems.

**Environmental tobacco smoke (ETS):** refers to exposure from smoke in the environment produced from cigarettes and is a combination of exhaled mainstream smoke and sidestream smoke.

**Gastroesophageal reflux (GER):** a backward flow of stomach acid and contents due to a relaxed or loose sphincter connecting the oesophagus and stomach.

**Hazardous air pollutants:** (also known as air toxics) the broad term applied to a large number of chemicals known or suspected to cause serious health effects, including cancer. Includes lead compounds, asbestos and volatile organic compounds.

**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.

**Hyperresponsiveness:** an abnormal response to a stimulus.

**Hypersensitivity:** an abnormal sensitivity to a stimulus.

**Immune response:** the body's reaction to foreign antigens.

**Immunoglobulin E (IgE):** an antibody that attaches to mast cells and basophils in the respiratory tract during an allergic reaction.

**Indigenous:** a person of Aboriginal and/or Torres Strait Islander descent who identifies as an Aboriginal and/or Torres Strait Islander and is accepted as such by the community with which he or she is associated.

**Length of stay:** duration of hospital stay, calculated by subtracting the date the patient is admitted from the day of separation. A same-day patient is allocated a length of stay of one day.

**Mainstream smoke:** the smoke drawn through the cigarette by the smoker.

**Morbidity:** refers to ill-health in an individual and to levels of ill-health in a population or group.

**Mortality:** death.

**Oedema:** build-up of excessive fluid within body tissues.

**Pollen:** the term commonly applied to the microspores of seed-producing plants.

**Predisposing factors:** factors that make an individual susceptible to a disease.

**Prevalence:** the number or proportion of cases present in a population present in a population at a given time.

**Principal diagnosis:** the diagnosis describing the problem that was chiefly responsible for the patient's episode of care in hospital.

**Risk factor:** any environmental, chemical, physiological, psychological or genetic factor that increases the risk of developing a health disorder or other unwanted condition or event. Some risk factors may be regarded as causes, others as contributors.

**Sidestream smoke:** smoke from the burning end of a cigarette.

**Sinuses:** air-filled spaces within a bone (for example, the bones around the nose).

**Sinusitis:** inflammation of a sinus.

**Sputum:** a substance produced in the lungs and bronchi and expelled with deep coughing.

**Underlying cause of death:** the main condition, disease or injury initiating the sequence of events leading to death.

**Volatile organic compounds (VOCs):** a group of compounds that are liquid at room temperature but emit a potentially harmful vapour. Includes formaldehyde.

**Wheezing:** whistling sound heard during breathing.

# Appendix A: Data tables

Table A.1: Deaths, by age and sex, 2003

Age group (years)	Males		Females		Persons	
	Deaths	Rate per 100,000	Deaths	Rate per 100,000	Deaths	Rate per 100,000
<b>COPD</b>						
0–34	0	0.00	0	0.00	0	0.00
35–54	59	2.08	43	1.50	102	1.79
55–59	60	10.27	53	9.29	113	9.78
60–64	157	35.72	126	29.25	283	32.51
65–69	254	71.41	149	40.74	403	55.86
70–74	490	161.93	279	84.61	769	121.61
75–79	700	290.88	455	152.45	1,155	214.25
80–84	725	497.37	475	214.64	1,200	326.92
85+	718	798.00	635	323.17	1,353	472.31
<i>Total</i>	<i>3,163</i>		<i>2,215</i>		<i>5,378</i>	
<b>Asthma</b>						
0–34	20	0.41	13	0.28	33	0.34
35–54	13	0.46	22	0.77	35	0.61
55–59	8	1.37	17	2.98	25	2.16
60–64	10	2.27	9	2.09	19	2.18
65–69	7	1.97	15	4.10	22	3.05
70–74	10	3.30	18	5.46	28	4.43
75–79	10	4.16	16	5.36	26	4.82
80–84	8	5.49	27	12.20	35	9.54
85+	22	24.45	69	35.12	91	31.77
<i>Total</i>	<i>108</i>		<i>206</i>		<i>314</i>	

Source: AIHW National Mortality Database.

Table A.2: Deaths, by age and sex, 1997

Age group (years)	Males		Females		Persons	
	Deaths	Rate per 100,000	Deaths	Rate per 100,000	Deaths	Rate per 100,000
<b>COPD</b>						
0–54	49	0.66	46	0.63	95	0.65
55–59	87	20.02	75	17.81	162	18.93
60–64	197	54.48	114	31.35	311	42.88
65–69	453	134.23	259	73.52	712	103.23
70–74	720	255.35	363	110.46	1,083	177.37
75–79	762	401.01	435	169.62	1,197	268.09
80–84	709	652.08	442	245.75	1,151	398.84
85+	631	987.39	495	331.42	1,126	527.99
<i>Total</i>	<i>3,608</i>		<i>2,229</i>		<i>5,837</i>	
<b>Asthma</b>						
0–34	29	0.61	25	0.54	54	0.57
35–54	37	1.41	33	1.26	70	1.33
55–59	14	3.22	19	4.51	33	3.86
60–64	13	3.60	13	3.57	26	3.59
65–69	21	6.22	30	8.52	51	7.39
70–74	18	6.38	26	7.91	44	7.21
75–79	33	17.37	34	13.26	67	15.01
80–84	20	18.39	37	20.57	57	19.75
85+	22	34.43	75	50.22	97	45.48
<i>Total</i>	<i>207</i>		<i>292</i>		<i>499</i>	

Source: AIHW National Mortality Database.

Table A.3: Deaths, by age and sex, 1997 to 2003 combined

Age group (years)	Males		Females		Persons	
	Deaths	Rate per 100,000	Deaths	Rate per 100,000	Deaths	Rate per 100,000
<b>COPD</b>						
0–34	14	0.04	15	0.05	29	0.04
35–54	336	1.74	315	1.63	651	1.68
55–59	555	15.90	435	12.86	990	14.40
60–64	1,154	41.21	772	27.81	1,926	34.54
65–69	2,380	100.22	1,381	56.13	3,761	77.78
70–74	4,255	205.06	2,372	102.06	6,627	150.64
75–79	5,141	337.32	2,991	151.13	8,132	232.14
80–84	4,758	551.82	3,029	221.17	7,787	348.91
85+	4,709	871.06	3,671	301.46	8,380	476.58
<i>Total</i>	23,302		14,981		38,283	
<b>Asthma</b>						
0–34	172	0.51	156	0.48	328	0.49
35–54	191	0.99	249	1.29	440	1.14
55–59	68	1.95	118	3.49	186	2.71
60–64	89	3.18	95	3.42	184	3.30
65–69	116	4.88	151	6.14	267	5.52
70–74	111	5.35	174	7.49	285	6.48
75–79	132	8.66	209	10.56	341	9.73
80–84	128	14.85	224	16.36	352	15.77
85+	157	29.04	451	37.04	608	34.58
<i>Total</i>	1,164		1,827		2,991	

Source: AIHW National Mortality Database.

**Table A.4: Average age at death, 1997 to 2003**

Year	Average age (years)		
	Males	Females	Persons
<b>COPD</b>			
1997	76.3	76.7	76.4
1998	76.4	76.6	76.5
1999	76.6	77.4	76.9
2000	77.0	77.2	77.1
2001	77.3	76.7	77.1
2002	77.4	77.8	77.6
2003	77.7	78.3	77.9
<b>Asthma</b>			
1997	61.8	68.8	65.9
1998	63.4	66.8	65.5
1999	62.3	66.8	65.1
2000	61.3	67.3	65.1
2001	59.5	69.7	65.5
2002	66.4	68.8	67.8
2003	61.5	71.6	68.1

Source: AIHW National Mortality Database.

**Table A.5: Age-standardised death rates, 1997 to 2003**

Year	Rate per 100,000		
	Males	Females	Persons
<b>COPD</b>			
1997	52.3	22.3	34.0
1998	47.7	20.0	30.8
1999	45.8	19.8	30.1
2000	43.5	18.5	28.2
2001	40.3	18.8	27.2
2002	40.7	19.6	28.0
2003	37.6	18.5	26.1
<b>Asthma</b>			
1997	2.7	3.0	2.9
1998	2.3	2.9	2.7
1999	2.0	2.6	2.3
2000	2.0	2.7	2.4
2001	2.0	2.3	2.2
2002	1.9	2.1	2.0
2003	1.2	1.8	1.5

Note: Rates are age-standardised to the Australian population at 30 June 2001.

Source: AIHW National Mortality Database.

Table A.6: Hospital separations, by age and sex, 2002-03

Age group (years)	Males		Females		Persons	
	Separations	Rate per 100,000	Separations	Rate per 100,000	Separations	Rate per 100,000
<b>COPD</b>						
0-4	30	4.61	34	5.49	64	5.04
5-9	17	2.47	74	11.34	91	6.78
10-14	26	3.70	20	2.99	46	3.35
15-19	24	3.45	21	3.16	45	3.31
20-24	16	2.34	21	3.18	37	2.75
25-29	24	3.49	27	3.95	51	3.72
30-34	31	4.14	43	5.64	74	4.90
35-39	77	10.54	97	13.13	174	11.84
40-44	196	25.86	236	30.83	432	28.36
45-49	345	49.97	463	66.16	808	58.12
50-54	785	120.29	996	152.28	1,781	136.31
55-59	1,653	291.40	1,517	274.25	3,170	282.93
60-64	2,647	610.60	2,310	543.14	4,957	577.19
65-69	4,031	1,151.46	2,944	816.73	6,975	981.65
70-74	5,948	1,962.58	3,930	1,187.06	9,878	1,557.70
75-79	6,821	2,882.19	4,572	1,543.19	11,393	2,137.80
80-84	4,916	3,484.03	3,304	1,529.97	8,220	2,302.18
85+	2,945	3,359.80	2,425	1,257.58	5,370	1,914.55
<i>Total</i>	30,532		23,034		53,566	
<b>Asthma</b>						
0-4	7,935	1,218.98	4,206	679.54	12,141	956.06
5-9	3,068	445.32	1,732	265.33	4,800	357.75
10-14	1,254	178.27	970	144.90	2,224	162.00
15-19	608	87.27	1,084	163.27	1,692	124.36
20-24	543	79.29	988	149.75	1,531	113.86
25-29	536	78.05	1,005	146.98	1,541	112.44
30-34	446	59.53	1,016	133.37	1,462	96.76
35-39	435	59.57	906	122.62	1,341	91.28
40-44	404	53.30	991	129.47	1,395	91.57
45-49	340	49.24	1,026	146.61	1,366	98.26
50-54	373	57.16	1,071	163.75	1,444	110.51
55-59	395	69.63	921	166.50	1,316	117.46
60-64	302	69.66	695	163.41	997	116.09
65-69	307	87.69	702	194.75	1,009	142.01
70-74	260	85.79	671	202.68	931	146.81
75-79	220	92.96	675	227.83	895	167.94
80-84	160	113.39	454	210.23	614	171.96
85+	100	114.08	431	223.51	531	189.32
<i>Total</i>	17,686		19,544		37,230	

Source: AIHW National Hospital Morbidity Database.

Table A.7: Hospital separations, by age and sex, 1998–99

Age group (years)	Males		Females		Persons	
	Separations	Rate per 100,000	Separations	Rate per 100,000	Separations	Rate per 100,000
<b>COPD</b>						
0–4	91	13.77	69	11.01	160	12.42
5–9	78	11.38	65	9.98	143	10.70
10–14	96	14.22	69	10.71	165	12.51
15–19	41	6.20	43	6.81	84	6.50
20–24	24	3.61	35	5.42	59	4.50
25–29	19	2.60	50	6.81	69	4.71
30–34	36	5.13	52	7.32	88	6.23
35–39	98	13.09	115	15.22	213	14.16
40–44	254	36.29	212	29.94	466	33.09
45–49	325	49.33	457	69.27	782	59.30
50–54	878	145.56	859	146.80	1,737	146.17
55–59	1,420	309.14	1,388	313.05	2,808	311.06
60–64	2,717	718.11	1,890	499.67	4,607	608.91
65–69	4,119	1,231.17	2,709	779.35	6,828	1,000.94
70–74	6,024	2,068.87	3,703	1,115.67	9,727	1,561.12
75–79	5,766	2,794.59	3,555	1,293.55	9,321	1,937.23
80–84	3,684	3,309.56	2,391	1,313.57	6,075	2,071.00
85+	2,033	2,888.81	1,570	974.18	3,603	1,556.13
<i>Total</i>	<i>27,703</i>		<i>19,232</i>		<i>46,935</i>	
<b>Asthma</b>						
0–4	11,238	1,700.58	5,980	953.80	17,218	1,337.01
5–9	4,756	693.99	2,925	449.20	7,681	574.72
10–14	2,476	366.81	1,888	293.01	4,364	330.77
15–19	1,183	178.84	1,771	280.66	2,954	228.55
20–24	953	143.49	1,664	257.49	2,617	199.71
25–29	742	101.48	1,511	205.85	2,253	153.77
30–34	564	80.31	1,268	178.44	1,832	129.67
35–39	467	62.37	1,266	167.59	1,733	115.22
40–44	483	69.00	1,234	174.28	1,717	121.94
45–49	501	76.04	1,351	204.78	1,852	140.45
50–54	554	91.85	1,252	213.96	1,806	151.98
55–59	449	97.75	1,112	250.80	1,561	172.92
60–64	449	118.67	902	238.47	1,351	178.56
65–69	435	130.02	931	267.84	1,366	200.25
70–74	419	143.90	845	254.59	1,264	202.86
75–79	291	141.04	784	285.27	1,075	223.42
80–84	187	167.99	561	308.20	748	255.00
85+	125	177.62	390	241.99	515	222.43
<i>Total</i>	<i>26,272</i>		<i>27,635</i>		<i>53,907</i>	

Source: AIHW National Hospital Morbidity Database.

Table A.8: Hospital separations, by age and sex, 1998–99 to 2002–03 combined

Age group (years)	Males		Females		Persons	
	Separations	Rate per 100,000	Separations	Rate per 100,000	Separations	Rate per 100,000
<b>COPD</b>						
0–4	334	10.17	237	7.60	571	8.92
5–9	243	7.04	401	12.25	644	9.58
10–14	294	8.54	217	6.61	511	7.60
15–19	153	4.49	166	5.10	319	4.79
20–24	94	2.83	141	4.37	235	3.59
25–29	106	2.98	138	3.87	244	3.43
30–34	187	5.18	262	7.15	449	6.17
35–39	409	11.02	466	12.42	875	11.72
40–44	1,145	31.44	1,198	32.51	2,343	31.98
45–49	1,971	58.57	2,247	66.16	4,218	62.38
50–54	4,163	131.09	4,641	148.05	8,804	139.51
55–59	7,803	307.28	7,348	298.67	15,151	303.04
60–64	13,383	658.32	10,633	528.83	24,016	593.93
65–69	20,132	1,190.53	14,157	808.85	34,289	996.40
70–74	29,828	1,993.55	19,106	1,148.14	48,934	1,548.39
75–79	31,878	2,867.13	20,172	1,402.98	52,050	2,041.47
80–84	21,341	3,419.74	14,070	1,426.96	35,411	2,199.35
85+	12,604	3,177.97	10,102	1,135.73	22,706	1,765.52
<i>Total</i>	<i>146,068</i>		<i>105,702</i>		<i>251,770</i>	
<b>Asthma</b>						
0–4	46,058	1,403.06	24,656	790.48	70,715	1,104.61
5–9	19,589	567.73	11,701	357.48	31,290	465.37
10–14	9,266	269.01	7,035	214.29	16,302	242.32
15–19	4,716	138.54	7,329	225.31	12,045	180.94
20–24	3,887	116.85	6,873	212.97	10,760	164.18
25–29	3,453	97.19	6,361	178.44	9,815	137.90
30–34	2,810	77.82	5,807	158.42	8,617	118.42
35–39	2,488	67.04	5,604	149.37	8,092	108.43
40–44	2,309	63.41	5,907	160.32	8,216	112.15
45–49	2,259	67.13	6,029	177.50	8,288	122.57
50–54	2,384	75.07	5,877	187.48	8,261	130.91
55–59	2,119	83.45	5,104	207.46	7,223	144.47
60–64	1,933	95.09	4,230	210.38	6,163	152.42
65–69	1,783	105.44	4,005	228.82	5,788	168.19
70–74	1,652	110.41	3,942	236.89	5,594	177.01
75–79	1,370	123.22	3,587	249.48	4,957	194.42
80–84	857	137.33	2,552	258.82	3,409	211.73
85+	547	137.92	2,114	237.67	2,661	206.91
<i>Total</i>	<i>109,480</i>		<i>118,713</i>		<i>228,196</i>	

Source: AIHW National Hospital Morbidity Database.

**Table A.9: Average length of stay in hospital, 1998–99 to 2002–2003**

Year	Average length of stay (days)		
	Males	Females	Persons
<b>COPD</b>			
1998–99	7.8	8.2	7.9
1999–00	7.6	8.1	7.8
2000–01	7.4	7.8	7.6
2001–02	7.3	7.8	7.5
2002–03	7.3	7.7	7.5
<b>Asthma</b>			
1998–99	2.2	3.2	2.7
1999–00	2.2	3.2	2.7
2000–01	2.1	3.0	2.6
2001–02	2.0	3.0	2.5
2002–03	2.0	2.9	2.5

Source: AIHW National Hospital Morbidity Database.

**Table A.10: Age-standardised hospital separation rates, 1998–99 to 2002–2003**

Year	Rate per 100,000		
	Males	Females	Persons
<b>COPD</b>			
1998–99	349.2	194.0	258.3
1999–00	349.1	196.7	260.9
2000–01	353.3	206.0	267.0
2001–02	343.6	205.7	262.6
2002–03	344.3	210.2	265.7
<b>Asthma</b>			
1998–99	271.7	291.9	283.4
1999–00	227.2	260.9	245.6
2000–01	242.7	261.7	253.8
2001–02	201.4	217.1	210.7
2002–03	179.9	197.9	190.2

Note: Rates are age-standardised to the Australian population at 30 June 2001.

Source: AIHW National Hospital Morbidity Database.

# Appendix B: Data issues

## Description of data sources

Information for this report was compiled from a variety of data sources including administrative collections and population surveys. Specifically, data were extracted from sources for reporting mortality, disease prevalence, risk factors, disability, health service use, and other measures of health and quality of life.

### Mortality

Statistics on cause of death 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 Australian Bureau of Statistics for coding the cause of death (AIHW 2000b). On 1 January 1997, the Australian Bureau of Statistics introduced new, automatic coding software that identifies multiple or associated causes of death. The AIHW organises and maintains the coded mortality data to form the National Mortality Database, the National Death Index and the General Record of Incidence of Mortality Books.

### 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 and 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 incomplete.

### Prevalence

The National Health Survey, conducted periodically by the Australian Bureau of Statistics, was the major source of disease prevalence and other related information used in this report. The survey is designed to collect self-reported 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 National Health Surveys, conducted in 1977, 1983, 1989–90 and 1995. The most recent National Health Survey for which data were available was conducted in 2001 on a sample of 26,900 people over a 10-month period (ABS 2002a).

The main types of information from the National Health Survey used in this report are:

- long-term conditions (illness, injury or disability present, or expected to be present, for 6 months or more)
- type of condition (the conditions are not necessarily medically diagnosed conditions).

### **Professional encounters**

General practitioners are usually the first point of call for medical services in Australia. Information on general practitioner–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.

The BEACH Survey 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 reasons for professional encounters.

### **Hospital administrative data**

The National Hospital Morbidity Database, maintained at the AIHW, contains information on demographics, diagnoses, procedures and duration of stay on episodes of patients admitted to hospital. The data items are supplied to the AIHW by the state and territory health authorities, and by the Department of Veterans' Affairs. Each record in the database represents a separation (discharge, transfer or death) rather than an individual patient. Hospital separations data can give an indication of the burden of disease in a community, but they cannot indicate the incidence or prevalence of a disease or condition. This is because several factors influence whether and when hospital treatment is required and available.

### **Activity restriction and disability**

Information on activity restriction and disability due to chronic respiratory diseases was extracted from the Survey of Disability, Ageing and Carers, conducted by the Australian Bureau of Statistics. The survey collects national information on disability levels of Australians, their current and future care needs, and the role of carers. The most recent survey was conducted in 2003 and involved a sample of about 41,400 individuals (ABS 2004).

The disability survey contains 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.

# Statistical methods and data classifications

## Population estimates

The estimated resident population (ERP) of Australia and its subdivisions, as produced by the Australian Bureau of Statistics, has been used for calculating various rates and ratios included in this report. ERPs are based on the 5-yearly Australian Bureau of Statistics' 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 and net migration.

## 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 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 between groups and over time, direct age-standardisation was applied when presenting trends or comparing groups. The 2001 Australian population was used as the standard.

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 and not the actual rate.

## Mortality and morbidity classifications

Cause of death data described in this report were classified according to the World Health Organization's tenth revision of the International Classification of Diseases (ICD-10) (WHO 1977). Hospital separations were classified using the International Statistical Classification of Diseases and Related Health Problems, tenth revision, Australian modification (ICD-10-AM) (National Centre for Classification in Health 1998). General practice data were classified according to the International Classification of Primary Care, second edition (ICPC-2) (WICC 1997).

Most of the mortality-related information in this report 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 the circumstances of the violence or accident that produced the fatal injury (WHO 1948). Since 1997, information on additional, or associated, causes of death has also been made available by the Australian Bureau of Statistics (Gaminiratne 2001). This additional information is useful as some chronic respiratory diseases, such as COPD, are common as both underlying and associated causes of death.

Most of the hospital separation-related information is based on first-listed or principal diagnosis. This is the condition, established after study, 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).

The ICD-10 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 ICD-10 (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 World Health Organization 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 Australian Bureau of Statistics' Survey of Disability, Ageing and Carers (ABS 2004) operationalises these concepts into different types of limitations, restrictions or impairments, which can be related to specific diseases and conditions.

## **Assessment of data sources**

The baseline information presented in this report raises the awareness of the gaps and deficiencies in information for effective monitoring of chronic respiratory diseases in Australia. A particular problem with the use of a variety of data sources for generating statistical profiles of individual diseases is that the available data vary greatly by disease. Diseases such as asthma can be reasonably well described using information, for example, from the National Health Survey 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 prevalence information for diseases such as COPD.

Another issue that requires careful attention is the limitation of the administrative collections such as the National Mortality Database in relation to multiple causes of death and the National Hospital Morbidity Database in relation to diagnoses. Associated causes of death or secondary diagnoses are recorded with variable accuracy depending on the nature of the disease or underlying cause of death. There is a need to validate associated causes of death and secondary diagnoses in interpreting the role of chronic respiratory diseases in mortality and morbidity.

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