

Infants in metropolitan, rural and remote areas

Table 4.7: Reasons for hospitalisations of infants in metropolitan, rural and remote areas, 1999–00

Diagnosis	Number			Rate per 100,000 infants		
	Metropolitan	Rural	Remote	Metropolitan	Rural	Remote
Conditions originating in the perinatal period	35,007	12,239	1,883	19,855.3	19,494.8	19,171.2
Respiratory system	12,413	6,682	2,185	7,040.4	10,643.3	22,246.0
Contact with health services	9,739	4,872	598	5,523.8	7,760.3	6,088.4
Other symptoms, signs and abnormal findings	7,295	2,457	475	4,137.6	3,913.6	4,836.1
Congenital abnormalities	6,171	2,264	292	3,500.1	3,606.2	2,972.9
Infectious and parasitic	4,963	2,309	991	2,814.9	3,677.9	10,089.6
Nervous system	5,355	791	99	3,037.2	1,259.9	1,007.9
Digestive system	3,953	1,507	207	2,242.1	2,400.4	2,107.5
Genitourinary system	2,001	720	142	1,134.9	1,146.8	1,445.7
Injury and poisoning	1,792	856	212	1,016.4	1,363.5	2,158.4
Ear diseases	1,145	488	117	649.4	777.3	1,191.2
Mental and behavioural disorders	1,341	113	7	760.6	180.0	71.3
Skin diseases	883	306	190	500.8	487.4	1,934.4
Neoplasms	714	157	17	405.0	250.1	173.1
Eye diseases	488	187	38	276.8	297.9	386.9
Endocrine, nutritional and metabolic diseases	390	192	112	221.2	305.8	1,140.3
Circulatory system	250	118	13	141.8	188.0	132.4
Blood and blood-forming organs	266	73	16	150.9	116.3	162.9
Musculoskeletal system	162	60	26	91.9	95.6	264.7
Total	94,328	36,391	7,620	53,500.9	57,965.0	77,580.9

Note: This total excludes 1,173 infants for whom there was no principal diagnosis, sex, external cause of injury or area of residence recorded.

Source: AIHW National Hospital Morbidity Database.

- In 1999–00, hospitalisation rates for some diagnosis chapters differed by area of residence. Rates for respiratory conditions, injury, infectious diseases (which include vaccine-preventable and other communicable diseases), endocrine, nutritional and metabolic disorders (which include diabetes and cystic fibrosis), and musculoskeletal conditions were far greater for infants in remote areas than for those in rural or metropolitan areas. Rates for nervous system problems (which include epilepsy and cerebral palsy), eye and ear disorders, and cancers were greater for those living in metropolitan areas than for those in rural or remote areas.
- Hospitalisation rates for children in remote areas are largely affected by the health status of Aboriginal and Torres Strait Islander children living in these areas.

Reasons for hospitalisation of children aged 1–14 years

A summary of the reasons for hospitalisations of children aged 1–14 years, by diagnosis according to the ICD-10-AM chapter, is presented in Table 4.8.

Table 4.8: Reasons for hospitalisations of children aged 1–14 years, 1999–00

Diagnosis	Number			Rate per 100,000 children		
	Males	Females	Persons	Males	Females	Persons
Respiratory system	48,433	34,626	83,059	2,611.5	1,959.7	2,294.2
Injury and poisoning	41,027	24,247	65,274	2,178.3	1,360.8	1,779.9
Digestive system	23,760	19,862	43,622	1,266.9	1,111.8	1,191.4
Ear diseases	19,204	13,369	32,573	1,033.9	757.3	899.2
Infectious and parasitic	16,164	14,599	30,763	873.8	831.3	853.1
Other symptoms, signs and abnormal findings	12,678	11,267	23,945	679.9	634.7	657.9
Contact with health services	14,711	8,074	22,785	786.7	453.5	624.4
Congenital abnormalities	9,358	5,289	14,647	503.0	298.7	403.5
Genitourinary system	9,002	4,001	13,003	481.0	224.9	356.3
Neoplasms	5,980	5,432	11,412	319.0	304.7	312.1
Skin diseases	6,346	5,020	11,366	337.5	281.1	310.0
Nervous system	5,784	4,519	10,303	310.3	254.7	283.2
Musculoskeletal system	5,008	4,368	9,376	265.0	242.4	254.0
Mental and behavioural disorders	5,689	3,401	9,090	300.1	187.6	245.3
Blood and blood-forming organs	4,275	2,421	6,696	227.9	135.4	182.8
Eye diseases	2,975	2,881	5,856	160.0	163.1	161.5
Endocrine, nutritional and metabolic diseases	2,483	2,811	5,294	132.0	156.7	144.0
Circulatory system	1,413	1,171	2,584	74.7	65.1	70.0
Pregnancy and childbirth	..	341	341	..	18.6	9.1
Conditions originating in the perinatal period	284	44	328	15.4	2.5	9.1
Total	234,574	167,743	402,317	12,556.7	9,444.7	11,041.1

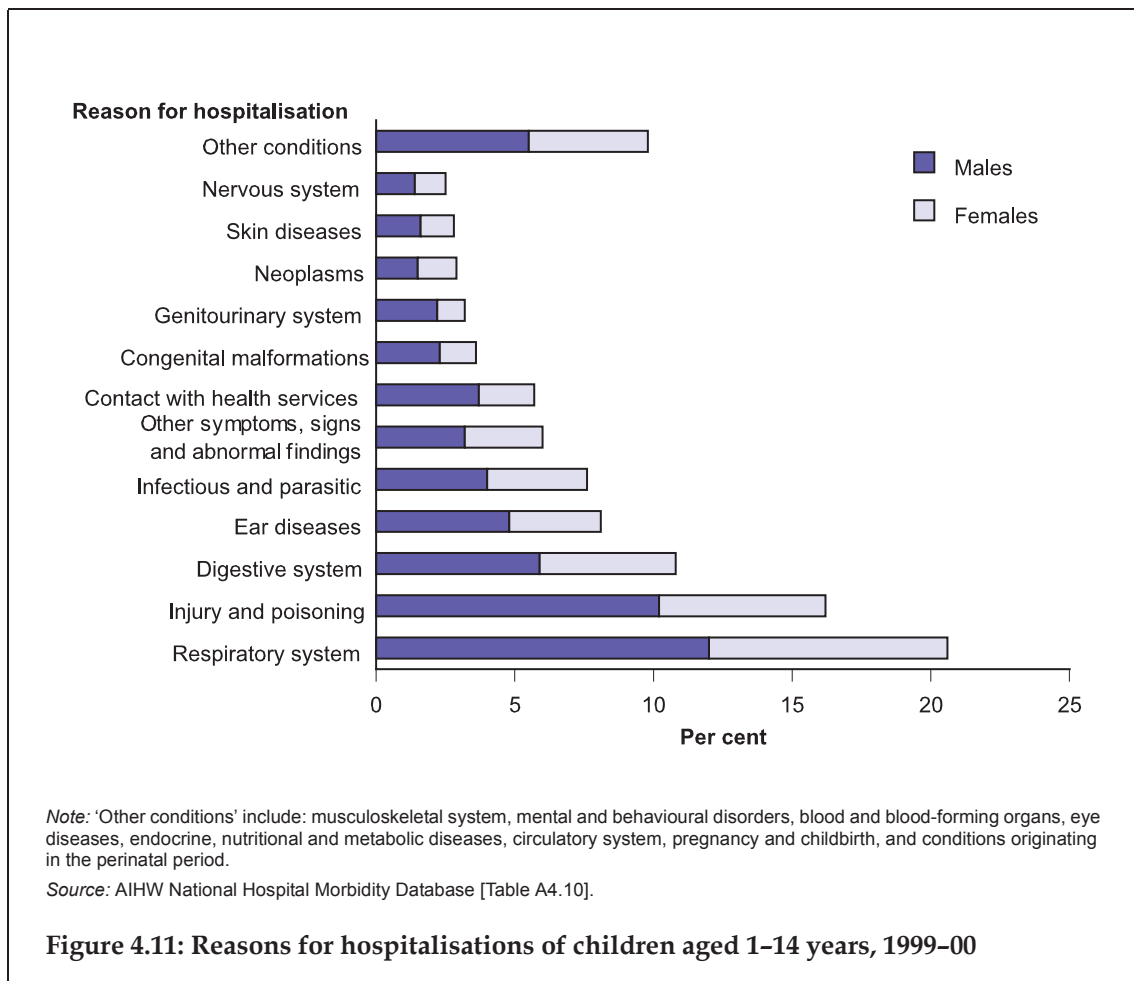
.. Not applicable

Note: This total excludes 443 children aged 1–14 years for whom there was no principal diagnosis, sex or external cause of injury recorded.

Source: AIHW National Hospital Morbidity Database.

- Hospitalisation rates for respiratory conditions (including asthma), injury and poisoning, diseases of the digestive system and ear diseases were high in 1999–00, ranging between 2,294.2 and 2,611.5 per 100,000 children.

Hospitalisations of children aged 1–14 years by diagnosis according to ICD-10-AM chapter as a proportion of all hospitalisations of children aged 1–14 years are shown in Figure 4.11.



- The highest proportion of all hospitalisations of children aged 1-14 years in 1999-00 was for diseases of the respiratory system, accounting for 21% of all hospitalisations in that age group. Injury and poisoning were also common causes of hospitalisation, accounting for 16%. Hospitalisations for diseases of the digestive system accounted for 11%.

Aboriginal and Torres Strait Islander children

Hospitalisation rates for Aboriginal and Torres Strait Islander children aged 1–14 years are presented by diagnosis according to ICD-10-AM chapter in Table 4.9.

Table 4.9: Reasons for hospitalisations of Aboriginal and Torres Strait Islander and other Australian children aged 1–14 years, 1999–00

Diagnosis	Number		Rate per 100,000 children		Rate ratio
	Indigenous Australians	Other Australians	Indigenous Australians	Other Australians	
Respiratory system	4,908	76,602	3,177.9	2,209.0	1.4
Injury and poisoning	3,132	61,153	2,084.3	1,738.4	1.2
Digestive system	1,658	40,969	1,091.9	1,166.7	0.9
Ear diseases	1,317	30,168	866.1	870.1	1.0
Infectious and parasitic	2,039	28,306	1,315.5	820.0	1.6
Other, symptoms, signs and abnormal findings	1,205	22,382	790.8	641.7	1.2
Contact with health services	886	21,521	590.0	615.4	1.0
Congenital malformations	337	14,099	220.3	405.5	0.5
Genitourinary system	633	12,177	417.5	348.0	1.2
Neoplasms	187	10,971	122.6	313.0	0.4
Nervous system	404	9,780	268.0	280.7	1.0
Skin diseases	1,460	9,728	963.1	276.3	3.5
Musculoskeletal system	444	8,755	302.1	247.1	1.2
Mental and behavioural disorders	406	8,622	281.7	242.3	1.2
Blood and blood-forming organs	103	6,528	67.6	185.9	0.4
Eye diseases	181	5,551	119.2	159.9	0.7
Endocrine, nutritional and metabolic diseases	262	4,983	171.8	141.1	1.2
Circulatory system	188	2,352	127.9	66.4	1.9
Conditions originating in the perinatal period	7	320	4.4	9.3	0.5
Pregnancy, childbirth and the puerperium	124	214	88.9	5.9	15.0
Total	19,881	375,181	13,071.9	10,742.5	1.2

Note: This total excludes 7,698 children aged 1–14 years for whom there was no principal diagnosis, sex, external cause of injury or Indigenous status recorded.

Source: AIHW National Hospital Morbidity Database.

- Overall, Aboriginal and Torres Strait Islander children aged 1–14 years were hospitalised in 1999–00 at a rate 1.2 times higher than that of other Australian children of the same age.
- For skin diseases, diseases of the circulatory and respiratory systems and infectious and parasitic diseases, Aboriginal and Torres Strait Islander children had higher hospitalisation rates than other Australian children.
- The greatest difference in rates was seen in the pregnancy and childbirth chapter. Aboriginal and Torres Strait Islander girls were hospitalised for conditions associated with pregnancy and childbirth at a rate 15.0 times that of other Australian girls.

Children in metropolitan, rural and remote areas

Table 4.10: Reasons for hospitalisations of children aged 1–14 years in metropolitan, rural and remote areas, 1999–00

Diagnosis	Number			Rate per 100,000 children		
	Metropolitan	Rural	Remote	Metropolitan	Rural	Remote
Respiratory system	52,274	25,353	5,028	2,095.5	2,556.8	3,603.0
Injury and poisoning	40,195	20,454	4,282	1,603.7	1,998.8	3,136.6
Digestive system	27,347	13,951	2,065	1,091.2	1,376.1	1,495.1
Ear diseases	23,012	8,166	1,289	922.8	820.5	925.9
Infectious and parasitic	19,296	9,163	2,075	774.7	931.1	1,488.5
Other symptoms, signs and abnormal findings	15,428	7,028	1,363	617.1	700.0	985.3
Contact with health services	15,450	6,131	998	617.4	608.0	726.2
Congenital abnormalities	10,592	3,506	353	424.1	351.5	253.7
Genitourinary system	8,368	3,837	710	334.3	380.7	514.1
Neoplasms	7,021	3,020	1,256	280.0	295.4	913.8
Skin diseases	8,223	2,752	258	328.3	271.8	189.3
Nervous system	7,314	2,550	390	292.7	253.4	282.1
Musculoskeletal system	6,063	2,766	484	241.2	266.4	360.8
Mental and behavioural disorders	7,844	1,038	184	311.6	99.0	141.5
Diseases of blood and blood-forming organs	5,219	1,274	167	208.2	125.9	121.2
Diseases of the eye	4,065	1,489	255	162.9	150.0	185.0
Endocrine, nutritional and metabolic diseases	3,456	1,486	319	137.7	144.3	230.4
Circulatory system	1,590	772	184	63.3	74.2	137.0
Pregnancy and childbirth	165	95	80	6.5	8.8	63.1
Conditions originating in the perinatal period	267	58	3	0.4	27.3	41.1
Total	263,189	114,889	21,743	10,523.9	11,418.6	15,754.6

Note: This total excludes 2,939 children aged 1–14 years for whom there was either no principal diagnosis, sex, external cause of injury or area of residence recorded.

Source: AIHW National Hospital Morbidity Database.

- In 1999–00, hospitalisation rates for some diagnosis chapters differed by area of residence. Rates for respiratory conditions and injury and poisoning were greater for children aged 1–14 years in remote areas than for those in rural or metropolitan areas. Rates for infectious diseases (which include vaccine-preventable and other communicable disease) were also greater for those in remote areas.
- The highest difference among geographical areas was for girls, in the chapter of diagnoses associated with pregnancy and childbirth. Hospitalisation rates for girls in remote areas were 10 times those for girls in metropolitan areas, and 7 times those for girls in rural areas.
- Hospitalisation rates for children in remote areas are largely affected by the health status of Aboriginal and Torres Strait Islander children living in these areas.

Age-specific reasons for hospitalisation

The most frequent diagnoses for hospitalisation differed between age groups (Table 4.11).

Table 4.11: Most frequent diagnoses for hospitalisation of children aged 0–14 years, 1999–00

Age (years)	Diagnosis	Number			Rate per 100,000 children		
		Males	Females	Persons	Males	Females	Persons
<1	Other pre-term infants	7,608	6,530	14,138	5,920.3	5,354.0	5,644.5
	Acute bronchiolitis, unspecified	4,290	2,855	7,145	3,338.3	2,340.8	2,852.6
	Transient tachypnoea of newborn	2,625	1,519	4,144	2,042.7	1,245.4	1,654.5
	Neonatal jaundice, unspecified	2,386	1,748	4,134	1,856.7	1,433.2	1,650.5
	Acute bronchiolitis due to respiratory syncytial virus	2,383	1,654	4,037	1,854.4	1,356.1	1,611.8
1–4	Asthma, unspecified	4,685	2,505	7,190	894.5	504.2	704.5
	Diarrhoea and gastroenteritis of presumed infectious origin	3,568	3,211	6,779	681.2	646.3	664.2
	Chronic mucoid otitis media	3,977	2,547	6,524	759.3	512.6	639.2
	Acute obstructive laryngitis [croup]	4,576	1,908	6,484	873.7	384.0	635.3
	Dental caries, unspecified	3,394	2,954	6,348	648.0	594.5	622.0
5–9	Chronic tonsillitis	3,597	3,697	7,294	526.6	570.2	547.8
	Dental caries	2,649	2,441	5,090	387.8	376.5	382.3
	Chronic mucoid otitis media	2,650	1,881	4,531	388.0	290.1	340.3
	Asthma, unspecified	2,112	1,338	3,450	309.2	206.4	259.1
	Fracture of lower end of both ulna and radius	1,523	977	2,500	223.0	150.7	187.8
10–14	Chronic tonsillitis	1,219	2,167	3,386	180.1	336.3	256.3
	Impacted teeth	1,120	1,860	2,980	165.5	288.6	225.5
	Acute appendicitis, unspecified	1,553	946	2,499	229.5	146.8	189.1
	Asthma, unspecified	1,158	890	2,048	171.1	138.1	155.0
	Fracture of lower end of both ulna and radius	1,500	502	2,002	221.6	77.9	151.5

Notes

1. Z38.0 'Singleton, born in hospital' was excluded from this analysis.
2. Z41.2 'Routine and ritual circumcision' was excluded from this analysis because, although it is a reason for hospitalisation, it is not a disease or condition.
3. ICD-10-AM codes P07.3, J21.9, P22.1, P59.9, J21.0, J45.9, A09, H65.3, J05.0, K02.9, J35.0, K02.9, H65.3, J45.9, S52.6, J35.0, K01.1, K35.9, J45.9, S52.6.

Source: AIHW National Hospital Morbidity Database.

- Among infants, the most common diagnosis for hospitalisation in 1999–00 was 'other pre-term infants' (babies born between 28 and 37 weeks gestation).
- For children aged 1–4 years, asthma (unspecified) was the most common reason for hospitalisation. Infectious diseases, such as diarrhoea and gastroenteritis, and otitis media, were also common diagnoses.
- Among children aged 5–9 years and 10–14 years, chronic tonsillitis was associated with the highest hospitalisation rates. Problems with oral health (dental caries and impacted teeth) were also common diagnoses. Asthma continued to be a frequent reason for hospitalisation in these age groups. Also, fracture of the arm featured in both age groups as a common diagnosis.

Procedures

Once admitted to hospital, children may undergo specific procedures. These can be performed to treat the principal diagnosis for hospitalisation or additional diagnoses, or for exploratory or diagnosis purposes, which may be related to the principal diagnosis or an additional diagnosis (AIHW 1999a). Procedure chapters are shown in Table 4.12.

Table 4.12: Procedures undertaken during hospitalisations of children aged 0–14 years, 1999–00

Procedure	Males			Females		
	Number	Rate	Per cent of procedures	Number	Rate	Per cent of procedures
Miscellaneous	27,672	1,428.8	14.4	21,311	1,158.7	16.1
Musculoskeletal	22,724	1,118.7	11.9	14,589	759.0	11.1
Dermatological and plastic	18,354	929.6	9.6	14,254	760.2	10.8
Nose, mouth and pharynx	17,349	865.7	9.0	14,623	764.5	11.1
Ear and mastoid process	18,529	930.5	9.7	12,687	670.1	9.6
Digestive	15,450	778.4	8.1	8,750	459.9	6.6
Dental	11,236	559.8	5.9	11,183	584.3	8.5
Allied health interventions	10,820	550.5	5.6	9,009	481.0	6.8
Male genital organs	18,207	928.6	9.5	0.0
Imaging	8,360	422.2	4.4	6,247	333.1	4.7
Eye and adnexa	4,043	204.4	2.1	3,676	195.8	2.8
Chemotherapeutic and radiation oncology	3,788	188.6	2.0	3,087	162.0	2.3
Cardiovascular	3,545	180.5	1.8	3,271	174.9	2.5
Respiratory	4,083	213.4	2.1	2,718	149.8	2.1
Nervous	3,210	163.7	1.7	2,464	132.0	1.9
Urinary	3,205	161.2	1.7	2,125	111.9	1.6
Blood, blood-forming organs	913	45.6	0.5	696	36.7	0.5
Gynaecological	926	48.0	0.7
Endocrine	157	7.9	0.1	155	8.1	0.1
Breast	97	4.8	0.1	107	5.6	0.1
Obstetric	..	0.0	0.0	114	5.8	0.1

.. Not applicable.

Note: ICD-10-AM code blocks 1820–1899, 1360–1579, 1600–1718, 370–422, 300–333, 850–1011, 450–490, 2050–2140, 1160–1203, 1940–2016, 160–256, 1780–1799, 600–767, 520–569, 1–86, 1040–1128, 800–817, 1230–1299, 110–129, 1740–1759, 1330–1347.

Source: AIHW National Hospital Morbidity Database.

- The most common group of procedures which affected children in 1999–00 were ‘miscellaneous procedures’. Within this chapter, the most common procedures were other oxygen enrichment, injection of antibiotics, and gastric gavage.
- The next most common group was musculoskeletal procedures. Within this chapter, the most common procedures were closed reduction of fractures of the radius or ulna (arm).
- Dermatological and plastic procedures were also common, with the most common procedures within this chapter being other phototherapy and repair of wound or skin.

'Miscellaneous procedures' were also the most common procedures among Aboriginal and Torres Strait Islander children. The next most common were allied health interventions, which include interventions such as physiotherapy and social work. Rates for these interventions for Indigenous children were over twice those for other Australian children.

The greatest difference between Aboriginal and Torres Strait Islander children and other Australian children was seen among girls aged 10–14 years, with regard to obstetric procedures. These procedures were reported for Aboriginal and Torres Strait Islander girls at a rate 27 times that for other Australian girls.

For the majority of procedure chapters, rates were comparable between children in remote, rural and metropolitan areas, with some exceptions. Rates for cardiovascular procedures in metropolitan areas were nearly twice the rates for those in remote areas. Hospitalisations with allied health interventions for children in remote areas were 1.6 times the rates for those in metropolitan and rural areas. Hospitalisation rates for children in remote areas for dental procedures were also 1.6 times the rates for those in metropolitan areas. The greatest difference in rates for any procedure was in obstetric procedures. The rate among girls in remote areas for obstetric procedures was 18 times the rate for girls in metropolitan areas, and 14 times the rate for girls in rural areas.