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Appendix 3: Technical notes

Technical notes on tables in this report

Definitions

If not otherwise indicated, data elements were defined according to the 1997–98 definitions in the *National Health Data Dictionary* Version 6.0 (summarised in the Glossary).

Unless otherwise specified:

- the Department of Veterans' Affairs hospital in New South Wales and the public psychiatric hospitals are included in the public hospital (public sector) category; and
- private psychiatric hospitals and private free-standing day hospital facilities are included in the private hospital (private sector) category.

Data presented by State or Territory refer to the State or Territory of the hospital, not to the State or Territory of the usual residence of the patient. The exceptions are Tables 5.8, 5.9 and 5.10, in which the State or Territory of usual residence of the patient is reported against the State or Territory of hospitalisation. Data presented in Table 8.1 are also presented by State or Territory of usual residence. The maps in Chapters 4 and 7 are also based on data on the State or Territory and Statistical Division of usual residence of the patient (see below).

Population rates

Crude population rates throughout the report and age group-specific rates in Chapter 6 were calculated using Australian Bureau of Statistics' population estimates for 31 December 1997

(Appendix 4). For Figure 6.7, estimates for the Indigenous population for 30 June 1997 were used for age group specific rates for the Indigenous population.

Age-standardised rates were calculated using the direct standardisation method and 5-year age groups. The total Australian population for 30 June 1991 was used as the population for which expected rates were calculated. For the observed rates, the population estimates for 31 December 1997 were used for the observed rates in Tables 2.4, 4.1, 4.2 and 5.2. For Tables 6.7 and 6.8, the observed rates were calculated using population estimates for the Indigenous population and for the population for selected countries of birth for 30 June 1997, respectively (Appendix 4). Rates in Table 2.4 were standardised by sex as well as by age.

Data presentation

Except as noted, where totals are provided in the tables, they include data only for those States and Territories for which data were available, as indicated in the tables. The exceptions are Table 2.3, Tables 4.3 and 4.4, and some tables for private hospitals in

Chapters 7, 8 and 10. Although available, some data in these tables were not published, for confidentiality reasons. The abbreviation 'n.p.' has been used in these tables to denote this.

Throughout the publication, percentages may not add up to 100.0 due to rounding. Percentages and population rates printed as 0.0 or 0 may denote less than 0.05 or 0.5 respectively.

Data on Statistical Division of usual residence

Data on the Statistical Division of usual residence of admitted patients is presented in maps in Chapter 5 (Figures 5.1 and 5.2) and Chapter 7 (Figures 7.3 to 7.6). The data used for these maps were derived from data supplied for each separation by the States and Territories for the National Hospital Morbidity Database on the area of usual residence of the patients. The *National Health Data Dictionary* specifies that these data should be provided as the State or Territory and the Statistical Local Area (SLA) of usual residence. SLAs are small units within the Australian Bureau of Statistics' Australian Standard Geographical Classification (ASGC), and can be aggregated to Statistical Divisions for reporting, as in the maps in this publication. The data on the State or Territory of usual residence is reported in Chapter 5 (Tables 5.7, 5.8 and 5.9).

Although most separations included data on the State or Territory of usual residence, not all States and Territories were able to provide information on the area of usual residence in the form of an SLA code, using the 1997 edition of the ASGC. If SLA information was unavailable for a patient then postcode was requested. The Institute then mapped the supplied data to the standard, as far as possible. The standardised data were then aggregated to Statistical Division data for reporting.

New South Wales, Victoria, Tasmania and the Australian Capital Territory were able to provide SLA codes for both usual resident and non-usual resident patients. Western Australia was able to provide postcode for usual resident and non-usual resident patients, the Northern Territory supplied SLA codes for usual resident and postcodes for non-usual resident patients and South Australia was able to provide SLA codes for usual resident patients only. Queensland did not supply SLA codes but was able to provide Statistical Division and Statistical Sub-Division for usual resident patients only.

To enable further analysis of this information, it was aggregated to Statistical Sub-Division and Statistical Division levels. This process identified missing, invalid and superseded codes, but resulted in 98.9% of separations being assigned valid Statistical Division and Statistical Sub-Division codes. This high level of assignment was achieved for all jurisdictions, ranging from 94.4% for the Northern Territory separations to 99.8% for Western Australian separations. Data for the two Statistical Divisions in the Australian Capital Territory were combined for mapping purposes because of the difference in the relative size of the populations.

Patient days

Patient days provide information on the length of stay of patients and are defined in the *National Health Data Dictionary* as 'the total number of days or part days of stay for all patients who were admitted for an episode of care and who underwent separation during the reporting period'. For overnight-stay patients, the day that the patient is admitted is counted as a patient day, while the day that the patient is separated is not counted as a patient day. Same day patients are allocated a length of stay of one day.

This definition means that not all patient days reported will have occurred in the reporting period (that is, 1 July 1997 to 30 June 1998) and, therefore, cannot be used to calculate accurate financial year-based activity estimates. It is expected, however, that in acute hospitals, patient days for patients who separated in 1997–98, but were admitted in 1996–97 would be counterbalanced by the patient days for patients in hospital on 30 June 1998 who will separate in the following reporting period, and for whom data will be reported in the data collection for the 1998–99 year. Because of the more variable lengths of stay in long-stay establishments (such as public psychiatric hospitals), the numbers of separations and patient days can be a less accurate measure of the activity of these establishments.

Discrepancies in reporting of separations and patient days

The scope of the National Hospital Morbidity Database and the National Public Hospital Establishments Database are described in Chapter 1. Both databases include data on separations and patient days. The data are collected at the patient level for the National Hospital Morbidity Database and at an aggregate level for individual hospitals for the National Public Hospital Establishments Database. However, even after excluding private hospital separations and patient days from the National Hospital Morbidity Database, there are discrepancies in the number of separations and patient days reported to the two databases. This is borne out by comparing Table 4.2 with Tables 4.3 and 4.4.

Differences between the National Public Hospital Establishments Database and the National Hospital Morbidity Database are slight for 1997–98. They were mainly caused by differences in the timing of extractions of data for the two databases and slight differences in the definitions of boarders and the inclusions of unqualified neonates. For example: in supplying data to the National Public Hospital Establishments Database, the Northern Territory used the diagnosis codes V63 and V68 to indicate boarders; however the Institute did not use these codes to identify records of boarders for removal from the National Hospital Morbidity Database.

Private hospitals in the National Hospital Morbidity Database

Chapter 1 includes details of the hospitals included in the National Hospital Morbidity Database. Data are not provided for 1997–98 for the one private hospital in the Northern Territory, the private free-standing day hospital facilities in the Australian Capital Territory, two private free-standing day hospital facilities and one small former public hospital has recently been privatised in Tasmania, and about 4,500 New South Wales private hospital separations.

The Australian Bureau of Statistics collates summary hospital morbidity data from private hospitals in its Private Hospital Establishments Collection. In 1996–97, the Private Health Establishments Collection reported 1,765,643 separations (Australian Bureau of Statistics 1998) compared with 1,684,948 separations reported for the National Hospital Morbidity Database.

This discrepancy of 80,695 separations (4.6%) (4,868 for private free-standing day hospital facilities and 75,827 for other private hospitals) may be due to the use of differing definitions or different interpretations of definitions. It is also likely to reflect the omission of some private hospitals from the National Hospital Morbidity Database and perhaps also some

separations for some private hospitals which were otherwise included in the database. In 1996–97, the National Hospital Morbidity Database included all private hospitals as for 1997–98, and included all New South Wales separations. In contrast, the Private Health Establishments Collection included all private acute and psychiatric hospitals licensed by State and Territory health authorities and all private free-standing day hospital facilities approved by the Department of Health and Aged Care.

Fewer separations were reported to the National Hospital Morbidity Database for 1996–97 than to the Private Health Establishments Collection for all geographical areas for which data are available from the Private Health Establishments Collection (ABS 1998):

- New South Wales and the Australian Capital Territory combined—540,086 and 555,506 separations, respectively (a discrepancy of 15,420 or 2.8%)
- Victoria—458,554 and 459,396 separations, respectively (a discrepancy of 842 or 0.2%)
- Queensland—362,299 and 373,836 separations, respectively (a discrepancy of 11,537 or 3.1%)
- South Australia and the Northern Territory combined—142,644 and 155,596 separations, respectively (a discrepancy of 12,952 or 8.3%)
- Western Australia and Tasmania combined—181,365 and 221,309 separations, respectively (a discrepancy of 39,944 or 18.0%)

With the exception of Queensland, the discrepancies seem to reflect the major differences in coverage of the National Hospital Morbidity Database and the Private Health Establishments Collection. That is, they seem to reflect the omission from the National Hospital Morbidity Database of private hospitals in the Australian Capital Territory, the Northern Territory and Tasmania. However, because of other apparent differences between the databases (manifest as discrepancies in the numbers of separations reported by each State and Territory grouping for both private free-standing day hospital facilities and other private hospitals), it cannot be concluded that the discrepancies represent measures of the numbers of separations for the omitted hospitals.

Appendix 4: Population estimates

Table A4.1: Estimated resident population by age group and sex, States and Territories, 31 December 1997

Sex	Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia ^(a)
Females	0	42,837	29,903	22,669	11,926	8,916	2,937	2,085	1,683	122,982
	1-4	170,856	122,634	95,283	49,709	37,789	12,940	8,475	6,931	504,733
	5-14	428,523	310,298	243,604	130,703	97,836	34,488	21,790	15,677	1,283,263
	15-24	431,330	322,425	248,532	130,859	97,584	32,040	25,202	14,786	1,302,902
	25-34	484,660	366,429	263,880	140,321	108,037	33,544	25,620	17,924	1,440,712
	35-44	485,705	358,412	263,111	143,791	114,208	36,853	25,253	14,779	1,442,407
	45-54	402,255	298,724	220,706	115,359	98,691	30,622	21,849	10,029	1,198,377
	55-64	274,174	202,265	139,488	72,509	67,120	21,250	11,032	4,239	792,132
	65-74	241,506	176,323	114,266	56,699	62,035	18,293	7,572	1,925	678,640
	75 and over	210,739	154,643	98,918	48,676	57,253	16,528	5,747	1,049	593,567
<i>Total</i>		<i>3,172,585</i>	<i>2,342,056</i>	<i>1,710,457</i>	<i>900,552</i>	<i>749,469</i>	<i>239,495</i>	<i>154,625</i>	<i>89,022</i>	<i>9,359,715</i>
Males	0	45,110	31,889	23,949	12,695	9,366	3,105	2,152	1,750	130,043
	1-4	180,036	129,312	100,608	52,615	39,818	13,823	8,762	7,308	532,397
	5-14	449,955	325,113	256,548	137,713	103,269	35,732	22,743	16,805	1,348,214
	15-24	448,125	335,116	258,910	138,396	102,472	33,191	26,782	16,494	1,359,691
	25-34	483,058	360,998	264,446	144,176	110,053	32,237	25,046	19,398	1,439,737
	35-44	486,108	352,695	261,868	144,494	112,964	35,981	24,079	16,268	1,434,761
	45-54	413,084	297,967	230,014	122,193	98,099	31,108	21,624	12,254	1,226,596
	55-64	276,665	201,546	146,253	75,115	65,931	21,221	11,336	5,752	803,917
	65-74	217,643	157,682	107,337	53,460	55,863	16,638	6,731	2,363	617,738
	75 and over	130,082	94,519	65,308	30,680	35,111	10,141	3,515	852	370,225
<i>Total</i>		<i>3,129,866</i>	<i>2,286,837</i>	<i>1,715,241</i>	<i>911,537</i>	<i>732,946</i>	<i>233,177</i>	<i>152,770</i>	<i>99,244</i>	<i>9,263,319</i>
Persons	0	87,947	61,792	46,618	24,621	18,282	6,042	4,237	3,433	253,025
	1-4	350,892	251,946	195,891	102,324	77,607	26,763	17,237	14,239	1,037,130
	5-14	878,478	635,411	500,152	268,416	201,105	70,220	44,533	32,482	2,631,477
	15-24	879,455	657,541	507,442	269,255	200,056	65,231	51,984	31,280	2,662,593
	25-34	967,718	727,427	528,326	284,497	218,090	65,781	50,666	37,322	2,880,449
	35-44	971,813	711,107	524,979	288,285	227,172	72,834	49,332	31,047	2,877,168
	45-54	815,339	596,691	450,720	237,552	196,790	61,730	43,473	22,283	2,424,973
	55-64	550,839	403,811	285,741	147,624	133,051	42,471	22,368	9,991	1,596,049
	65-74	459,149	334,005	221,603	110,159	117,898	34,931	14,303	4,288	1,296,378
75 and over	340,821	249,162	164,226	79,356	92,364	26,669	9,262	1,901	963,792	
Total		6,302,451	4,628,893	3,425,698	1,812,089	1,482,415	472,672	307,395	188,266	18,623,034

(a) Includes Other Territories.

Source: Australian Bureau of Statistics unpublished data.

Table A4.2: Projected Aboriginal and Torres Strait Islander population by age group and sex, States and Territories, 30 June 1997

Sex	Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia ^(a)
Females	0	1,633	324	1,563	755	303	213	43	679	5,513
	1-4	6,572	1,290	6,279	2,989	1,227	821	162	2,656	22,002
	5-14	14,082	2,774	13,587	7,426	2,843	2,000	397	6,208	49,336
	15-24	10,333	2,067	10,424	5,400	2,191	1,590	341	5,498	37,860
	25-34	9,449	1,986	9,078	5,012	2,045	1,185	308	4,559	33,638
	35-44	6,863	1,455	6,384	3,511	1,370	1,031	222	3,111	23,960
	45-54	4,136	826	3,808	1,898	758	542	92	1,859	13,929
	55-64	2,249	453	1,979	1,047	428	260	21	1,086	7,526
	65-74	1,100	284	1,065	604	214	126	13	522	3,932
	75 and over	518	146	525	302	120	66	3	269	1,950
	<i>Total</i>	<i>56,935</i>	<i>11,605</i>	<i>54,692</i>	<i>28,944</i>	<i>11,499</i>	<i>7,834</i>	<i>1,602</i>	<i>26,447</i>	<i>199,646</i>
Males	0	1,716	342	1,641	796	315	222	48	719	5,801
	1-4	6,665	1,348	6,388	3,150	1,227	854	197	2,906	22,743
	5-14	14,782	2,829	14,075	7,558	2,923	2,120	393	6,732	51,434
	15-24	10,445	2,101	10,448	5,502	2,046	1,514	317	5,493	37,891
	25-34	8,284	1,851	8,248	4,648	1,836	1,073	269	4,494	30,721
	35-44	6,186	1,368	5,749	3,249	1,320	966	218	2,822	21,894
	45-54	3,906	860	3,406	1,742	715	614	83	1,666	13,000
	55-64	2,084	208	1,679	950	369	256	25	893	6,666
	65-74	863	402	846	495	167	100	6	400	3,085
	75 and over	301	88	386	229	86	28	3	210	1,333
	<i>Total</i>	<i>55,232</i>	<i>11,397</i>	<i>52,866</i>	<i>28,319</i>	<i>11,004</i>	<i>7,747</i>	<i>1,559</i>	<i>26,335</i>	<i>194,568</i>
Persons	0	3,349	666	3,204	1,551	618	435	91	1,398	11,314
	1-4	13,237	2,638	12,667	6,139	2,454	1,675	359	5,562	44,745
	5-14	28,864	5,603	27,662	14,984	5,766	4,120	790	12,940	100,770
	15-24	20,778	4,168	20,872	10,902	4,237	3,104	658	10,991	75,751
	25-34	17,733	3,837	17,326	9,660	3,881	2,258	577	9,053	64,359
	35-44	13,049	2,823	12,133	6,760	2,690	1,997	440	5,933	45,854
	45-54	8,042	1,686	7,214	3,640	1,473	1,156	175	3,525	26,929
	55-64	4,333	661	3,658	1,997	797	516	46	1,979	14,192
	65-74	1,963	686	1,911	1,099	381	226	19	922	7,017
	75 and over	819	234	911	531	206	94	6	479	3,283
Total		112,167	23,002	107,558	57,263	22,503	15,581	3,161	52,782	394,214

(a) Includes Other Territories.

Source: ABS 1998 Experimental projections of the Aboriginal and Torres Strait Islander population, 30 June 1996 to 30 June 2006 Cat. No. 3231.0.

Table A4.3: Estimated resident population by country/region of birth, Australia 30 June 1997

Country/region of birth	Population	Country/region of birth	Population
Australia	14,212,498	Myanmar	11,555
New Zealand	327,323	Indonesia	47,839
Papua New Guinea	26,419	Cambodia	24,075
Fiji	40,518	Malaysia & Brunei	86,465
Oceania (other)	26,774	Philippines	109,879
<i>Oceania (total)</i>	<i>14,633,532</i>	Singapore	30,740
		Vietnam	167,325
United Kingdom & Ireland	1,232,537	Thailand	21,533
Greece	141,962	China	135,345
Italy	254,379	Hong Kong & Macau	58,456
Malta	55,342	Japan	23,705
Former Yugoslavia	198,080	Korea	36,149
Former USSR & Baltic States	54,272	India	90,374
Hungary	27,187	Sri Lanka	54,115
Poland	71,156	Asia (other)	57,662
Romania	13,592	<i>Asia (total)</i>	<i>955,217</i>
Austria	22,309		
France	18,713	Canada	28,559
Germany	121,214	United States of America	56,385
Netherlands	95,531	North America (other)	92
Europe & the former USSR (other)	124,055	<i>North America (total)</i>	<i>85,036</i>
<i>Europe & the former USSR (total)</i>	<i>2,430,329</i>		
		Argentina	11,850
Lebanon	76,151	Chile	25,804
Turkey	31,656	The Caribbean	3,349
Iran	17,908	Central & South America (other)	41,640
Egypt	37,955	<i>South America, Central America & The Caribbean (total)</i>	<i>82,643</i>
Middle East & North Africa (other)	50,286		
<i>Middle East & North Africa (total)</i>	<i>213,956</i>	Mauritius	18,304
		South Africa	65,095
		Africa excluding North Africa (other)	40,043
		<i>Africa excluding North Africa (total)</i>	<i>123,442</i>
		<i>Overseas (total)</i>	<i>4,311,657</i>
		Total	18,524,155

Source: ABS 1998. Migration Australia 1996–97. Cat No. 3412.0.

Appendix 5: Cost per casemix-adjusted separation methodology

Introduction

Table 2.1 presents a measure of the average cost of providing care for an admitted patient (whether an overnight-stay patient or a same day patient), adjusted for the relative complexity of the patient's clinical condition and of the hospital services provided. The cost per casemix-adjusted separation does not, however, take account of the quality of care delivered within a hospital nor the health outcomes achieved.

The methodology used to calculate the cost per casemix-adjusted separation for the current report uses as its base the method used to report this indicator in *Australian Hospital Statistics 1996–97* (AIHW 1998a) and other reports including those of the National Health Ministers' Benchmarking Working Group (NHMBWG 1998, in press) and the Steering Committee for the Review of Commonwealth/State Service Provision (SCRCSSP 1999). The indicator is calculated as:

$$\frac{\text{Recurrent expenditure} \times \text{IFRAC}}{\text{Total separations} \times \text{Average cost weight}}$$

where IFRAC (admitted patient fraction) is the estimated proportion of total hospital costs related to admitted patients and average cost weight is a single number representing the relative costliness of cases for a particular provider (or a group of providers, for example teaching hospitals). Calculation of the average cost weight is described below.

Recurrent expenditure for this indicator is defined by the recurrent expenditure data elements in the *National Health Data Dictionary*.

Total separations excludes unqualified neonates and boarders and are defined in the Glossary. In short, a separation is counted when a patient completes an episode of hospital care, whereas an admission is counted when a patient commences an episode of care.

As there is inconsistency between States and Territories in the recording of depreciation, it has been excluded from this analysis. It is anticipated that as accrual accounting becomes universally adopted by health authorities, comparable data on depreciation will become available and it will be included in these analyses, (see Tables 3.8 and 3.10 for available data on capital expenditure and depreciation).

The cost per casemix-adjusted separation can not be used as the sole measure of the efficiency of the different jurisdictions in providing hospital services, however, as many of the costs incurred are costs beyond the control of a jurisdiction. For example, the Northern Territory has high staffing and transport costs, and treats a greater proportion of Indigenous patients than other jurisdictions. Because of factors such as these, cost disabilities associated with providing the same level and standard of hospital services available elsewhere in Australia are recognised by the Commonwealth Grants Commission (CGC). Cost disability

refers to variables such as remoteness, high input costs and socioeconomic factors that increase the cost of providing services. Note that the CGC's 'hospital services' category includes ambulance and central administration expenditures as well as acute hospital services expenditure (CGC 1997). Other jurisdictions may suffer cost disabilities for other reasons. Factors such as these should be taken into account when making comparisons.

Scope

For the purposes of improving the comparability of data across jurisdictions and increasing the accuracy of the analysis, the scope for Table 2.1 has been restricted to selected public acute hospitals. As can be seen from the table, the number of separations excluded from the analysis is 3.5% of the total number of separations for the nation. Hospitals excluded from the analysis include psychiatric, drug and alcohol services, rehabilitation, dental, mothercraft, hospices and hospitals that satisfy the New South Wales definition of community non-acute hospitals. The scope of public hospital establishments included in the calculation of the cost per casemix-adjusted separation figures for 1997–98 is different from the scope of the data reported in all other tables and the scope has also changed since the reports using 1996–97 data (AIHW 1998a, SCRCSSP 1999, NHMBWG in press).

In previous years the scope was decided by each jurisdiction and as a result there has been some slight inconsistencies in the establishments that were included and excluded amongst jurisdictions. This year after consultation with data providers it was agreed to address this problem by uniformly using the criteria for community non acute hospitals specified by New South Wales in their peer group classification (NSW Health in press) to exclude hospitals. Community non-acute hospitals are defined as hospitals with fewer than 2,000 acute weighted separations and more than 40% of patient days that are either outlier bed days or not acute (excluding unqualified neonates).

Financial data for most Victorian, Tasmanian and some South Australian hospitals were only available at the network level. For Victoria it was not possible to exclude thirteen hospitals (campuses) with a total of 19,500 separations that would otherwise have satisfied the criteria for exclusion. The effect on the Victorian estimate is likely to be in the order of 1%. There was a single Tasmanian record covering all Tasmanian psychiatric and district hospitals. The best approach in Tasmania's case was to exclude the record covering the psychiatric and district hospitals as the majority of institutions within the grouped record would have been excluded. The networking made no difference to the exclusions for South Australia as all of the members of the networks were classified to the same categories as the networks themselves.

The New South Wales methodology identifies a range of non-acute hospitals specifically by their role as psychiatric, mothercraft, rehabilitation, hospices and multi-purpose services. These hospitals are already excluded by most jurisdictions. Hospitals with less than 2,000 acute weighted separations are defined as community. Community hospitals are divided into acute and non-acute by examining the proportion of patient days that relates to: patients other than acute; and outlier patient days. If the proportion of 'patient days other than acute and outlier patient days' is over 40% the hospital are classified as community non-acute hospitals. The trim points published in the *Casemix Standards for NSW 1998–99* (NSW Health 1998) have been used to determine outlier days.

Among the hospitals with fewer than 2,000 acute weighted separations across Australia there are a number of institutions on the cusp. Across Australia there are 434 establishments with less than 2,000 acute weighted separations. 168 of these have a 'patient days other than acute and outlier patient days' proportion of more than 40%. Ten of the hospitals with less than 2,000 acute weighted separations have a 'patients other than acute and outlier patient

day' proportion within 2% of the 40% mark in either direction. While natural variability in the acute/not acute proportion may cause these institutions to move in or out of scope, their contribution to the estimates is insignificant.

As the service reforms under the National Mental Health Strategy are put into place, fewer patients are being treated in specialised psychiatric hospitals, with a shift to treatment and rehabilitation being provided in the public acute hospital system and in the community, including specialised community residential facilities (Commonwealth of Australia 1998). However, these changes are occurring at a different rate between jurisdictions. Table 4.2 shows the crude separation rate for public psychiatric hospitals varied widely, from 0.3 per 1,000 population in Victoria, to 2.9 per 1,000 population in South Australia. This variation reflects differences in the extent to which public psychiatric hospital services have been mainstreamed into public acute hospitals or replaced by community care, and indicates that there are differences across jurisdictions in the number of psychiatric patients who are being included in the total separations used to calculate the cost figures in Table 2.1.

Determining costs for admitted patients

Ideally, costs for acute admitted patients only would be used for this indicator. This is because the current methodology is restricted to using cost weights published for Australian National Diagnosis Related Groups which only apply to acute admitted patients.

There are two dimensions to this scope: *admitted* patients and *acute* admitted patients. On the first dimension, it is necessary to exclude costs not directly associated with admitted patient care, notably non-admitted patient costs. To determine the costs associated with admitted patients, an admitted patient fraction (IFRAC) is used. The IFRAC is an expression of the ratio of admitted patient costs to total hospital costs. The IFRAC is generally estimated at a hospital level from the results of surveys.

$$\text{IFRAC} = \frac{\text{Inpatient cost}}{\text{Total cost}}$$

For hospitals where the IFRAC was not available or clearly inconsistent with the data, the admitted patient costs were estimated using the Health and Allied Services Advisory Council (HASAC) ratio (see Cooper-Stanbury, Solon & Cook 1994). The HASAC IFRAC is calculated using the following formula:

$$\text{IFRAC}_H = \frac{\text{Patient days}}{\text{Patient days} + \left(\frac{\text{NIOOS}}{\text{Ratio}} \right)}$$

Where NIOOS = Non-inpatient occasions of service

IFRAC_H = the IFRAC calculated and

Ratio = the ratio of non-admitted patient cost to admitted patient cost per service.

The ratio used in this report equates the cost of 5.753 non-admitted patient services to the cost of one admitted patient bed day.

Unbundling teaching and research costs from the total costs are not directly covered by this equation. The component of costs that relate to teaching are not directly estimated by this HASAC calculation. In effect they would be allocated to admitted patients and non-admitted patients according to the proportion calculated by the HASAC IFRAC. For the most part research costs are omitted from the scope of the collection as they are most frequently controlled by institutions legally (if not physically) separated from the hospital.

A brief analysis of hospitals where IFRACs were supplied shows that the ratio of non-admitted patient cost to admitted patient cost per service varies considerably between hospitals and jurisdictions. There are two explanations for this: either the casemix is different between the hospitals or the occasions of service are not being counted consistently. For example, a hospital that performed non-admitted patient pathology for a number of other hospitals may have a very different ratio of admitted patient costs to non-admitted patient costs compared with a hospital that performed many non-admitted patient magnetic resonance imaging scans.

The HASAC method is used in this report to estimate IFRACs for 15 selected and three excluded hospitals in Queensland, 10 excluded hospitals in New South Wales, one selected and one excluded hospital in the Australian Capital Territory, four selected and one excluded hospitals in Western Australia, eight selected and two excluded hospitals in South Australia and one excluded network in Tasmania. In New South Wales, Queensland and South Australia the HASAC IFRAC was usually only used on small rural hospitals. It also seems apparent from inspection of the data that some hospitals may have used the HASAC method to estimate their IFRAC for reporting purposes.

Ideally, different IFRACs would be used for different cost categories. In the absence of comprehensive sets of IFRACs, a single hospital-wide IFRAC was applied to all cost categories.

Admitted patients other than acute patients

It was not possible to isolate the costs of acute admitted patients from all admitted patient costs (as defined by the *National Health Data Dictionary* data element *Type of episode of care*). Because costs are being estimated per separation and not per patient day most of the non-acute admitted patients (including rehabilitation and non-acute patients) will have higher costs per separation, as these patients typically have longer lengths of stay, even though their daily costs are lower. These patients make up less than 3% of total admitted patient episodes and account for approximately 15% of patient days. Many of these records were excluded from the analysis by the restrictions in establishment scope.

There is also variation in the application of the episodes of care and type of episode of care between States and Territories. Only the Australian Capital Territory does not identify episodes of care other than acute, apart from unqualified neonates (see Table 5.10). This is also shown in the proportion of statistical separations and rates of statistical admissions and separations (see Tables 5.12 and 5.13). In States or Territories where there is a clear delineation in funding arrangements between acute and sub-acute services, the split between acute and other types of patients may be different from where this is done purely on a statistical basis.

The major differences in the distribution of separations other than acute patients can be seen in the lengths of stay. For example, Queensland and South Australia have extremely long average lengths of stay for non-acute patients. Much of the difference can be adjusted by removing psychiatric hospitals.

The rates at which the types of care other than acute are identified in each jurisdiction do not vary very significantly across the larger jurisdictions, but do vary amongst the smaller jurisdictions. In the current cost per casemix-adjusted separation model they are given the average weights for all other separations in the State. These are within 5% of 1.00 for all States except for the Northern Territory (0.76).

Unqualified neonates have traditionally been costed as a component of the mother’s cost weight. The cost weight of the mother reflects the costs of the mother and the unqualified neonate. As a result, the inclusion of unqualified neonates in the count of casemix-adjusted separations would double count the combined cost weight of the mother and baby combination. From June 1998 neonatal separations will be classified on a different basis allowing casemix analysis to reflect need for care rather than be overly influenced by qualification. Qualified and unqualified patient days will be counted separately for a single record. Unfortunately data for this year is supplied under the earlier definition, which was current for the year of this report. Given the cost weights for deliveries are not large, it is likely that if the cost weight for unqualified neonates is separated from the cost weight of the mother, they would be very low. The cost weight for AN-DRG 727 *Neonate over 2,500g without significant operation without significant problem* is 0.55.

Differences in counting of qualified neonates has been raised as a problem. The formal definition of qualified neonates specifies that babies should be separated every time they move from a qualified unit to an unqualified bed and returned. Hospitals have been inconsistent in their application of this rule within and across jurisdictions. Some hospitals have only counted on separation for the total of qualified days and one for the total of unqualified days. For the 1996–97 report it was estimated that the difference in counting was possibly in the order of 10%. Qualified neonates are 1.5% of separations, unqualified babies are about 5% of all separations and they would have a low cost weight if counted as qualified. As a result the differences in the way babies are qualified in each jurisdiction would have 10% effect on possibly 5% of records with a cost weight of about 0.5, producing a total variation of 0.25% on the overall estimate of average cost per casemix-adjusted separation.

Adjusting for casemix

The average cost weight is used in this report to adjust for differences in the relative costliness of all acute admitted patients treated in a hospital compared with another hospital or group. The value for a group of hospitals is multiplied by the total number of separations for that group to produce the number of casemix-adjusted separations. The term ‘*cost per casemix-adjusted separation*’ derives from this use of the number of separations adjusted by relative costliness.

Casemix refers to the numbers and types of admitted patients a hospital treats. Hospitals collect data that allow admitted patient episodes to be classified using the Australian National Diagnosis Related Groups (AN-DRG) version 3.1 casemix classification system. This system groups episodes of similar clinical condition and resource use into 667 categories or AN-DRGs. The National Hospital Cost Data Collection has collected data to produce a cost weight for each AN-DRG (see Appendix 8). The set of cost weights is a relative value scale for all AN-DRGs, calculated so that the average cost weight across all episodes used to produce the set of weights is 1.00. Once a set of cost weights has been produced, it is possible to determine the average cost weight for a hospital or group of hospitals. The average cost weight is calculated as follows:

$$\text{Average cost weight} = \frac{\sum_{i=1}^n (CW_i \times \text{separations}_i)}{\text{Total no. of acute separations}}$$

where i represents each of the 667 AN-DRGs and CW_i is the cost weight for the i th AN-DRG (the different versions of the classification system released to date have different numbers of AN-DRGs).

The average cost weight for a hospital is useful because it represents in a single number the overall complexity of cases treated by a hospital. If the national cost weights are used in the calculation of an average cost weight, then the resultant weight is an indicator of the relative costliness of the hospital's casemix with respect to the national average. For example, a hospital with an average cost weight of 1.08 has an 8% more costly casemix than the national average (by design equal to 1.00).

Hospital morbidity data provided to the National Hospital Morbidity Database were used to estimate average cost weights for the groups of hospitals reported in this analysis. Version 3.1 of the AN-DRG classification system was used to allocate patient episodes to AN-DRGs. Cost weights were supplied by the Department of Health and Aged Care, from the 1997–98 National Hospital Cost Data Collection.

The complexity of cases treated as admitted patients can differ regionally. Some jurisdictions admit patients who might be treated as non-admitted patients in other jurisdictions. Age structures are less of a concern in comparing States and Territories, and the AN-DRG adjustment is deemed to compensate for the differences in costs due to the higher proportion of older patients in some jurisdictions (Gillett & O'Connor-Cox 1996; Duckett & Jackson 1998).

The validity of comparisons of average cost weights is limited by differences in the extent to which each jurisdiction's psychiatric services are integrated into its public hospital system as service delivery changes under the National Mental Health Strategy. For example, in Victoria, almost all public psychiatric hospitals are now mainstreamed into acute hospital services and psychiatric patient data are therefore included in the acute hospital reports. Cost weights are not useful as a measures of resource requirements for acute psychiatric services because the relevant AN-DRGs are less homogeneous than for other acute services.

Estimating total medical costs

For the medical labour costs category, data are readily available only for public patients, as private patients are charged directly by their doctor for medical services. Private patients are those patients who are treated by a doctor of their choice (as opposed to a hospital-nominated doctor) or choose to be accommodated in a single room. Charges for such private medical services are not included in the recurrent expenditure figures. Although Medicare data on in-hospital services are available, they are not sufficiently detailed to allow the allocation of costs to the groups of hospitals reported. The cost of private patients is therefore estimated by assuming that a patient day of care by a medical practitioner costs the same, whether the patient is public or not. The private patient medical costs are then estimated by pro-rating the sum of salary/sessional and VMO payments according to the number of public patient days and the number of private patient days. This is equivalent to multiplying by one minus the public patient day proportion and dividing by the public patient day proportion. The underlying assumption ignores a number of factors including the propensity for junior medical staff to provide care to private patients and for doctors with private patients to charge at higher rates than they would charge the public system under a contract for public patients.

Payroll tax

Only Tasmanian hospitals are liable for a significant proportion of payroll tax. The Institute has worked with the Department of Human Services Tasmania to remove payroll tax costs from the cost per casemix-adjusted separation table. While New South Wales hospitals are payroll tax exempt, payroll tax is paid for central office and some other support service staff. The amount is insignificant with respect to the New South Wales total. While Queensland hospitals pay payroll tax it is reimbursed and in theory should not be included in any accounts as reported to the National Public Hospital Establishments Database. In practice there is a very small amount reported due to administrative lags and other inconsistencies. No action has been taken to remove payroll tax from Queensland or New South Wales data.

Appendix 6: ICD-9-CM codes for selected procedures

Procedure	ICD-9-CM codes
Appendicectomy	47.0
Angioplasty	36.01, 36.02, 36.05, 36.06, 36.07
Caesarean section	74.0, 74.1, 74.2, 74.4, 74.99
Cholecystectomy	51.2
Coronary artery bypass graft	36.1
Endoscopies	
Oesophagus	42.23, 42.24
Stomach	44.13, 44.14
Small intestine	45.13, 45.14, 45.16
Colon	45.23–45.25
Hip replacement	81.51, 81.52, 81.53
Hysterectomy	68.3–68.8
Lens insertion	13.7
Tonsillectomy ± adenoidectomy	28.2, 28.3
Myringotomy	20.01
Knee replacement	81.54, 81.55
Prostatectomy	60.2–60.6, 60.20–60.69
Arthroscopy	80.2, 80.20–80.29

Note: These codes are used for the selected procedures in Table 2.4.

Appendix 7: Further information

Australian Hospital Statistics, 1997–98 is complemented by other recent national publications that have also released hospital statistics:

- Previous years' data in the National Hospital Morbidity Database and the National Public Hospital Establishments Database were summarised in *Australian Hospital Statistics 1996–97* (AIHW 1998a) *Australian Hospital Statistics 1995–96* (AIHW 1997a) and *Australian Hospital Statistics 1993–95: An Overview* (AIHW 1997b).
- Establishment-level data on the resources and activities of private hospitals are compiled and published annually by the Australian Bureau of Statistics. Data for 1997–98 are presented in *Private Hospitals, Australia 1997–98* (ABS 1998).
- Analysis of hospital activity based on the AN-DRG classifications were released in Australian Casemix Report on Hospital Activity series for 1991–92 to 1995–96 (Department of Human Services and Health 1994, 1995; Department of Health and Family Services 1996a, 1996b, 1997).
- The *First National Report on Health Sector Performance Indicators* and the *Second National Report on Health Sector Performance Indicators* reported national hospital data against a range of indicators of hospital performance (National Health Ministers' Benchmarking Working Group 1996, 1998).
- Hospital performance indicator data have been released also in the *Report on Government Service Provision 1997* (Steering Committee for the Review of Commonwealth/State Service Provision 1997), the *Report on Government Services 1998* (Steering Committee for the Review of Commonwealth/State Service Provision 1998) and the *Report on Government Services 1999* (Steering Committee for the Review of Commonwealth/State Service Provision 1999).
- The *National Mental Health Report 1997* provides details on hospital psychiatric services for 1997 (Commonwealth of Australia 1999).
- Statistics on the hospital-based pharmaceutical, nursing and medical workforces are respectively included in *Pharmacy labour force 1994*, *Nursing labour force 1995* and *Medical labour force 1997* (AIHW 1996b, 1998b, in press (b)).
- Department of Health and Aged Care's Internet site includes tables of data from the Department's National Hospital Morbidity (Casemix) Database at <http://www.health.gov.au>. The Institute and the Department are working to ensure that, from 1997–98, there is a coordinated approach to compilation of the Institute's National Hospital Morbidity Database and the Department's National Hospital Morbidity (Casemix) Database so that the resulting data sets are as equivalent as possible. For previous years, the Department's database may not exactly correspond with the Institute's National Hospital Morbidity Database. In addition, the scope of the Department's tables may differ from the scope of the tables presented in this report. Data in the Department's tables may therefore not correspond exactly to data presented in this report.

- National Hospital Morbidity Data Service and more data available from the National Public Hospital Establishments Database and the National Hospital Morbidity Database

Appendix 8: The National Hospital Cost Data Collection

The National Hospital Cost Data Collection (NHCDC) was established to produce annual updates of Diagnosis Related Groups (DRG) cost weights, as incorporated into tables in Chapters 2, 4, 5 and 10. It is undertaken by the Department of Health and Aged Care and is a voluntary collection of hospital cost and activity data covering the financial year prior to the collection period; in 1998–99 the NHCDC collected data for the 1997–98 financial year. The NHCDC collects both public and private hospital data with the results being separately reported for the two sectors.

In the 1997–98 collection, cost data were obtained for the following products: acute admitted patients, outpatients, rehabilitation, palliative care, non-acute admitted patients, outreach/community, staff education, research and other. However, for this report the cost data were analysed and reported at a State and national level for acute admitted patients only (that is, by DRG).

The results used in this report and described here relate to the financial year 1997–98. They involved the collection of data grouped to both Australian National Diagnosis Related Groups (AN-DRG) version 3.1 and Australian Refined Diagnosis Related Groups (AR-DRG) version 4.0. Participating hospitals varied slightly between the two versions with 150 public hospitals contributing AR-DRG version 4.0 data and 154 public hospitals contributing AN-DRG version 3.1 data. (The slight difference in hospital numbers was the result of 13 public hospitals contributing AN-DRG 3.1 data and not AR-DRG 4.0 data, and nine public hospitals contributing AR-DRG 4.0 and not AN-DRG 3.1 data.) Whilst the coverage of public hospitals for both versions was approximately 28% of total hospitals, the total number of separations was approximately 65% of the estimated total population of separations, because of the significant number of large teaching hospitals in the sample. A total of 46 private hospitals contributed both version AN-DRG 3.1 and AR-DRG 4.0 data.

The NHCDC involves arrangements whereby the hospital data are collected by the individual hospitals, and checked and validated by State/Territory/private sector coordinators before being passed onto the Department. Further checks are conducted by the Department in processing the data to produce the final cost weights and associated tables.

The participating hospitals include both patient costing and cost modelling sites. Cost modelling generally refers to a process where estimates of costs are produced at the level of each DRG. The approach is 'top down' where costs from the hospitals' general ledgers are allocated down to acute admitted patients using a series of allocation statistics. Patient costing or clinical costing is a 'bottom up' approach where the costs of each service provided to an individual patient are measured or estimated so that the total cost of treating individual patients is obtained. The majority of participating hospitals are cost modelled sites.

As with the Department's previous studies of hospital costs in Australia, the NHCDC is a voluntary collection, and the data from all sites that chose to participate were used in compiling national public and private sector cost weights. In deriving the final results, the sample hospitals were stratified by factors which predispose towards cost differences such

as sector (public or private), State or Territory, location (major urban/non-major urban) and number of separations.

The following tables provide summary information from the 1997–98 NHCDC for the public and private sectors. Table A8.1 provides a summary of results for both sectors, including the numbers of hospitals and separations included in the NHCDC and the estimated average cost and average length of stay for the estimated total population of separations. Tables A8.2 and A8.3 provide information on the size of the standard error associated with the cost weight estimates for the public and private sectors. Tables A8.4 and A8.7 present data by MDC on numbers of separations, average length of stay and average total cost per separation. The remaining tables provide information by hospital sector on component costs including ward nursing, imaging and pharmacy. Most component costs are split between direct costs and overhead costs and all figures have been population adjusted.

Some tables show slight variations in the reported total average cost. This is due to rounding at the total level and not inconsistencies in the data.

The numbers of hospitals and separations do not necessarily correspond with the numbers of hospitals and separations reported elsewhere in this report. This difference is due to the NHCDC excluding very small hospitals from the population count and using population adjustments to estimate separations.

Further information about the NHCDC is available in the report of the 1996–97 collection (Department of Health and Family Services 1998). Cost weights for 1997–98 and further information about the 1997–98 NHCDC can be obtained from the Costing and Ambulatory Section, Acute and Co-Ordinated Care Branch, Department of Health and Aged Care (phone 02 6289 8272).

Table A8.1: Summary National Hospital Cost Data Collection results for AN-DRGs version 3.1, by hospital sector, 1997-98

	Hospitals			Separations				
	Sample	Population	% in NHCDC	Sample		Total population		
				Number	% in NHCDC	Population	Average cost(\$)	ALOS (days)
Public hospitals								
NSW	59	167	35.3	771,624	65.3	1,181,850	2,541	3.49
Vic	25	83	30.1	611,172	71.4	856,024	2,313	3.52
Qld	31	114	27.2	414,569	63.9	648,654	2,240	3.47
SA	18	63	28.6	193,765	59.7	324,378	2,380	3.84
WA	12	77	15.6	173,522	50.7	342,192	2,504	3.42
Tas	3	13	23.1	76,559	93.5	81,923	2,332	3.62
NT	4	5	80.0	55,324	94.1	58,783	2,781	3.61
ACT	2	2	100.0	56,647	100.0	56,647	3,184	3.63
Australia	154	524	29.4	2,353,182	66.3	3,550,451	2,422	3.52
Private hospitals								
Australia	46	271	17.0	482,115	32.0	1,507,585	1,932	3.57

Table A8.2 AN-DRGs version 3.1 by standard error range, public hospitals, 1997-98

Standard error	Number of		
	DRGs	Separations	% of DRGs
0.01 - 0.04	282	2,948,049	42.3
0.04 - 0.09	183	384,143	27.4
0.09 - 0.14	80	107,764	12.0
0.14 - 0.19	32	53,745	4.8
0.19 - 0.39	58	46,697	8.7
0.39+	32	10,291	4.8
Total	667	3,550,689	100

Table A8.3: AN-DRGs version 3.1 by standard error range, private hospitals, 1997-98

Standard error	Number of		
	DRGs	Separations	% of DRGs
0.01 - 0.04	98	676,546	81.38
0.05 - 0.09	178	502,903	10.40
0.10 - 0.14	102	141,139	4.68
0.15 - 0.19	76	92,764	1.32
0.20 - 0.39	132	80,258	1.73
0.39+	66	13,987	0.48
Total	652	1,507,597	100.00

Table A8.4: Average costs by Major Diagnostic Category, public hospitals, AN-DRGs version 3.1, 1997–9

Major Diagnostic Category	Separations		ALOS (days)	Average cost per separation (\$)
	Number	%		
PR Pre-MDC (Tracheostomy procs, transplants, ECMO)	9,194	0.26	27.28	42,515
01 Nervous system	173,319	4.88	5.84	3,353
02 Eye diseases and disorders	72,060	2.03	1.58	1,892
03 Ear, nose, mouth, throat	177,215	4.99	1.72	1,488
04 Respiratory system	229,453	6.46	5.09	2,874
05 Circulatory system	300,193	8.45	4.73	3,771
06 Digestive system	410,324	11.56	2.71	1,944
07 Hepatobiliary system and pancreas	71,065	2.00	4.45	3,427
08 Musculoskeletal system and connective tissue	288,775	8.13	4.55	3,424
09 Skin, subcutaneous tissue and breast	140,541	3.96	3.14	2,103
10 Endocrine, nutritional and metabolic	39,772	1.12	5.03	3,086
11 Kidney and urinary tract	480,299	13.53	1.61	921
12 Male reproductive system	49,942	1.41	2.49	1,938
13 Female reproductive system	140,364	3.95	2.17	1,808
14 Pregnancy, childbirth and puerperium	320,721	9.03	3.20	2,149
15 Newborns and other neonates	70,597	1.99	6.85	4,355
16 Blood, blood forming organs, immunological	64,557	1.82	2.28	1,464
17 Neoplastic disorders	168,831	4.75	1.73	1,141
18 Infectious and parasitic diseases	42,346	1.19	4.89	3,079
19 Mental diseases and disorders	72,294	2.04	8.78	3,789
20 Alcohol/drug use and disorders	18,194	0.51	4.09	1,800
21 Injury, poison and toxic effects of drugs	95,083	2.68	2.94	2,262
22 Burns	5,673	0.16	6.27	5,573
23 Factors influencing health status, other contacts	101,603	2.86	3.96	1,751
ED Edit DRG	8,272	0.23	8.60	6,039
Total	3,550,451	100	3.52	2,422

Table A8.5: Core and overhead costs by component, public hospitals, AN-DRGs version 3.1, 1997–98

Component	Core cost		Overhead cost		Total cost	
	\$	%	\$	%	\$	%
Ward medical	261	14.15	54	11.18	315	12.98
Ward nursing	519	28.15	172	35.61	691	28.48
Pathology	76	4.12	22	4.55	98	4.04
Imaging	55	2.98	12	2.48	67	2.76
Allied health	49	2.66	16	3.31	65	2.68
Pharmacology	96	5.21	18	3.73	114	4.70
Critical care	135	7.32	39	8.07	174	7.17
Operating room	244	13.23	70	14.49	314	12.94
Emergency department	33	1.79	17	3.52	50	2.06
Supplies	51	2.77	59	12.22	110	4.53
Prostheses	41	2.22	0	0	41	1.69
Depreciation	77	4.18	0	0	77	3.17
On costs	129	7.00	0	0	129	5.32
SPS	14	0.76	4	0.83	18	0.74
Hotel	0	0	99	20.50	99	4.08
Other	64	3.47	0	0	64	2.64
Total	1,844	100.00	582	100.00	2,426	100.00

Table A8.6: Percentage of costs by component, public hospitals, AN-DRGs version 3.1, 1997–98

Component	Core cost	Overhead cost	Total costs
Ward medical	10.76	2.23	12.98
Ward nursing	21.39	7.09	28.48
Pathology	3.13	0.91	4.04
Imaging	2.27	0.49	2.76
Allied health	2.02	0.66	2.68
Pharmacology	3.96	0.74	4.70
Critical care	5.56	1.61	7.17
Operating room	10.06	2.89	12.94
Emergency department	1.36	0.70	2.06
Supplies	2.10	2.43	4.53
Prostheses	1.69	0	1.69
Depreciation	3.17	0	3.17
On costs	5.32	0	5.32
SPS	0.58	0.16	0.74
Hotel	0	4.08	4.08
Other	2.64	0	2.64
Total	76.01	23.99	100.00

Table A8.7: Average costs by Major Diagnostic Category, private hospitals, AN-DRGs version 3.1, 1997–98

Major Diagnostic Category	Separations		ALOS (days)	Average cost per separation(\$)
	Number	%		
PR Pre-MDC (Tracheostomy procs, transplants, ECMO)	1,066	0.07	28.77	30,148
01 Nervous system	52,120	3.46	5.95	2,669
02 Eye diseases and disorders	54,949	3.64	1.23	1,545
03 Ear, nose, mouth, throat	128,226	8.51	1.38	1,034
04 Respiratory system	58,150	3.86	6.89	2,660
05 Circulatory system	97,435	6.46	4.99	3,123
06 Digestive system	219,196	14.54	2.61	1,489
07 Hepatobiliary system and pancreas	26,080	1.73	4.61	2,784
08 Musculoskeletal system and connective tissue	215,109	14.27	4.33	2,904
09 Skin, subcutaneous tissue and breast	76,038	5.04	3.01	1,787
10 Endocrine, nutritional and metabolic	11,335	0.75	5.69	2,515
11 Kidney and urinary tract	134,110	8.90	1.74	760
12 Male reproductive system	30,855	2.05	2.92	1,682
13 Female reproductive system	89,697	5.95	2.70	1,736
14 Pregnancy, childbirth and puerperium	79,568	5.28	4.79	2,320
15 Newborns and other neonates	15,290	1.01	4.95	1,962
16 Blood, blood forming organs, immunological	14,504	0.96	2.84	1,244
17 Neoplastic disorders	58,900	3.91	1.88	729
18 Infectious and parasitic diseases	9,350	0.62	6.34	2,889
19 Mental diseases and disorders	57,843	3.84	6.66	1,861
20 Alcohol/drug use and disorders	6,884	0.46	5.91	1,940
21 Injury, poison and toxic effects of drugs	16,402	1.09	3.87	1,940
22 Burns	415	0.03	7.24	3,915
23 Factors influencing health status, other contacts	44,064	2.92	5.12	1,671
24 Edit DRG	9,999	0.66	4.88	3,595
Total	1,507,585	100.00	3.57	1,932

**Table A8.8: Core and overhead costs by component, private hospitals,
AN-DRGs version 3.1, 1997–98**

Component	Core cost		Overhead cost		Total cost	
	\$	%	\$	%	\$	%
Ward medical	19	1.54	7	1.01	26	1.35
Ward nursing	424	34.28	175	25.18	600	31.06
Allied health	9	0.73	4	0.58	13	0.67
Pharmacology	39	3.15	5	0.72	44	2.28
Critical care	56	4.53	25	3.60	80	4.14
Operating room	274	22.15	117	16.83	390	20.19
Emergency department	22	1.78	6	0.86	28	1.45
Supplies	75	6.06	138	19.86	213	11.02
Prostheses	88	7.11	0	0	88	4.55
Depreciation	108	8.73	0	0	108	5.59
On costs	91	7.36	0	0	91	4.71
SPS	19	1.54	6	0.86	26	1.35
Hotel	0	0	212	30.50	212	10.97
Other	13	1.05	0	0	13	0.67
Total	1,237	100.00	695	100.00	1,932	100.00

**Table A8.9: Percentage of costs by component,
private hospitals, AN-DRGs version 3.1, 1997–98**

Component	Core cost	Overhead cost	Total costs
Ward medical	0.98	0.36	1.35
Ward nursing	21.95	9.06	31.06
Allied health	0.47	0.21	0.67
Pharmacology	2.02	0.26	2.28
Critical care	2.90	1.29	4.14
Operating room	14.18	6.06	20.19
Emergency department	1.14	0.31	1.45
Supplies	3.88	7.14	11.02
Prostheses	4.55	0	4.55
Depreciation	5.59	0	5.59
On costs	4.71	0	4.71
SPS	0.98	0.31	1.35
Hotel	0	10.97	10.97
Other	0.67	0	0.67
Total	64.03	35.97	100.00