

6 Expenditure

6.1 Introduction

CHD creates enormous costs for the healthcare system, with the associated direct healthcare costs exceeding those of any other disease. In 1993–94 the direct healthcare expenditure on CHD in Australia was \$894 million or 2.8% of total recurrent health expenditure. Healthcare costs for CHD possibly accounted for more than this, given that CHD is a major risk factor for stroke and heart failure and that the direct healthcare costs for these two diseases amounted to \$1.0 billion in 1993–94. The total direct cost of cardiovascular disease in Australia during 1993–94 was \$3,719 million, with CHD accounting for 24% of total cardiovascular disease costs, stroke 17% and heart failure 11%. While these data are somewhat dated they are the most recent available in Australia on healthcare expenditure for CHD.

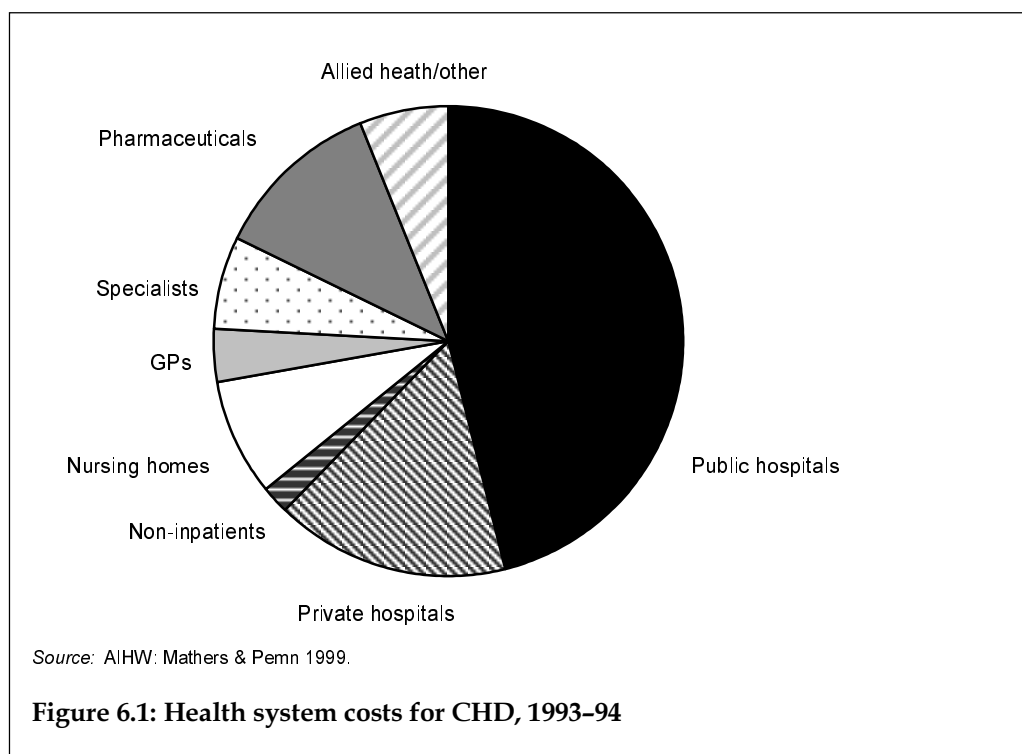
This chapter examines some economic aspects of CHD treatment and is divided into three sections:

- aggregate expenditure on CHD
- length of stay in hospital for AMI
- average expenditure for hospital treatment.

6.2 Aggregate expenditure on coronary heart disease

CHD is responsible for 2.8% of total recurrent health expenditure, or \$894 million in 1993–94. The majority of costs were related to hospital inpatients (65%) – public hospital costs were over \$410 million and private hospital costs nearly \$150 million (Figure 6.1). The next most expensive health service was the cost of pharmaceuticals at \$105 million (12% of CHD expenditure). Medical services accounted for \$88 million (9.8% of CHD expenditure) with nearly two-thirds of these for specialist services. Expenditure on nursing homes accounted for 8% of health expenditure for CHD, a relatively low proportion when compared with other cardiovascular diseases, particularly stroke where nursing homes account for 42% of stroke expenditure.

Health system costs for CHD for men were 1.7 times that for women in 1993–94 (\$559 million compared with \$336 million). This is consistent with the higher prevalence of CHD among men than women. The male–female difference in health system costs is greatest in the 35–64 age range with rates among men 3–4 times that of women. However, among those aged 75 years and over, health system costs for women were 32% higher than for men. Health system costs increase markedly with age, with men aged 65 years and over accounting for 54% of total health system costs and women aged 65 years and over accounting for 76% (AIHW: Mathers & Penm 1999).



6.3 Length of stay in hospital for AMI

Length of stay in hospital has a large impact on the health system costs for CHD. This is because a large proportion of health expenditure for CHD is related to hospital costs, and the majority of these hospital costs relate to ongoing staff costs and hospital overheads rather than diagnostic tests and procedures.

Length of stay in hospital depends on a number of factors such as the severity of the underlying problem (such as heart attack) whether the patient died in hospital, and whether the patient received rehabilitation or long-term care in hospital. Across Australia there could be considerable variation between hospitals in the length of stay of AMI patients.

Since 1993-94 the average length of stay for AMI patients has declined from 8.6 days in 1993-94 to 7.5 days in 1999-00. Falls in length of stay for the 75th percentile have been greater than for the median, which suggests that there have been considerable declines in the number of patients with very long stays (Table 6.1).

Between 1993-94 and 1999-00 average length of stay declined faster for AMI patients undergoing cardiac catheterisation, PCI or CABG than for the overall AMI population (18% decline compared with 13% decline) (Table 6.1).

In 1999-00 average length of stay for AMI patients undergoing cardiac catheterisation was 8.7 days, PCI 7.0 days and CABG 15.3 days, which was longer than for AMI patients overall (7.5 days).

Table 6.1: Average length of stay (in days) for AMI patients aged 40–90 years, 1993–94 to 1999–00

Year	AMI patients			Cardiac catheterisation, PCI or CABG among AMI patients		
	Mean	Median	Upper quartile (75%)	Mean	Median	Upper quartile (75%)
1993–94	8.6	7	10	10.6	9	13
1994–95	8.2	7	9	10.0	8	12
1995–96	7.9	7	9	9.5	8	12
1996–97	7.8	6	9	9.2	7	11
1997–98	7.6	6	9	8.8	7	11
1998–99	7.5	6	8	8.5	7	10
1999–00	7.5	6	8	8.7	7	10

Notes

1. AMI patients defined as those admissions with a principal diagnosis of AMI, length of stay greater than 2 days including those that died within 2 days of admission.
2. Average length of stay includes same-day admissions.
3. Data are for financial years, reflecting how the information is collected in the National Hospital Morbidity Database.

Source: AIHW National Hospital Morbidity Database.

6.4 Average expenditure for hospital treatment

This section examines average costs for selected treatment groups for treating AMI. The costs have been calculated by using Diagnosis Related Groups (DRGs) to define the treatment groups and then applying the average cost per DRG obtained from the National Hospital Cost Data Collection.

The average total expenditure per admission for AMI was \$5,898 in 1998–99. This included overhead and administrative costs, which account for 22% of the average total expenditure per admission. The cost increased somewhat for complicated AMI with PTCA, with the average total expenditure at \$9,575 per admission. For those patients undergoing CABG the cost was substantially higher than for PTCA at \$17,596 per admission. Expenditure tends to be related to length of time in hospital, with those undergoing CABG having the longest length of stay in hospital at 11.7 days on average. For those with complicated AMI with PTCA the average length of stay was 8.2 days and for AMI admissions overall 7.5 days (Table 6.2).

Table 6.2: Expenditure related to the treatment of AMI for a given admission, 1998–99 (A\$)

Selected treatment groups	Total expenditure per admission (average)	Average length of stay (days)	Overhead & admin. costs included?	
AMI patients overall	\$5,898	7.5	Yes	22%
Uncomplicated AMI	\$5,105	4.8	Yes	21%
Uncomplicated AMI, discharged alive	\$4,803	4.9	Yes	22%
Complicated AMI, with PTCA, discharged alive	\$9,575	8.2	Yes	19%
Complicated AMI, without PTCA, discharged alive	\$6,684	8.6	Yes	22%
AMI, deceased	\$5,857	5.1	Yes	23%
Elective PTCA, excluding AMI patients	\$5,419	3.2	Yes	17%
CABG	\$17,596	11.7	Yes	20%

Notes

1. 'Uncomplicated AMI' refers to hospital admissions for AMI as the principal diagnosis, where there was no complication and/or comorbidity effect.
2. 'Uncomplicated AMI, discharged alive' refers to hospital admissions for AMI as the principal diagnosis, where there was no complication and/or comorbidity effect, and the patient was discharged alive.
3. 'Complicated AMI, with PTCA, discharged alive' refers to hospital admissions for AMI as the principal diagnosis, where the patient received a PTCA, where there was a mild, moderate, severe or catastrophic complication and/or comorbidity effect, and the patient was discharged alive.
4. 'Complicated AMI, without PTCA, discharged alive' refers to hospital admissions for AMI as the principal diagnosis, where the patient did not receive a PTCA, where there was a mild, moderate, severe or catastrophic complication and/or comorbidity effect, and the patient was discharged alive.
5. 'AMI, deceased' refers to hospital admissions for AMI as the principal diagnosis, where the patient died while in hospital.
6. 'Elective PTCA, excluding AMI patients' refers to hospital admissions where the patient received a PTCA and the principal diagnosis was not AMI.
7. 'CABG' refers to all hospital admissions where the patient received a CABG.

Sources: AIHW National Hospital Morbidity Database; DHAC 1999.

6.5 Conclusion

CHD was responsible for 2.8% of total recurrent health expenditure in 1993–94 (\$894 million). Two-thirds of these costs were related to hospital in-patients and 10% to medical services.

People admitted to hospital for an AMI tend to stay in hospital longer than other patients (7.5 days compared with 3.6 days for all conditions) and, given that length of stay is positively correlated with the cost of providing treatment, this is a useful indicator of resource use for acute care. Length of stay for cardiac catheterisation, PCI and CABG among AMI patients is considerably longer than for AMI patients overall. The average length of stay for these patients has been declining since 1993–94, and hence one would expect the total expenditure per patient to have also declined over this period. The decline in length of stay may reflect tightening budget caps that have given hospitals an increasing incentive to discharge patients quickly.

CABG was the most costly procedure for AMI admissions in 1998–99 (\$17,596 per admission), followed by complicated AMI with PTCA (\$9,575) which may reflect the longer lengths of stay for these procedures.