

6 Cardiovascular problems managed

A problem managed is a formal statement of the provider's understanding of a health problem presented by the patient, family or community. It can be described in terms of a disease, symptom or complaint, social problem or ill-defined condition managed at the encounter. As GPs were instructed to record each problem to the most specific level possible from the information available, the problem managed may at times be limited to the level of presenting symptoms.

At each patient encounter, up to four problems could be recorded by the GP, a minimum of one problem being compulsory. The status of each problem to the patient – new (first presentation to a medical practitioner) or old (follow-up of previous problem) – was also indicated. The range of problems managed at the encounter often crosses multiple systems and may include undiagnosed symptoms, psychosocial problems or chronic disease. The order in which the problems were recorded by the GP is not significant and each problem is considered of equivalent importance.

Problems were classified according to the International Classification of Primary Care (Version 2) (ICPC-2) (see Chapter 2, Methods).

In this chapter the focus is on encounters where at least one problem from the ICPC-2 circulatory chapter was managed. These encounters are referred to as 'cardiovascular encounters'. Results are reported as percentages of total cardiovascular problems, percentages of total problems at cardiovascular encounters and problem rates per 100 cardiovascular encounters.

Where groups of problems are reported (e.g. other vascular disease) it must be remembered that more than one type of problem (e.g. palpitations and oedema) could have been managed at a single encounter. In considering these results the reader must be mindful that although a rate per 100 encounters for a single ungrouped problem (e.g. heart failure, 6.0 per 100 cardiovascular encounters) can be regarded as equivalent to 'heart failure is managed at 6.0%', such a statement cannot be made for grouped concepts.

6.1 Relative rate of cardiovascular problems and encounters

At least one cardiovascular problem was recorded by the GP at 31,161 (15.3%) of the 203,100 encounters. A total of 33,770 specific cardiovascular problems were recorded at a rate of 16.6 per 100 encounters and accounted for 11.2% of all problems managed. Extrapolated to the total number of GP-patient encounters across Australia, this suggests there were approximately 34 million cardiovascular problems managed by GPs over the 2-year period (17 million per year). At encounters where a cardiovascular problem was recorded, the average number of cardiovascular problems recorded was 1.08 or 108 per 100 cardiovascular encounters (Table 6.1).

Table 6.1: Summary of cardiovascular problems at encounter

	Number	Rate per 100 encounters (n = 203,100)	Per cent of total problems (n = 301,759)
Number of encounters with at least one cardiovascular problem	31,161	15.3	..
Total number of cardiovascular problems	33,770	16.6	11.2
Cardiovascular problems/100 cardiovascular problem encounters	..	108.4	..

Table 6.2 shows the distribution of cardiovascular problems across all encounters and within cardiovascular encounters. It shows that no cardiovascular problems were recorded at 171,939 (84.7%) consultations and one cardiovascular problem was recorded at 28,707 encounters (14.1%). Two or more cardiovascular problems were recorded at only 1.2% of total encounters.

At the 31,161 encounters at which at least one cardiovascular problem was managed, only one such problem was managed at 92.1%, two at 7.4% of these encounters and three or four at less than 1%.

Table 6.2: Distribution of cardiovascular problems across encounters

Number of cardiovascular problems at encounter	Number of encounters	Per cent of total encounters (n = 203,100)	95%		Per cent of cardiovascular encounters (n = 203,100)	95%	
			LCL	UCL		LCL	UCL
None	171,939	84.7	84.3	85.1
One	28,707	14.1	13.8	14.5	92.1	91.7	92.5
Two	2,306	1.1	1.0	1.3	7.4	6.9	7.9
Three	141	0.1	*	0.3	0.5	0.0	1.2
Four	7	*	*	0.7	*	0.0	2.7

* Less than 0.05.

Note: LCL—lower confidence limit, UCL—upper confidence limit.

6.3 Nature of cardiovascular morbidity

Most frequently managed cardiovascular problems

The 20 most commonly recorded individual cardiovascular problems are listed in descending order of frequency in Table 6.3. They are reported in terms of their overall frequency in the total data set as a rate per 100 encounters, and the proportion of total GP workload made up by these problems, as a percentage of total problems. This provides a view of cardiovascular problems relative to the total sample.

Hypertension, ischaemic heart disease and cardiac check-up were the three most frequently managed cardiovascular problems, combining to account for 7.7% of total problems managed. The 20 most frequently managed cardiovascular problems accounted for 11.2% of the total problems managed.

Table 6.3: Most frequently managed cardiovascular problems

Individual cardiovascular problems managed	Number	Rate per 100 encounters (n = 203,100)	Per cent of total problems (n = 301,759)					
			95% LCL	95% UCL	95% LCL	95% UCL	95% LCL	95% UCL
Hypertension*	17,226	8.5	8.2	8.8	5.7	5.5	5.9	
Ischaemic heart disease*	3,099	1.5	1.4	1.7	1.0	0.9	1.1	
Cardiac check-up*	2,814	1.4	1.2	1.6	0.9	0.8	1.1	
Heart failure	1,859	0.9	0.8	1.0	0.6	0.5	0.7	
Atrial fibrillation/flutter	1,232	0.6	0.5	0.7	0.4	0.3	0.5	
Haemorrhoids	616	0.3	0.2	0.4	0.2	0.1	0.3	
Cardiovascular disease, other	610	0.3	0.2	0.4	0.2	0.1	0.3	
Phlebitis and thrombophlebitis	534	0.3	0.1	0.4	0.2	0.1	0.3	
Atherosclerosis/peripheral vascular disease	519	0.3	0.1	0.4	0.2	0.1	0.3	
Elevated blood pressure	509	0.3	0.0	0.6	0.2	0.0	0.4	
Heart disease, other	491	0.2	0.1	0.4	0.2	0.1	0.2	
Stroke/cerebrovascular accident	367	0.2	0.0	0.4	0.1	0.0	0.2	
Postural hypotension (low blood pressure)	335	0.2	0.0	0.3	0.1	0.0	0.2	
Transient cerebral ischaemia	329	0.2	0.0	0.3	0.1	0.0	0.2	
Swollen ankles/oedema	298	0.1	0.0	0.3	0.1	0.0	0.2	
Other preventive procedure—cardiovascular	276	0.1	0.0	0.3	0.1	0.0	0.2	
Cardiac arrhythmia NOS	276	0.1	0.0	0.3	0.1	0.0	0.2	
Palpitations/awareness of heart	270	0.1	0.0	0.3	0.1	0.0	0.2	
Cardiovascular symptom/complaint, other	215	0.1	0.0	0.3	0.1	0.0	0.2	
Heart valve disease NOS	206	0.1	0.0	0.3	0.1	0.0	0.2	
<i>Subtotal</i>	<i>32,081</i>	<i>94.9</i>	<i>..</i>	<i>..</i>	<i>..</i>	<i>..</i>	<i>..</i>	
Total cardiovascular problems managed	33,770	16.6	16.2	17.1	11.2	10.9	11.5	

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 6).

Note: LCL—lower confidence limit, UCL—upper confidence limit, NOS—not otherwise specified.

Problems managed in cardiovascular groups

Examination of problems managed in cardiovascular groups provides a way of viewing the types of cardiovascular problems, grouped by aetiology, function and site, dealt with at cardiovascular consultations. In Table 6.4, each problem group is expressed as a percentage of all cardiovascular problems managed, a percentage of all problems managed at cardiovascular encounters and as a rate per 100 cardiovascular encounters with 95% confidence intervals.

Overall, half of the cardiovascular problems managed in general practice were labelled as hypertension of various types (55.3 per 100 cardiovascular encounters). Ischaemic heart disease/acute myocardial infarction was relatively common (10.4) as was cardiovascular check-up (9.0), other vascular disease (6.3), heart failure (5.5) and arrhythmia (4.9). Problems less frequently presented related to cerebrovascular disease and other circulatory disease. Ill defined conditions grouped as other heart diseases, circulatory symptoms/complaints other, and other ill-defined circulatory problems made up 8.1% of cardiovascular problems (Table 6.4).

Table 6.4: Distribution of cardiovascular problems using cardiovascular groups

Cardiovascular group	Number ^(a)	Per cent of all cardiovascular problems (n = 33,770)	Per cent of all problems at cardiovascular encounters (n = 65,843)	Rate per 100 cardiovascular encounters (n = 31,161)	95% LCL	95% UCL
Hypertension*	17,226	51.0	26.2	55.3	54.3	56.3
Ischaemic heart disease/acute myocardial infarction*	3,253	9.6	4.9	10.4	9.9	11.0
Cardiovascular check-up*	2,814	8.3	4.3	9.0	7.8	10.3
Other vascular disease*	1,954	5.8	3.0	6.3	5.9	6.7
Heart failure	1,859	5.5	2.8	6.0	5.4	6.6
Arrhythmias*	1,658	4.9	2.5	5.3	4.9	5.8
Other ill defined circulatory problems*	969	2.9	1.5	3.1	2.5	3.7
Circulatory symptoms/complaints other*	942	2.8	1.4	3.0	2.5	3.5
Other heart diseases*	797	2.4	1.2	2.6	2.1	3.1
Cerebrovascular disease*	752	2.2	1.1	2.4	1.8	3.0
Other circulatory disease*	702	2.1	1.1	2.3	1.5	3.0
Elevated blood pressure	509	1.5	0.8	1.6	0.0	3.4
Postural hypotension	335	1.0	0.5	1.1	0.3	1.9
Total	33,770	100.0	51.3	108.4	107.9	108.8

(a) This column will not add to 33,770 cardiovascular problems because cardiovascular problems within same cardiovascular group may present at one cardiovascular encounter.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 6).

Most common new cardiovascular problems

The 19 most common new cardiovascular problems managed (which include problems managed at a rate of 0.2 per 100 cardiovascular encounters or greater) are listed in Table 6.5. The overall rate of new cardiovascular problems was 10.4 per 100 cardiovascular problems managed and 11.2 per 100 cardiovascular encounters. Overall this means that new cardiovascular problems were managed at a rate of only 1.7 per 100 total encounters. Extrapolated to an estimated 100 million GP-patient encounters in any one year, this would suggest there are approximately 200,000 new cases of cardiovascular problems seen in general practice each year.

The order of the most common new problems was different from that of the most common problems overall, although hypertension was the most common in both.

New presentations of hypertension constituted almost a quarter of all new cardiovascular problems managed. However, new hypertension presentations were only managed at a rate of 4.9 per 100 total hypertension problems, the lowest relative rate among the top 19 cardiovascular new problems. On the other hand, acute myocardial infarction, while the least common on the list, had a relatively high rate of new presentations, accounting for almost a third of its total problem management. Chronic problems such as atrial fibrillation/flutter, ischaemic heart disease and heart failure had low relative rates of new problems, and other problems such as phlebitis, postural hypotension, oedema and transient cerebral ischaemia presented as new problems relatively frequently.

Table 6.5: Most frequently managed new cardiovascular problems

New cardiovascular problems managed	Number	Per cent of total new cardiovascular problems (<i>n</i> = 3,502)	Rate per 100 cardiovascular encounters (<i>n</i> = 31,161)	95%		Per cent of cardiovascular problems
				LCL	UCL	
Hypertension*	845	24.1	2.7	2.1	3.3	4.9
Haemorrhoids	312	8.9	1.0	0.3	1.7	50.6
Ischaemic heart disease*	245	7.0	0.8	0.1	1.5	7.9
Cardiovascular disease, other	198	5.7	0.6	0.0	1.5	32.5
Cardiac check-up*	192	5.5	0.6	0.0	1.7	6.8
Phlebitis and thrombophlebitis	171	4.9	0.5	0.0	1.4	32.0
Heart failure	163	4.7	0.5	0.0	1.8	8.8
Postural hypotension (low BP)	143	4.1	0.5	0.0	1.5	42.7
Swollen ankles/oedema	124	3.5	0.4	0.0	1.4	41.6
Transient cerebral ischaemia	110	3.1	0.4	0.0	1.4	33.4
Palpitations/awareness of heart	107	3.1	0.3	0.0	1.4	39.6
Atherosclerosis/peripheral vascular disease	105	3.0	0.3	0.0	1.6	20.2
Cardiac arrhythmia NOS	90	2.6	0.3	0.0	1.6	32.6
Atrial fibrillation/flutter	82	2.3	0.3	0.0	1.5	6.7
Elevated blood pressure	71	2.0	0.2	0.0	1.9	13.9
Stroke/cerebrovascular accident	59	1.7	0.2	0.0	1.6	16.1
Cardiovascular symptom/complaint, other	56	1.6	0.2	0.0	1.7	26.0
Varicose veins of leg	51	1.5	0.2	0.0	1.7	28.7
Acute myocardial infarction	50	1.4	0.2	0.0	1.8	32.5
<i>Subtotal</i>	<i>3,174</i>	<i>90.6</i>	<i>10.2</i>	<i>..</i>	<i>..</i>	<i>..</i>
Total new cardiovascular problems managed	3,502	100.0	11.2	10.7	11.8	10.4

* Includes multiple ICD-2 or ICD-2 PLUS codes (see Appendix 6).

Note: LCL—lower confidence limit, UCL—upper confidence limit, NOS—not otherwise specified.

6.4 Overview of management of cardiovascular problems

The structure of the BEACH survey form allowed GPs to record several aspects of patient management for each problem at the encounter. Linked to each problem managed, pharmaceutical management was recorded in detail. Counselling, procedures, other treatments, referrals and hospital admissions were recorded briefly in the GP's own words. Provision was made on the form for pathology and imaging orders to be related to multiple problems.

Table 6.6 shows the number of cardiovascular problems where at least one type of management was recorded by the GP. At least one treatment was provided for 71.9% of the 33,770 cardiovascular problems managed. Medication was the most common, at 61.9%, with non-pharmacological treatments provided less often at 16.5%. At least one referral was given for 5.8% of cardiovascular problems, and investigations, mostly pathology, were ordered for 12.0% of those problems. A more detailed investigation of

management of specific cardiovascular problems in general practice can be found in an earlier publication⁶.

Table 6.6: Overview of management of cardiovascular problems

Type of treatment	Number of cardiovascular problems	Per cent of cardiovascular problems (<i>n</i> = 33,770) ^(a)	95% LCL	95% UCL
At least one treatment type	24,272	71.9	70.9	72.8
At least one medication	20,910	61.9	60.8	63.0
At least one prescription	19,912	59.0	57.8	60.1
At least one OTC advised	319	0.9	0.3	1.6
At least one GP supplied	857	2.5	0.7	4.3
At least one non-pharmacological treatment	5,558	16.5	15.7	17.3
At least one clinical treatment	4,841	14.3	13.5	15.1
At least one therapeutic procedure	814	2.4	1.9	3.0
At least one referral	1,949	5.8	5.4	6.2
At least one referral to a specialist	1,245	3.7	3.2	4.1
At least one referral to allied health	537	1.6	1.0	2.2
At least one referral to hospital	229	0.7	0.0	1.6
At least one referral to emergency dept	20	0.1	0.0	2.9
At least one investigation	4,049	12.0	11.5	12.5
At least one pathology order	3,532	10.5	10.0	11.0
At least one imaging/other test order	758	2.2	1.7	2.8

(a) Figures will not total 100.0% as multiple events may occur in one encounter or in the management of one problem.

Note: LCL—lower confidence limit, UCL—upper confidence limit, OTC—over-the-counter.