7 Changes since 1991

This chapter compares data on cardiovascular problems managed in general practice from BEACH 1998–00 with those from the Australian Morbidity and Treatment Survey 1990–91 (AMTS), an earlier national survey of general practice[235]. The purpose is to ascertain whether changes have occurred in the management of cardiovascular problems by GPs from 1990–91 to 1998–00.

The AMTS, a 1-year paper-based survey of doctor–patient encounters, was the culmination of a number of studies undertaken by a group of researchers from the University of Sydney exploring and testing the methodology of research into general practice. These same methods have formed the basis of BEACH 1998–00.

In the AMTS, a random, stratified (by State) sample of 495 GPs recorded all consultations that took place in the surgery or in the patient's home for two periods of 1 week, 6 months apart. The total data set contained 113,467 encounters, which were analysed in terms of type of consultation, patient reasons for encounter, problems managed and their treatments, tests, referrals and follow-up. A total of 167,002 problems were managed and 112,377 medications were prescribed or provided.

In contrast to BEACH, the AMTS included only direct encounters (i.e. those at which the patient was seen in the surgery or at home). To ensure comparability, only the direct encounters were extracted from the BEACH data set and these 183,494 consultations formed the basis of the comparisons of cardiovascular problems and their management.

Both the 1990–91 AMTS and BEACH 1998–00 relied on GPs actively recording details about consecutive consultations on paper encounter forms. The morbidity and treatment section of the BEACH survey remained essentially comparable with the 1990–91 AMTS as did the systems used to classify the problems, management and medications data.

The core of the GP profile questionnaire, which gathered demographic data on the GP participants, has remained the same since the AMTS, thus enabling comparison of the characteristics of participants in the two studies.

7.1 Changes in characteristics of participating GPs and the patients

The GP profile questionnaire was completed by 95.5% of the AMTS GPs and 100% of BEACH participants. Results in Table 7.1 show statistically significant differences in all characteristics that were measured in both the studies.

The rise in the proportion of female GPs, from 19.6% in 1990–91 to 30.1% in 1998–00, reflects the trend in the total GP population of Australia where 19.6% were female in 1991 and 29.2% in 1999 (data provided by Department of Health and Aged Care).

GPs in BEACH were significantly older than those who participated in the AMTS. GPs under the age of 35 years made up a greater proportion of those taking part in the AMTS (14.2%) than in BEACH (7.4%). The AMTS figure corresponds to that of the total population of GPs at the time in which 12.9% were under 35 years. The underrepresentation of young GPs in the BEACH sample has been discussed in detail elsewhere[13]. It is likely to be related to one of the incentives offered to GPs to take part in

BEACH. In 1998–00, doctors were offered quality assurance (QA) points, which were not required by Registrars or young GPs who had recently completed training. This offer of QA rewards is likely to have resulted in fewer young GPs agreeing to participate in BEACH. In the 1990–91 study, no such incentive was offered.

The proportion of GPs in solo practice also changed between the two studies, decreasing from 25.8% in 1990–91 to 17.6% in 1998–00, as did the percentage of GPs who graduated in Australia (from 80.0% to 74.8%). Only 1.5% of GPs conducted more than 50% of consultations in a language other than English in 1991 compared with 10.7% in 1998–00.

Table 7.1: Comparison of the characteristics of participating GPs—AMTS and BEACH

GP characteristic	AMTS 1990–91		BEACH 1998–00[a]	
	Number[b]	Per cent of GPs[b] (n = 495)	Number[b]	Per cent of GPs[b] (n = 2,030)
Sex (χ^2 = 21.9, p < 0.001)				
Male	398	80.4	1,418	69.9
Female	97	19.6	612	30.1
Age (χ^2 = 30.7, p < 0.001)				
< 35 years	67	14.2	149	7.4
35–54 years	321	67.9	1,347	66.6
55+ years	85	18.0	526	26.0
Years in general practice (χ^2 = 11.8, p = 0.003)				
< 5 years	54	11.4	157	7.8
6–10 years	96	20.3	332	16.5
> 10 years	323	68.3	1,521	75.7
Size of practice (χ^2 = 16.8, p < 0.001)				
Solo	122	25.8	354	17.6
> 1 GP	350	74.2	1,657	82.4
Graduated in Australia (χ^2 = 11.0, p = 0.004)				
Australia	373	80.0	1,516	74.8
UK	45	9.7	177	8.7
Other	48	10.3	333	16.4
> 50% consultations non-English (χ^2 = 40.0, p < 0.001)	7	1.5	216	10.7

(a)   BEACH data reduced to direct surgery and home encounters only.

(b)   Missing data removed.

The patients

There was no significant difference in the sex distribution of patients at encounters in the two studies. However, a significantly higher percentage of both male and female patients were aged between 5 and 24 years in the AMTS compared with BEACH while a significantly smaller proportion of patients were in the 45–54 age group (4.7% of males and 6.5% of females in the AMTS compared with 5.4% of males and 8.0% of females in BEACH). The patient age and sex distribution is presented graphically in Figure 7.1.
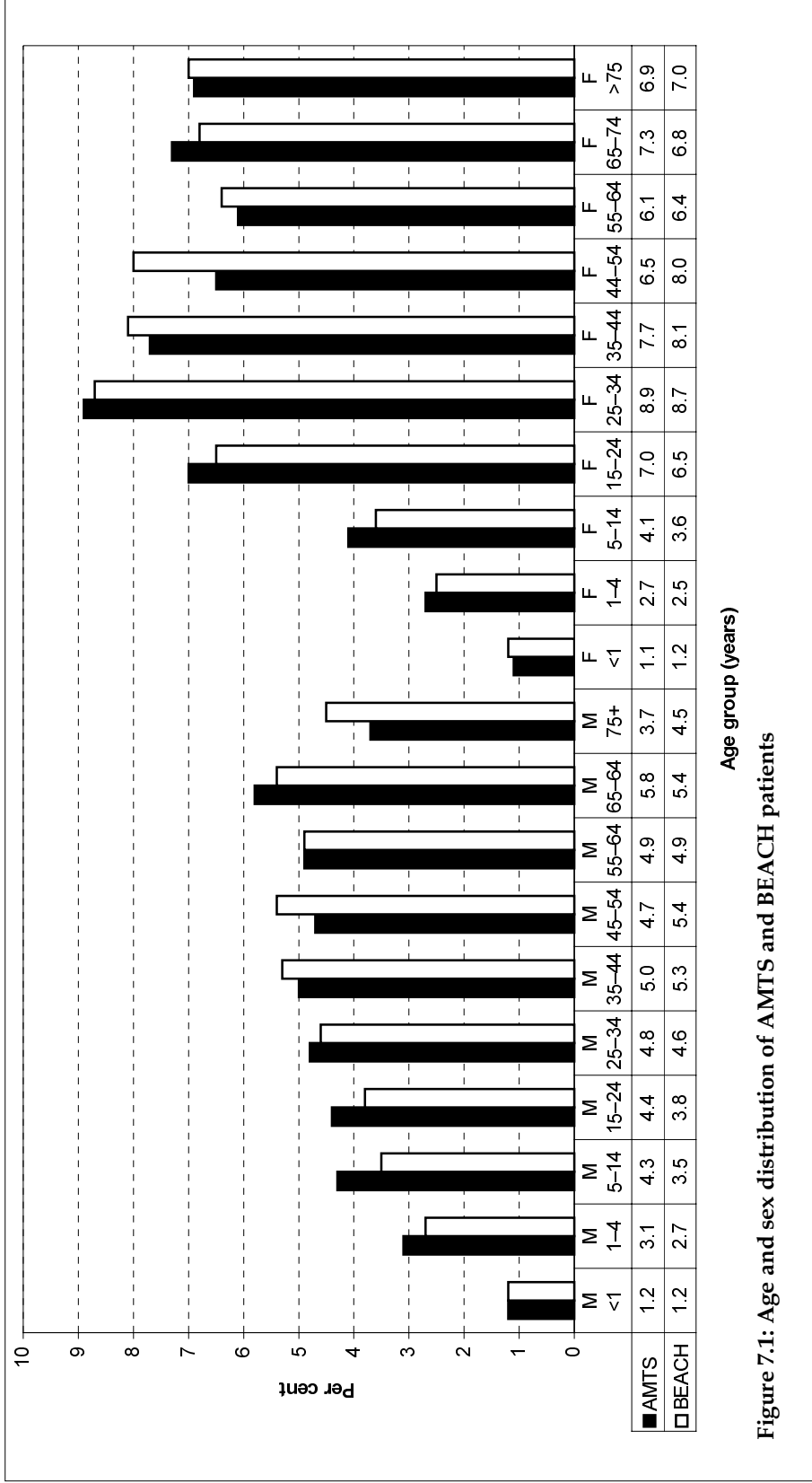
| | M | M | M | M | M | M | M | M | M | M | F | F | F | F | F | F | F | F | F | F |
	<1	1–4	5–14	15–24	25–34	35–44	45–54	55–64	65–64	75+	<1	1–4	5–14	15–24	25–34	35–44	44–54	55–64	65–74	>75
AMTS	1.2	3.1	4.3	4.4	4.8	5.0	4.7	4.9	5.8	3.7	1.1	2.7	4.1	7.0	8.9	7.7	6.5	6.1	7.3	6.9
BEACH	1.2	2.7	3.5	3.8	4.6	5.3	5.4	4.9	5.4	4.5	1.2	2.5	3.6	6.5	8.7	8.1	8.0	6.4	6.8	7.0

Per cent

Age group (years)

Figure 7.1: Age and sex distribution of AMTS and BEACH patients

7.2 Comparison of cardiovascular encounter rates

There was no statistically significant difference between the rates of cardiovascular problems managed per 100 encounters in the two studies but cardiovascular problems formed a significantly higher percentage of all problems managed in the AMTS than in BEACH (Table 7.2).

In the AMTS there were 18,344 encounters (16.2%) at which at least one cardiovascular problem was managed, with a total number of 20,241 cardiovascular problems managed during the study. There was a total cardiovascular rate of 17.8 problems per 100 encounters. Cardiovascular problems accounted for 12.1% of all problems managed in the AMTS.

The number of cardiovascular encounters in the 2-year BEACH sample was 28,139 and a total of 30,494 cardiovascular problems were managed. Cardiovascular problems as a percentage of total problems was significantly higher in the AMTS (12.1% CI: 11.6–12.7) than in the later study (11.1% CI: 10.8–11.4).

Table 7.2: Summary comparison of cardiovascular problems—AMTS and BEACH

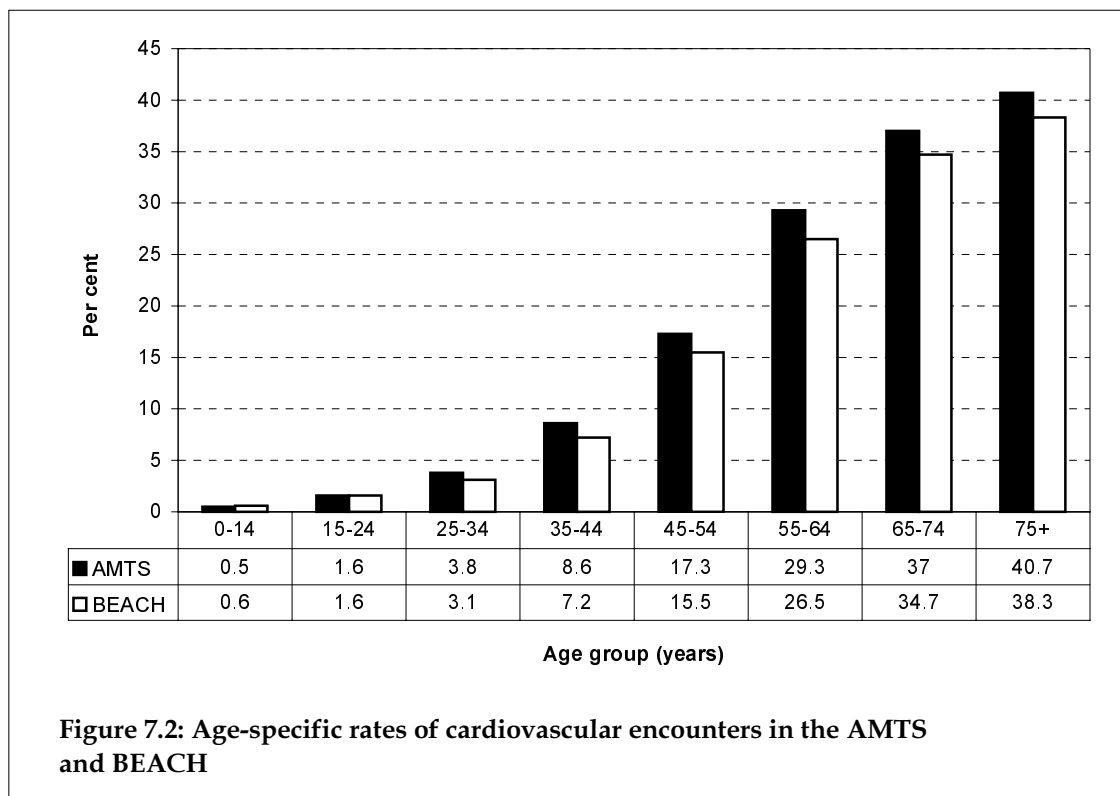|	AMTS 1990–91			BEACH[a] 1998–00		
	Number	Rate per 100 encounters (n = 113,467)	Per cent of problems (n = 167,002)	Number	Rate per 100 encounters (n = 183,494)	Per cent of problems (n = 275,040)
At least one cardiovascular problem	18,344	16.2	. .	28,139	15.3	. .
Total cardiovascular problems	20,241	17.8	12.1	30,494	16.6	11.1
Cardiovascular problems/100 cardiovascular encounters	20,241	110.3	. .	30,494	108.4	. .

(a) BEACH sample reduced to direct surgery and home encounters only.

Characteristics of the patients at cardiovascular encounters

There were no significant differences in the sex-specific rates of patients at encounters involving a cardiovascular problem between the AMTS and BEACH. Male cardiovascular encounters occurred at a rate of 16.4 per 100 total encounters in the AMTS and 16.0 per 100 in BEACH. For females the rate was 16.0 per 100 in the AMTS and a slightly lower 14.9 in BEACH (results not presented).

Age-specific rates, however, did show significant differences between the two studies. The rate of cardiovascular encounters for patients in all age groups between 25 years and 74 years of age was significantly higher in the AMTS compared with BEACH (Figure 7.2).

In terms of age–sex-specific rates, there were significantly higher rates of cardiovascular encounters with male patients in all age groups from 25 to 64 years in the AMTS than in BEACH. Encounters with females 55–64 years old occurred at a rate of 28.2 in the AMTS and 25.4 per 100 encounters in BEACH, and the rate of female patient encounters in the 65–74 age group was significantly higher in 1990–91 than in 1998–00 (37.4 compared with 34.2.) (results not presented).

	0-14	15-24	25-34	35-44	45-54	55-64	65-74	75+
■ AMTS	0.5	1.6	3.8	8.6	17.3	29.3	37	40.7
□ BEACH	0.6	1.6	3.1	7.2	15.5	26.5	34.7	38.3

Age group (years)

Figure 7.2: Age-specific rates of cardiovascular encounters in the AMTS and BEACH

7.3 Most common cardiovascular problems managed

The 20 most frequently managed cardiovascular problems are compared in Table 7.3. The problems are listed in order of decreasing frequency as they appeared in the AMTS data.

Hypertension remained the most commonly managed cardiovascular problem, with no significant difference in its relative rate per 100 encounters or percentage of total problems. The relative management rate of ischaemic heart disease decreased significantly from 2.0 per 100 encounters in the AMTS to 1.5 in BEACH, with an associated significant decrease in percentage of total problems (1.4% compared with 1.0%). Heart failure also showed a significant decrease between the two studies, with a management rate of 1.6 per 100 encounters (1.1% of total problems) in the earlier study, compared with 0.8 per 100 encounters (0.5% of total problems) in 1998–00.

Cardiac check-up was recorded at a significantly lower rate in the AMTS than in BEACH, rising from 0.8 per 100 encounters (0.5% of problems) to 1.4 (1.0%). The rate of atrial fibrillation/flutter also rose significantly from 0.3 to 0.6 per 100 encounters.

Table 7.3: Comparison of the most common cardiovascular problems managed — AMTS and BEACH

Individual cardiovascular problems managed	AMTS 1990–91							BEACH[a] 1998–00						
	Number	Rate per 100 encounters (n = 113,467)	95% LCL	95% UCL	Per cent of total problems (n = 167,002)	95% LCL	95% UCL	Number	Rate per 100 encounters (n = 183,494)	95% LCL	95% UCL	Per cent of total problems (n = 275,040)	95% LCL	95% UCL
Hypertension*	10,412	9.2	8.7	9.7	6.2	5.9	6.5	15,983	8.7	8.4	9.0	5.8	5.6	6.0
Ischaemic heart disease* **	2,303	2.0	1.8	2.2	1.4	1.3	1.5	2,751	1.5	1.4	1.6	1.0	0.9	1.1
Heart failure	1,790	1.6	1.4	1.8	1.1	1.0	1.2	1,490	0.8	0.7	0.9	0.5	0.5	0.6
Cardiac check-up*	897	0.8	0.6	0.9	0.5	0.4	0.6	2,648	1.4	1.2	1.7	1.0	0.8	1.1
Atherosclerosis/peripheral vascular disease	473	0.4	0.3	0.5	0.3	0.2	0.3	456	0.2	0.1	0.4	0.2	0.1	0.3
Haemorrhoids	454	0.4	0.3	0.5	0.3	0.2	0.3	570	0.3	0.2	0.4	0.2	0.1	0.3
Atrial fibrillation/flutter	381	0.3	0.2	0.4	0.2	0.2	0.3	1,062	0.6	0.5	0.7	0.4	0.3	0.5
Heart disease, other	370	0.3	0.2	0.4	0.2	0.2	0.3	394	0.2	0.1	0.4	0.1	0.1	0.2
Stroke/cerebrovascular accident	367	0.3	0.2	0.4	0.2	0.2	0.3	237	0.1	..	0.3	0.1	0.0	0.2
Transient cerebral ischaemia	307	0.3	0.2	0.4	0.2	0.1	0.2	275	0.1	0.0	0.3	0.1	0.0	0.2
Subtotal (n, %)	17,744	87.7	..	..	..	..	..	25,866	84.8	..	..	..	..	..
Total cardiovascular problem managed	20,241	17.8	16.9	18.7	12.1	11.6	12.7	30,494	16.6	16.2	17.1	11.1	10.8	11.4

(a) BEACH sample reduced to direct encounters only.

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

Note: Shading indicates statistically significant difference between AMTS and BEACH. LCL—lower confidence limit, UCL—upper confidence limit.

7.4 Comparison of management of cardiovascular problems

In the AMTS and BEACH, GPs recorded several aspects of patient management. In both studies, pharmaceutical management was linked to a patient problem, as were other treatments such as counselling and procedures. In BEACH, referrals and hospital admissions were similarly related to a single problem, and orders for pathology and imaging could be related to multiple problems. In the AMTS, however, the recording form did not allow for the linking of referrals and tests ordered to the problem managed. This comparative analysis uses the reduced BEACH sample and therefore the BEACH figures differ from those examined at the end of Chapter 6.

The management elements common to both studies are compared in Table 7.4. For 65.7% (95% CI: 63.9–67.5) of cardiovascular problems in the AMTS at least one treatment was recorded. The corresponding figure in BEACH was 71.8% (95% CI: 70.8–72.8), significantly higher than in the AMTS.

The most common management activity in both studies was the prescribing of medication, but the prescription rate did not differ between the two studies. Problems for which at least one non-pharmacological treatment was given were significantly more frequent in BEACH. In particular, clinical treatments such as counselling and advice were significantly more likely in the later study. Therapeutic procedures did not show a significant rise but this may be due to the small sample size involved.

Table 7.4: Comparison of management of cardiovascular problems—AMTS and BEACH

	AMTS 1990–91				BEACH 1998–00[a]			
Type of treatment	Number of cardiovascular problems	Per cent of cardiovascular problems (n = 20,241)	95% LCL	95% UCL	Number of cardiovascular problems	Per cent of cardiovascular problems (n = 30,494)	95% LCL	95% UCL
At least one treatment type	13,302	65.7	63.9	67.5	21,898	71.8	70.8	72.8
At least one prescription	11,475	56.7	54.8	58.6	17,919	58.8	57.6	59.9
At least one non-pharmacological treatment	2,292	11.3	10.4	12.2	5,069	16.6	15.8	17.5
At least one clinical treatment	1,978	9.8	8.9	10.7	4,442	14.6	13.7	15.4
At least one therapeutic procedure	380	1.9	1.5	2.3	713	2.3	1.8	2.9

(a)   BEACH sample reduced to direct surgery and home encounters only.

Note: LCL—lower confidence limit, UCL—upper confidence limit. Shading indicates statistically significant difference.

7.5 Comparison of medications prescribed for cardiovascular problems

In the AMTS, only medications prescribed or provided from the GP's own supply were recorded. This comparison, therefore, does not include the advised over-the-counter medications recorded by BEACH participants.

Medications were classified using a hierarchical coding system developed and used over the past 15 years by the General Practice Statistics and Classification Unit. It is known as CAPS (Coding Atlas for Pharmaceutical Substances) and allows analysis at levels from major drug group through generic substance down to individual branded products (see Chapter 2, Methods). For the purposes of this comparison, medications were analysed by subgroup and generic type.

There were 16,604 prescriptions given for cardiovascular problems in the AMTS, at a rate of 82.0 per 100 cardiovascular problems. In BEACH, 27,382 prescriptions for cardiovascular problems were written at the significantly higher rate of 89.8 per 100 cardiovascular problems managed.

A comparison of the most common medications prescribed for cardiovascular problems by subgroup and individual generic is shown in Table 7.5 listed in the AMTS order of frequency within subgroup. In BEACH 1998–00, antihypertensives were prescribed at a rate almost double that of the AMTS, at 43.3 per 100 cardiovascular problems compared with 23.5. Within the antihypertensive group, a marked shift in prescribing was apparent. There was a significant increase in the rate of other 'antihypertensives' from 15.3 per 100 cardiovascular problems in the AMTS to 23.2 in BEACH. However, with the exception of the rate of indapamide which rose significantly, most of the 'other antihypertensives' that appear in both studies were prescribed at a significantly lower rate in 1998–00 compared with 1990–91. It is clear that medications that were new to the market during the 1990s accounted for a large proportion of the overall increase in 'other antihypertensives' and to the decrease in use of those that were available in 1990–91. The same pattern is evident with ACE inhibitors. Of the two medications available in both studies, the rate of enalapril maleate has not changed and captopril has significantly decreased in BEACH. The sharp increase in ACE inhibitors is entirely due to the prescribing of medications that were not available in 1990–91.

There were significantly more diuretics prescribed in 1990–91, with a rate of 15.4 per 100 cardiovascular problems managed compared with 8.6 in the later study. There was also a significant decrease in prescribing of beta-blockers from 13.6 per 100 problems in the AMTS to 9.9 per 100 in BEACH. Provision of anti-angina medications decreased from 11.0 to 7.7 per 100 cardiovascular problem, and cardiac glycosides fell from a rate of 4.6 to 2.8 per 100.

There was a significant rise in prescribing of prophylactic aspirin for cardiovascular problems from 2.2 per 100 in the AMTS to 3.7 in BEACH and a similar significant rise in warfarin prescribing. A significant decrease in the prescribing of non-cardiovascular medications such as minerals and tonics between the two studies was notable.

There was a rise in hypolipidaemics that were linked to cardiovascular problems although significance could not be measured due to low numbers in the AMTS. Most medications from the hypolipidaemic group were prescribed for lipid disorder, a condition classified as metabolic, not cardiovascular. This study reports only on cardiovascular problems, so drugs associated with metabolic disorders are not included. However, because of the association between lipid disorder and cardiovascular problems, it is of interest to note the rise in use of hypolipidaemics.

There were four generic lipid-lowering medications prescribed at a rate of 0.5 per 100 total problems in 1990–91 and they accounted for only 0.5% of all medication. By 1998–00 there were 10 different lipid-lowering agents which together were being prescribed at a rate of 1.4 per 100 problems. Their proportion of total medications had risen to 1.9% (results not shown in tabular form).

Table 7.5: Comparison of the distribution of medications prescribed for cardiovascular problems—AMTS and BEACH

Subgroup / Generic medication	AMTS 1990–91					BEACH[a] 1998–00				
	Number	Per cent of total medications for cardiovascular problems	Rate per 100 cardiovascular problems	95% LCL	95% UCL	Number	Per cent of total medications for cardiovascular problems	Rate per 100 cardiovascular problems	95% LCL	95% UCL
Antihypertensives all	**4,747**	**28.6**	**23.5**	**22.2**	**24.7**	**13,219**	**48.3**	**43.3**	**42.2**	**44.5**
Antihypertensives other	**3,100**	**18.7**	**15.3**	**14.4**	**16.3**	**7,081**	**25.9**	**23.2**	**22.4**	**24.0**
Verapamil hydrochloride	926	5.6	4.6	4.1	5.1	877	3.2	2.9	2.4	3.4
Prazosin hydrochloride	674	4.1	3.3	2.9	3.8	388	1.4	1.3	0.7	1.9
Felodipine	544	3.3	2.7	2.1	3.2	1009	3.7	3.3	2.8	3.8
Methyldopa	465	2.8	2.3	1.8	2.8	183	0.7	0.6	0.0	1.4
Indapamide	351	2.1	1.7	1.1	2.3	1101	4.0	3.6	3.1	4.1
Amlodipine	..	..	..	..	..	1429	5.2	4.7	4.1	5.2
Irbesartan	..	..	..	..	..	1194	4.4	3.9	3.3	4.6
Diltiazem antihypertensive	..	..	..	..	..	557	2.0	1.8	1.3	2.4
ACE inhibitors	**1,647**	**9.9**	**8.1**	**7.5**	**8.8**	**6,138**	**22.4**	**20.1**	**19.5**	**20.8**
Enalapril maleate	833	5.0	4.1	3.7	4.6	1280	4.7	4.2	3.7	4.7
Captopril	814	4.9	4.0	3.4	4.6	564	2.1	1.8	1.2	2.5
Perindopril	..	..	..	..	..	1196	4.4	3.9	3.4	4.5
Lisinopril	..	..	..	..	..	850	3.1	2.8	2.2	3.4
Quinapril	..	..	..	..	..	637	2.3	2.1	1.4	2.8
Ramipril	..	..	..	..	..	636	2.3	2.1	1.5	2.7
Trandolapril	..	..	..	..	..	524	1.9	1.7	1.0	2.5
Fosinopril	..	..	..	..	..	442	1.6	1.4	0.7	2.2

(a)   BEACH sample reduced to direct encounters only

Note: LCL—lower confidence limit, UCL—upper confidence limit, ACE—acetylcholine esterase inhibitor. Shading indicates statistically significant difference.

(continued)

Table 7.5 (continued): Comparison of the distribution of medications prescribed for cardiovascular problems—AMTS and BEACH

Subgroup	Generic medication	AMTS 1990–91					BEACH[a] 1998–00				
		Number	Per cent of total medications for cardiovascular problems	Rate per 100 cardiovascular problems	95% LCL	95% UCL	Number	Per cent of total medications for cardiovascular problems	Rate per 100 cardiovascular problems	95% LCL	95% UCL
Diuretics		**3,119**	**18.8**	**15.4**	**14.3**	**16.5**	**2,609**	**9.5**	**8.6**	**8.0**	**9.1**
	Frusemide (Furosemide)	1,232	7.4	6.1	5.5	6.7	1397	5.1	4.6	4.1	5.1
	Thiazide + Amiloride	547	3.3	2.7	2.2	3.2	337	1.2	1.1	0.4	1.8
	Chlorothiazide	312	1.9	1.5	1.0	2.1	313	1.1	1.0	0.2	1.8
	Trianterene/Hydrochlorothiazide	287	1.7	1.4	0.7	2.1	165	0.6	0.5	0.0	1.4
	Amiloride	178	1.1	0.9	0.1	1.6	61	0.2	0.2	0.0	1.4
	Bendroflumethiazide	137	0.8	0.7	0.0	1.8	102	0.4	0.3	0.0	1.6
	Methyclothiazide	82	0.5	0.4	0.0	1.4	8	0.0	0.0	0.0	3.4
	Chlorthalidone	81	0.5	0.4	0.0	0.9	39	0.1	0.1	0.0	1.7
	Cyclopenthiazide	75	0.5	0.4	0.0	1.3	1	0.0	0.0	..	..
Beta-blockers		**2,757**	**16.6**	**13.6**	**12.8**	**14.5**	**3,005**	**11.0**	**9.9**	**9.3**	**10.4**
	Atenolol	1,157	7.0	5.7	5.2	6.3	1,733	6.3	5.7	5.2	6.2
	Metoprolol	880	5.3	4.3	3.8	4.9	853	3.1	2.8	2.2	3.4
	Propranolol hydrochloride	372	2.2	1.8	1.3	2.3	231	0.8	0.8	0.0	1.5
	Pindolol	218	1.3	1.1	0.6	1.5	86	0.3	0.3	0.0	1.3
Antiangina agents		**2,234**	**13.5**	**11.0**	**10.2**	**11.9**	**2,359**	**8.6**	**7.7**	**7.2**	**8.3**
	GTN (glyceryl trinitrate)	783	4.7	3.9	3.4	4.3	731	2.7	2.4	1.9	2.9
	Nifedipine	706	4.3	3.5	3.0	4.0	676	2.5	2.2	1.6	2.8
	Isosorbide nitrate	494	3.0	2.4	2.0	2.9	698	2.5	2.3	1.8	2.8
	Diltiazem anti-angina	229	1.4	1.1	0.7	1.6	167	0.6	0.5	0.0	1.3

(a)   BEACH sample reduced to direct encounters only

Note: LCL—lower confidence limit, UCL—upper confidence limit, ACE—acetylcholine esterase inhibitor. Shading indicates statistically significant difference.

(continued)

Table 7.5 (continued): Comparison of the distribution of medications prescribed for cardiovascular problems—AMTS and BEACH

Subgroup	Generic medication	AMTS 1990–91					BEACH[a] 1998–00				
		Number	Per cent of total medications for cardiovascular problems	Rate per 100 cardiovascular problems	95% LCL	95% UCL	Number	Per cent of total medications for cardiovascular problems	Rate per 100 cardiovascular problems	95% LCL	95% UCL
Non-cardiovascular drugs		1,897	11.4	9.4	8.7	10.0	2,180	8.0	7.2	6.6	7.7
Cardiac glycosides		923	5.6	4.6	4.1	5.0	861	3.1	2.8	2.3	3.4
	Digoxin	921	5.5	4.6	4.1	5.0	860	3.1	2.8	2.3	3.3
Miscellaneous cardiovascular medications NOS		45	0.3	0.2	0.0	1.0	64	0.2	0.2	0.0	2.5
	Aspirin	453	2.7	2.2	1.8	2.7	1,120	4.1	3.7	3.0	4.3
	Warfarin sodium	232	1.4	1.1	0.8	1.5	1,030	3.8	3.4	2.9	3.9
Antiarryhmic		138	0.8	0.7	0.3	1.1	388	1.4	1.3	0.6	1.9
Hypolipidaemics		12	0.1	0.1	0.0	1.7	526	1.9	1.7	1.0	2.4
	Simvastatin	9	0.1	0.0	0.0	1.8	266	1.0	0.9	0.0	1.8
	Atorvastatin	..	..	..	..	..	132	0.5	0.4	0.0	1.4
Total medications for cardiovascular problems		16,604	100.0	82.0	78.4	85.7	27,382	100.0	89.8	87.5	92.1

(a) BEACH sample reduced to direct encounters only

Note: LCL—lower confidence limit, UCL—upper confidence limit, ACE—acetylcholine esterase inhibitor. Shading indicates statistically significant difference.

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7.6 Conclusion

The AMTS provided a monitoring method that was used as a basis for the ongoing BEACH study. Detailed information from BEACH on the doctor–patient encounter can be measured in terms of various research questions, a major one being the assessment of changes that have taken place over time.

This chapter has summarised the changes that have taken place in cardiovascular problems and their management in general practice between 1990–91 and 1998–00. It was interesting to find that the rate of cardiovascular encounters for patients in all age groups between 25 and 74 years of age was significantly lower in BEACH than in the AMTS. The significant decrease in ischaemic heart disease and heart failure and the rise in cardiac check-up were also noteworthy.

An increase in the rates of recorded management occurred during the 1990s. GPs in the later study were much more likely to conduct cardiovascular check-up and use clinical treatments such as counselling and advice than they were 10 years earlier, but the medication prescribing rate remained steady. The decline in relative management rates of cardiovascular problems in general practice is likely to be a consequence of these new management patterns combined with the comprehensive changes in medication prescribing patterns, which incorporated the newly available medications of the 1990s. It is probable that the considerable rise in preventive medicine, in particular antihypertensives, anticoagulants and medications for the associated problem of lipid disorder, has been a factor in the fall in management rates of serious heart diseases. The significant decrease in prescribing rates of anti-angina medications and cardiac glycosides also points to this conclusion. The rise in warfarin prescribing indicates the increased importance of post-operative cardiac care in general practice.