

# 3. Treatment

## *Prescriptions*

There has been a significant increase in the number of prescriptions for the treatment and prevention of CVD in the last twenty years. Overall, in 2003, around 180 million prescriptions were issued for diseases of the circulatory system in England, three and a half times as many as issued in 1983 (Table 3.1).

In the last ten years, the number of prescriptions for antiplatelet drugs has increased around five fold (over forty fold in the last twenty years), and the number of prescriptions of lipid lowering drugs has increased around fifteen fold (almost one hundred fold in last 20 years) (Table and Fig 3.1).

In 2003, the cost of prescriptions for lipid lowering drugs, including statins, was £715 million, an increase of £144 million since 2002. Lipid lowering drugs now cost the NHS more than any other class of drug (overtaking ulcer healing drugs in 2001). Between 2002 and 2003, 22% of the overall increase in the cost of drugs to the NHS was due to lipid lowering drugs<sup>1</sup>.

The cost of prescriptions for antihypertensive therapy increased by £69 million to £576 million between 2002 and 2003, making these the second most costly class of drug in the NHS<sup>1</sup>. The use of both statins and antihypertensive drugs for the secondary prevention of coronary heart disease is recommended in the National Service Framework for Coronary Heart Disease, so it is likely there will continue to be increases in their use.

## *Operations*

The number of operations carried out to treat CHD has also increased. The amount of coronary artery bypass surgery (CABG) has increased six fold since 1980 and almost doubled in the last 10 years. Around 28,500 operations are now carried out each year in the UK (Table 3.2). The number of percutaneous transluminal coronary angioplasties (PTCA) is increasing at an even faster rate and just under 45,000 are now carried out annually (Table 3.3 and Fig 3.3).

However, rates of CABG and PTCA vary substantially across the UK. Maps of coronary revascularisation rates for men and women by local authority in England in 2002 show a greater than six fold difference between the lowest and highest rates. These rates varied in men from 57 per 100,000 population in the Isle of Wight to 342 per 100,000 in Watford and in women from 21 per 100,000 in the Isle of Wight to 137 per 100,000 in Teesdale<sup>2</sup>. These maps and associated tables are available at [www.heartstats.org/chd\\_atlas](http://www.heartstats.org/chd_atlas).

In addition to coronary revascularisation operations, there were 160 heart transplants carried out in 2000/01 and 34 heart and lung transplants<sup>3</sup>.

## *Inpatient hospital cases*

Overall, there were just under 410,000 inpatient cases treated for CHD in National Health Service hospitals in 2002/03 (Table 3.4). These represent 5% of all inpatient cases in men and 2% in women (Fig 3.4a and Fig 3.4b).

The number of inpatient cases treated for CHD has increased by over 12% in the last three years<sup>4</sup>.

## *Staffing levels*

In 2002, a report on the provision of services for patients with heart disease in the UK highlighted a severe shortage of all types of health care professionals involved in cardiovascular care<sup>5</sup>. However, since then the numbers of consultant cardiologists and cardiothoracic surgeons have increased considerably. The number of cardiologists working in the NHS increased by just under 50% between September 1999 and March 2004, from 467 to 685. Over the same period the number of consultant cardiothoracic surgeons increased by 19%, from 182 to 217<sup>6</sup>. It is estimated that between 1200-1500 consultant cardiologists will be needed by 2010<sup>5</sup>.

## *International differences*

In 1999, the European Society of Cardiology published data on the rates of procedures for CHD across Europe around 1995. At this time rates of procedures for CHD were lower in the UK than in many other European countries. For example, in the Netherlands the rate of coronary artery bypass surgery (CABG) was twice as high and the rate of coronary angioplasties (PTCA) over three times as high as those found in the UK (Table 3.5). When the rates of coronary artery bypass surgery in 1995 were adjusted for incidence of CHD, the UK had much lower rates than might be expected, while other countries, particularly France, had much higher rates (Fig 3.5). However, as these data are almost 10 years old and there have been considerable increases in the volume of procedures for CHD in the UK over the last decade, this may no longer be the case<sup>7</sup>.

## *National Service Framework for Coronary Heart Disease in England*

The National Service Framework (NSF) for Coronary Heart Disease<sup>8</sup>, which was announced in March 2000, sets twelve national service standards for the prevention, diagnosis and treatment of CHD in England (Table 3.7). The NSF outlined a series of priorities, milestones and goals to be achieved over the next five years.

There were three immediate priorities to be achieved by April 2001. These were the introduction of specialist smoking cessation clinics by Health Authorities to help 150,000 people quit smoking; the setting up of 50 rapid access chest pain clinics to assess people with new symptoms for angina within two weeks of referral; and the reduction of call-to-needle times for thrombolysis for heart attacks, by improving ambulance response times and increasing the proportion of Accident and Emergency (A&E) departments able to provide thrombolysis.

Between April 2000 and March 2001, just over 132,000 people in England had set a quit date through smoking cessation services. Around 64,000 (49%) of those setting a quit date reported that they were not smoking four weeks after their quit date. The numbers attending smoking cessation clinics have risen to over 234,000 in 2002/03, with around 124,000 (53%) reporting

success at four weeks (Table 3.7)<sup>9,10</sup>. A further £138 million is being invested in smoking cessation between 2002/03 and 2005/06, with a target of 800,000 successful quitters at the four-week follow up during this three-year period<sup>9</sup>.

By June 2001, 150 rapid chest pain clinics were open across England<sup>11</sup>.

In 2000/01, of the 32 ambulance services in England, just three achieved the goal set in the NSF, that is 75% of category A (immediately life threatening) calls responded to within 8 minutes. By 2002/03, eighteen ambulance services (56%) had achieved this goal (Table 3.8)<sup>12</sup>.

The NSF further outlined a number of immediate priorities to be achieved by April 2002. These were to increase to 75% the proportion of heart attack patients receiving thrombolysis within 30 minutes of arriving at hospital; to improve the use of effective medicines after heart attack so that 80-90% of people discharged from hospital following a heart attack are prescribed aspirin, beta-blockers and statins; and to increase the total number of revascularisation procedures by 3,000.

Data from the National Audit of Myocardial Infarction Project (MINAP)<sup>13</sup> show that by April 2002, 59% of eligible heart attack patients were receiving thrombolysis within 30 minutes of arriving in hospital. By the end of 2003 this had risen to 81% of eligible heart attack patients, with quarter by quarter improvements<sup>6</sup>.

MINAP data further show that between January and December 2003, at least 88% of people discharged from hospital following a heart attack in England and Wales were prescribed aspirin, 67% beta blockers and 83% statins (Table 3.9)<sup>14,15</sup>.

Between 2000 and 2001, the total number of revascularisation procedures in the UK increased by just under 6,000, from 61,488 to 67,447 (Table 3.2 and Table 3.3).

The NSF also outlined the importance of cardiac rehabilitation. It set an overall goal that in every hospital over 85% of people discharged with a primary diagnosis of heart attack or after coronary revascularisation should be offered cardiac rehabilitation. The most recent data from the British Association of Cardiac Rehabilitation show that the current rate of provision is well below the goal set by the NSF. In 2000, only around one third of people discharged from hospital in England after a heart attack or coronary revascularisation received cardiac rehabilitation<sup>16</sup>. The rate of provision varied substantially across the country with the lowest levels found in London (Table 3.10).

In March 2004, the Department of Health published a four-year progress report on the CHD National Service Framework, *Winning the War on Heart Disease*<sup>6</sup>. The first of a series of 26 local reviews on the implementation of the CHD NSF by the Commission for Health Improvement and the Audit Commission have also been recently published<sup>17</sup>. A national report, using findings from these local reviews and other evidence, will be published towards the end of 2004 by the Healthcare Commission<sup>18</sup>.

1. Department of Health Statistics Division (2004) [www.publications.doh.gov.uk/stats/pca2003.xls](http://www.publications.doh.gov.uk/stats/pca2003.xls)  
2. Otreba P, Rayner M, Hill A and Goldacre M (2003) *An atlas of coronary heart disease mortality, hospital admissions and coronary revascularisations in South East England*. SEPHO: Oxford. This publication contains maps of CHD mortality, hospital admissions and coronary revascularisations by local authority across England as well as the South East Region. See [www.heartstats.org/chd\\_atlas](http://www.heartstats.org/chd_atlas)

3. Society of Cardiothoracic Surgeons of Great Britain and Ireland (2002) *UK Cardiac Surgical Register 2000/01*. See [www.scts.org](http://www.scts.org)
4. In 1999/2000, the number of inpatient cases for CHD was 364,168 in National Health Service hospitals in England. See Table 3.5 in Petersen S and Rayner M (2002) *Coronary heart disease statistics*. BHF:London.
5. *Fifth report on the provision of services for patients with heart disease*. *Heart* 2002; 88(Suppl III):iii1-iii59.
6. Department of Health (2004) *Winning the War on Heart Disease*. The Stationery Office: London. See [www.dh.gov.uk/assetRoot/04/07/71/58/04077158.pdf](http://www.dh.gov.uk/assetRoot/04/07/71/58/04077158.pdf)
7. We aim to compile more recent data for our forthcoming supplement "European Cardiovascular Disease Statistics" to be published in Spring 2005.
8. Department of Health (2000) *Coronary Heart Disease National Service Framework*. The Stationery Office: London.
9. Department of Health Statistical Bulletin (2003) *Statistics on smoking cessation services in England, April 2002 to March 2003, and earlier editions*. See [www.dh.gov.uk/assetRoot/04/07/62/33/04076233.PDF](http://www.dh.gov.uk/assetRoot/04/07/62/33/04076233.PDF)
10. Four week self-reported quit rates only give an indication of the true short-term quit rates achieved by smoking cessation services. In 2001/02, carbon monoxide (CO) validation was offered to clients of smoking cessation services as a tool to aid smoking cessation. Around 75% of those who reported having successfully quit smoking at the 4-week follow-up had the level of carbon monoxide in their bloodstream measured. In 90% of cases this test confirmed they were not smoking at 4-weeks. Longer term success rates are currently unknown.
11. Department of Health Heart Team, personal communication.
12. Department of Health Statistical Bulletin (2003) *Ambulance services, England: 2002-2003*. See [www.dh.gov.uk/assetRoot/04/06/82/68/04068268.pdf](http://www.dh.gov.uk/assetRoot/04/06/82/68/04068268.pdf)
13. Currently 230 hospitals contribute to the MINAP database, all but one of the hospitals treating heart attacks in England and Wales. Data are collected on patients with all types of acute coronary disease.
14. These percentages have risen since 2002. The equivalent figures for January to November 2002 were 83% prescribed aspirin, 62% beta blockers and 83% statins. See Table 3.9 in Petersen S, Peto V and Rayner M (2003) *Coronary heart disease statistics*. British Heart Foundation: London.
15. For more results from the MINAP project, including hospital level data, see Royal College of Physicians (2003) *How Hospitals Manage Heart Attacks. Second Public Report of the Myocardial Infarction National Audit Project*. Royal College of Physicians: London. Also available at [www.rcplondon.ac.uk/pubs/books/minap/index.htm](http://www.rcplondon.ac.uk/pubs/books/minap/index.htm).
16. The British Association of Cardiac Rehabilitation Database annually surveys all centres providing cardiac rehabilitation in the UK. In 2000, data on cardiac rehabilitation provision were reported by 140 of the 231 English centres. The figures in Table 3.10 have been adjusted upwards to take into account non-responders to the survey. Before adjustment, the numbers receiving cardiac rehabilitation in England in 2000 were 31,473, which represents 20% of those discharged from hospital with a diagnosis of heart attack or after coronary revascularisation.
17. See the Commission for Health Improvement website at [www.chi.nhs.uk/eng/nsf/chd/chd\\_reports.shtml](http://www.chi.nhs.uk/eng/nsf/chd/chd_reports.shtml)
18. The Healthcare Commission took over the work of the Commission for Health Improvement on April 1st 2004. Results of the national review of the CHD National Service Framework will be published at [www.healthcarecommission.org.uk](http://www.healthcarecommission.org.uk) towards the end of 2004.

**Table 3.1 Prescriptions used in the prevention and treatment of all diseases of the circulatory system, 1981-2003, England**

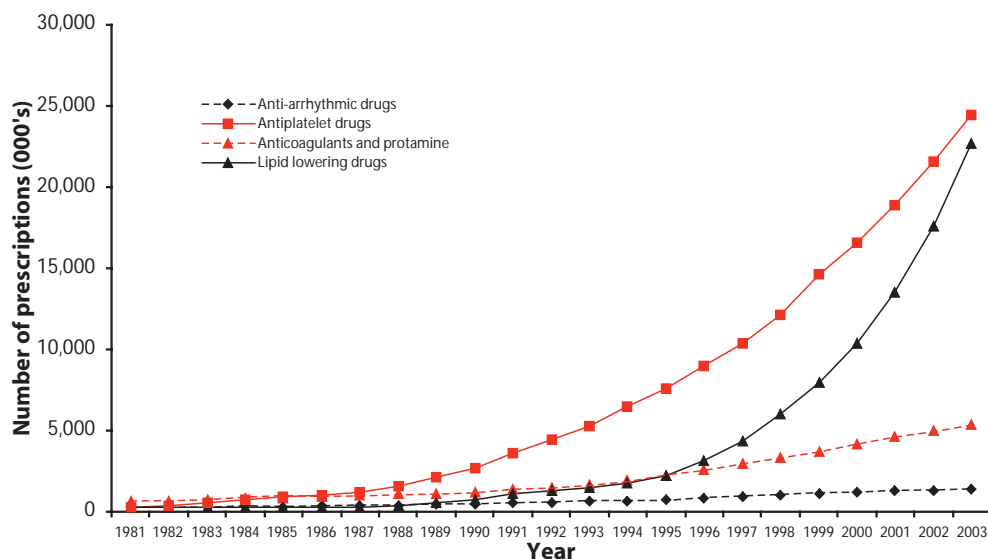
Prescriptions (thousands)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Digoxin and other positive inotropic drugs (2.1)	4,243	4,134	4,023	4,003	3,878	3,722	3,718	3,624	3,558	3,548	3,822	3,816	3,825	3,848	3,860	3,871	3,843	3,907	3,954	3,983	4,031	4,029	4,043
Diuretics (2.2)	20,678	21,108	22,011	22,052	21,919	21,996	22,134	21,636	21,274	21,029	22,195	22,039	22,115	22,521	22,745	23,106	23,602	24,313	25,672	27,738	30,203	32,185	34,432
Anti-arrhythmic drugs (2.3)	232	256	284	330	319	334	388	397	423	459	532	568	614	673	750	840	941	1,047	1,138	1,214	1,292	1,338	1,343
Beta-adrenoreceptor blocking drugs (2.4)	9,827	10,627	11,458	11,815	12,288	12,525	12,723	12,937	13,241	13,183	14,282	14,145	14,018	13,997	14,050	14,375	14,693	15,319	16,584	18,321	20,439	22,439	24,336
Antihypertensive therapy (2.5)	4,912	4,699	4,603	4,581	4,403	4,424	4,442	4,419	4,824	5,371	6,431	7,281	8,412	9,668	10,631	12,125	13,562	15,450	17,942	21,075	25,047	29,591	33,788
Nitrates, calcium blockers and potassium activators (2.6)	5,156	5,673	6,611	7,719	8,998	10,314	11,790	12,867	13,908	14,726	16,718	17,857	19,039	20,130	21,083	21,971	22,645	23,380	24,316	25,394	26,814	27,994	29,156
Sympathomimetics (2.7)	15	13	17	12	7	6	4	10	37	27	19	15	12	10	8	7	6	5	4	3	2	2	3
Anticoagulants and protamine (2.8)	629	686	748	823	798	900	1,014	1,103	1,148	1,158	1,356	1,489	1,680	1,976	2,263	2,609	2,963	3,340	3,731	4,152	4,609	4,975	5,389
Antiplatelet drugs (2.9)	281	407	589	765	893	1,058	1,224	1,574	2,147	2,715	3,619	4,432	5,264	6,451	7,615	9,002	10,376	12,173	14,642	16,552	18,891	21,601	24,428
Anti-fibrinolytic drugs and haemostatics (2.11)																			215	242	267	282	300
Lipid regulating drugs (2.12)	295	267	243	242	244	247	294	413	522	735	1,066	1,308	1,515	1,742	2,216	3,138	4,398	5,982	7,926	10,331	13,523	17,604	22,655
Local sclerosants (2.13)																			1	1	1	1	0
<b>All prescriptions for disease of the circulatory system</b>	<b>46,267</b>	<b>47,870</b>	<b>50,586</b>	<b>52,342</b>	<b>53,747</b>	<b>55,526</b>	<b>57,731</b>	<b>58,980</b>	<b>61,082</b>	<b>62,952</b>	<b>70,041</b>	<b>72,951</b>	<b>76,495</b>	<b>81,016</b>	<b>85,220</b>	<b>91,044</b>	<b>97,029</b>	<b>105,131</b>	<b>116,152</b>	<b>129,030</b>	<b>145,134</b>	<b>162,047</b>	<b>179,872</b>

BNF codes in parentheses.

The data up to 1990 are not consistent with data from 1991 onwards. Figures up to 1990 are based on fees and on a sample of 1 in 200 prescriptions dispensed by community pharmacists and appliance contractors only. Figures from 1991 are based on items and cover all prescriptions dispensed by community pharmacists, appliance contractors, dispensing doctors and prescriptions submitted by prescribing doctors for items personally administered.

Sources: Department of Health Statistics Division (2004) [www.publications.doh.gov.uk/stats/pea2003.xls](http://www.publications.doh.gov.uk/stats/pea2003.xls) and previous editions.

**Fig 3.1** Prescriptions used in the prevention and treatment of diseases of the circulatory system, selected BNF paragraphs, 1981-2003, England



**Table 3.2** Operations for CHD, 1977-2001, United Kingdom

	Coronary artery bypass surgery (CABG)	CABG with another procedure	Procedure without CABG	Total	Total annual % increase	Total mortality (%)
1977	2,297	584	159	3,040		9.3
1978	2,653	537	155	3,345	10.0	7.5
1979	2,918	620	150	3,688	10.3	8.4
1980	4,057	802	152	5,011	35.9	6.1
1981	5,130	839	154	6,123	22.2	5.8
1982	6,008	1,224	171	7,403	20.9	5.2
1983	8,332	1,111	174	9,617	29.9	4.8
1984	9,433	1,120	170	10,723	11.5	3.6
1985	10,667	1,133	220	12,020	12.1	3.8
1986	10,767	1,243	244	12,254	1.9	3.8
1987	11,521	1,299	283	13,103	6.9	3.6
1988*	11,113	1,306	235	12,654	-3.4	3.8
1989	12,648	1,342	197	14,187	12.1	3.4
1990	14,431	1,536	178	16,145	13.8	3.7
1991	15,659	1,710	169	17,538	8.6	3.9
1992	19,241	1,963	194	21,398	22.0	3.5
1993	21,031	2,037	206	23,274	8.8	3.4
1994/5	22,056	2,282	175	24,513	5.3	3.5
1995/6	22,475	2,362	123	24,960	1.8	4.3
1996/7**	22,160	2,078	361	24,599	-1.4	3.8
1997/98	25,639	2,433	126	28,198	14.6	3.3
1998/99	25,083	2,568	613	28,264	0.2	3.1
1999/00	24,733	2,641	462	27,836	-1.5	3.0
2000/01	25,127	2,881	447	28,455	2.2	3.1

\* One centre did not make a return this year.

\*\* Two centres did not make a return this year.

Data are from the UK Cardiac Surgical Register, collected by the Society of Cardiothoracic Surgeons of Great Britain and Ireland.

Operations performed within the private sector are not included.

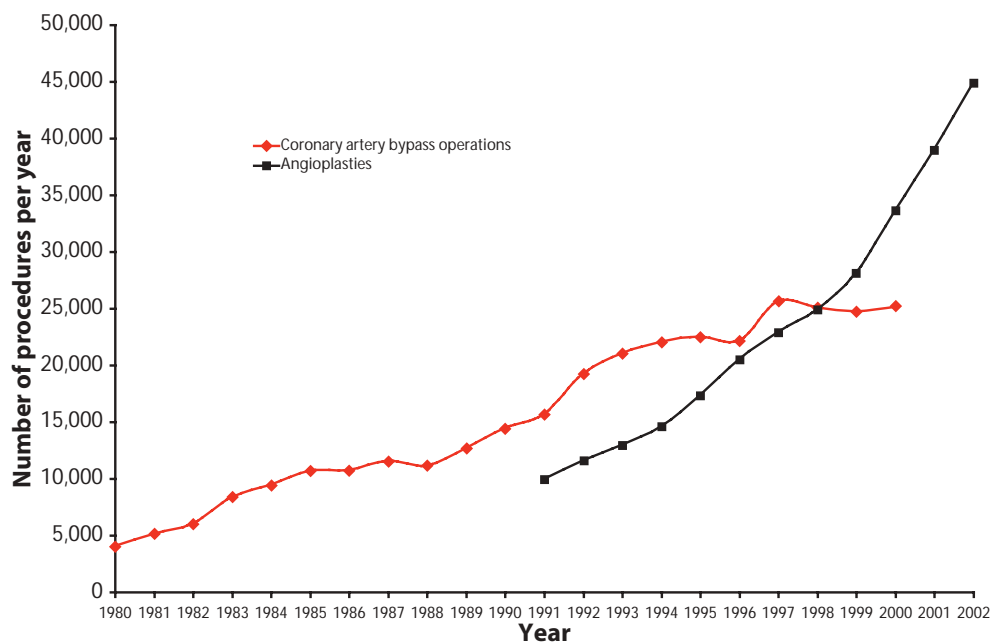
Source: Society of Cardiothoracic Surgeons of Great Britain and Ireland (2002) [www.scts.org/doc/890](http://www.scts.org/doc/890)

**Table 3.3** *Angioplasty and other coronary intervention procedures, 1991-2002, United Kingdom*

	Number of intervention centres	Total angioplasty and other coronary intervention procedures	Rate per million	Annual % increase	Success (%)	Mortality (%)
1991	52	9,933	174		86	0.48
1992	52	11,575	203	16.5	88	0.71
1993	53	12,937	227	11.8	89	0.59
1994	54	14,624	256	13.0	90	0.60
1995	54	17,344	304	18.6	89	0.69
1996	53	20,511	359	18.1	90	0.72
1997	58	22,902	402	11.7	92	0.89
1998	61	24,899	437	8.7	92	0.80
1999	63	28,133	494	13.0	90	0.61
2000	66	33,652	590	20.0	92	0.70
2001	64	38,992	664	12.5	94	0.75
2002	64	44,913	759	14.3	92	0.54

Source: British Cardiovascular Intervention Society (2004) [www.bcis.org.uk](http://www.bcis.org.uk)

**Fig 3.3** *Number of coronary artery bypass operations (CABGs) and angioplasties (PTCAs) per year, 1980-2002, United Kingdom*



**Table 3.4** *Inpatient cases by main diagnosis, sex and age, National Health Service hospitals, 2002/03, England*

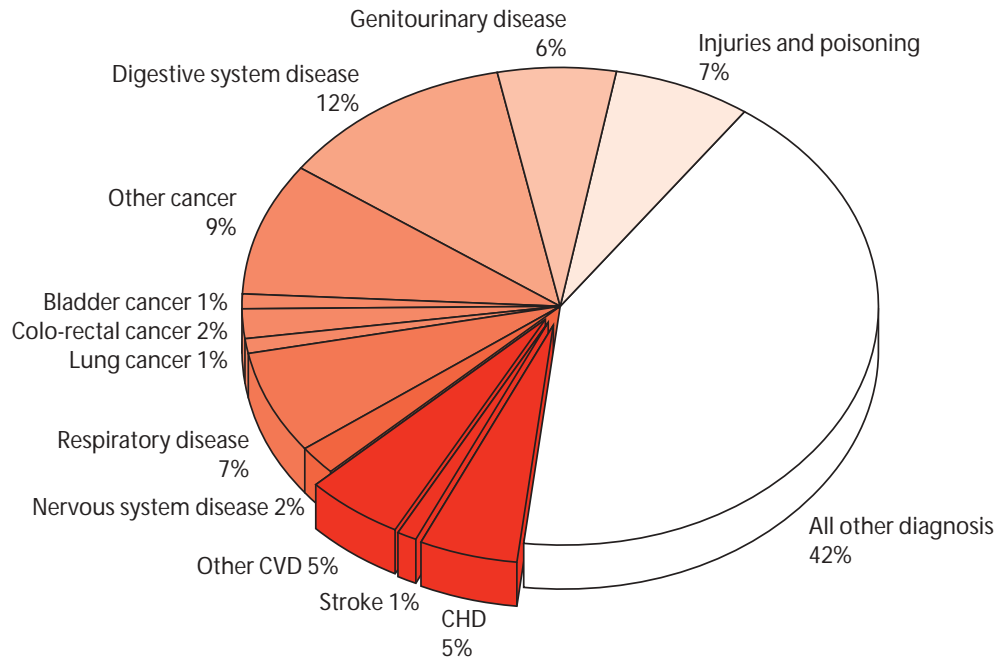
	Episodes of care			Days in hospital
	Men	Women	Total	Total days
All diagnoses	5,571,968	7,183,931	12,755,899	52,436,163
All diseases of the circulatory system (I00-I99)	636,524	512,197	1,148,721	7,625,301
Coronary heart disease (I20-II25)	263,565	145,847	409,412	1,855,192
Angina pectoris (I20)	84,110	60,340	144,450	541,421
Acute myocardial infarction (I21)	65,558	39,918	105,476	657,104
Chronic coronary heart disease (I25)	98,989	37,497	136,486	516,176
Heart failure (I50)	53,365	54,106	107,471	977,395
Stroke (I60-I69)	77,763	86,904	164,667	2,658,765
Diabetes (E10-E14)	37,186	31,046	68,232	368,780
All cancer (C00-D48)	679,333	699,180	1,378,513	4,343,199
Colo-rectal cancer (C18-C21)	95,809	67,572	163,381	578,132
Lung cancer (C33-C34)	47,846	31,592	79,438	406,186
Breast cancer (C50)	777	113,083	113,860	269,366
Bladder cancer (C67)	59,748	20,186	79,934	215,031
All diseases of the nervous system (G00-G99)	116,366	135,343	251,709	1,742,156
All diseases of the respiratory system (J00-J99)	397,699	370,442	768,141	3,892,460
All diseases of the digestive system (K00-K93)	668,136	677,125	1,345,261	3,533,337
All diseases of the genitourinary system (N00-N99)	306,560	500,679	807,239	2,207,105
Complications of pregnancy and childbirth (O00-O99)	0	1,205,154	1,205,154	1,988,492
Injury and poisoning (S00-T98)	405,815	369,074	774,889	4,954,304
All other diagnoses	2,324,349	2,683,691	5,008,040	21,781,029

*Finished consultant episodes; ordinary admissions and day cases combined.*

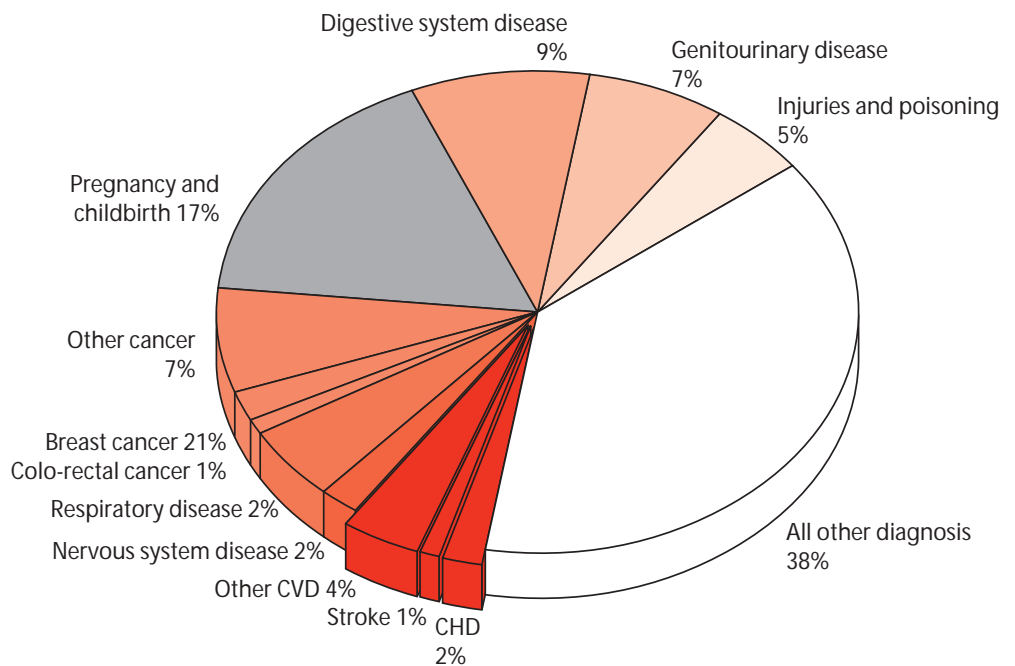
*ICD codes (10th revision) in parentheses.*

Source: Department of Health (2003) Hospital Episode Statistics. [www.doh.gov.uk/assetRoot/04/06/75/89/04067589.xls](http://www.doh.gov.uk/assetRoot/04/06/75/89/04067589.xls)

**Fig 3.4a** *Inpatient cases by main diagnosis, men, National Health Service hospitals, 2002/03, England*



**Fig 3.4b** *Inpatient cases by main diagnosis, women, National Health Service hospitals, 2002/03, England*



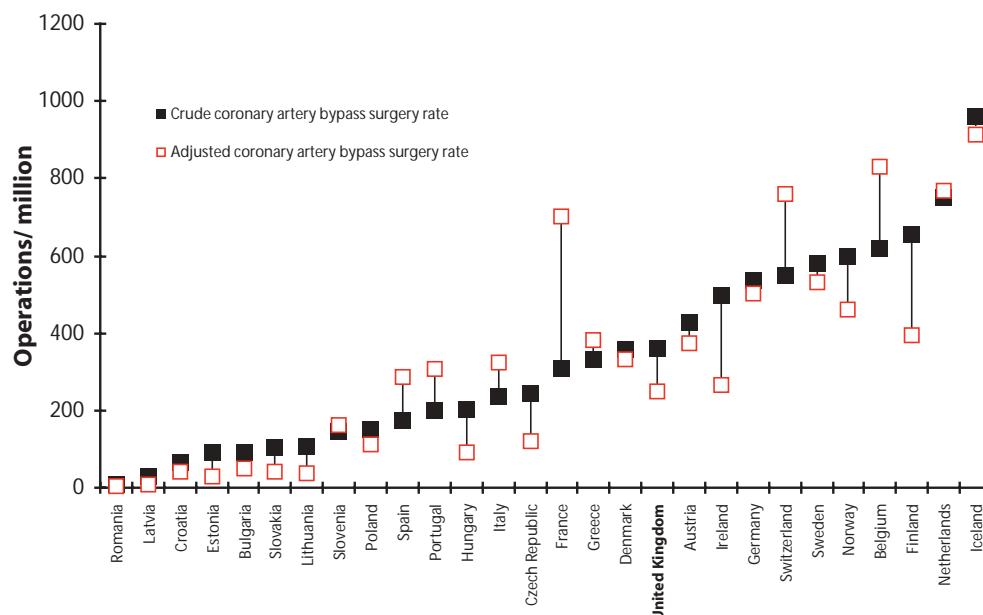
**Table 3.5** Age and sex-standardised rates of various procedures for treating CVD, around 1995, selected European countries

	Pacemakers	Implantable cardioverter defibrillators	Coronary angiograms	Percutaneous coronary interventions	Coronary stents	Open heart surgery	Coronary artery bypass surgery	Valve surgery
Procedures per million								
Albania						66		
Austria	450	8	2657	654	174	682	426	161
Belgium	678	18	3608	971	53	979	617	206
Bosnia and Herzegovina						0	0	0
Bulgaria						202	93	76
Croatia	148	1	410	60	4	131	65	37
Czech Republic	583	5	984	189	189	415	246	83
Denmark	309	13	1098	252	58	531	357	72
Estonia			706	158	1	187	91	58
Finland			1750	340		936	655	150
France	602	4	2733	808	409	571	308	159
Germany	438	23	3929	1143	288	813	537	173
Greece	290	4	1510	274	274	450	331	85
Hungary	187		550			347	204	95
Iceland			4782	1499		1071	961	44
Ireland			2260	354		716	500	143
Italy		3	1116	227	80	411	238	124
Latvia			179	32		90	27	41
Lithuania	185	0	793	121	3	253	110	77
Luxembourg						0	0	0
Macedonia, Fmr Yug Rep of						0	0	0
Moldova, Rep of	46	0						
Netherlands	347	10	2139	867	162	917	752	97
Norway	230	10	1894	610	70	747	596	78
Poland	262	1	519	94		310	151	79
Portugal	334	1	864	150	22	366	199	119
Romania			82	10	10	48	3	24
San Marino						0	0	0
Slovakia	418	4			5	224	104	48
Slovenia	296	2	693	143	4	292	146	67
Spain	293		1064	288	101	363	175	140
Sweden	346	7	1450	416	103	759	581	92
Switzerland	340	10	2837	823	229	767	550	213
Turkey			1500	232	33			
United Kingdom	232	5	1158	251	66	507	362	76
Yugoslavia	83					222	167	36

For method of standardisation see source. Please note these data are almost ten years old.

Source: European Society of Cardiology (1999) Cardiovascular Disease in Europe. ESC: Sophia Antipolis

**Fig 3.5** Rates of coronary artery bypass surgery, crude and adjusted for standardised mortality rates from CHD in adults aged 35-74, around 1995, selected European countries



**Table 3.6 National Service Framework (NSF) for Coronary Heart Disease in England: Standards table**

<b>NSF Area</b>	<b>NSF Standard</b>
<b>Reducing heart disease in the population</b>	<p>1. <i>The NHS and partner agencies should develop, implement and monitor policies that reduce the prevalence of coronary risk factors in the population, and reduce inequalities in risks of developing heart disease</i></p> <p>2. <i>The NHS and partner agencies should contribute to a reduction in the prevalence of smoking in the local population</i></p>
<b>Preventing CHD in high risk patients</b>	<p>3. <i>General practitioners and primary care teams should identify all people with established cardiovascular disease and offer them comprehensive advice and appropriate treatment to reduce their risks</i></p> <p>4. <i>General practitioners and primary care teams should identify all people at significant risk of cardiovascular disease but who have not developed symptoms and offer them appropriate advice and treatment to reduce their risks</i></p>
<b>Heart attack and other acute coronary symptoms</b>	<p>5. <i>People with symptoms of a possible heart attack should receive help from an individual equipped with and appropriately trained in the use of a defibrillator within 8 minutes of calling for help, to maximise the benefits of resuscitation should it be necessary</i></p> <p>6. <i>People thought to be suffering from a heart attack should be assessed professionally and, if indicated, receive aspirin. Thrombolysis should be given within 60 minutes of calling for professional help</i></p> <p>7. <i>NHS Trusts should put in place protocols/systems of care so that people admitted to hospital with proven heart attack are appropriately assessed and offered treatments of proven clinical and cost effectiveness to reduce their risks of disability and death</i></p>
<b>Stable angina</b>	<p>8. <i>People with symptoms of angina or suspected angina should receive appropriate investigation and treatment to relieve their pain and reduce their risk of coronary events</i></p>
<b>Revascularisation</b>	<p>9. <i>People with angina that is increasing in frequency or severity should be referred to a cardiologist urgently or, for those at greatest risk, as an emergency</i></p> <p>10. <i>NHS Trusts should put in place hospital-wide systems of care so that patients with suspected or confirmed coronary heart disease receive timely and appropriate investigation and treatment to relieve their symptoms and reduce their risk of subsequent coronary events</i></p>

<b>Heart failure</b>	<b>11.</b> <i>Doctors should</i> arrange for people with suspected heart failure to be offered appropriate investigations (e.g. electrocardiography, echocardiography) that will confirm or refute the diagnosis. For those in whom heart failure is confirmed, its cause should be identified – treatments most likely to both relieve their symptoms and reduce their risk of death should be offered
<b>Cardiac rehabilitation</b>	<b>12.</b> <i>NHS Trusts should</i> put in place agreed protocols/systems of care so that, prior to leaving hospital, people admitted to hospital suffering from coronary heart disease have been invited to participate in a multidisciplinary programme of secondary prevention and cardiac rehabilitation. The aim of the programme will be to reduce risk of subsequent cardiac problems and to promote their return to a full and normal life

Source: Department of Health (2000) *Coronary Heart Disease National Service Framework*. The Stationery Office: London.

**Table 3.7 Outcome at 4 weeks and use of free Nicotine Replacement Therapy in people using National Health Service smoking cessation services, 1999/00 - 2002/03, England**

	<b>1999/00</b>	<b>2000/01</b>	<b>2001/02</b>	<b>2002/03</b>
Total number setting a quit date	14,600	132,500	227,300	234,434
Number who had successfully quit at 4 week follow-up (self report)	5,800	64,600	119,800	123,881
<b>% who had successfully quit at 4 week follow-up (self report)</b>	<b>39%</b>	<b>49%</b>	<b>53%</b>	<b>53%</b>
<b>% receiving free Nicotine Replacement Therapy</b>	<b>64%</b>	<b>36%</b>	<b>65%</b>	<b>76%</b>

A client is counted as having successfully quit smoking at the 4 week follow-up if he/she has not smoked at all since two weeks after the quit date.

Source: Department of Health statistical press release (2003) *Statistics on smoking cessation services in England, April 2002 to March 2003, and previous editions*. See [www.doh.gov.uk/assetRoot/04/07/62/33/04076233.PDF](http://www.doh.gov.uk/assetRoot/04/07/62/33/04076233.PDF)

**Table 3.8** *Emergency calls: responses within 8 minutes by Ambulance Service, 1999/00 - 2002/03, England*

Ambulance Service	1999/00 %	2000/01 %	2001/02 %	2002/03 %
<b>Rural Services</b>				
Cumbria Ambulance NHS Trust	61.6	69.2	72.6	76.6
North East Ambulance NHS Trust	50.1	50.8	72.3	76.6
Tees, East & North Yorkshire Ambulance NHS Trust	55.5	52.8	71.9	73.4
East Midlands Ambulance NHS Trust	37.8	49.0	73.1	73.2
Lincolnshire Ambulance NHS Trust	58.3	64.8	77.5	76.4
East Anglian Ambulance NHS Trust	-	53.0	63.8	75.2
Bedfordshire & Hertfordshire Ambulance NHS Trust	-	48.9	69.5	76.2
Essex Ambulance NHS Trust	61.8	72.4	78.1	67.3
Sussex Ambulance NHS Trust	56.5	61.3	71.8	72.4
Kent Ambulance NHS Trust	40.3	45.1	69.7	72.9
Dorset Ambulance NHS Trust	57.7	70.3	76.1	71.9
Hampshire Ambulance NHS Trust	-	-	66.9	73.0
Wiltshire Ambulance NHS Trust	-	59.8	73.6	71.4
Isle of Wight Ambulance (NHS Trust)	-	55.8	69.4	73.3
Royal Berkshire Ambulance NHS Trust	63.2	72.3	76.4	76.4
The Two Shires Ambulance NHS Trust	60.7	65.0	73.9	76.0
Oxfordshire Ambulance NHS Trust	-	50.9	71.3	75.2
West Country Ambulance NHS Trust	39.2	43.3	58.1	72.2
Gloucestershire Ambulance NHS Trust	49.6	58.3	71.2	71.5
Hereford & Worcester Ambulance NHS Trust	-	57.3	76.7	77.8
Shropshire Ambulance NHS Trust	52.8	53.7	76.2	78.0
Staffordshire Ambulance NHS Trust	87.4	87.4	87.5	86.4
Warwickshire Ambulance NHS Trust	68.3	73.5	76.8	76.8
Lancashire Ambulance NHS Trust	68.6	77.3	78.3	76.7
<b>Urban Services</b>				
West Yorkshire Metropolitan Ambulance NHS Trust	-	69.5	77.4	72.1
South Yorkshire Metropolitan Ambulance NHS Trust	-	58.8	77.2	75.3
Surrey Ambulance NHS Trust	-	67.0	76.4	75.0
London Ambulance NHS Trust	-	41.8	57.2	69.1
Avon Ambulance NHS Trust	51.3	60.9	71.5	73.2
West Midlands Metropolitan Ambulance NHS Trust	64.0	69.5	76.0	78.3
Mersey Regional Ambulance NHS Trust	59.9	77.4	75.6	76.7
Greater Manchester Ambulance NHS Trust	-	51.6	71.9	82.4

Source: Department of Health Statistical Bulletin (2003) Ambulance Services, England 2002-2003 and previous editions. See [www.dh.gov.uk/assetRoot/04/06/82/68/04068268.pdf](http://www.dh.gov.uk/assetRoot/04/06/82/68/04068268.pdf)

**Table 3.9** *Use of aspirin, beta blockers, statins and ACE inhibitors on discharge from hospital after a heart attack, January - December 2003, England and Wales*

	Aspirin		Beta blockers		Statins		ACE inhibitors	
	Number	%	Number	%	Number	%	Number	%
Used	42,008	87.8	31,986	66.8	39,515	82.6	34,777	72.7
Not Used	1,221	2.6	4,045	8.5	3,788	7.9	6,086	12.7
Contraindicated/not indicated	1,303	2.7	7,581	15.8	829	1.7	2,716	5.7
Unknown/missing	3,322	6.9	4,242	8.9	3,722	7.8	4,275	8.9
<b>Total</b>	<b>47,854</b>	<b>100.0</b>	<b>47,854</b>	<b>100.0</b>	<b>47,854</b>	<b>100.0</b>	<b>47,854</b>	<b>100.0</b>

Data are from the MINAP project, based at the Royal College of Physicians. For more details of the project see [www.rcplondon.ac.uk/index.asp](http://www.rcplondon.ac.uk/index.asp)  
Data were extracted at the end of January 2004 and are provisional.

Source: National Audit of Myocardial Infarction Project (2004), personal communication.

**Table 3.10** *Percentage of patients receiving cardiac rehabilitation after hospitalisation for heart attack, coronary artery bypass surgery (CABG) or angioplasty by Government Office Region, 2000, England*

Government Office Region	Number hospitalised for heart attack, CABG or angioplasty*	Number receiving cardiac rehabilitation post heart attack, CABG or angioplasty**	% receiving cardiac rehabilitation post heart attack, CABG or angioplasty
North East	11,295	4,706	42
North West	24,452	9,117	37
Yorkshire and the Humber	16,367	4,818	29
East Midlands	13,442	3,233	24
West Midlands	16,365	7,395	45
East of England	15,856	5,215	33
London	18,155	3,347	18
South East	22,460	8,397	37
South West	16,810	4,988	30
<b>England</b>	<b>155,202</b>	<b>51,216</b>	<b>33</b>

\* Hospital Episode Statistics, April 2000 to March 2001

\*\* British Association of Cardiac Rehabilitation Database, January 2000 to December 2000, data adjusted for non-response.

Sources: Department of Health (2003) Hospital Episode Statistics, personal communication;  
British Association Cardiac Rehabilitation Database (2003), personal communication.