



Comparative Analysis of Cardiac
Catheterisations with Complications
(HRG E13) & Cardiac Catheterisations
without Complications (HRG E14).

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Summary Tables

**1995/96-1997/98 New South East Region (Plus London Has formerly in South Thames East)
E13 & E14**

Proportion of complicated/uncomplicated HRGs and rate of death within HRG

	1995/96	1996/97
1995/96		
Proportions	1.7%	98.3%
Death rate	5.5%	0.6%
1996/97		
Proportions	1.5%	98.5%
Death rate	6.3%	0.5%
1997/98		
Proportions	1.3%	98.7%
Death rate	4.9%	0.4%

Deaths occurring on day of procedure

	1995/96	1996/97
1995/96		
Number	0	10
Proportion of all deaths	0%	11.4%
Death rate	0%	0.07%
1996/97		
Number	2	10
Proportion of all deaths	14.3%	13.3%
Death rate	0.9%	0.07%
1997/98		
Number	1	8
Proportion of all deaths	11.1%	14.5%
Death rate	0.5%	0.06%

Deaths within one day of procedure

	1995/96	1996/97
1995/96		
Number	3	24
Proportion of all deaths	23.1%	27.3%
Death rate	1.3%	0.18%
1996/97		
Number	4	26
Proportion of all deaths	28.6%	34.7%
Death rate	1.8%	0.18%
1997/98		
Number	3	20
Proportion of all deaths	33.3%	36.4%
Death rate	1.6%	0.14%

1997/98 New South East Region (Plus London Has formerly in South Thames East) E13 & E14

Admitting diagnosis in patients who died

Diagnosis				
I20 - Angina pectoris			5	9%
I21 - Acute myocardial infarction			12	22%
I22 - Subsequent myocardial infarction			1	2%
I23 - Certain current complication follow acute myocardial infarct			1	2%
I25 - Chronic ischaemic heart disease			10	18%
I27 - Other pulmonary heart diseases			1	2%
I35 - Nonrheumatic aortic valve disorders			1	2%
I42 - Cardiomyopathy	1	11%	1	2%
I46 - Cardiac arrest	1	11%		
I50 - Heart failure	7	78%		
I71 - Aortic aneurysm and dissection			1	2%
R07 - Pain in throat and chest			1	2%
Others			21	38%
Total	9	100%	55	100%

Admission Method

Admission Method				
Elective	33%	53%	7%	80%
Emergency	56%	30%	55%	10%
Transfer	11%	16%	38%	10%

Patient Classification

Patient Classification				
Inpatient	100%	66%	98%	44%
Daycase		34%	2%	56%

Sex

Patient Sex				
Male	67%	70%	62%	69%
Female	33%	30%	38%	31%

Provider

Provider				
Teaching Hospital	44%	70%	51%	75%
Non-Teaching Hospital	66%	30%	49%	25%

1997/98 New South East Region (Plus London Has formerly in South Thames East) E13 & E14

Age by admitting diagnosis for deaths

IRC	Diagnosis	Under 30	30-39	40-49	50-59	60-69	70-79	80-89	90-99	Total	
E13	I42 - Cardiomyopathy							1		1	
	I46 - Cardiac arrest	1								1	
	I50 - Heart failure			2	1	1		2	1	7	
	Total	1	0	0	2	1	1	0	2	1	9
E14	I20 - Angina pectoris				1	1		1		2	5
	I21 - Acute myocardial infarction					1	4	3	2	2	12
	I22 - Subsequent myocardial infarction								1		1
	I23 - Certain current complication follow acute myocardial infarct								1		1
	I25 - Chronic ischaemic heart disease					1	1	3	1	4	10
	I27 - Other pulmonary heart diseases							1			1
	I35 - Nonrheumatic aortic valve disorders									1	1
	I42 - Cardiomyopathy					1					1
	I71 - Aortic aneurysm and dissection								1		1
	R07 - Pain in throat and chest									1	1
	Others	4	1	4		2	1	4	1	4	21
Total	4	1	4	0	1	6	6	12	7	14	55

3-Year Comparative Table

New South East Region (plus London HAs formerly in South Thames East) 1995/6 - 1997/8

HRG codes E13 and E14 Cardiac Catheterisation with and without complications

1995/96	Total Number	238	13625	13863
	Number of Deaths	13	88	101
	<i>Day of Death</i>			
	0 days		10	10
	1 day	3	14	17
	2 days	1	14	15
	3-4 days		15	15
	5-7 days	6	14	20
	8-14 days	2	11	13
	15-30 days		8	8
Over 30 days	1	2	3	
1996/97	Total Number	224	14742	14966
	Number of Deaths	14	75	89
	<i>Day of Death</i>			
	0 days	2	10	12
	1 day	2	16	18
	2 days		5	5
	3-4 days	4	8	12
	5-7 days	3	14	17
	8-14 days	3	10	13
	15-30 days		10	10
Over 30 days		2	2	
1997/98	Total Number	183	14063	14246
	Number of Deaths	9	55	64
	<i>Day of Death</i>			
	0 days	1	8	9
	1 day	2	12	14
	2 days	1	5	6
	3-4 days		10	10
	5-7 days	3	10	13
	8-14 days		7	7
	15-30 days	2	2	4
Over 30 days		1	1	

HRG Code E13
Cardiac Catheterisation with Complications

1997/98 New South East Region (plus London HAs formerly in South Thames East)

HRG code E13 - Cardiac Catheterisation with Complications

Diagnosis						
I08 - Multiple valve diseases	2	1%			2	1%
I11 - Hypertensive heart disease	6	3%			6	3%
I13 - Hypertensive heart & renal disease	1	1%			1	1%
I23 - Certain current complications after acute myocardial infarction	2	1%			2	1%
I24 - Other acute ischaemic heart diseases	7	4%			7	4%
I25 - Chronic ischaemic heart disease	4	2%			4	2%
I26 - Pulmonary embolism	1	1%			1	1%
I31 - Other diseases of pericardium	3	2%			3	2%
I33 - Acute & subacute endocarditis	4	2%			4	2%
I40 - Acute Myocarditis	1	1%			1	1%
I42 - Cardiomyopathy	26	15%	1	11%	27	15%
I44 - Atrioventricular & left bundle-branch block	26	15%			26	14%
I45 - Other conduction disorders	1	1%			1	1%
I46 - Cardiac arrest	2	1%	1	11%	3	2%
I47 - Paroxysmal tachycardia	32	18%			32	17%
I50 - Heart failure	52	30%	7	78%	59	32%
I51 - Complications & ill-defined descriptions of heart disease	1	1%			1	1%
I71 - Aortic aneurysm & dissection	2	1%			2	1%
I95 - Hypotension	1	1%			1	1%
Total	174	100%	9	100%	183	100%

Admission Source						
Elective	93	53%	3	33%	96	52%
Emergency	53	30%	5	56%	58	32%
Transfer from other healthcare provider	28	16%	1	11%	29	16%
Total	174	100%	9	100%	183	100%

Admission Source						
Usual place of residence	145	83%	8	89%	153	84%
Other NHS provider (General Ward)	29	17%	1	11%	30	16%
Total	174	100%	9	100%	183	100%

Patient Discharge						
Inpatient	114	66%	9	100%	123	67%
Daycase	60	34%			60	33%
Total	174	100%	9	100%	183	100%

Patient Discharge						
Usual place of residence	137	79%			137	75%
Other NHS provider (General Ward)	10	6%			10	5%
Died		0%	9	100%	9	5%
Other	27	16%			27	15%
Total	174	100%	9	100%	183	100%

1997/98 New South East Region (plus London HAs formerly in South Thames East)
HRG code E13 - Cardiac Catheterisation with Complications

Discharge Method	Number	Percentage	Number	Percentage	Number	Percentage
Discharged on clinical advice	147	84%			147	80%
Died			9	100%	9	5%
Other	27	16%			27	15%
Total	174	100%	9	100%	183	100%

Age	Number	Percentage	Number	Percentage	Number	Percentage
Under 30	7	4%	1	11%	8	4%
30-39	11	6%			11	6%
40-44	6	3%			6	3%
45-49	13	7%	2	22%	15	8%
50-54	20	11%	1	11%	21	11%
55-59	24	14%	1	11%	25	14%
60-64	23	13%			23	13%
65-69	32	18%	2	22%	34	19%
70-74	20	11%	1	11%	21	11%
75+	18	10%	1	11%	19	10%
Total	174	100%	9	100%	183	100%

Episode Duration	Number	Percentage	Number	Percentage	Number	Percentage
0 days	73	42%			73	40%
1 day	13	7%	2	22%	15	8%
2 days	11	6%	1	11%	12	7%
3-4 days	16	9%	1	11%	17	9%
5-7 days	23	13%	1	11%	24	13%
8-14 days	25	14%	1	11%	26	14%
15-30 days	13	7%	1	11%	14	8%
Over 30 days			2	22%	2	1%
Total	174	100%	9	100%	183	100%

Specialist	Number	Percentage	Number	Percentage	Number	Percentage
190 - Accident & Emergency	1	1%			1	1%
300 - General Medicine	45	26%	5	56%	50	27%
320 - Cardiology	127	73%	3	33%	130	71%
361 - Nephrology			1	11%	1	1%
430 - Geriatric Medicine	1	1%			1	1%
Total	174	100%	9	100%	183	100%

1997/98 New South East Region (plus London HAs formerly in South Thames East)

HRG code E13 - Cardiac Catheterisation with Complications

Primary operative procedure						
K63 - Contrast radiology of heart	152	87%	6	67%	158	86%
K65 - Catheterisation of heart	19	11%	1	11%	20	11%
L91 - Other vein related operations			2	22%	2	1%
X50 - External resuscitation	3	2%			3	2%
Total	174	100%	9	100%	183	100%

Secondary operative procedure						
No secondary operative procedure	76	44%	1	11%	77	42%
K63 - Contrast radiology of heart	83	48%	3	33%	86	47%
K65 - Catheterisation of heart	3	2%	1	11%	4	2%
K68 - Drainage of pericardium			1	11%	1	1%
L26 - Transluminal operations on aorta	2	1%			2	1%
L43 - Transluminal operations on renal artery	2	1%			2	1%
L91 - Other vein related operations	2	1%			2	1%
M47 - Urethral catheterisation of bladder			1	11%	1	1%
X33 - Other blood transfusion	1	1%			1	1%
X50 - External resuscitation	1	1%	1	11%	2	1%
Y53 - Percutaneous approach to organ under image control	1	1%			1	1%
Y82 - Local anaesthetic	1	1%	1	11%	2	1%
Y90 - Other nonoperations	1	1%			1	1%
Z94 - Laterality of operation	1	1%			1	1%
Total	174	100%	9	100%	183	100%

Third operative procedure						
No third operative procedure	157	90%	6	67%	163	89%
K63 - Contrast radiology of heart	4	2%			4	2%
K65 - Catheterisation of heart	2	1%	1	11%	3	2%
L26 - Transluminal operations on aorta	4	2%			4	2%
L43 - Transluminal operations on renal artery	1	1%			1	1%
X40 - Compensation for renal failure			1	11%	1	1%
X50 - External resuscitation	2	1%	1	11%	3	2%
Y53 - Percutaneous approach to organ under image control	1	1%			1	1%
Y82 - Local anaesthetic	2	1%			2	1%
Y90 - Other nonoperations	1	1%			1	1%
Total	174	100%	9	100%	183	100%

Fourth operative procedure						
No fourth operative procedure	174	100%	8	89%	182	99%
Y82 - Local anaesthetic			1	11%	1	1%
Total	174	100%	9	100%	183	100%

1997/98 New South East Region (plus London HAs formerly in South Thames East)

HRG code E13 - Cardiac Catheterisation with Complications

Unknown	1	1%			1	1%
Male	121	70%	6	67%	127	69%
Female	52	30%	3	33%	55	30%
Total	174	100%	9	100%	183	100%

RA2 - Royal Surrey County & St. Lukes Hospital	2	1%	1	11%	3	2%
RAL - Royal Free Hampstead	1	1%			1	1%
RC5 - Harefield Hospital	11	6%			11	6%
RD1 - Royal United Hospital, Bath	1	1%			1	1%
RD8 - Milton Keynes General	1	1%			1	1%
RDL - Eastbourne Hospitals	1	1%			1	1%
RDM - Hastings & Rother Hospital	2	1%			2	1%
RDZ - Royal Bournemouth & Christchurch Hospital	2	1%	1	11%	3	2%
RFL - Glenfield Hospital	1	1%			1	1%
RG2 - Greenwich Healthcare	11	6%			11	6%
RGU - Brighton Healthcare	10	6%	1		11	6%
RGZ - Queen Mary's Sidcup	1	1%			1	1%
RHM - Southampton University Hospital	13	7%			13	7%
RHU - Portsmouth Hospitals	11	6%			11	6%
RHW - Royal Berkshire & Battle Hospitals	5	3%			5	3%
RJ1 - Guy's & St. Thomas' Hospital Trust	42	24%	3	33%	45	25%
RJ2 - The Lewisham Hospital	1	1%			1	1%
RJ6 - Mayday Healthcare	1	1%			1	1%
RJ7 - St George's Healthcare	24	14%			24	13%
RJZ - King's Healthcare	7	4%	1	11%	8	4%
RNS - Northampton General Hospital	2	1%			2	1%
RNX - Oxford Radcliffe Hospital	21	12%			21	11%
RPF - South Kent Hospitals	1	1%			1	1%
RPL - Worthing & Southlands Hospital			1	11%	1	1%
RPR - The Royal West Sussex Trust			1	11%	1	1%
RPX - Royal Brompton Hospital	1	1%			1	1%
RRV - University College London	1	1%			1	1%
Total	174	100%	9	100%	183	100%

Cardiac Units	75	1%	4	7%	79	1%
Non-Cardiac Units	99	1%	5	9%	104	1%
Total	174	1%	9	16%	183	1%

1997/98 New South East Region (plus London HAs formerly in South Thames East)

HRG code E13 - Cardiac Catheterisation with Complications

Health Authority	Number	Percentage	Number	Percentage	Number	Percentage
QA7 - Berkshire	9	5%			9	5%
QA8 - Buckinghamshire	8	5%			8	4%
QAA - Bexley & Greenwich	12	7%			12	7%
QAC - Bromley	5	3%			5	3%
QAE - East Kent	10	6%			10	5%
QAF - West Kent	11	6%	3	33%	14	8%
QAH - Lambeth, Southwark & Lewisham	21	12%			21	11%
QAK - East Surrey	6	3%	1	11%	7	4%
QAL - West Surrey	10	6%	1	11%	11	6%
QAM - East Sussex, Brighton & Hove	15	9%	1	11%	16	9%
QAN - West Sussex	7	4%	2	22%	9	5%
QCC - Northamptonshire	8	5%			8	4%
QCE - Oxfordshire	18	10%			18	10%
QD1 - North & Mid Hampshire	6	3%			6	3%
QD2 - Portsmouth & SE Hampshire	16	9%			16	9%
QD3 - Southampton & SW Hampshire	12	7%	1	11%	13	7%
Total	174	100%	9	100%	183	100%

Days between procedure and complication	Number	Percentage
0 days	1	11%
1 day	2	22%
2 days	1	11%
3-4 days		
5-7 days	3	33%
8-14 days		
15-30 days	2	22%
Over 30 days		
Total	9	100%

HRG Code E14
Cardiac Catheterisation without
Complications

1997/98 New South East Region (plus London HAs formerly in South Thames East)

HRG code E14 - Cardiac Catheterisation *without* Complications

Diagnosis	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03
E78 - Disorders of lipoprotein metabolism and other lipidaemias	14	0.1%			14	0.1%
I05 - Rheumatic mitral valve diseases	50	0.4%			50	0.4%
I08 - Multiple valve diseases	86	1%			86	1%
I10 - Essential (primary) hypertension	49	0.3%			49	0.3%
I20 - Angina pectoris	1536	11%	5	9%	1541	11%
I21 - Acute myocardial infarction	298	2%	12	22%	310	2%
I22 - Subsequent myocardial infarction	30	0.2%	1	2%	31	0.2%
I23 - Certain current complication follow acute myocardial infarct	10	0.1%	1	2%	11	0.1%
I24 - Other acute ischaemic heart diseases	54	0.4%			54	0.4%
I25 - Chronic ischaemic heart disease	8051	57%	10	18%	8061	57%
I27 - Other pulmonary heart diseases	14	0.1%	1	2%	15	0.1%
I34 - Nonrheumatic mitral valve disorders	234	2%			234	2%
I35 - Nonrheumatic aortic valve disorders	589	4%	1	2%	590	4%
I42 - Cardiomyopathy	107	1%	1	2%	108	1%
I45 - Other conduction disorders	15	0.1%			15	0.1%
I48 - Atrial fibrillation and flutter	66	0.5%			66	0.5%
I49 - Other cardiac arrhythmias	14	0.1%			14	0.1%
I51 - Complications and ill- Defined descriptions of heart disease	64	0.5%			64	0.5%
I71 - Aortic aneurysm and dissection	25	0.2%	1	2%	26	0.2%
I77 - Other disorders of arteries and arterioles	12	0.1%			12	0.1%
Q20 - Congenital malformations of cardiac chambers and connections	31	0.2%			31	0.2%
Q21 - Congenital malformations of cardiac septa	60	0.4%			60	0.4%
Q22 - Congenital malformations of pulmonary and tricuspid valves	15	0.1%			15	0.1%
Q23 - Congenital malformations of aortic and mitral valves	18	0.1%			18	0.1%
Q24 - Other congenital malformations of heart	13	0.1%			13	0.1%
Q25 - Congenital malformations of great arteries	36	0.3%			36	0.3%
R00 - Abnormalities of heart beat	20	0.1%			20	0.1%
R06 - Abnormalities of breathing	51	0.4%			51	0.4%
R07 - Pain in throat and chest	1629	12%	1	2%	1630	12%
R09 - Oth symptoms and signs involv circul and resp systems	12	0.1%			12	0.1%
R94 - Abnormal results of function studies	16	0.1%			16	0.1%
T82 - Comps cardiac & vasc prosthetic devs implants & grafts	239	2%			239	2%
Z03 - Med observ and evaluation for suspected diseases and conds	13	0.1%			13	0.1%
Z09 - Follow-up exam after treatment for conds oth than mal neos	207	1%			207	1%
Z13 - Special screening exam for other diseases and disorders	115	1%			115	1%
Z94 - Transplanted organ and tissue status	11	0.1%			11	0.1%
Others	204	1%	21	38%	225	2%
Total	14008	100%	55	100%	14063	100%

Admission	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03
Elective	11201	80%	4	7%	11205	80%
Emergency	1397	10%	30	55%	1427	10%
Transfer from other healthcare provider	1398	9.98%	21	38%	1419	10.09%
Unknown	12	0.09%			12	0.09%
Total	14008	100%	55	100%	14063	100%

1997/98 New South East Region (plus London HAs formerly in South Thames East)
HRG code E14 - Cardiac Catheterisation without Complications

Admission Source	Died		Discharged		Total	
	No.	%	No.	%	No.	%
Usual place of residence	12329	88%	33	60%	12362	88%
Temporary place of residence	105	1%			105	1%
Sent by order of penal establishment/court/police	4	0.03%			4	0.03%
Special hospital	2	0.01%			2	0.01%
Other NHS provider (General Ward)	1545	11%	22	40%	1567	11%
Other NHS provider (Maternity Ward)	1	0.01%			1	0.01%
Other NHS provider (Mental Health Ward)	2	0.01%			2	0.01%
Other	20	0.14%			20	0.14%
Total	14008	100%	55	100%	14063	100%

Discharge Status	Died		Discharged		Total	
	No.	%	No.	%	No.	%
Inpatient	6219	44%	54	98%	6273	45%
Daycase	7789	56%	1	2%	7790	55%
Total	14008	100%	55	100%	14063	100%

Discharge Status	Died		Discharged		Total	
	No.	%	No.	%	No.	%
Usual place of residence	12536	89%			12536	89%
Temporary place of residence	23	0.2%			23	0.2%
Sent by order of penal establishment/court/police	3	0.02%			3	0.02%
Special hospital	21	0.1%			21	0.1%
Other NHS provider (General Ward)	396	3%			396	3%
Other NHS provider (Maternity Ward)	1	0.01%			1	0.01%
Other NHS provider (Mental Health Ward)	2	0.01%			2	0.01%
Local Authority Care	1	0.01%			1	0.01%
Died			55	100%	55	0.4%
Non NHS Healthcare provider	3	0.02%			3	0.02%
Other	1022	7%			1022	7%
Total	14008	100%	55	100%	14063	100%

Discharge Status	Died		Discharged		Total	
	No.	%	No.	%	No.	%
Discharged on clinical advice	12975	93%			12975	92%
Discharged self	20	0.1%			20	0.1%
Died			55	100%	55	0.4%
Other	1013	7%			1013	7%
Total	14008	100%	55	100%	14063	100%

1997/98 New South East Region (plus London HAs formerly in South Thames East)

HRG code E14 - Cardiac Catheterisation *without* Complications

	Discharge		Admission		Total	
	No.	%	No.	%	No.	%
Under 30	238	2%	4	7%	242	2%
30-39	370	3%	1	2%	371	3%
40-44	506	4%	4	7%	510	4%
45-49	1007	7%			1007	7%
50-54	1681	12%	1	2%	1682	12%
55-59	2155	15%	6	11%	2161	15%
60-64	2508	18%	6	11%	2514	18%
65-69	2435	17%	12	22%	2447	17%
70-74	1890	13%	7	13%	1897	13%
75+	1218	9%	14	25%	1232	9%
Total	14008	100%	55	100%	14063	100%

Episode Duration	Discharge		Admission		Total	
	No.	%	No.	%	No.	%
0 days	8472	60%	3		8475	60%
1 day	1904	14%	7	13%	1911	14%
2 days	1253	9%	7	13%	1260	9%
3-4 days	718	5%	9	16%	727	5%
5-7 days	695	5%	16	29%	711	5%
8-14 days	651	5%	7	13%	658	5%
15-30 days	290	2%	2	4%	292	2%
Over 30 days	25		4	7%	29	0%
Total	14008	100%	55	100%	14063	100%

Main Diagnosis	Discharge		Admission		Total	
	No.	%	No.	%	No.	%
100 - General Surgery	8	0.1%			8	0%
101 - Urology	2	0.01%			2	0%
150 - Neurosurgery	1	0.01%			1	0%
170 - Cardiothoracic Surgery	70	0.5%	1	2%	71	1%
190 - Accident & Emergency	1	0.01%	3	5%	4	0%
300 - General Medicine	2052	15%	22	40%	2074	15%
301 - Gastroenterology	26	0.2%	1	2%	27	0%
302 - Endocrinology	18	0.1%			18	0%
303 - Haematology (Clinical)	1	0.01%			1	0%
320 - Cardiology	11700	84%	22	40%	11722	83%
340 - Dermatology	6	0.04%	1	2%	7	0%
350 - Infectious Diseases	2	0.01%	1	2%	3	0%
360 - Genito-Urinary Medicine	12	0.1%			12	0%
361 - Nephrology	20	0.1%			20	0%
400 - Neurology	1	0.01%			1	0%
410 - Rheumatology	2	0.01%			2	0%
420 - Paediatrics	52	0.4%	2	4%	54	0%
430 - Geriatric Medicine	33	0.2%	2	4%	35	0%
800 - Radiotherapy	1	0.01%			1	0%
Total	14008	100%	55	100%	14063	100%

1997/98 New South East Region (plus London HAs formerly in South Thames East)

HRG code E14 - Cardiac Catheterisation *without* Complications

Primary Operative Procedure	1	2	3	4	5	6	
No Primary operative procedure	1	0.01%				1	0%
K63 - Contrast radiology of heart	13548	97%	23	42%	13571	97%	
K65 - Catheterisation of heart	448	3%	26	47%	474	3%	
L91 - Other vein related operations	2	0.01%	2	4%	4	0%	
L95 - Diag. transluminal operations on vein	1	0.01%			1	0%	
M47 - Urethral catheterisation of bladder	2	0.01%			2	0%	
X29 - Continuous infusion of therapeutic substance	3	0.02%	2	4%	5	0%	
X50 - External resuscitation	3	0.02%	2	4%	5	0%	
Total	14008	100%	55	100%	14063	100%	

Secondary Operative Procedure	1	2	3	4	5	6
No secondary operative procedure	6358	45%	16	29%	6374	45%
E05 - Surgical arrest of bleeding from internal nose	1	0.01%			1	0.01%
E49 - Diag. fiberoptic endoscopic exam. of lower respiratory tract	1	0.01%			1	0.01%
E51 - Diag. endoscopic exam. of lower respiratory tract using rigid bronchoscope	2	0.01%			2	0.01%
K63 - Contrast radiology of heart	7143	51%	15	27%	7158	51%
K65 - Catheterisation of heart	191	1%	5	9%	196	1%
K68 - Drainage of pericardium	1	0.01%			1	0.01%
L26 - Transluminal operations on aorta	150	1%	1	2%	151	1%
L31 - Transluminal operations on carotid artery	2	0.01%			2	0.01%
L43 - Transluminal operations on renal artery	6	0.04%			6	0.04%
L63 - Transluminal operations on femoral artery	4	0.03%			4	0.03%
L72 - Diag. transluminal operations on other artery	3	0.02%			3	0.02%
L91 - Other vein related operations	7	0.05%	6	11%	13	0.1%
L95 - Diag. transluminal operations on vein	1	0.01%			1	0.01%
M47 - Urethral catheterisation of bladder	1	0.01%			1	0.01%
S15 - Other biopsy of skin	1	0.01%			1	0.01%
S47 - Opening of skin	1	0.01%			1	0.01%
W36 - Diag. puncture of bone	1	0.01%			1	0.01%
X29 - Continuous infusion of therapeutic substance	14	0.1%	1	2%	15	0.1%
X31 - Injection of radiocontrast material	4	0.03%			4	0.03%
X33 - Other blood transfusion	1	0.01%	1	2%	2	0.01%
X35 - Other intravenous injection	14	0.1%			14	0.1%
X40 - Compensation for renal failure	5	0.04%	2	4%	7	0.05%
X50 - External resuscitation	7	0.05%	2	4%	9	0.06%
X55 - Other operations on unspecified organ	1	0.01%	1	2%	2	0.01%
Y53 - Percutaneous approach to organ under image control	7	0.05%	1	2%	8	0.06%
Y70 - Early operations not otherwise classified (NOC)	2	0.01%			2	0.01%
Y73 - Facilitating operations (NOC)	2	0.01%	3	5%	5	0.04%
Y82 - Local anaesthetic	64	0.5%			64	0.5%
Y90 - Other nonoperations	6	0.04%			6	0.04%
Z36 - Branch of thoracic aorta	1	0.01%			1	0.01%
Z38 - Terminal branch of aorta	1	0.01%			1	0.01%
Z40 - Other vascular tissue			1	2%	1	0.01%
Z94 - Laterality of operation	5	0.04%			5	0.04%
Total	14008	100%	55	100%	14063	100%

1997/98 New South East Region (plus London HAs formerly in South Thames East)

HRG code E14 - Cardiac Catheterisation *without* Complications

Third Operative Procedure	All patients		Subtotal		Total	
	No.	%	No.	%	No.	%
No third operative procedure	12787	91%	37	67%	12824	91%
E49 - Diag. fiberoptic endoscopic exam. of lower respiratory tract	1	0.01%			1	0.01%
F13 - Restoration of tooth	1	0.01%			1	0.01%
K63 - Contrast radiology of heart	225	2%	1	2%	226	2%
K65 - Catheterisation of heart	78	1%	1	2%	79	1%
L26 - Transluminal operations on aorta	534	4%			534	4%
L31 - Transluminal operations on carotid artery	1	0.01%			1	0.01%
L35 - Transluminal operations on cerebral artery	2	0.01%			2	0.01%
L43 - Transluminal operations on renal artery	4	0.03%			4	0.03%
L47 - Transluminal operations on other visceral branch of abdominal aorta	1	0.01%			1	0.01%
L54 - Transluminal operations on iliac artery	1	0.01%			1	0.01%
L63 - Transluminal operations on femoral artery	4	0.03%			4	0.03%
L72 - Diag. transluminal operations on other artery	2	0.01%			2	0.01%
L91 - Other vein related operations	2	0.01%	3	5%	5	0.04%
L95 - Diag. transluminal operations on vein	2	0.01%			2	0.01%
M47 - Urethral catheterisation of bladder	2	0.01%	2	4%	4	0.03%
S57 - Exploration of other skin of other site			1	2%	1	0.01%
T12 - Puncture of pleura	1	0.01%			1	0.01%
W87 - Diag. endoscopic exam. of knee joint	1	0.01%			1	0.01%
X29 - Continuous infusion of therapeutic substance	5	0.04%			5	0.04%
X30 - Injection of therapeutic substance	1	0.01%			1	0.01%
X33 - Other blood transfusion	6	0.04%			6	0.04%
X34 - Other intravenous transfusion			3	5%	3	0.02%
X35 - Other intravenous injection	79	1%	3	5%	82	1%
X40 - Compensation for renal failure - Compensation for renal failure	1	0.01%	1	2%	2	0.01%
X50 - External resuscitation	3	0.02%			3	0.02%
X55 - Other operations on unspecified organ	1	0.01%			1	0.01%
Y22 - Drainage of organ (NOC)	1	0.01%			1	0.01%
Y40 - Dilatation of organ (NOC)	1	0.01%			1	0.01%
Y53 - Percutaneous approach to organ under image control	2	0.01%			2	0.01%
Y82 - Local anaesthetic	225	2%	1	2%	226	2%
Y84 - Other anaesthetic	15	0.1%			15	0.1%
Y90 - Other nonoperations	3	0.02%	1	2%	4	0.03%
Z33 - Other part of heart	4	0.03%			4	0.03%
Z34 - Aorta	1	0.01%			1	0.01%
Z36 - Branch of thoracic aorta	2	0.01%			2	0.01%
Z40 - Other vascular tissue	1	0.01%	1	2%	2	0.01%
Z41 - Upper urinary tract	1	0.01%			1	0.01%
Z70 - Radius	1	0.01%			1	0.01%
Z89 - Arm region	1	0.01%			1	0.01%
Z92 - Other region of body	2	0.01%			2	0.01%
Z94 - Laterality of operation	3	0.02%			3	0.02%
Total	14008	100%	55	100%	14063	100%

1997/98 New South East Region (plus London HAs formerly in South Thames East)

HRG code E14 - Cardiac Catheterisation *without* Complications

Fourth Operative Procedure	No	%	No	%	No	%
No fourth operative procedure	13847	99%	40	73%	13887	99%
E05 - Surgical arrest of bleeding from internal nose	1	0.01%			1	0.01%
K63 - Contrast radiology of heart	23	0.2%	1	2%	24	0.2%
K65 - Catheterisation of heart	9	0.06%	2	4%	11	0.1%
L26 - Transluminal operations on aorta	57	0.4%			57	0.4%
L31 - Transluminal operations on carotid artery	4	0.03%			4	0.03%
L39 - Transluminal operations on subclavian artery	2	0.01%			2	0.01%
L43 - Transluminal operations on renal artery	4	0.03%			4	0.03%
L54 - Transluminal operations on iliac artery	2	0.01%			2	0.01%
L91 - Other vein related operations	1	0.01%			1	0.01%
M47 - Urethral catheterisation of bladder	1	0.01%	1	2%	2	0.01%
S57 - Exploration of other skin of other site			1	2%	1	0.01%
X29 - Continuous infusion of therapeutic substance	6	0.04%	3	5%	9	0.06%
X33 - Other blood transfusion			2	4%	2	0.01%
X34 - Other intravenous transfusion			1	2%	1	0.01%
X35 - Other intravenous injection	12	0.1%	2	4%	14	0.1%
X50 - External resuscitation	4	0.03%	1	2%	5	0.04%
Y20 - Other biopsy of organ (NOC)	1	0.01%			1	0.01%
Y33 - Puncture of organ (NOC)	1	0.01%			1	0.01%
Y53 - Percutaneous approach to organ under image control	1	0.01%			1	0.01%
Y82 - Local anaesthetic	24	0.2%			24	0.2%
Y84 - Other anaesthetic	3	0.02%			3	0.02%
Z36 - Branch of thoracic aorta	1	0.01%			1	0.01%
Z41 - Upper urinary tract	1	0.01%			1	0.01%
Z92 - Other region of body			1	2%	1	0.01%
Z94 - Laterality of operation	3	0.02%			3	0.02%
Total	14008	100%	55	100%	14063	100%

Unknown	13	0.1%			13	0%
Male	9599	69%	34	62%	9633	68%
Female	4396	31%	21	38%	4417	31%
Total	14008	100%	55	100%	14063	100%

1997/98 New South East Region (plus London HAs formerly in South Thames East)

HRG code E14 - Cardiac Catheterisation *without* Complications

Provider	No.	%	No.	%	No.	%
RA2 - Royal Surrey County & St. Lukes Hospital	194	1%			194	1%
RA7 - United Bristol Healthcare	1	0.01%			1	0.01%
RAB - Freeman Group of Hospitals	1	0.01%			1	0.01%
RAL - Royal Free Hampstead	6	0.04%			6	0.04%
RC3 - Ealing Hospital	2	0.01%			2	0.01%
RC5 - Harefield Hospital	672	5%			672	5%
RCJ - South Tees Acute Hospitals	1	0.01%			1	0.01%
RD1 - Royal United Hospital, Bath	7	0.05%			7	0.05%
RD8 - Milton Keynes General			3	5%	3	0.02%
RDL - Eastbourne Hospitals	503	4%	6	11%	509	4%
RDM - Hastings & Rother Hospital	280	2%	1	2%	281	2%
RDU - Frimley Park Hospitals	1	0.01%			1	0.01%
RDZ - Royal Bournemouth & Christchurch Hospital	70	0.5%	1	2%	71	1%
REF - Royal Cornwall Hospitals Trusts	1	0.01%			1	0.01%
RFL - Glenfield Hospital	2	0.01%			2	0.01%
RFZ - Northwick Park & St. Marks	2	0.01%			2	0.01%
RG1 - Mid Kent Healthcare	1	0.01%			1	0.01%
RG2 - Greenwich Healthcare	473	3%	2	4%	475	3%
RG3 - Bromley Hospitals			2	4%	2	0.01%
RGM - Papworth Hospital	25	0.2%			25	0.2%
RGU - Brighton Healthcare	417	3%	4	7%	421	3%
RGW - Kent & Canterbury Hospitals			1	2%	1	0.01%
RGZ - Queen Mary's Sidcup	118	1%			118	1%
RH8 - Royal Devon & Exeter Healthcare	7	0.05%			7	0.05%
RHH - East Surrey Healthcare	21	0.1%			21	0.1%
RHM - Southampton University Hospital	1395	10%	3	5%	1398	10%
RHU - Portsmouth Hospitals	653	5%	1	2%	654	5%
RHW - Royal Berkshire & Battle Hospitals	578	4%	1	2%	579	4%
RJ1 - Guy's & St. Thomas' Hospital Trust	3941	28%	13	24%	3954	28%
RJ2 - The Lewisham Hospital			1	2%	1	0.01%
RJ5 - St. Mary's	102	1%	1	2%	103	1%
RJ6 - Mayday Healthcare	32	0.2%			32	0.2%
RJ7 - St George's Healthcare	1428	10%	5	9%	1433	10%
RJZ - King's Healthcare	1387	10%	2	4%	1389	10%
RKB - Walsgrave Hospitals	3	0.02%			3	0.02%
RM1 - Norfolk & Norwich Health Care	1	0.01%			1	0.01%
RM2 - South Manchester University Hospital	1	0.01%			1	0.01%
RN3 - Swindon & Marlborough Hospital	15	0.1%			15	0.1%
RNJ - The Royal Hospitals	23	0.2%			23	0.2%
RNX - Oxford Radcliffe Hospital	1082	8%	2	4%	1084	8%
RNZ - Salisbury Healthcare	1	0.01%			1	0.01%
RPA - Medway			1	2%	1	0.01%
RPF - South Kent Hospitals	1	0.01%			1	0.01%
RPL - Worthing & Southlands Hospital	2	0.01%	3	5%	5	0.04%
RPR - The Royal West Sussex Trust	2	0.01%			2	0.01%
RPX - Royal Brompton Hospital	133	1%			133	1%
RQM - Chelsea & Westminster Healthcare	8	0.06%			8	0.06%
RQN - Hammersmith Hospitals	80	1%			80	1%
RRK - University Hospital Birmingham	2	0.01%			2	0.01%
RRV - University College London	333	2%	2		335	2%
Total	14008	100%	55	100%	14063	100%

1997/98 New South East Region (plus London HAs formerly in South Thames East)
HRG code E14 - Cardiac Catheterisation *without* Complications

Provider	No.	%	No.	%	Total	%
Cardiac Units	7104	51%	21	38%	7125	51%
Non-Cardiac Units	6904	49%	34	62%	6938	49%
Total	14008	100%	55	100%	14063	100%

Provider	No.	%	No.	%	Total	%
QA7 - Berkshire	820	6%	2	4%	822	6%
QA8 - Buckinghamshire	678	5%	2	4%	680	5%
QAA - Bexley & Greenwich	948	7%	4	7%	952	7%
QAC - Bromley	472	3%	1	2%	473	3%
QAE - East Kent	1057	8%	4	7%	1061	8%
QAF - West Kent	1397	10%	5	9%	1402	10%
QAH - Lambeth Southwark & Lewisham	1446	10%	4	7%	1450	10%
QAK - East Surrey	633	5%	1	2%	634	5%
QAL - West Surrey	1114	8%	5	9%	1119	8%
QAM - East Sussex	1383	10%	11	20%	1394	10%
QAN - West Sussex	859	6%	6	11%	865	6%
QCE - Oxfordshire	830	6%	3	5%	833	6%
QD1 - North & Mid Hampshire	515	4%	3	5%	518	4%
QD2 - Portsmouth & SE Hampshire	794	6%	1	2%	795	6%
QD3 - Southampton & SW Hampshire	1010	7%	3	5%	1013	7%
QD4 - Isle of Wight	52	0.4%			52	0.4%
Total	14008	100%	55	100%	14063	100%

Days between procedure	No.	%
0 days	8	15%
1 day	12	22%
2 days	5	9%
3-4 days	10	18%
5-7 days	10	18%
8-14 days	7	13%
15-30 days	2	4%
Over 30 days	1	2%
Total	55	100%