

More transplants – new lives



Transplant Activity

in the UK

2002-2003



Executive Summary

Transplantation is one of the successes of modern medicine.

During 2002-2003, 2,780 people had their life saved or improved by a transplanted organ. Of these, 2,387 received an organ from a deceased donor and a further 393 received an organ from a live donor. Moreover, 2,297 people had their sight restored using corneas from 1,739 donors.

These figures represent a 6% increase in solid organ transplants, a 4% increase in cadaveric donation, a 2% increase in live donors and a 6% increase in cornea donors on the previous year.

Despite these increases the numbers of people registered for a transplant increased by 3% and 376 people died waiting.

Cadaveric solid organ donation rates vary across the UK from 11.4 per million population (pmp) in Wales to 18.9 in Northern Ireland, with England at 13.2 and Scotland at 11.5. Despite the improvements this year, generated as a result of new investment in organ donation initiatives, the UK rate still compares badly with other European countries such as France and Spain, 20 pmp and 33.7 pmp, respectively (based on calendar year data).

The chronic shortage of organs is likely to be addressed in the long term by increasing donation from a combination of heartbeating, non-heartbeating and live donors. Overall, live donation increased by 2% but there was wide variation between transplant centres with some kidney centres achieving less live donor transplants than in the previous year, despite a British Transplantation Society (BTS) Standard that expects 6.2 donors pmp per year. Non-heartbeating kidney donors increased by 53% with a variation, between UK Transplant funded programmes, of 1.1 to 3.2 pmp.

Whilst cardiothoracic transplants rose by 5%, this was due to a 23% increase in lung transplants, heart transplants decreased by 5%.

Kidney transplants increased by 5%, which included a 66% increase in kidney transplants from non-heartbeating donors. 22% of those registered for a kidney transplant were from non-white ethnic minority groups whilst they accounted for 2% of kidney donors and 15% of those transplanted. The number of living donor transplants as a percentage of those registered for a kidney transplant varies from 0.9% to 15.6% in adult centres whilst Great Ormond Street as a paediatric centre achieved 63.2%.

Liver transplants increased by 7% as a result of increases in donation from heartbeating and non-heartbeating donors and the use of liver lobes.

Cornea donation and transplantation rates pmp vary considerably across Strategic Health Authorities. Whilst the differences in donation (9.2 to 92.5 pmp) can be partially explained by the location of national eye retrieval schemes, the difference in transplantation rates (12.5 to 130.6 pmp) needs further scrutiny by commissioners. Transplantation rates are not affected by local retrieval rates as corneas are available from the eye banks in Bristol and Manchester to which all retrieved corneas are sent.

The number of people who have pledged to donate their organs after death by registering on the NHS Organ Donor Register increased to 10.3 million and 85% of those people are prepared to donate all their organs. Whilst the most popular routes to registration remain via GP registration

and driving license application, there was an increase in those who register via "other" means to 21%. This is predominantly due to the success of the Vote for Life campaign run by local councils as part of electoral registration and in partnership with the NHS.

The percentage of the population registered by strategic health authority varies from 7 to 27%.

This activity report shows that whilst organ donation and transplantation rates have increased overall, there are considerable variances across the country and demand continues to rise outstripping current levels of supply.

Sue Sutherland
Chief Executive

July 2003

About this Report

This transplant activity report for the financial year 2002-2003 relates throughout to the UK. All figures quoted are as reported to UK Transplant for the National Transplant Database, maintained on behalf of the transplant community and National Health Service (NHS), or for the NHS Organ Donor Register, maintained on behalf of the UK Health Departments. Please note that not all cornea donors or cornea grafts are necessarily reported to UK Transplant.

The UK definition of a solid organ donor is any donor from whom at least one solid organ has been retrieved with the intention to transplant. Organs retrieved solely for research purposes have not been counted in this Activity Report.

Information from the British Transplantation Society "*Standards for Solid Organ Transplantation in the UK*" (BTS *Standards*) and the Office for National Statistics (ONS) *2001 Census* is quoted in this report.

The number of heartbeating and non-heartbeating donors by hospital are documented in **Appendices IA** and **IB**, respectively. Donation and transplant rates in this report are presented per million population (pmp); population figures used throughout this report are based on ONS *2001 Census* figures and are given in **Appendices IIIA** and **IIIB**.

Please note that organ donation has been recorded to reflect the number of organs retrieved. For example, if both lungs were retrieved, two lungs are recorded even if they were both used in one transplant. Similarly, if one liver is donated, one liver is recorded even if it results in two transplants. All pancreatic transplants refer to the whole organ.

Where specified, living and non-heartbeating donations are recorded separately. Unless otherwise specified, waiting list figures include active and suspended patients.

This report is available on the UK Transplant website: www.uktransplant.org.uk

1. Introduction and Overview

There were 773 cadaveric solid organ donors reported from the UK in 2002-2003, 28 more than in the previous financial year. Of these 773 donors, 61 were non-heartbeating donors: 37 kidney, 20 kidney and liver, 1 kidney and lung and 3 liver only donors. There were 2,630 cadaveric solid organs provided for transplant and living donors provided a further 393 organs for transplant.

The total number of solid organ transplants was 2,780: 2,387 transplants through cadaveric donations, 140 more than in 2001-2002 and 393 transplants through living donations, eight more than in 2001-2002.

At 31 March 2003, 7,118 patients were registered on a solid organ transplant waiting list in the UK. 1,464 (21%) of patients on the waiting list were temporarily suspended from the active national transplant waiting list.

Table 1.1 summarises the donors, transplants and waiting list by organ for 2002-2003. Donor numbers, transplant activity and financial year end waiting lists for 1 April 1993 - 31 March 2003 are shown in **Figure 1.1**.

Waiting Lists

Table 1.2 shows the numbers of patients waiting for a transplant at 31 March 2002 and 2003. The total number rose by 175 patients (3%) with increased renal and cardiothoracic waiting lists but a decreased liver waiting list.

Transplants

Table 1.3 shows a total of 2,780 transplants were performed in the UK in 2002-2003 compared with 2,632 in 2001-2002. All multiple organ transplants are identified separately and include 21 heart/lung, 48 kidney and pancreas and 14 other multiple organ transplants.

There was a 5% increase in kidney transplants in 2002-2003, mostly from non-heartbeating donors. Overall, the number of cardiothoracic transplants increased by 5% and the number of cadaveric heartbeating whole liver transplants increased by 4%. There were six domino liver transplants in 2002-2003. The number of cadaveric liver lobe transplants increased by 9%.

Table 1.1 UK ACTIVITY SUMMARY FOR 1 APRIL 2002 - 31 MARCH 2003

						TOTAL
Cadaveric solid organ donors (712 heartbeating + 61 non-heartbeating)						773
	Kidney ¹	Heart	Heart/ lung	Lung	Liver	
Cadaveric donors ²	740	157	-	133	681	773
Cadaveric organs donated ²	1552 ³	157	-	240	681	2630
Cadaveric transplants ⁴	1409 ⁵	148	21	118	705	2387⁶
Living donor transplants	376	10	-	0	7	393
Waiting lists at 31 March 2003						
Active list	5037 ⁷	111	67	264	175	5654
Temporarily suspended	1454 ⁸	1	1	2	6	1464
TOTAL	6491	112	68	266	181	7118

¹ Includes 58 non-heartbeating donors who provided 113 organs for 103 transplants

² Excludes 12 donors from other European countries

³ Includes 85 pancreas donations

⁴ Excludes other European countries and ROI transplants from organs donated in the UK

⁵ Includes 48 kidney and pancreas and 10 pancreas only transplants

⁶ Includes combined transplants: 13 kidney and liver, 1 kidney and heart

⁷ Includes 73 kidney and pancreas and 17 pancreas only patients

⁸ Includes 36 kidney and pancreas and 30 pancreas only patients

**Table 1.2 ACTIVE AND SUSPENDED WAITING LISTS IN THE
UK AT 31 MARCH 2002 AND 2003**

	2002	2003	% Change
Heart	107	112	+5
Lung(s)	240	266	+11
Heart/lung	77	68	-12
All cardiothoracic patients	424	446	+5
All liver patients	207	181	-13
Kidney	6159	6335	+3
Kidney & pancreas	122	109	-11
All renal patients	6281	6444	+3
Pancreas	31	47	+52
ALL ORGANS	6943	7118	+3

**Table 1.3 TRANSPLANTS PERFORMED IN THE UK,
1 APRIL 2001 - 31 MARCH 2003**

Organ	2001-2002	2002-2003	% Change
Cadaveric heartbeating kidney ¹	1202	1234	+3
Cadaveric non-heartbeating kidney	62	103	+66
Living donor kidney	372	376	+1
Cadaveric heart	154	147	-5
Domino heart	6	10	-
Heart/lung	21	21	0
Single lung	33	59 ²	+79
Double lung	63	59	-6
Living donor lung lobe	0	0	-
Cadaveric heartbeating liver	573	596	+4
Cadaveric non-heartbeating liver	4	12	-
Domino liver	1	6	-
Cadaveric liver lobe	77	84 ³	+9
Living donor liver lobe	6	1	-
Kidney & heart	3	1	-
Kidney & liver	5	13 ⁴	-
Kidney & pancreas	41	48	+17
Heart & liver	1	0	-
Liver & heart/lung	1	0	-
Pancreas	7	10	-
TOTAL TRANSPLANTS (SOLID ORGANS)	2632	2780	+6
Total kidney transplants	1685	1775	+5
Total cardiothoracic transplants	282	297	+5
Total liver transplants	668⁵	712	+7

¹ Includes en bloc kidney transplants (8 in 2001-2002, 5 in 2002-2003) and double kidney transplants (1 in 2002-2003)

² Includes 1 non-heartbeating lung transplant

³ Includes 3 non-heartbeating liver lobe transplants

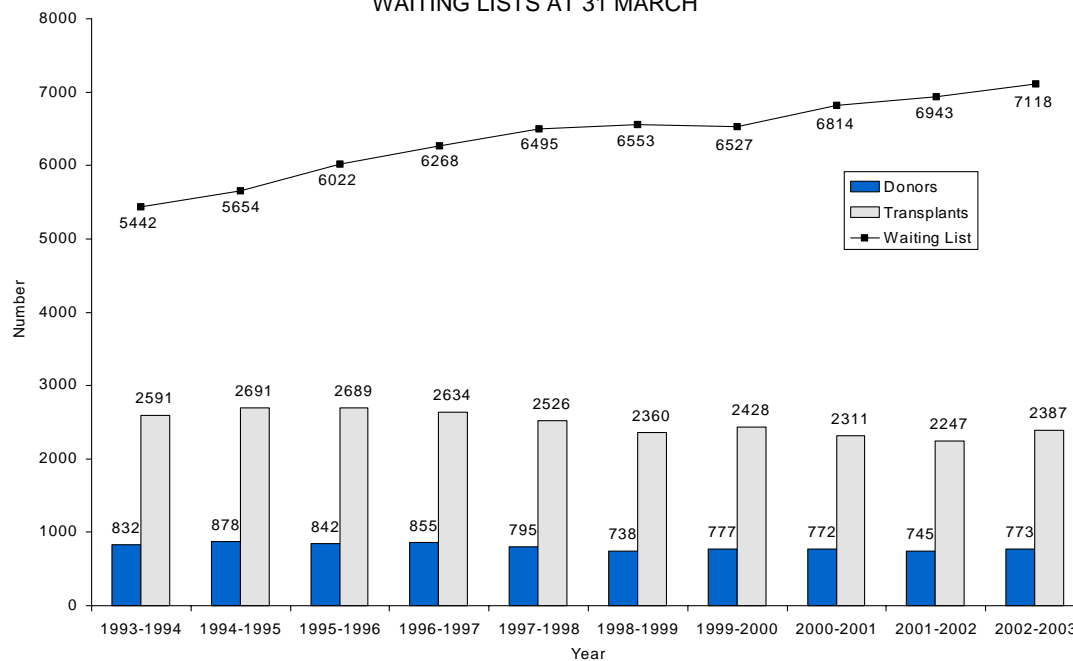
⁴ Includes 1 kidney and liver lobe transplant

⁵ Includes 2 liver and small intestine transplants

- % not reported when fewer than 10 transplants in either year

Figure 1.1

NUMBER OF CADAVERIC DONORS AND TRANSPLANTS IN THE UK,
1 APRIL 1993 - 31 MARCH 2003 AND PATIENTS ON THE ACTIVE AND SUSPENDED
WAITING LISTS AT 31 MARCH



2. Donors

Cadaveric solid organ donors

In 2002-2003, 773 cadaveric solid organ donors gave 2,630 solid organs in the UK compared with 745 donors and 2,510 organs in 2001-2002.

England was the only country to provide non-heartbeating kidney donors. 85% of UK donors gave a kidney and at least one other solid organ. On average in the UK, 3.4 organs were retrieved per donor in 2002-2003.

Solid organ donor rates per million population for the financial years 2000-2001 to 2002-2003 are given by country in **Table 2.1**. Northern Ireland achieved the highest rate in 2002-2003 with 18.9 donors pmp. The overall rate of 13.1 donors pmp in 2002-2003 was higher than in 2001-2002 (12.6 donors pmp).

The ethnicity of cadaveric solid organ donors in 2001-2002 and 2002-2003 is shown in **Table 2.2**. In 2002-2003, 97.7% of donors were reported as white. The proportion of Asian donors increased from 0.3% in 2001-2002 to 1% in 2002-2003 and the proportion of black donors remained at 0.5%. Overall, the proportion of ethnic minority donors rose from 1.8% to 2.3%.

Living solid organ donors

The number of kidneys donated in England from living donors increased by one to 328 in 2002-2003. In Scotland and Wales the number of kidney donations increased by one and four to 34 and 12, respectively. Domino heart donations in England also increased by four to ten. The number of liver donations in England remained at seven organs in 2002-2003.

**Table 2.1 CADAVERIC SOLID ORGAN DONOR RATES PER MILLION POPULATION (PMP) IN THE UK,
1 APRIL 2000 - 31 MARCH 2003, BY COUNTRY OF DONATION**

Country of donation	Number of donors (pmp)											
	2000-2001				2001-2002				2002-2003			
	HB	NHB	TOTAL		HB	NHB	TOTAL		HB	NHB	TOTAL	
England	617	38	655	(13.3)	577	40	617	(12.5)	589	61	650	(13.2)
Wales	37	0	37	(12.8)	34	0	34	(11.7)	33	0	33	(11.4)
Scotland	58	0	58	(11.5)	62	0	62	(12.3)	58	0	58	(11.5)
Northern Ireland	22	0	22	(13.0)	32	0	32	(18.9)	32	0	32	(18.9)
TOTAL	734	38	772	(13.1)	705	40	745	(12.6)	712	61	773	(13.1)

Note: HB - Heartbeating, NHB - Non-heartbeating

**Table 2.2 ETHNICITY OF CADAVERIC SOLID ORGAN DONORS
IN THE UK, 1 APRIL 2001 - 31 MARCH 2003**

Ethnicity	2001-2002		2002-2003	
	N	(%)	N	(%)
White	729	(98.2)	750	(97.7)
Asian	2	(0.3)	8	(1.0)
Black	4	(0.5)	4	(0.5)
Chinese	1	(0.1)	2	(0.3)
Other	6	(0.8)	4	(0.5)
Not reported	3	-	5	-
TOTAL	745		773	

Note: percentages calculated out of reported data

3. Kidney and Pancreas Activity

Overview

A summary of activity for cadaveric heartbeating and non-heartbeating kidney donor transplants and the transplant waiting list from 1 April 1993 - 31 March 2003 is shown in **Figure 3.1**. The total number of cadaveric kidney donors increased in 2002-2003 to 740 from 705 in 2001-2002 and the number of transplants rose to 1,399 from 1,313 in 2001-2002. The number of non-heartbeating kidney donors increased to 58 from 38 in 2001-2002 and the number of transplants increased by 66% to 103.

The number of patients registered on the active waiting list at 31 March for a kidney or kidney and pancreas transplant increased by 26% over the nine years between 1994 and 2003.

Table 3.1 shows the number of cadaveric and living donor kidney transplants carried out in 2002-2003 at each centre/alliance. Nine centres/alliances performed non-heartbeating kidney transplants. The heartbeating transplants include one kidney and heart, 13 kidney and liver, 48 kidney and pancreas, one double kidney and five en bloc kidney transplants. In addition, ten pancreas only transplants were carried out: five at Liverpool, four at Manchester and one at Edinburgh. Centres performing more than four kidney and pancreas transplants in the year were Edinburgh (12), Liverpool (7), Manchester (7), North Thames (7) and South Thames (8).

The number of patients registered on the active kidney or kidney and pancreas waiting list at 31 March 2003 is also given in **Table 3.1**. The number of patients waiting for a kidney transplant represents 85.1 patients pmp.

Many kidney transplant centres have joined other neighbouring centres to form an alliance to maintain a combined waiting list for the allocation of locally retained donor kidneys. At 31 March 2003, 82% of the waiting list comprised patients at an alliance centre; 84% of cadaveric heartbeating, 89% of cadaveric non-heartbeating and 83% of living donor kidney transplants were carried out by centres in an alliance. Portsmouth rejoined the South, West and Wales Alliance in November 2002. There are a total of six alliances:

North of England
North Thames
South Thames
Scotland
South, West and Wales
Trent

At the end of March 2003, five adult transplant centres remained independent of any alliance: Belfast, Birmingham, Cambridge, Coventry and Plymouth. However, Plymouth rejoined the South, West and Wales alliance in April 2003. Each alliance has its own allocation scheme run on their behalf by UK Transplant for kidneys not allocated through the national scheme. Three of the six alliances use allocation systems based on the national scheme.

Centres within a kidney transplant alliance have a combined waiting list but, with the exception of those in the North and South Thames alliances, have separate retrieval arrangements. Most centres are therefore identified separately throughout this report.

Transplants

The number of cadaveric heartbeating transplants per million population, by transplant centre is shown in **Table 3.2**. The transplant rate ranged from 13.6 to 34.5 pmp at the centres and overall was 22 pmp. The *BTS Standards* states that each centre should aim to transplant at least 23 patients pmp per year with heartbeating kidneys. In 2002-2003 eight of the 21 adult centres achieved this rate.

Living donor kidney transplants increased by 1% to 376 in 2002-2003, representing 21% of the total kidney transplant programme. The number of related and unrelated transplants performed by each transplant centre/alliance and the living donor transplant rate is shown in **Table 3.3**. There has been an increase of 5% in the number of living unrelated transplants. The overall transplant rate was 6.4 pmp in 2002-2003 and ranged from 0.6 to 14.8 pmp at individual transplant centres. Centres should be transplanting 6.2 living donors pmp according to the *BTS Standards* and in 2002-2003 seven centres achieved this target.

Donor and organ supply

Of the 712 cadaveric heartbeating solid organ donors in the UK in 2002-2003, 682 (96%) donated kidney(s). From these donors, 1,354 kidneys were retrieved, 1,293 (95%) of which were transplanted. **Table 3.4** shows this activity by centre/alliance.

The overall heartbeating kidney donor rate pmp is 11.6, with retrieval centre/alliance rates ranging from 7.1 to 18.3. The kidney retrieval rate pmp for the UK is 22.9 and varies from 13.7 to 36.7 pmp. Organ usage rates of at least 95% were observed in 13 (62%) centres.

Table 3.5 shows the same information for non-heartbeating solid organ donors. Cambridge, Oxford and Newcastle will receive funding from UK Transplant (UKT) for their non-heartbeating donor schemes in the next financial year (2003-2004). Apart from Leicester, all other centres/alliances with non-heartbeating schemes currently receive funding from UKT.

Waiting list

The number of patients registered on the kidney or kidney and pancreas waiting list increased by 1% in the year: on 31 March 2003, 5,020 patients were registered active, compared with 4,970 at the end of March 2002. The number of patients waiting for a kidney transplant represents 85.1 patients pmp.

Of the 5,020 waiting list patients at 31 March 2003, 73 required a kidney and pancreas transplant (97 at 31 March 2002). Additionally, 17 patients were registered for a pancreas only transplant (15 at 31 March 2002).

The outcome of patients registered on the UK kidney waiting list at 1 April 2002 or subsequently registered during the financial year is shown in **Figure 3.2**. Overall, 19% of patients on the waiting list during 2002-2003 received a transplant.

Table 3.6 shows the ethnicity of cadaveric heartbeating kidney donors, transplant recipients and waiting list patients. Less than 1% of donors were Asian compared with 13% of waiting list patients. The ethnicity of the UK population, from the ONS *2001 Census* data, is also shown for comparison.

Table 3.1 KIDNEY DONORS AND TRANSPLANTS, 1 APRIL 2002 - 31 MARCH 2003 (2001-2002) AND WAITING LIST PATIENTS AT 31 MARCH 2003 (2002) IN THE UK, BY CENTRE/ALLIANCE

Centre/alliance	Cadaveric kidney donors				Cadaveric transplants				Living donor transplants				Active waiting list	
	HB		NHB		HB		NHB		Total		% waiting list			
North Thames	82	(84)	10	(0)	147	(151)	21	(1)	43	(43)	6.1	(5.6)	710	(770)
South Thames	64	(79)	10	(10)	129	(140)	20	(18)	55	(57)	15.6	(18.2)	353	(313)
Leeds	51	(29)	4	(0)	91	(84)	7	(0)	21	(15)	6.1	(4.5)	344	(337)
Liverpool	33	(31)	0	(0)	52	(58)	0	(0)	18	(17)	8.3	(7.9)	217	(215)
Manchester	57	(53)	1	(0)	105	(118)	2	(0)	23	(15)	5.6	(3.8)	414	(398)
Newcastle	39	(47)	9	(18)	77	(67)	14	(24)	15	(19)	9.9	(11.9)	151	(159)
North of England	180	(160)	14	(18)	325	(327)	23	(24)	77	(66)	6.8	(6.0)	1126	(1109)
Aberdeen	9	(10)	0	(0)	12	(9)	0	(0)	2	(0)	3.0	(0)	67	(64)
Edinburgh	19	(22)	0	(0)	50	(48)	0	(0)	14	(11)	9.3	(7.3)	151	(150)
Glasgow	29	(29)	0	(0)	55	(64)	0	(1)	18	(22)	6.9	(8.8)	260	(249)
Scotland	57	(61)	0	(0)	117	(121)	0	(1)	34	(33)	7.1	(7.1)	478	(463)
Leicester	15	(13)	5	(1)	31	(20)	8	(2)	21	(24)	13.0	(16.0)	161	(150)
Nottingham	18	(11)	0	(0)	46	(35)	0	(0)	15	(16)	9.9	(10.6)	151	(151)
Sheffield	19	(22)	0	(0)	34	(30)	0	(0)	5	(13)	2.0	(5.9)	248	(220)
Trent	52	(46)	5	(1)	111	(85)	8	(2)	41	(53)	7.3	(10.2)	560	(521)
Bristol	20	(23)	3	(0)	68	(64)	6	(1)	27	(14)	12.1	(6.2)	223	(227)
Cardiff	25	(26)	0	(0)	43	(60)	0	(0)	12	(8)	6.1	(3.9)	198	(204)
Oxford	40 ¹	(26)	9 ²	(1)	63	(49)	14	(2)	10	(17)	5.6	(8.9)	180	(190)
Portsmouth	29	(24)	0	(0)	39	(34)	0	(0)	12	(7)	10.1	(6.3)	119	(112)
South, West & Wales	114	(99)	12	(1)	213	(207)	20	(3)	61	(46)	8.5	(6.3)	720	(733)
Belfast	31	(31)	0	(0)	45	(35)	0	(0)	2	(5)	1.1	(2.9)	183	(170)
Birmingham	57	(46)	0	(0)	114	(76)	0	(0)	25	(28)	5.6	(5.9)	445	(472)
Cambridge	19	(25)	7	(8)	34	(46)	11	(13)	13	(20)	6.1	(9.8)	214	(204)
Coventry	7	(11)	0	(0)	16	(27)	0	(0)	12	(11)	12.4	(12.0)	97	(92)
Great Ormond Street	0	(0)	0	(0)	10	(7)	0	(0)	12	(7)	63.2	(38.9)	19	(18)
Plymouth	19	(25)	0	(0)	35	(29)	0	(0)	1	(3)	0.9	(2.9)	115	(105)
TOTAL	682	(667)	58	(38)	1296	(1251)	103	(62)	376	(372)	7.5	(7.5)	5020	(4970)

¹ Includes 4 solid organ donors shared with Bristol (only reported under Oxford)

² Includes 6 solid organ donors shared with Bristol (only reported under Oxford)

Note: HB - Heartbeating, NHB - Non-heartbeating

Table 3.2 CADAVERIC HEARTBEATING KIDNEY TRANSPLANTS IN THE UK, 1 APRIL 2001 - 31 MARCH 2003, BY TRANSPLANT CENTRE/ALLIANCE

Transplant centre/alliance	2001-2002		2002-2003	
	Transplants	pmp	Transplants	pmp
Aberdeen	9	11.5	12	15.4
Belfast	35	20.7	45	26.6
Birmingham	76	17.0	114	25.6
Bristol	64	32.5	68	34.5
Cambridge	46	18.4	34	13.6
Cardiff	60	26.8	43	19.2
Coventry	27	33.3	16	19.8
Edinburgh	48	29.6	50	30.9
Glasgow	64	24.1	55	20.7
Great Ormond Street ¹	7	-	10	-
Leeds	84	22.7	91	24.6
Leicester	20	9.4	31	14.6
Liverpool	58	17.9	52	16.0
Manchester	118	29.9	105	26.6
Newcastle	67	23.7	77	27.2
North Thames	151	20.6	147	20.1
Nottingham	35	25.4	46	33.3
Oxford	49	16.3	63	21.0
Plymouth	29	16.3	35	19.7
Portsmouth	34	14.2	39	16.3
Sheffield	30	16.4	34	18.6
South Thames	140	20.8	129	19.2
TOTAL	1251	21.2	1296	22.0

¹ Population unavailable

Table 3.3 LIVING DONOR KIDNEY TRANSPLANTS IN THE UK, 1 APRIL 2001 - 31 MARCH 2003, BY TRANSPLANT CENTRE/ALLIANCE

Transplant centre/alliance	2001-2002				2002-2003			
	Related donor	Unrelated donor	TOTAL (pmp)		Related donor	Unrelated donor	TOTAL (pmp)	
Aberdeen	0	0	0	(0)	2	0	2	(2.6)
Belfast	5	0	5	(3.0)	2	0	2	(1.2)
Birmingham	20	8	28	(6.3)	17	8	25	(5.6)
Bristol	10	4	14	(7.1)	20	7	27	(13.7)
Cambridge	12	8	20	(8.0)	5	8	13	(5.2)
Cardiff	7	1	8	(3.6)	10	2	12	(5.4)
Coventry	7	4	11	(13.6)	9	3	12	(14.8)
Edinburgh	7	4	11	(6.8)	13	1	14	(8.6)
Glasgow	18	4	22	(8.3)	13	5	18	(6.8)
Great Ormond Street ¹	7	0	7	(-)	12	0	12	(-)
Leeds	10	5	15	(4.1)	16	5	21	(5.7)
Leicester	20	4	24	(11.3)	15	6	21	(9.9)
Liverpool	16	1	17	(5.2)	14	4	18	(5.6)
Manchester	15	0	15	(3.8)	22	1	23	(5.8)
Newcastle	14	5	19	(6.7)	11	4	15	(5.3)
North Thames	34	9	43	(5.9)	29	14	43	(5.9)
Nottingham	12	4	16	(11.6)	11	4	15	(10.9)
Oxford	12	5	17	(5.7)	8	2	10	(3.3)
Plymouth	3	0	3	(1.7)	1	0	1	(0.6)
Portsmouth	6	1	7	(2.9)	8	4	12	(5.0)
Sheffield	9	4	13	(7.1)	4	1	5	(2.7)
South Thames	41	16	57	(8.5)	43	12	55	(8.2)
TOTAL	285	87	372	(6.3)	285	91	376	(6.4)

¹ Population unavailable

Table 3.4 KIDNEY DONATION AND RETRIEVAL RATES FOR HEARTBEATING DONORS IN THE UK, 1 APRIL 2002 - 31 MARCH 2003, BY CENTRE/ALLIANCE

Centre/alliance	Heartbeating kidney donors (pmp)		Kidneys retrieved (pmp)		Kidneys used (%)	
Aberdeen	9	(11.5)	18	(23.1)	17	(94)
Belfast	31	(18.3)	62	(36.7)	59	(95)
Birmingham	57	(12.8)	113	(25.3)	108	(96)
Bristol	20	(10.2)	40	(20.3)	38	(95)
Cambridge	19	(7.6)	38	(15.2)	34	(89)
Cardiff	25	(11.2)	50	(22.3)	48	(96)
Coventry	7	(8.6)	14	(17.3)	10	(71)
Edinburgh	19	(11.7)	37	(22.8)	34	(92)
Glasgow	29	(10.9)	58	(21.8)	56	(97)
Leeds	51	(13.8)	101	(27.3)	99	(98)
Leicester	15	(7.1)	29	(13.7)	27	(93)
Liverpool	33	(10.2)	66	(20.4)	61	(92)
Manchester	57	(14.4)	112	(28.4)	106	(95)
Newcastle	39	(13.8)	77	(27.2)	73	(95)
North Thames	82	(11.2)	162	(22.1)	152	(94)
Nottingham	18	(13.0)	36	(26.1)	36	(100)
Oxford	40 ¹	(13.3)	80 ²	(26.7)	80 ²	(100)
Plymouth	19	(10.7)	38	(21.3)	37	(97)
Portsmouth	29	(12.1)	58	(24.3)	54	(93)
Sheffield	19	(10.4)	37	(20.2)	37	(100)
South Thames	64	(9.5)	128	(19.0)	127	(99)
TOTAL	682	(11.6)	1354	(22.9)	1293	(95)

¹ Includes 4 solid organ donors shared with Bristol (only reported under Oxford)

² Includes 8 kidneys from 4 donors shared with Bristol (only reported under Oxford)

Table 3.5 KIDNEY DONATION AND RETRIEVAL RATES FOR NON-HEARTBEATING DONORS IN THE UK, 1 APRIL 2002 - 31 MARCH 2003, BY CENTRE/ALLIANCE

Centre/alliance	Non-heartbeating kidney donors (pmp)		Kidneys retrieved (pmp)		Kidneys used (%)	
Bristol	3	(1.5)	6	(3.0)	5	(83)
Cambridge	7	(2.8)	14	(5.6)	11	(79)
Leeds	4	(1.1)	8	(2.2)	7	(88)
Leicester	5	(2.4)	8	(3.8)	8	(100)
Manchester	1	(0.3)	2	(0.5)	2	(100)
Newcastle	9	(3.2)	17	(6.0)	14	(82)
North Thames	10	(1.4)	20	(2.7)	18	(90)
Oxford	9 ¹	(3.0)	18 ²	(6.0)	18 ²	(100)
South Thames	10	(1.5)	20	(3.0)	20	(100)
TOTAL	58	(1.0³)	113	(1.9³)	103	(91)

¹ Includes 6 solid organ donors shared with Bristol (only reported under Oxford)

² Includes 12 kidneys from 6 donors shared with Bristol (only reported under Oxford)

³ Calculated using total UK population

Table 3.6 ETHNICITY OF CADAVERIC HEARTBEATING KIDNEY DONORS AND RECIPIENTS, 1 APRIL 2001 - 31 MARCH 2003 AND WAITING LIST PATIENTS AT 31 MARCH 2003 IN THE UK

Ethnicity	Donors				Transplant recipients				Active waiting list patients		UK population (ONS Census 2001)
	2001-2002		2002-2003		2001-2002		2002-2003		31 March 2003		
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	%
White	651	(98.0)	663	(97.9)	1059	(86.2)	1095	(85.4)	3857	(78.0)	92.1
Asian	2	(0.3)	5	(0.7)	112	(9.1)	123	(9.6)	644	(13.0)	4.0
Black	4	(0.6)	3	(0.4)	42	(3.4)	49	(3.8)	351	(7.1)	2.0
Chinese	1	(0.2)	2	(0.3)	7	(0.6)	6	(0.5)	38	(0.8)	0.4
Other	6	(0.9)	4	(0.6)	9	(0.7)	9	(0.7)	55	(1.1)	1.5
Not reported	3	-	5	-	22	-	14	-	75	-	-
TOTAL	667		682		1251		1296		5020		

Note: percentages calculated out of reported data

Figure 3.1

CADAVERIC KIDNEY PROGRAMME IN THE UK, 1 APRIL 1993 - 31 MARCH 2003
NUMBER OF DONORS, TRANSPLANTS AND PATIENTS ON THE ACTIVE
WAITING LIST AT 31 MARCH

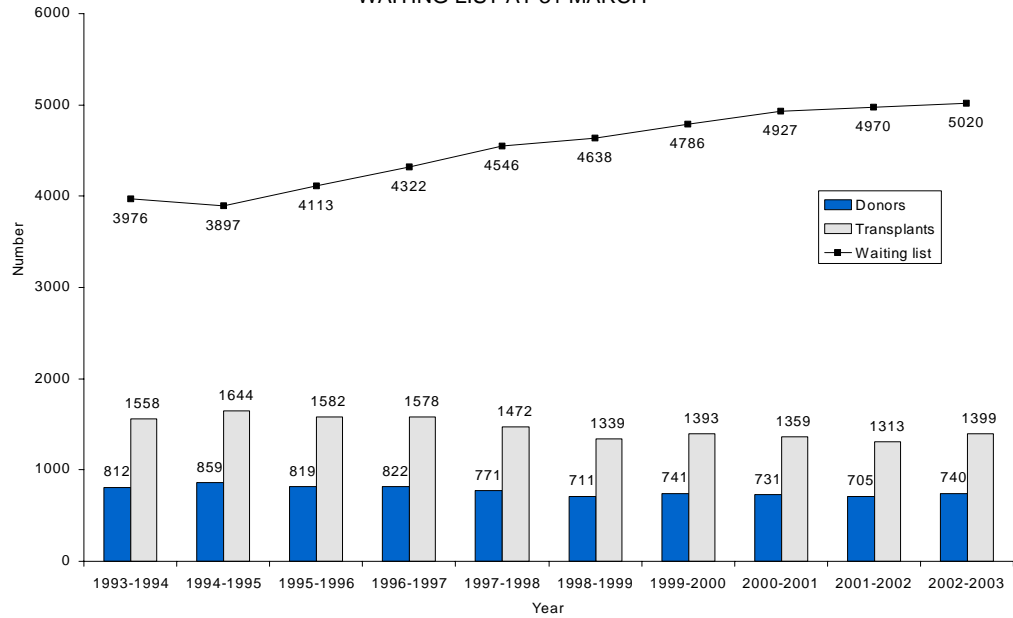
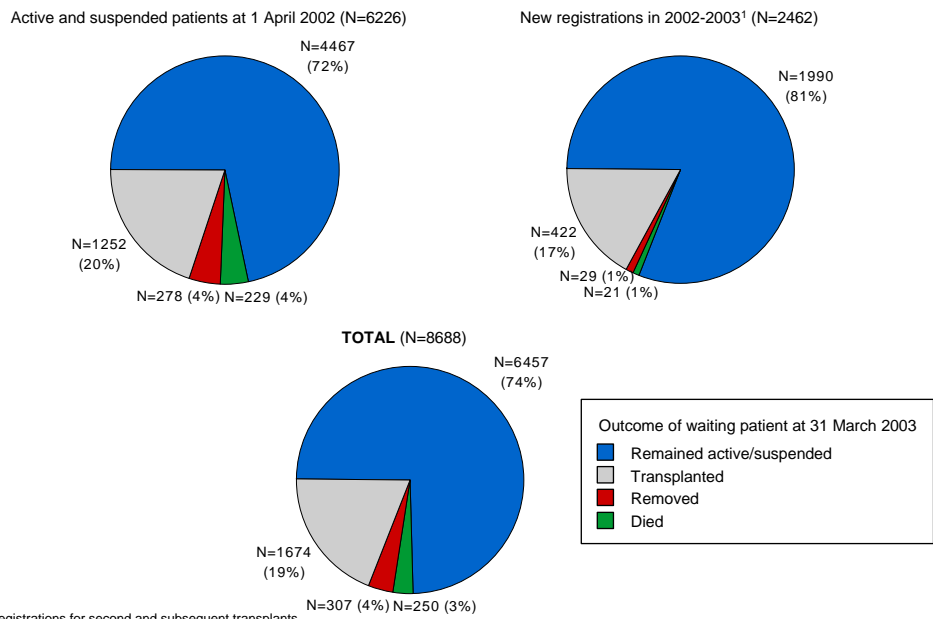


Figure 3.2

KIDNEY WAITING LIST AND NEW REGISTRATIONS IN THE UK, 1 APRIL 2002 - 31 MARCH 2003



4. Cardiothoracic Activity

Overview

The UK cardiothoracic transplant activity, donor numbers and active waiting list are shown in **Figure 4.1**. Transplant numbers increased by 4% and donor numbers decreased by 2% compared with 2001-2002. The increase in cardiothoracic transplants was achieved by transplanting a greater proportion of lungs available from donors. The active cardiothoracic waiting list at 31 March 2003 was slightly higher than at 31 March 2002 and reverses a decline that began in 1995.

Cardiothoracic organ donors by retrieval centre (as opposed to geographical zone) are detailed in **Table 4.1**. 43% of cadaveric donors donated only the heart, 25% heart and lung and 32% lung only.

Table 4.2 shows transplant activity and active and suspended waiting lists for each centre. 297 transplants were carried out in 2002-2003. 50% of cardiothoracic transplants were cadaveric heart only grafts.

At 31 March 2003, 446 patients were registered on the active or suspended waiting lists for a cardiothoracic organ transplant: 25% for a heart, 60% for a lung and the remaining 15% for a heart/lung.

Transplants

The number of cardiothoracic transplants per million population is shown in **Table 4.3**. The overall rate increased to 5 pmp in 2002-2003, surpassing the BTS *Standard* of 4 pmp, and ranged from 2.4 to 10.7 at the transplant centres. Sheffield has been excluded from this range as it ceased transplanting in September 2002.

Donor and organ supply

Table 4.4 shows the number of cadaveric heartbeating solid organ donors identified in each cardiothoracic zone, the number that donated cardiothoracic organs and the number of organs retrieved. The numbers in this table reflect the number of organs retrieved from within each zone (by any centre) rather than the number of retrievals made by that centre. Retrieved organs have been recorded as the actual number of solid organs retrieved. Non-heartbeating solid organ donors have been excluded as their cardiothoracic organs would usually not have been considered for transplantation.

Of the 712 heartbeating donors, 32% donated cardiothoracic organs. The overall cardiothoracic donor rate was 3.9 pmp in 2002-2003 and varied across the donation zones from 2.9 pmp to 6.2 pmp. Sheffield has been excluded from this range as it ceased retrieving from donors in September 2002. The overall organ retrieval rate was 6.7 pmp and 84% of retrieved lungs and 95% of retrieved hearts were used in transplants.

The ethnicity of cardiothoracic donors, transplant recipients and waiting list patients is shown in **Table 4.5**. While 1.7% of donors in 2002-2003 were Asian, 5.6% of the waiting list patients at 31 March 2003 were Asian. The ethnicity of the UK population, from the ONS *2001 Census* data, is also shown for comparison.

Waiting list

Table 4.2 shows the number of patients waiting at each centre at 31 March 2002 and 2003. The total waiting list for the UK increased by 5% to 446. Only 1% of the waiting list was temporarily suspended at the end of March 2003 compared with 2% in 2002.

Figures 4.2, 4.3 and 4.4 show the outcome of patients registered on each cardiothoracic waiting list at 1 April 2002 and subsequently registered during the year. Of the 849 patients on the waiting list for a cardiothoracic organ in 2002-2003, 53% were still waiting at the end of the year, 32% had received a transplant and 15% had either died or been removed from the waiting list.

**Table 4.1 CARDIOTHORACIC ORGAN DONORS IN THE UK, 1 APRIL 2002 - 31 MARCH 2003 (2001-2002),
BY RETRIEVAL CENTRE**

Retrieval centre	Type of donor										TOTAL	
	Cadaveric heart only		Domino heart		Heart & lung		Lung(s) only		Living lung			
Birmingham	13	(15)	0	(0)	9	(4)	13	(6)	0	(0)	35	(25)
Glasgow ¹	6	(5)	0	(0)	4	(2)	9	(0)	0	(0)	19	(7)
Great Ormond Street	7	(4)	2	(0)	3	(0)	0	(0)	0	(0)	12	(4)
Harefield	21	(27)	0	(2)	9	(21)	18	(11)	0	(0)	48	(61)
Manchester	13	(13)	0	(0)	4	(6)	5	(7)	0	(0)	22	(26)
Newcastle	15	(16)	0	(0)	11	(13)	21	(12)	0	(0)	47	(41)
Papworth	19	(23)	8	(4)	14	(10)	4	(12)	0	(0)	45	(49)
Sheffield ²	3	(15)	0	(0)	2	(4)	1	(4)	0	(0)	6	(23)
Other European countries	1	(2)	0	(0)	1	(1)	1	(3)	0	(0)	3	(6)
TOTAL	99 ³	(120)	10	(6)	58 ⁴	(61)	75 ⁵	(56 ⁶)	0	(0)	242 ^{3,4,5,7}	(243 ^{6,8})

¹ Glasgow recommenced retrieval in September 2001

² Sheffield ceased retrieving in September 2002

³ Includes 1 donor whose heart was retrieved by Leeds

⁴ Includes 1 donor whose heart and lungs were retrieved by Leeds

⁵ Includes 3 donors whose lungs were retrieved by King's College

⁶ Includes 1 donor whose lungs were retrieved by King's College

⁷ UK centres additionally retrieved from 21 cadaveric donors in the Republic of Ireland: 12 heart only, 4 heart/lung and 5 lung only donors

⁸ UK centres additionally retrieved from 11 cadaveric donors in the Republic of Ireland: 3 heart only, 3 heart/lung and 5 lung only donors

Table 4.2 CARDIOTHORACIC TRANSPLANTS, 1 APRIL 2002 - 31 MARCH 2003 (2001-2002) AND WAITING LIST PATIENTS AT 31 MARCH 2003 (2002) IN THE UK, BY CENTRE

Transplant centre	Transplants									Active and suspended waiting lists									
	Cadaveric heart		Domino heart		Heart/lung		Lung(s)		Living lung	TOTAL		Heart		Heart/lung		Lung		TOTAL	
Birmingham	16 ¹	(17)	0	(0)	0	(2)	12	(4)	0 (0)	28	(23)	6	(9)	6	(8)	9	(15)	21	(32)
Glasgow ²	12	(8)	0	(0)	0	(0)	0	(0)	0 (0)	12	(8)	7	(9)	0	(0)	0	(0)	7	(9)
Great Ormond Street	19	(19)	3	(2)	2	(0)	0	(2)	0 (0)	24	(23)	8	(5)	4	(2)	1	(0)	13	(7)
Harefield	25	(28 ³)	1	(2)	0	(8)	22	(19)	0 (0)	48	(57)	16	(16)	26	(34)	32	(38)	74	(88)
Manchester	16	(22)	1	(0)	0	(0)	17	(11)	0 (0)	34	(33)	4	(6)	2	(2)	40	(35)	46	(43)
Newcastle	29	(26)	1	(0)	4	(3)	45	(32)	0 (0)	79	(61)	50	(43)	11	(8)	151	(109)	212	(160)
Papworth	28	(31 ⁴)	4	(2)	15	(9 ⁵)	22	(24)	0 (0)	69	(66)	21	(13)	19	(23)	33	(33)	73	(69)
Sheffield ⁶	3	(7)	0	(0)	0	(0)	0	(4)	0 (0)	3	(11)	0	(6)	0	(0)	0	(10)	0	(16)
TOTAL	148	(158)	10	(6)	21	(22)	118	(96)	0 (0)	297	(282)	112	(107)	68	(77)	266	(240)	446	(424)

¹ Includes 1 heart and kidney transplant

² Glasgow recommenced transplanting hearts only in September 2001

³ Includes 1 heart and kidney and 1 heart and liver transplant

⁴ Includes 2 heart and kidney transplants

⁵ Includes 1 heart/lung and liver transplant

⁶ Sheffield ceased transplanting in September 2002

Table 4.3 CARDIOTHORACIC TRANSPLANTS IN THE UK, 1 APRIL 2001 - 31 MARCH 2003, BY TRANSPLANT CENTRE

Transplant centre	2001-2002		2002-2003	
	Transplants	pmp	Transplants	pmp
Birmingham	23	3.2	28	3.9
Glasgow ¹	8	1.6	12	2.4
Great Ormond Street ²	23	-	24	-
Harefield	80	5.1	72	4.6
Manchester	33	5.2	34	5.3
Newcastle ³	61	8.3	79	10.7
Papworth	66	5.1	69	5.3
Sheffield ⁴	11	2.6	3	-
TOTAL	282	4.8	297	5.0

¹ Glasgow recommenced transplanting hearts only in September 2001

² Population unavailable

³ Includes transplants using lungs from Scottish donors

⁴ Sheffield ceased transplanting in September 2002

Note: populations are not adjusted for the reallocation of Sheffield zone

Table 4.4 CADAVERIC CARDIOTHORACIC ORGAN DONATION AND RETRIEVAL RATES IN THE UK, 1 APRIL 2002 - 31 MARCH 2003, BY DONATION ZONE

Donation zone	Number of donors (pmp)				Number of organs retrieved (used)				TOTAL retrieved (used)		Organs retrieved (pmp)
	Solid organ		Cardiothoracic		Hearts		Lungs				
Birmingham	100	(13.8)	36	(5.0)	23	(21)	39	(31)	62	(52)	(8.5)
Glasgow ¹	58	(11.5)	20	(4.0)	11	(11)	24	(19)	35	(30)	(6.9)
Harefield	173	(11.0)	59	(3.8)	36	(36)	61	(51)	97	(87)	(6.2)
Manchester	93	(14.6)	22	(3.5)	18	(15)	16	(10)	34	(25)	(5.3)
Newcastle	121	(16.4)	46	(6.2)	27	(25)	52	(44)	79	(69)	(10.7)
Papworth	141	(10.8)	38	(2.9)	34	(33)	37	(37)	71	(70)	(5.5)
Sheffield ²	26	(6.2)	10	(2.4)	8	(8)	10	(9)	18	(17)	(4.3)
TOTAL	712 ³	(12.1)	231 ⁴	(3.9)	157	(149)	239 ⁵	(201)	396 ⁵	(350)	(6.7)

¹ Lungs from donors in Glasgow are designated to Newcastle (only reported under Glasgow)

² Sheffield ceased retrieving in September 2002

³ Excludes 61 non-heartbeating donors

⁴ Excludes 1 non-heartbeating donor

⁵ Excludes 1 lung from a non-heartbeating donor

Note: populations are not adjusted for the reallocation of Sheffield zone

**Table 4.5 ETHNICITY OF CARDIOTHORACIC DONORS AND RECIPIENTS,
1 APRIL 2001 - 31 MARCH 2003 AND WAITING LIST PATIENTS AT 31 MARCH 2003 IN THE UK**

Ethnicity	Donors				Transplant recipients				Active and suspended waiting list patients		UK population (ONS Census 2001)
	2001-2002		2002-2003		2001-2002		2002-2003		31 March 2003		
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	%
White	234	(97.5)	230	(97.0)	258	(92.1)	273	(91.9)	419	(93.9)	92.1
Asian	0	(0)	4	(1.7)	11	(3.9)	18	(6.1)	25	(5.6)	4.0
Black	2	(0.8)	2	(0.8)	6	(2.1)	3	(1.0)	2	(0.4)	2.0
Chinese	0	(0)	1	(0.4)	1	(0.4)	0	(0)	0	(0)	0.4
Other	4	(1.7)	0	(0)	4	(1.4)	3	(1.0)	0	(0)	1.5
Not reported	3	-	5	-	2	-	0	-	0	-	-
TOTAL	243		242		282		297		446		

Note: percentage calculated out of reported data

Figure 4.1
CADAVERIC CARDIOTHORACIC PROGRAMME IN THE UK, 1 APRIL 1993 - 31 MARCH 2003
NUMBER OF DONORS, TRANSPLANTS AND PATIENTS ON THE ACTIVE
WAITING LIST AT 31 MARCH

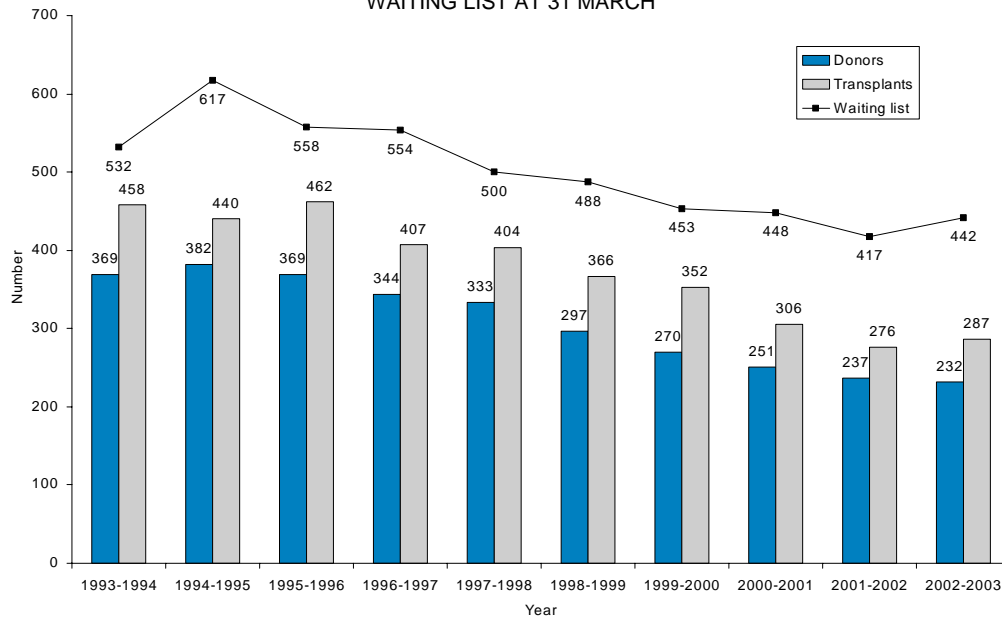


Figure 4.2
HEART WAITING LIST AND NEW REGISTRATIONS IN THE UK, 1 APRIL 2002 - 31 MARCH 2003

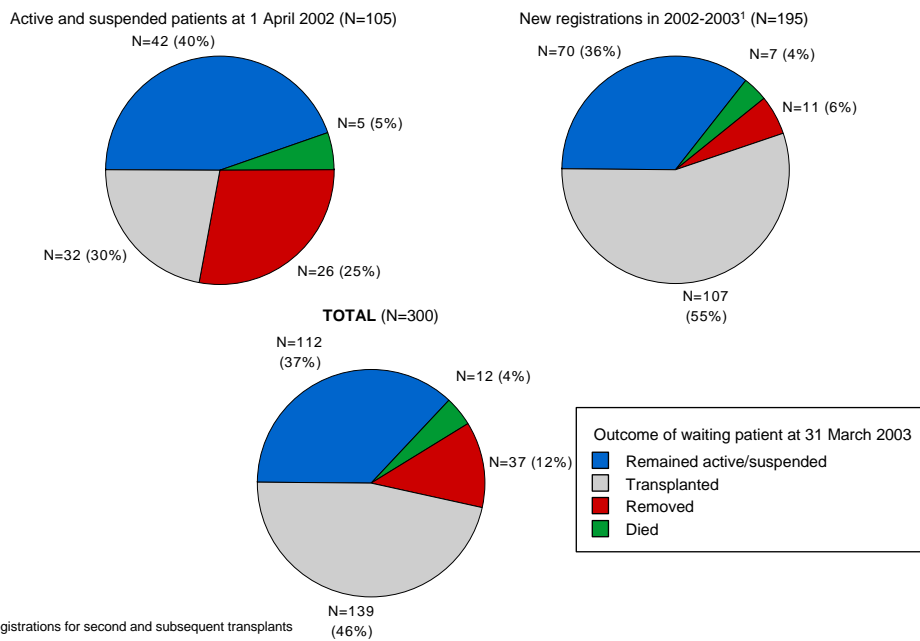


Figure 4.3

HEART/LUNG WAITING LIST AND NEW REGISTRATIONS IN THE UK, 1 APRIL 2002 - 31 MARCH 2003

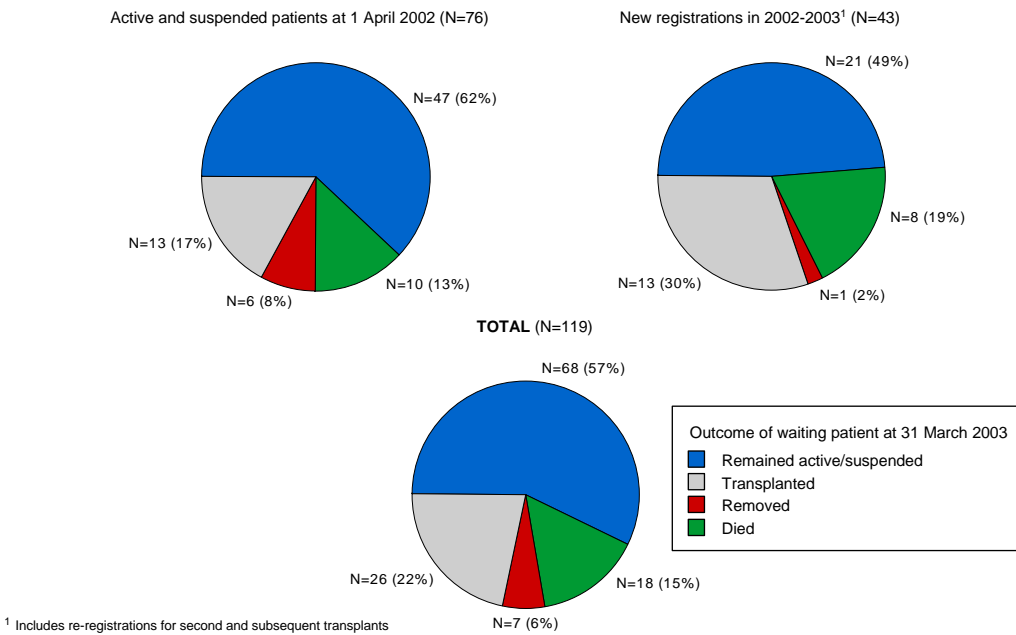


Figure 4.4

LUNG WAITING LIST AND NEW REGISTRATIONS IN THE UK, 1 APRIL 2002 - 31 MARCH 2003



5. Liver Activity

Overview

The number of cadaveric liver donors and transplants in the UK has remained relatively constant since 1995-1996 - **Figure 5.1**. The number of patients actively waiting for a transplant increased steadily until 1998/1999, followed by a decrease in 1999/2000. At 31 March 2003 the waiting list fell by 13%, after successive increases in the previous two years.

The number of cadaveric donors (heartbeating and non-heartbeating), cadaveric and living donor transplants and patients on the active or suspended waiting list, by centre, is shown in **Table 5.1**. 658 (92%) heartbeating and 23 (38%) non-heartbeating solid organ donors in 2002-2003 donated their liver for transplant. Additionally, there were six domino liver donors and one living liver lobe donor. There were 705 cadaveric transplants and 181 patients were on the waiting list at 31 March 2003.

Donor and organ supply

In the UK, the cadaveric liver retrieval rate in 2002-2003 was 11.5 livers per million population (pmp) with the rate varying between zones from 9.2 pmp to 15.4 pmp - **Table 5.2**. 93% of livers retrieved were transplanted in 2002-2003 compared with 95% in the previous financial year. There were 23 non-heartbeating liver donors in 2002-2003 including 20 liver and kidney donors.

Waiting list

Figure 5.2 shows the outcome of patients registered at 1 April 2002 and subsequently registered during the year. Of the 996 patients waiting on the list in 2002-2003, 69% were transplanted and 19% were still waiting at 31 March 2003.

Transplants

705 cadaveric liver transplants were performed in 2002-2003 - 620 whole liver (including 12 liver and kidney) and 85 cadaveric liver lobe. Of the 85 cadaveric liver lobe transplants, 66 were split liver transplants and 19 were reduced liver transplants (including one kidney and liver lobe). The term "reduced" is used when only one lobe of the liver is transplanted and the term "split" applies when both lobes of the liver are transplanted into two different recipients. Six of the seven living donor transplants were domino liver transplants.

Table 5.3 shows the number and type of liver transplants for each centre for 2001-2002 and 2002-2003 and the overall transplant rates pmp. Split liver transplants accounted for 78% of liver lobe transplant activity. In 2002-2003, 78% of liver lobe transplants were carried out at either King's College or Birmingham. 19% of liver transplants at King's College were single lobe transplants, as were 18% at Birmingham. The transplant rate overall was 11.9 pmp and ranged from 8.4 to 17.4 at the transplant centres. The BTS *Standard* states that each centre should aim to achieve at least 12 liver transplants pmp per year.

The ethnicity of liver donors, transplant recipients and waiting list patients is shown in **Table 5.4**. In 2002-2003, the proportion of Asian patients on the waiting list was much greater than that of donors, 9.4% compared with 1.0%, respectively. The ethnicity of the UK population, from the ONS 2001 *Census* data, is also shown for comparison.

Small intestine transplantation

One patient was registered on the small intestine transplant waiting list during 2002-2003 at Birmingham. This patient was still waiting at 31 March 2003.

Table 5.1 CADAVERIC AND LIVING LIVER DONORS AND TRANSPLANTS¹, 1 APRIL 2002 - 31 MARCH 2003 (2001-2002) AND WAITING LIST PATIENTS AT 31 MARCH 2003 (2002) IN THE UK, BY CENTRE

Retrieval/ transplant centre	Cadaveric donors						Cadaveric transplants						Living donor transplants		Active and suspended waiting list	
	HB		NHB		TOTAL		HB		NHB		TOTAL					
Birmingham	152	(134)	0	(0)	152	(134)	162	(157)	0	(0)	162	(157)	0	(0)	26	(50)
Cambridge	73	(76)	0	(0)	73	(76)	69	(64)	0	(0)	69	(64)	0	(0)	14	(17)
Edinburgh	51	(57)	0	(0)	51	(57)	61	(50)	0	(0)	61	(50)	0	(0)	16	(21)
King's College	151	(163)	19	(7)	170	(170)	182	(174)	12	(4)	194	(178)	7	(7)	63	(71)
Leeds	116	(96)	3	(0)	119	(96)	131	(122)	2	(0)	133	(122)	0	(0)	32	(29)
Newcastle	31	(41)	1	(0)	32	(41)	33	(35)	1	(0)	34	(35)	0	(0)	13	(8)
The Royal Free	82	(66)	0	(0)	82	(66)	52	(53)	0	(0)	52	(53)	0	(0)	17	(11)
TOTAL	658 ^{2,3}	(634 ²)	23	(7)	681 ^{2,3}	(641 ²)	690	(657 ⁴)	15	(4)	705	(661 ⁴)	7	(7)	181	(207)

¹ Whole liver and lobe

² Includes 1 donor whose liver was retrieved by Dublin

³ Includes 1 donor whose liver was retrieved by Oxford

⁴ Includes 1 liver and heart/lung transplant (Papworth) and 1 liver and heart transplant (Harefield)

Note: HB - Heartbeating, NHB - Non-heartbeating

Table 5.2 CADAVERIC LIVER RETRIEVAL RATES IN THE UK, 1 APRIL 2002 - 31 MARCH 2003, BY DONATION ZONE

Donation zone	Number of donors								Number of livers retrieved (used)					
	Solid organ				Liver				HB		NHB		TOTAL	
	HB	NHB	TOTAL	(pmp)	HB	NHB	TOTAL	(pmp)	HB		NHB		TOTAL	
Birmingham	177	0	177	(11.8)	160	0	160	(10.7)	160	(153)	0	(0)	160	(153)
Cambridge	83	12	95	(11.6)	75	0	75	(9.2)	75	(69)	0	(0)	75	(69)
Edinburgh	58	0	58	(11.5)	51	0	51	(10.1)	51	(48)	0	(0)	51	(48)
King's College	157	24	181	(12.3)	148	12	160	(10.9)	148	(138)	12	(6)	160	(144)
Leeds	112	5	117	(15.3)	110	3	113	(14.8)	110	(104)	3	(3)	113	(107)
Newcastle	37	9	46	(18.1)	31	1	32	(12.6)	31	(28)	1	(1)	32	(29)
The Royal Free	88	11	99	(16.9)	83	7	90	(15.4)	83	(82)	7	(4)	90	(86)
TOTAL	712	61	773	(13.1)	658	23	681	(11.5)	658	(622)	23	(14)	681	(636)

Note: HB - Heartbeating, NHB - Non-heartbeating

**Table 5.3 CADAVERIC LIVER TRANSPLANTS PERFORMED IN THE UK,
1 APRIL 2001 - 31 MARCH 2003**

Transplant centre	2001-2002				2002-2003			
	Whole liver	Reduced liver	Split liver	TOTAL (pmp)	Whole liver	Reduced liver	Split liver	TOTAL (pmp)
Birmingham	127	9	21	157 (10.5)	133	10	19	162 (10.8)
Cambridge	64	0	0	64 (7.8)	69	0	0	69 (8.4)
Edinburgh	49	1	0	50 (9.9)	58	0	3	61 (12.1)
King's College	152	9	17	178 (12.1)	156	6	31	193 (13.1)
Leeds	103	4	15	122 (15.9)	117	3	13	133 (17.4)
Newcastle	35	0	0	35 (13.8)	34	0	0	34 (13.4)
The Royal Free	52	0	1	53 (9.0)	52	0	0	52 (8.9)
TOTAL	584¹	23	54	661¹ (11.2)	620²	19	66	705² (11.9)

¹ Includes 1 heart and liver transplant (Harefield) and 1 liver, heart/lung transplant (Papworth)

² Includes 1 transplant performed at The Cromwell Hospital

Table 5.4 ETHNICITY OF LIVER DONORS AND RECIPIENTS, 1 APRIL 2001 - 31 MARCH 2003 AND WAITING LIST PATIENTS AT 31 MARCH 2003 IN THE UK

Ethnicity	Donors				Transplant recipients				Active and suspended waiting list patients		UK population (ONS Census 2001)
	2001-2002		2002-2003		2001-2002		2002-2003		31 March 2003		
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	%
White	630	(97.7)	667	(97.5)	568	(85.0)	598	(84.0)	143	(79.0)	92.1
Asian	3	(0.5)	7	(1.0)	42	(6.3)	71	(10.0)	17	(9.4)	4.0
Black	4	(0.6)	4	(0.6)	19	(2.8)	10	(1.4)	1	(0.6)	2.0
Chinese	1	(0.2)	2	(0.3)	4	(0.6)	4	(0.6)	3	(1.7)	0.4
Other	7	(1.1)	4	(0.6)	35	(5.2)	29	(4.1)	17	(9.4)	1.5
Not reported	3	-	4	-	0	-	0	-	0	-	-
TOTAL	648		688		668		712		181		

Note: percentage calculated out of reported data

Figure 5.1

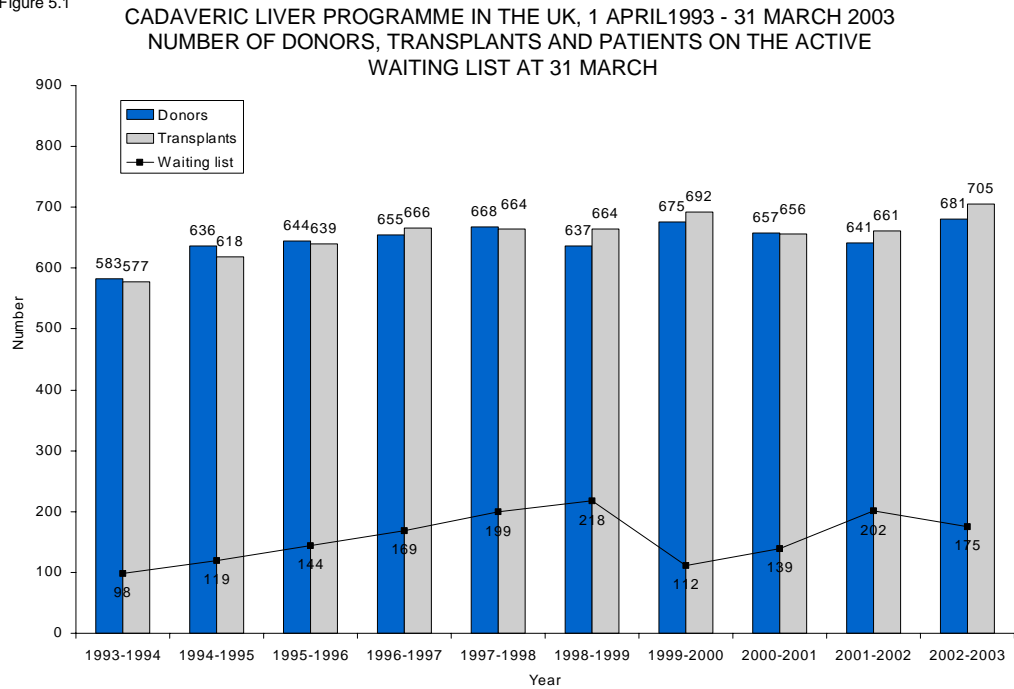
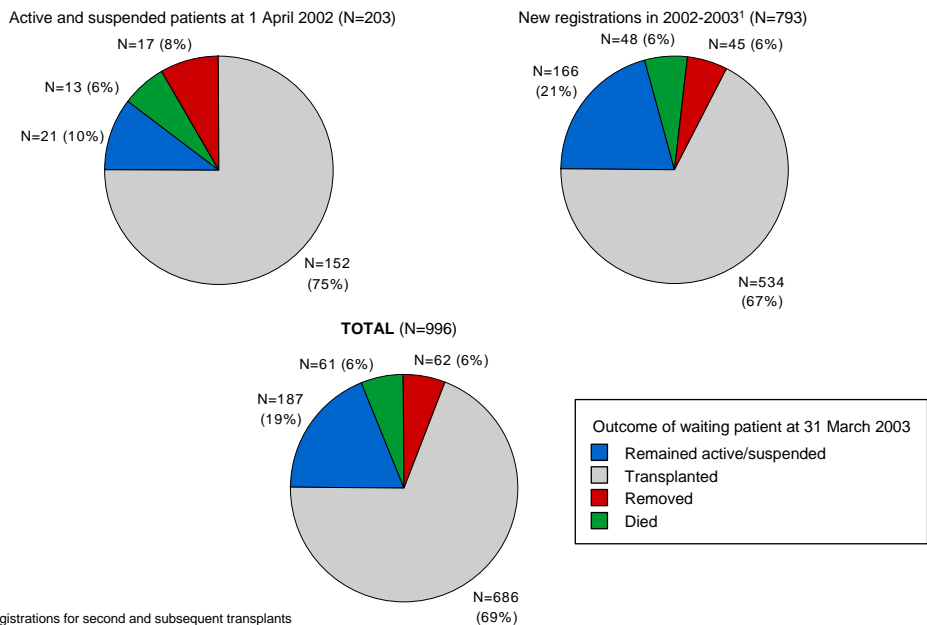


Figure 5.2

LIVER WAITING LIST AND NEW REGISTRATIONS IN THE UK, 1 APRIL 2002 - 31 MARCH 2003



6. Cornea Donation and Transplants

Overview

Both the number of corneas donated and the number of cornea grafts carried out increased in 2002-2003, by 6% and 12% respectively - **Figure 6.1**. Additionally, 139 donors donated sclera.

In 2002-2003, there were 1,739 cornea donors - 1,515 donated cornea(s) only and 224 donated cornea(s) and solid organ(s) - **Table 6.1**. Compared with 2001-2002, the number of cornea only donors increased by 117 (8%) and the number of cornea and solid organ donors decreased by 24 (10%). In 2001-2002, corneas were retrieved from 32.5% of cadaveric heartbeating solid organ donors; this fell to 29% in 2002-2003. Of the 61 non-heartbeating solid organ donors in 2002-2003, 19 (31%) also donated corneas.

Table 6.1 shows the number and rate per million population of donors by country and English Strategic Health Authority. In both 2001-2002 and 2002-2003, Wales had the highest cornea donor rate in the UK: 34 cornea donors pmp in 2001-2002 and 40 cornea donors pmp in 2002-2003. The cornea donor rate has increased in England, Wales and Scotland, but has fallen in Northern Ireland. Across the Strategic Health Authorities the donor rate ranged from 6.9 to 92.5 pmp.

Donor and tissue supply

In both 2001-2002 and 2002-2003, 97% of retrieved corneas reported to the National Transplant Database were supplied to the Cornea Transplant Service (CTS) Eye Banks in Bristol and Manchester. **Table 6.2** shows the number of corneas supplied to and taken from the CTS Eye Banks for those centres that supplied more than 20 corneas in 2002-2003. The difference between the number supplied and number taken is also shown, together with the number of corneas that were deemed suitable for a penetrating keratoplasty (PKP) graft (ie met donor and tissue selection criteria). Centres with a negative balance have taken more corneas than they supplied to the CTS Eye Banks. Of the 3,376 corneas supplied to the CTS Eye Banks, 2,337 (69%) were suitable for PKP.

CTS Eye Bank activity

Both the numbers of corneas received and issued by the CTS Eye Banks increased in 2002-2003 (6% and 9%, respectively) when compared to 2001-2002. The activity levels for the Bristol and Manchester Eye Banks are shown in **Table 6.3**. In 2002-2003, 3,376 corneas were received into the Eye Banks, of which 2,434 (70%) were subsequently issued for grafting. The balance equates to corneas unsuitable for transplantation.

The outcome of the corneas received into the CTS Eye Banks is given in **Table 6.4**. Of corneas supplied to the Eye Banks in 2002-2003, 64% were used for a penetrating graft, 2% were used for lamellar grafts and epikeratophakia and 5% were issued but not used. 9% of the corneas supplied to the CTS Eye Banks were unsuitable for transplant because of medical contraindications, 11% had endothelial deficiencies or stromal opacities and 8% were discarded because of bacterial or fungal contamination. Finally, less than 1% of corneas became outdated (ie exceeded 28 days storage). Corneas that were unsuitable for transplantation were, where possible, used for research where permission had been given by the relatives ("other" category in **Table 6.4**).

Transplants

Transplant activity by country and English Strategic Health Authority for the years 2001-2002 and 2002-2003 is detailed in **Table 6.5**. The overall transplant rate was 34.8 pmp in 2001-2002;

this increased to 38.9 pmp in 2002-2003. The transplant rates were higher in 2002-2003 for each of the countries within the United Kingdom. Across the Strategic Health Authorities the transplant rate ranged from 12.5 to 130.6 pmp.

Table 6.1 CORNEA DONATION RATES PER MILLION POPULATION (PMP) IN THE UK, 1 APRIL 2001 - 31 MARCH 2003, BY COUNTRY AND ENGLISH STRATEGIC HEALTH AUTHORITY

Country/Strategic Health Authority	Cornea only		Solid organ and cornea		TOTAL (pmp)			
	2001 -2002	2002 -2003	2001 -2002	2002 -2003	2001-2002		2002-2003	
Avon, Gloucestershire and Wiltshire	111	130	6	11	117	(54.1)	141	(65.2)
Bedfordshire and Hertfordshire	6	7	4	4	10	(6.3)	11	(6.9)
Birmingham and The Black Country	27	20	6	5	33	(14.6)	25	(11.1)
Cheshire and Merseyside	96	74	5	12	101	(43.1)	86	(36.7)
County Durham and Tees Valley	24	54	9	5	33	(29.2)	59	(52.1)
Coventry, Warwickshire, Hereford and Worcestershire	11	21	6	2	17	(11.2)	23	(15.1)
Cumbria and Lancashire	23	36	7	5	30	(15.8)	41	(21.6)
Essex	12	17	2	3	14	(8.7)	20	(12.4)
Greater Manchester	42	67	11	11	53	(21.1)	78	(31.0)
Hampshire and Isle of Wight	26	44	14	11	40	(22.5)	55	(31.0)
Kent and Medway	116	140	6	5	122	(77.3)	145	(91.8)
Leicestershire, Northamptonshire and Rutland	29	17	5	6	34	(21.9)	23	(14.8)
Norfolk, Suffolk and Cambridgeshire	186	196	14	5	200	(92.0)	201	(92.5)
North and East Yorkshire and Northern Lincolnshire	17	23	1	2	18	(11.1)	25	(15.4)
North Central London	32	37	7	13	39	(33.1)	50	(42.4)
North East London	4	11	5	10	9	(6.0)	21	(14.0)
North West London	9	7	7	9	16	(9.2)	16	(9.2)
Northumberland, Tyne and Wear	99	84	18	10	117	(84.6)	94	(68.0)
Shropshire and Staffordshire	18	10	7	8	25	(16.8)	18	(12.1)
Somerset and Dorset	32	30	5	4	37	(31.1)	34	(28.5)
South East London	22	17	13	7	35	(23.5)	24	(16.1)
South West London	29	16	6	4	35	(27.4)	20	(15.6)
South West Peninsula	66	76	10	4	76	(48.2)	80	(50.8)
South Yorkshire	21	20	7	3	28	(22.1)	23	(18.2)
Surrey and Sussex	83	87	8	8	91	(35.6)	95	(37.2)
Thames Valley	47	34	10	7	57	(27.3)	41	(19.6)
Trent	42	37	2	1	44	(17.0)	38	(14.7)
West Yorkshire	40	36	3	11	43	(20.7)	47	(22.6)
England	1270	1350	204	189	1474	(30.0)	1539	(31.3)
Isle of Man	0	0	0	1	0	-	1	(14.3)
Channel Islands	0	2	0	2	0	-	4	(28.6)
Wales	85	104	14	11	99	(34.1)	115	(39.7)
Scotland	37	56	20	15	57	(11.3)	71	(14.0)
Northern Ireland	6	5	10	9	16	(9.5)	14	(8.3)
TOTAL	1398	1515	248	224	1646	(27.9)	1739	(29.5)

**Table 6.2 CORNEAS SUPPLIED TO AND TAKEN FROM THE CTS EYE BANKS,
1 APRIL 2002 - 31 MARCH 2003**

Centre	Corneas supplied	Suitable for PKP (%)	Corneas taken	Balance
East Grinstead, Queen Victoria Hospital	448	305 (68)	65	383
Norwich, Norfolk and Norwich University Hospital	292	232 (79)	32	260
London, Moorfields Eye Hospital	201	145 (72)	138	63
Bristol, Bristol Eye Hospital	190	131 (69)	59	131
Newcastle, Royal Victoria Infirmary	169	112 (66)	40	129
Liverpool, Royal Liverpool University Hospital	122	73 (60)	51	71
Newport, Royal Gwent Hospital	106	75 (71)	7	99
Manchester, Manchester Royal Eye Hospital	104	71 (68)	89	15
Exeter, Royal Devon and Exeter Hospital	88	52 (59)	12	76
Middlesbrough, North Riding Infirmary	82	65 (79)	8	74
Cheltenham, Cheltenham General Hospital	60	48 (80)	31	29
Bolton, Royal Bolton Hospital	51	32 (63)	11	40
Leeds, Leeds General Infirmary	50	43 (86)	60	-10
Southampton, Southampton General Hospital	50	36 (72)	23	27
Peterborough, Peterborough District Hospital	48	30 (63)	3	45
Portsmouth, Queen Alexandra Hospital	42	31 (74)	15	27
Sunderland, Eye Infirmary	41	31 (76)	35	6
Nottingham, University Hospital	36	27 (75)	52	-16
Reading, Royal Berkshire Hospital	34	27 (79)	22	12
Birmingham, Birmingham and Midland Eye Centre	30	18 (60)	73	-43
Ipswich, Ipswich Hospital	28	23 (82)	24	4
St Asaph, H M Stanley Hospital	28	12 (43)	16	12
Plymouth, Derriford Hospital	28	21 (75)	0	28
Glasgow, Gartnavel General Hospital	25	20 (80)	61	-36
Oxford, Radcliffe Infirmary	24	12 (50)	33	-9
Leicester, Leicester Royal Infirmary	24	15 (63)	31	-7
Belfast, Royal Victoria Hospital	22	15 (68)	34	-12
Centres supplying more than 20 corneas	2423	1702 (70)	1025	1398
All other centres	953	635 (67)	1249	-296
TOTAL	3376	2337 (69)	2274	1102

Note: PKP - Penetrating keratoplasty

**Table 6.3 CORNEAS RECEIVED INTO THE BRISTOL AND MANCHESTER EYE BANKS,
1 APRIL 2001 - 31 MARCH 2003, BY YEAR**

	Total received	Bristol Number issued ¹ (%)	Balance ²	Total received	Manchester Number issued ¹ (%)	Balance ²	TOTAL Total received	Number issued ¹ (%)	Balance ²
2001-2002	2118	1517 (72)	601	1057	712 (67)	345	3175	2229 (70)	946
2002-2003	2138	1573 (74)	565	1238	861 (70)	377	3376	2434 (72)	942

¹ Number issued of those received in each year

² Corneas unsuitable for transplantation

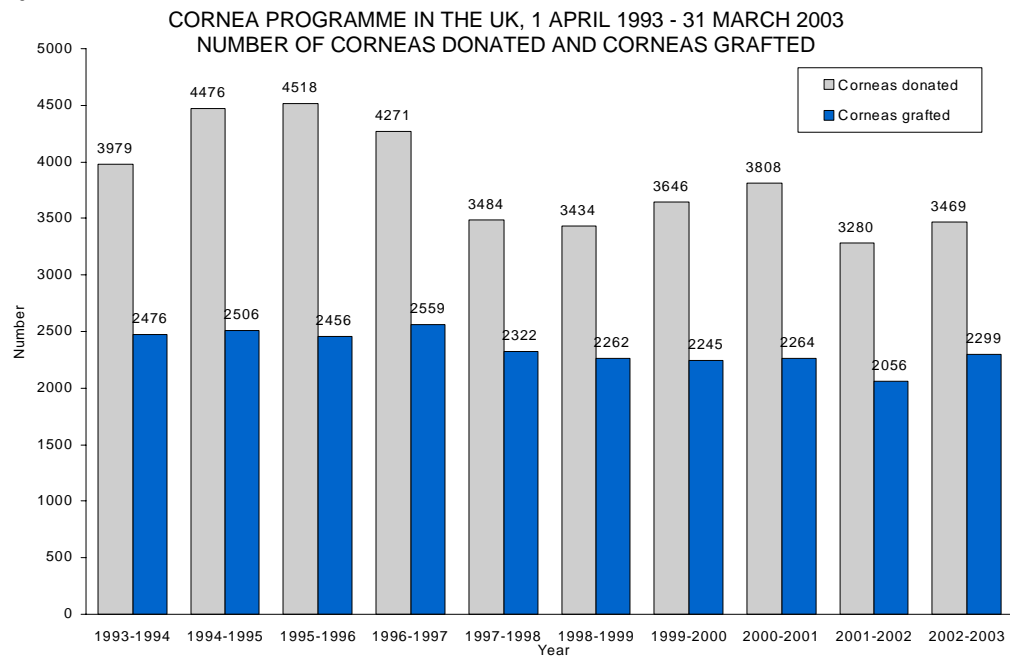
**Table 6.4 OUTCOME OF CORNEAS RECEIVED INTO THE BRISTOL AND MANCHESTER EYE BANKS,
1 APRIL 2001 - 31 MARCH 2003, BY YEAR**

Outcome of cornea	Bristol				Manchester				TOTAL			
	2001-2002		2002-2003		2001-2002		2002-2003		2001-2002		2002-2003	
	N	%	N	%	N	%	N	%	N	%	N	%
Used												
Penetrating keratoplasty	1323	62	1383	65	635	60	782	63	1958	62	2165	64
Lamellar keratoplasty	47	2	54	3	10	1	16	1	57	2	70	2
Epikeratophakia plano lens	3	< 1	2	< 1	0	0	0	0	3	< 1	2	< 1
Epikeratophakia powered	1	< 1	1	< 1	0	0	1	< 1	1	< 1	2	< 1
Lathed lamellar lenticule	19	1	18	1	1	< 1	0	0	20	< 1	18	< 1
Other/not reported	11	< 1	8	< 1	12	1	8	1	23	< 1	16	< 1
Total used	1404	66	1466	69	658	62	807	65	2062	65	2273	67
Not used												
Issued, not used	113	5	107	5	54	5	54	4	167	5	161	5
Unsuitable - endothelium, stromal opacity, other	215	10	193	9	129	12	167	13	344	11	360	11
Medical reason - virology	197	9	123	6	92	9	64	5	289	9	187	6
Medical reason - other	76	4	64	3	36	3	45	4	112	4	109	3
Contaminated	102	5	176	8	81	8	90	7	183	6	266	8
Other/not reported	11	< 1	9	0	7	1	11	1	18	< 1	20	< 1
Total not used	714	34	672	31	399	38	431	35	1113	35	1103	33
TOTAL	2118		2138		1057		1238		3175		3376	

Table 6.5 CORNEA TRANSPLANTS PERFORMED PER MILLION POPULATION (PMP) IN THE UK, 1 APRIL 2001 - 31 MARCH 2003, BY COUNTRY AND ENGLISH STRATEGIC HEALTH AUTHORITY

Country/Strategic Health Authority	Number of transplants (pmp)	
	2001-2002	2002-2003
Avon, Gloucestershire and Wiltshire	83 (38.4)	114 (52.7)
Bedfordshire and Hertfordshire	22 (13.8)	20 (12.5)
Birmingham and The Black Country	121 (53.7)	121 (53.7)
Cheshire and Merseyside	88 (37.5)	92 (39.2)
County Durham and Tees Valley	28 (24.7)	19 (16.8)
Coventry, Warwickshire, Herefordshire and Worcestershire	34 (22.3)	63 (41.3)
Cumbria and Lancashire	36 (18.9)	58 (30.5)
Essex	55 (34.1)	45 (27.9)
Greater Manchester	131 (52.1)	145 (57.7)
Hampshire and Isle of Wight	32 (18.0)	44 (24.8)
Kent and Medway	122 (77.3)	123 (77.9)
Leicestershire, Northamptonshire and Rutland	28 (18.0)	38 (24.5)
Norfolk, Suffolk and Cambridgeshire	83 (38.2)	112 (51.5)
North and East Yorkshire and Northern Lincolnshire	35 (21.6)	29 (17.9)
North Central London	154 (130.6)	154 (130.6)
North East London	23 (15.4)	23 (15.4)
North West London	46 (26.6)	57 (32.9)
Northumberland, Tyne and Wear	91 (65.8)	76 (55.0)
Shropshire and Staffordshire	41 (27.5)	44 (29.6)
Somerset and Dorset	34 (28.5)	55 (46.2)
South East London	29 (19.5)	47 (31.6)
South West London	39 (30.5)	45 (35.2)
South West Peninsula	65 (41.2)	42 (26.6)
South Yorkshire	45 (35.5)	58 (45.8)
Surrey and Sussex	45 (17.6)	46 (18.0)
Thames Valley	79 (37.8)	88 (42.1)
Trent	106 (41.0)	93 (35.9)
West Yorkshire	132 (63.5)	148 (71.2)
England	1830 (37.2)	2000 (40.7)
Isle of Man	1 (14.3)	1 (14.3)
Channel Islands	2 (14.3)	0 -
Wales	76 (26.2)	82 (28.3)
Scotland	113 (22.3)	168 (33.2)
Northern Ireland	33 (19.5)	47 (27.8)
TOTAL	2052 (34.8)	2297 (38.9)

Figure 6.1



7. NHS Organ Donor Register

The eighth anniversary of the NHS Organ Donor Register was reached in October 2002 and by the end of March 2003 the Register held 10,367,630 registrations. During the year data on the register was continually reviewed and validated.

There are a number of registration routes: Health Department registration leaflet readily available in the community; campaigns in both national and regional newspapers and by community groups; leaflets delivered to households (for example with local electoral roll registration); when registering as a patient with a General Practitioner (via the Family Health Services Authorities); with driving licence applications and reminders (via the Driver and Vehicle Licensing Agency (DVLA)); from the Passport Agency when applying for a new passport; when applying for a Boots Advantage Card and online registrations via the UK Transplant website.

Figure 7.1 shows that 27% of registrations in 2002-2003 arrived by means of the Family Health Services Authorities, 34% from the DVLA and 13% through the Boots Advantage Card route.

At the end of March 2003, 85% of registrations indicated a willingness to donate all organs and tissue (kidneys, pancreas, heart, lungs, liver and corneas). However, of those who were not willing to donate all organs, the majority (75%) did not wish to donate their corneas. Of the restricted registrations, only 8% (less than 1% of the total register) did not wish to donate their kidneys. Willingness to donate, by organ type, is shown in **Table 7.1**.

People of all ages are eligible for organ donor registration: the distribution of age by gender at time of registration is shown in **Figure 7.2**. The highest proportion of males and females, representing 24% and 27%, respectively, of registrations, are registered in the 21 to 30 years age group. The lowest proportion is the under 11 age group with 2% of registrations for males and females. Of all the registrations on the NHS Organ Donor Register, 46% were male and 54% were female.

Applications have been received from all parts of the UK. **Figure 7.3** illustrates the percentage of the population registered at 31 March 2003 in English Strategic Health Authorities and in Wales, Scotland and Northern Ireland.

**Table 7.1 PREPAREDNESS OF THOSE REGISTERED ON THE NHS
ORGAN DONOR REGISTER AT 31 MARCH 2003 TO DONATE
DIFFERENT ORGANS**

Registrants prepared to donate all organs 85%

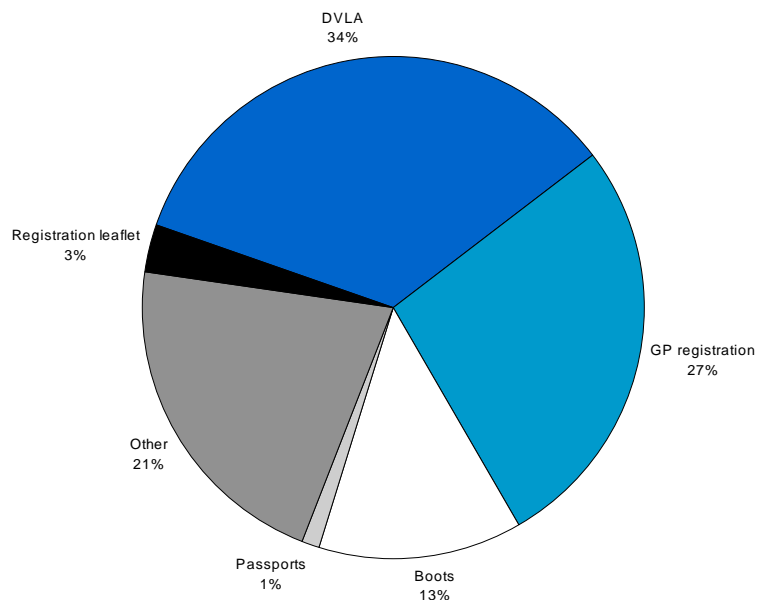
Of those not prepared to donate all organs (“restricted donors”):

Not prepared to donate:	% of all “Restricted donors”	Registrants
Kidneys	8	0.7
Pancreas	30	2.7
Heart	31	2.8
Lungs	25	2.3
Liver	16	1.5
Corneas	75	6.8

Note: this information was not available for 6% of the total registered

Figure 7.1

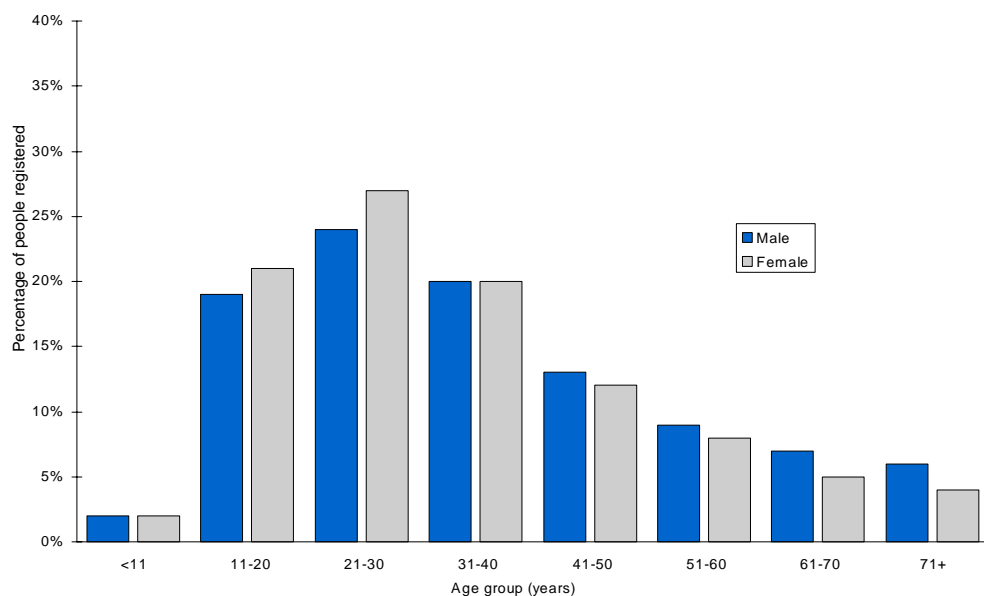
SOURCE OF APPLICATIONS FOR REGISTRATION ON THE NHS ORGAN DONOR REGISTER,
1 APRIL 2002 - 31 MARCH 2003



Note: Online registrations are included in 'Other' and accounted for <1%

Figure 7.2

AGE AND GENDER OF PEOPLE REGISTERED ON THE NHS ORGAN DONOR REGISTER
BY 31 MARCH 2003

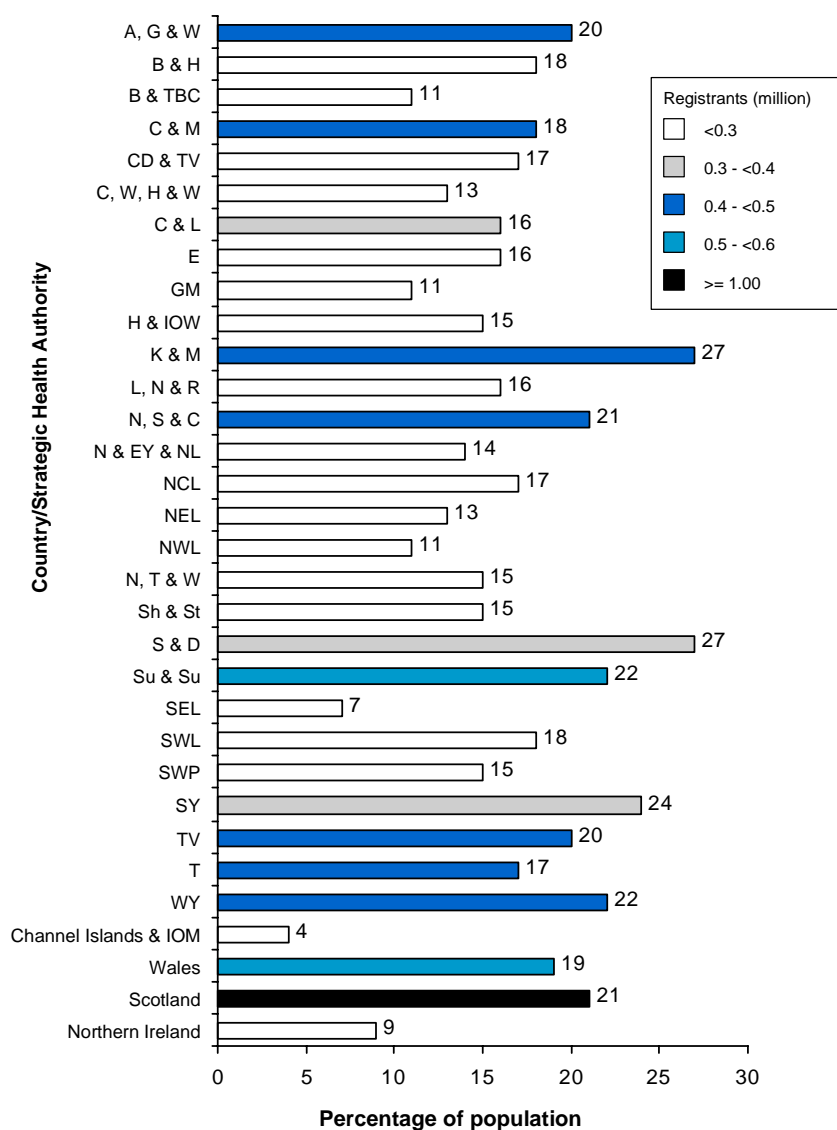


ENGLISH STRATEGIC HEALTH AUTHORITIES SHOWN IN FIGURE 7.3

Key	Strategic Health Authority
A, G & W	Avon, Gloucestershire and Wiltshire
B & H	Bedfordshire and Hertfordshire
B & TBC	Birmingham and The Black Country
C & M	Cheshire and Merseyside
CD & TV	County Durham and Tees Valley
C, W, H & W	Coventry, Warwickshire, Herefordshire and Worcestershire
C & L	Cumbria and Lancashire
E	Essex
GM	Greater Manchester
H & IOW	Hampshire and Isle of Wight
K & M	Kent and Medway
L, N & R	Leicestershire, Northamptonshire and Rutland
N, S & C	Norfolk, Suffolk and Cambridgeshire
N & EY & NL	North and East Yorkshire and Northern Lincolnshire
NCL	North Central London
NEL	North East London
NWL	North West London
N, T & W	Northumberland, Tyne and Wear
Sh & St	Shropshire and Staffordshire
S & D	Somerset and Dorset
SEL	South East London
SWL	South West London
SWP	South West Peninsula
SY	South Yorkshire
Su & Su	Surrey and Sussex
TV	Thames Valley
T	Trent
WY	West Yorkshire

Figure 7.3

PERCENTAGE OF POPULATION REGISTERED ON THE NHS ORGAN
DONOR REGISTER BY 31 MARCH 2003, BY COUNTRY AND
ENGLISH STRATEGIC HEALTH AUTHORITY



Appendices

Appendix IA provides details of the 712 cadaveric heartbeating solid organ donors reported in 2002-2003. Details are given for each donating hospital and the hospitals have been grouped by English Strategic Health Authority and country. This appendix does not reflect regional retrieval rates: for example, in Wales three of the donating hospitals reported are listed under Liverpool for kidney retrievals. **Appendix IB** gives similar information for the 61 cadaveric non-heartbeating solid organ donors.

The number of donors per kidney designated area is given in **Appendix II**; where the kidneys were not retrieved, donors and organs have been assigned to the designated area that would normally have retrieved the kidney.

The populations used for kidney, liver and cardiothoracic retrievals per million population are given in **Appendices IIIA** and **IIIB**; these populations are based on ONS *2001 Census* figures.

**Appendix IA CADAVERIC HEARTBEATING SOLID ORGAN DONORS AND DONATED ORGANS IN THE UK,
1 APRIL 2002 - 31 MARCH 2003 (2001-2002), BY DONATING HOSPITAL**

Donating hospital	All donors		Multi-organ donor		Kidney	Heart	Lung	Liver	Pancreas
Avon, Gloucestershire and Wiltshire									
Bath, Royal United Hospital	1	(1)	1	(1)	2	0	2	1	0
Bristol, Bristol Royal Hospital for Children	1	(3)	1	(3)	2	1	0	1	0
Bristol, Bristol Royal Infirmary	0	(2)	0	(2)	0	0	0	0	0
Bristol, Frenchay Hospital	10	(8)	8	(8)	20	3	4	8	0
Bristol, Southmead Hospital	0	(1)	0	(1)	0	0	0	0	0
Cheltenham, Cheltenham General Hospital	3	(2)	3	(2)	6	1	0	3	1
Gloucester, Gloucestershire Royal Hospital	1	(1)	1	(1)	2	0	0	1	0
Salisbury, Salisbury District Hospital	1	(1)	1	(1)	2	0	0	1	1
Swindon, Great Western Hospital	3	(0)	3	(0)	6	0	2	3	0
Swindon, Princess Margaret Hospital	4	(2)	4	(2)	8	2	1	4	0
Taunton, Taunton and Somerset Hospital (Musgrove Park)	2	(5)	1	(5)	4	1	0	1	0
Total	26	(26)	23	(26)	52	8	9	23	2
Bedfordshire and Hertfordshire									
Bedford, Bedford Hospital	6	(1)	6	(1)	12	2	0	6	1
Hemel Hempstead, Hemel Hempstead General Hospital	3	(1)	2	(1)	4	0	0	3	0
Luton, Luton and Dunstable Hospital	0	(1)	0	(1)	0	0	0	0	0
Stevenage, Lister Hospital	2	(3)	1	(1)	2	0	0	2	0
Watford, Watford General Hospital	0	(1)	0	(1)	0	0	0	0	0
Welwyn Garden City, Queen Elizabeth II Hospital	0	(1)	0	(1)	0	0	0	0	0
Total	11	(8)	9	(6)	18	2	0	11	1
Birmingham and The Black Country									
Birmingham, Birmingham Heartlands Hospital	4	(0)	4	(0)	7	1	0	4	0
Birmingham, Diana Princess of Wales Children's Hospital	0	(1)	0	(1)	0	0	0	0	0
Birmingham, Queen Elizabeth Hospital	6	(4)	6	(4)	12	2	0	6	0
Birmingham, Selly Oak Hospital	5	(3)	5	(3)	10	1	1	5	0
Dudley, Russells Hall Hospital	3	(4)	1	(4)	6	0	2	1	0
Solihull, Solihull Hospital	2	(1)	2	(1)	4	0	0	2	0
Sutton Coldfield, Good Hope District General Hospital	1	(1)	1	(1)	2	0	0	1	0
Walsall, Walsall Manor Hospital	2	(3)	2	(2)	4	1	2	2	0

West Bromwich, Sandwell District General Hospital	4	(4)	4	(4)	8	1	3	4	0
Wolverhampton, New Cross Hospital	4	(5)	3	(5)	8	1	3	3	0
Total	31	(26)	28	(25)	61	7	11	28	0
Cheshire and Merseyside									
Chester, Countess of Chester Hospital	2	(1)	1	(1)	2	0	1	1	0
Crewe, Leighton Hospital	2	(2)	0	(1)	2	0	0	1	0
Liverpool, Alder Hey Children's Hospital	0	(1)	0	(1)	0	0	0	0	0
Liverpool, Royal Liverpool University Hospital	2	(4)	2	(2)	4	0	0	2	0
Liverpool, University Hospital Aintree	1	(3)	1	(2)	2	0	0	1	0
Liverpool, Walton Centre for Neurology and Neurosurgery	5	(6)	4	(5)	8	2	0	5	0
Macclesfield, Macclesfield District General Hospital	1	(0)	1	(0)	2	0	0	1	0
Prescot, Whiston Hospital	4	(2)	4	(2)	8	1	0	4	1
Runcorn, Halton General Hospital	3	(0)	3	(0)	6	1	2	3	0
Southport, Southport General Infirmary	0	(1)	0	(0)	0	0	0	0	0
Warrington, Warrington Hospital	3	(2)	3	(1)	6	0	0	3	1
Wirral, Arrowe Park Hospital	4	(4)	4	(0)	8	1	0	4	1
Total	27	(26)	23	(15)	48	5	3	25	3
County Durham and Tees Valley									
Bishop Auckland, Bishop Auckland General Hospital	0	(1)	0	(1)	0	0	0	0	0
Darlington, Darlington Memorial Hospital	0	(2)	0	(2)	0	0	0	0	0
Durham, University Hospital of North Durham	1	(0)	1	(0)	2	0	0	1	0
Hartlepool, University Hospital of Hartlepool	0	(4)	0	(4)	0	0	0	0	0
Middlesbrough, Middlesbrough General Hospital	11	(11)	8	(10)	22	3	7	8	0
Middlesbrough, The James Cook University Hospital	1	(1)	1	(0)	2	0	0	1	0
Stockton-on-Tees, University Hospital of North Tees	3	(3)	3	(3)	6	1	0	3	0
Total	16	(22)	13	(20)	32	4	7	13	0
Coventry, Warwickshire, Herefordshire and Worcestershire									
Coventry, Coventry and Warwickshire Hospital	1	(0)	1	(0)	2	1	2	1	0
Coventry, Walsgrave Hospital	5	(3)	4	(2)	10	0	0	4	0
Hereford General Hospital	1	(0)	1	(0)	2	0	2	1	0
Hereford, Hereford County Hospital	1	(3)	1	(1)	2	0	0	1	0
Nuneaton, George Eliot Hospital	1	(3)	1	(2)	2	0	0	1	0
Redditch, Alexandra Hospital	1	(1)	1	(1)	2	1	0	1	0
Rugby, Hospital of St Cross	0	(1)	0	(0)	0	0	0	0	0
Warwick, Warwick Hospital	0	(4)	0	(4)	0	0	0	0	0

Worcester, Worcester Royal Hospital	1	(0)	1	(0)	2	0	2	1	0
Total	11	(15)	10	(10)	22	2	6	10	0
Cumbria and Lancashire									
Barrow-in-Furness, Furness General Hospital	2	(1)	2	(1)	4	0	0	2	0
Blackburn, Blackburn Royal Infirmary	4	(2)	3	(1)	6	0	0	4	0
Blackpool, Blackpool Victoria Hospital	6	(2)	6	(2)	12	0	2	6	1
Burnley, Burnley General Hospital	3	(1)	3	(1)	5	3	2	3	0
Carlisle, Cumberland Infirmary	0	(2)	0	(1)	0	0	0	0	0
Chorley, Chorley and South Ribble District General Hospital	2	(1)	2	(1)	4	1	0	2	0
Lancaster, Royal Lancaster Infirmary	1	(2)	1	(2)	1	1	0	1	1
Ormskirk, Ormskirk and District Hospital	1	(2)	0	(1)	2	0	0	0	0
Preston, Royal Preston Hospital	3	(7)	3	(7)	6	0	1	3	1
Whitehaven, West Cumberland Hospital	0	(1)	0	(1)	0	0	0	0	0
Total	22	(21)	20	(18)	40	5	5	21	3
Essex									
Basildon, Basildon Hospital	2	(2)	2	(0)	4	0	0	2	1
Chelmsford, Broomfield Hospital	2	(4)	2	(2)	4	0	0	2	1
Colchester, Colchester General Hospital	3	(1)	3	(1)	5	0	0	3	1
Harlow, Princess Alexandra Hospital	2	(0)	2	(0)	4	0	0	2	0
Westcliff on Sea, Southend Hospital	2	(1)	1	(1)	2	0	0	2	0
Total	11	(8)	10	(4)	19	0	0	11	3
Greater Manchester									
Ashton-under-Lyme, Tameside General Hospital	3	(1)	3	(1)	6	2	2	3	2
Bolton, Royal Bolton Hospital	3	(6)	3	(3)	6	1	0	3	0
Bury, Bury General Hospital	0	(1)	0	(0)	0	0	0	0	0
Bury, Fairfield General Hospital	3	(1)	2	(1)	6	0	0	2	0
Manchester, Manchester Royal Infirmary	6	(0)	5	(0)	10	2	0	6	1
Manchester, North Manchester General Hospital	1	(3)	1	(3)	2	0	0	1	1
Manchester, Royal Manchester Children's Hospital (Pendlebury)	1	(2)	1	(2)	2	0	0	1	0
Manchester, Trafford General Hospital	2	(1)	2	(1)	4	0	0	2	0
Manchester, Withington Hospital	0	(2)	0	(2)	0	0	0	0	0
Manchester, Wythenshawe Hospital	1	(3)	1	(3)	2	0	0	1	0
Oldham, Royal Oldham Hospital (Rochdale Road)	2	(0)	2	(0)	4	0	0	2	0
Rochdale, Rochdale Infirmary	0	(1)	0	(1)	0	0	0	0	0

Salford, Hope Hospital	13	(11)	12	(9)	24	1	4	13	3
Stockport, Stepping Hill Hospital	3	(3)	3	(2)	6	0	0	3	0
Wigan, Royal Albert Edward Infirmary	1	(8)	1	(5)	2	1	2	1	1
Total	39	(43)	36	(33)	74	7	8	38	8
Hampshire and Isle of Wight									
Portsmouth, Queen Alexandra Hospital	4	(6)	3	(4)	8	0	2	3	0
Southampton, Southampton General Hospital	15	(11)	15	(11)	30	4	12	15	4
Winchester, Royal Hampshire County Hospital	2	(1)	2	(1)	4	0	0	2	0
Basingstoke, North Hampshire Hospital	2	(2)	2	(2)	4	1	0	2	1
Newport, St Mary's Hospital (Isle of Wight)	2	(2)	2	(2)	4	1	2	2	0
Total	25	(22)	24	(20)	50	6	16	24	5
Kent and Medway									
Ashford, William Harvey Hospital	3	(4)	3	(4)	6	2	0	3	0
Canterbury, Kent and Canterbury Hospital	1	(1)	1	(1)	2	0	0	1	0
Dartford, Darent Valley Hospital	1	(2)	0	(2)	0	0	0	1	0
Gillingham, Medway Hospital	6	(4)	5	(3)	12	0	3	5	0
Maidstone, Maidstone Hospital	1	(1)	1	(1)	2	0	0	1	0
Margate, The Queen Elizabeth The Queen Mother Hospital	2	(2)	2	(2)	4	1	0	2	0
Tunbridge Wells, Kent and Sussex Hospital	2	(1)	1	(0)	2	0	2	2	0
Total	16	(15)	13	(13)	28	3	5	15	0
Leicestershire, Northamptonshire and Rutland									
Kettering, Kettering General Hospital	1	(4)	1	(4)	2	0	0	1	0
Leicester, Glenfield General Hospital	1	(1)	0	(1)	0	0	0	1	0
Leicester, Leicester General Hospital	1	(0)	1	(0)	2	0	0	1	0
Leicester, Leicester Royal Infirmary	7	(4)	5	(3)	12	1	2	6	1
Northampton, Northampton General Hospital	3	(1)	3	(1)	6	1	0	2	0
Total	13	(10)	10	(9)	22	2	2	11	1
Norfolk, Suffolk and Cambridgeshire									
Bury St Edmunds, West Suffolk Hospital	1	(0)	1	(0)	2	0	0	1	1
Cambridge, Addenbrooke's Hospital	5	(13)	5	(13)	10	0	2	5	1
Great Yarmouth, The James Paget Hospital	1	(3)	1	(3)	2	0	0	1	0
Huntingdon, Hinchingsbrooke Hospital	1	(1)	1	(1)	2	1	0	1	1
Ipswich, Ipswich Hospital	0	(1)	0	(1)	0	0	0	0	0
Kings Lynn, Queen Elizabeth Hospital	1	(0)	1	(0)	2	0	0	1	0

Norwich, Norfolk and Norwich Hospital	3	(5)	2	(5)	6	1	2	2	1
Papworth, Papworth Hospital	1	(0)	1	(0)	2	0	0	1	0
Peterborough, Peterborough District Hospital	0	(2)	0	(2)	0	0	0	0	0
Total	13	(25)	12	(25)	26	2	4	12	4
North Central London									
Barnet, Barnet General Hospital	1	(0)	0	(0)	2	0	0	0	0
Enfield, Chase Farm Hospital	2	(1)	2	(1)	4	1	2	2	0
London, Great Ormond Street Hospital for Children	5	(2)	5	(0)	8	5	6	4	0
London, Middlesex Hospital	1	(3)	1	(1)	2	0	0	1	0
London, National Hospital for Neurology and Neurosurgery	14	(10)	13	(9)	28	4	6	13	2
London, North Middlesex Hospital	1	(0)	1	(0)	2	1	0	1	0
London, The London Clinic	0	(1)	0	(1)	0	0	0	0	0
London, The Royal Free Hospital	10	(10)	9	(10)	19	3	3	9	4
London, Whittington Hospital	1	(1)	1	(1)	2	0	0	1	1
Total	35	(28)	32	(23)	67	14	17	31	7
North East London									
Ilford, King George Hospital	2	(0)	2	(0)	4	0	0	2	1
London, Homerton Hospital	0	(1)	0	(1)	0	0	0	0	0
London, The Royal London Hospital (Whitechapel)	7	(7)	6	(7)	10	3	2	7	1
Romford, Oldchurch Hospital	8	(10)	6	(9)	16	3	4	6	2
Total	17	(18)	14	(17)	30	6	6	15	4
North and East Yorkshire and Northern Lincolnshire									
Cottingham, Castle Hill Hospital	1	(0)	1	(0)	2	0	0	1	0
Grimsby, Diana Princess of Wales Hospital	2	(1)	2	(1)	4	0	0	2	0
Hull, Hull Royal Infirmary	4	(4)	4	(4)	8	1	0	4	0
Scunthorpe, Scunthorpe General Hospital	6	(1)	6	(1)	12	1	2	6	0
York, York District Hospital	0	(1)	0	(1)	0	0	0	0	0
Total	13	(7)	13	(7)	26	2	2	13	0
Northumberland, Tyne and Wear									
Gateshead, Queen Elizabeth Hospital	0	(1)	0	(0)	0	0	0	0	0
Newcastle, Newcastle General Hospital	18	(19)	17	(15)	36	3	11	17	0
Newcastle, Freeman Hospital	0	(1)	0	(1)	0	0	0	0	0
North Shields, North Tyneside General Hospital	2	(1)	1	(1)	2	0	0	2	0
South Shields, South Tyneside District General Hospital	3	(0)	2	(0)	6	0	0	2	0

Sunderland, Sunderland Royal Hospital	1	(1)	0	(1)	1	0	0	0	0
Total	24	(23)	20	(18)	45	3	11	21	0
North West London									
Ashford, Ashford Hospital (Middlesex)	1	(0)	1	(0)	2	0	0	1	0
Chelsea, Chelsea and Westminster Hospital	1	(1)	1	(0)	2	0	2	1	0
Harrow, Northwick Park Hospital	1	(0)	1	(0)	2	0	0	1	0
Isleworth, West Middlesex University Hospital	0	(2)	0	(1)	0	0	0	0	0
London, Central Middlesex Hospital	1	(2)	1	(1)	2	0	0	1	0
London, Charing Cross Hospital	10	(13)	10	(11)	20	4	2	9	0
London, Cromwell Hospital	0	(1)	0	(1)	0	0	0	0	0
London, Hammersmith Hospital	0	(1)	0	(1)	0	0	0	0	0
London, St Mary's Hospital	2	(4)	2	(3)	4	1	2	2	2
Southall, Ealing Hospital	2	(0)	2	(0)	4	0	0	2	1
Uxbridge, Hillingdon Hospital	3	(6)	2	(6)	4	1	0	3	1
Total	21	(30)	20	(24)	40	6	6	20	4
Shropshire and Staffordshire									
Shrewsbury, Royal Shrewsbury Hospital	5	(2)	5	(1)	10	2	4	5	0
Telford, Princess Royal Hospital	1	(3)	1	(3)	2	0	0	1	0
Stoke-on-Trent, North Staffordshire Royal Infirmary	11	(9)	10	(9)	22	2	2	10	0
Stoke-on-Trent, Stoke City General Hospital	3	(2)	2	(2)	4	1	4	2	0
Burton-on-Trent, Queen's Hospital	2	(1)	2	(1)	4	1	3	2	0
Stafford, Stafford District General Hospital	0	(2)	0	(2)	0	0	0	0	0
Total	22	(19)	20	(18)	42	6	13	20	0
Somerset and Dorset									
Bournemouth, Royal Bournemouth General Hospital	1	(3)	1	(3)	2	0	0	1	0
Dorchester, Dorset County Hospital	2	(0)	2	(0)	4	1	0	2	0
Poole, Poole General Hospital	4	(1)	4	(1)	8	2	2	4	0
Yeovil, Yeovil District Hospital	1	(1)	1	(1)	2	1	2	1	0
Total	8	(5)	8	(5)	16	4	4	8	0
South East London									
Bromley, Bromley Hospital	0	(2)	0	(2)	0	0	0	0	0
London, Guy's Hospital	0	(3)	0	(2)	0	0	0	0	0
London, King's College Hospital	7	(11)	7	(9)	14	2	4	7	1
London, London Bridge Hospital	0	(1)	0	(0)	0	0	0	0	0

London, St Thomas' Hospital	7	(7)	6	(7)	14	0	0	6	1
London, The Queen Elizabeth Hospital	1	(4)	1	(4)	2	0	0	1	1
London, University Hospital Lewisham	0	(1)	0	(0)	0	0	0	0	0
Sidcup, Queen Mary's Hospital	3	(1)	2	(1)	6	0	0	2	0
Total	18	(30)	16	(25)	36	2	4	16	3
South West London									
Carshalton, St Helier Hospital	1	(2)	1	(2)	2	0	0	1	0
Croydon, Mayday Hospital	3	(1)	3	(1)	6	1	0	3	1
Kingston, Kingston Hospital	0	(1)	0	(1)	0	0	0	0	0
London, Atkinson Morleys Hospital	7	(10)	7	(10)	14	1	6	7	2
London, St George's Hospital	1	(3)	1	(3)	2	0	0	1	0
Total	12	(17)	12	(17)	24	2	6	12	3
South West Peninsula									
Barnstaple, North Devon District Hospital	1	(1)	1	(1)	2	0	0	1	0
Exeter, Royal Devon and Exeter Hospital (Wonford)	4	(1)	3	(0)	8	0	1	3	0
Plymouth, Derriford Hospital	7	(14)	7	(13)	14	1	2	7	0
Torquay, Torbay Hospital	2	(1)	2	(1)	4	0	2	2	0
Truro, Royal Cornwall Hospital (Treliske)	3	(6)	3	(5)	6	1	4	3	1
Total	17	(23)	16	(20)	34	2	9	16	1
South Yorkshire									
Barnsley, Barnsley District General Hospital	5	(3)	4	(3)	10	1	2	4	1
Doncaster, Doncaster Royal Infirmary	0	(2)	0	(2)	0	0	0	0	0
Rotherham, District General Hospital	2	(5)	2	(5)	3	0	1	2	0
Sheffield, Sheffield Children's Hospital	2	(3)	1	(3)	2	0	0	2	0
Sheffield, Northern General Hospital	3	(1)	3	(1)	6	0	0	3	1
Sheffield, Royal Hallamshire Hospital	4	(8)	4	(8)	8	2	1	4	1
Total	16	(22)	14	(22)	29	3	4	15	3
Surrey and Sussex									
Brighton, Royal Sussex County Hospital	5	(3)	5	(3)	10	2	0	5	1
Camberley, Frimley Park Hospital	2	(5)	2	(5)	4	1	2	2	0
Chertsey, St Peter's Hospital	1	(1)	1	(1)	2	0	0	1	0
Chichester, St Richard's Hospital	1	(3)	1	(3)	2	0	0	1	0
Crawley, Crawley Hospital	1	(0)	1	(0)	2	0	0	1	0
Eastbourne, Eastbourne District General Hospital	0	(2)	0	(2)	0	0	0	0	0

Epsom, Epsom General Hospital	2	(2)	2	(2)	4	0	0	2	0
Guildford, Royal Surrey County Hospital	0	(1)	0	(1)	0	0	0	0	0
Haywards Heath, Princess Royal Hospital	6	(4)	5	(4)	10	0	2	6	0
Redhill, East Surrey Hospital	0	(1)	0	(1)	0	0	0	0	0
Worthing, Worthing Hospital	2	(1)	2	(1)	4	1	0	2	0
Total	20	(23)	19	(23)	38	4	4	20	1
Trent									
Boston, Pilgrim Hospital	3	(1)	2	(0)	5	0	0	2	0
Chesterfield, Chesterfield and N Derbyshire Royal Hospital	1	(1)	1	(1)	2	0	0	1	0
Derby, Derbyshire Royal Infirmary	3	(2)	3	(2)	6	0	0	3	0
Grantham, Grantham General Hospital	3	(2)	1	(2)	4	0	0	2	0
Lincoln, Lincoln County Hospital	2	(0)	2	(0)	4	1	0	2	0
Nottingham, Nottingham City Hospital	1	(1)	0	(1)	0	0	0	1	0
Nottingham, University Hospital	12	(7)	12	(7)	24	4	4	12	2
Sutton-in-Ashfield, King's Mill Hospital	3	(0)	2	(0)	6	0	0	2	0
Worksop, Bassetlaw District General Hospital	3	(0)	2	(0)	6	0	0	2	0
Total	31	(14)	25	(13)	57	5	4	27	2
Thames Valley									
Ascot, Heatherwood Hospital	1	(0)	1	(0)	2	0	0	1	0
Aylesbury, Stoke Mandeville Hospital	3	(3)	3	(2)	6	0	0	3	1
Milton Keynes, Milton Keynes General Hospital	1	(1)	1	(1)	2	0	2	1	1
Oxford, Radcliffe Infirmary	11	(4)	11	(4)	22	1	0	11	1
Oxford, John Radcliffe Hospital	5	(7)	5	(5)	10	1	0	5	1
Reading, Royal Berkshire Hospital	5	(4)	5	(4)	10	1	0	5	3
Slough, Wexham Park Hospital	0	(1)	0	(1)	0	0	0	0	0
Wycombe, Wycombe General Hospital	1	(2)	1	(2)	2	0	0	1	0
Total	27	(22)	27	(19)	54	3	2	27	7
West Yorkshire									
Bradford, Bradford Royal Infirmary	3	(3)	3	(3)	6	1	3	3	1
Dewsbury, Dewsbury and District Hospital	3	(0)	3	(0)	6	2	0	3	0
Halifax, Calderdale Royal Hospital	2	(1)	2	(0)	4	0	1	2	0
Huddersfield, Huddersfield Royal Infirmary	2	(0)	1	(0)	2	0	0	2	0
Keighley, Airedale General Hospital	2	(1)	1	(1)	2	0	0	2	0
Leeds, Leeds General Infirmary	25	(19)	25	(17)	49	8	18	25	1
Leeds, St James's University Hospital	4	(2)	1	(1)	4	0	0	3	0

Wakefield, Pinderfields General Hospital	1	(2)	1	(2)	2	0	2	1	0
Total	42	(28)	37	(24)	75	11	24	41	2
Guernsey									
St Martins, Princess Elizabeth Hospital	2	(0)	2	(0)	4	1	0	2	1
Total	2	(0)	2	(0)	4	1	0	2	1
Isle Of Man									
Douglas, Nobles Isle of Man Hospital	2	(0)	2	(0)	4	0	0	2	0
Total	2	(0)	2	(0)	4	0	0	2	0
Jersey									
St Helier, Jersey General Hospital	1	(1)	0	(1)	2	0	0	0	0
Total	1	(1)	0	(1)	2	0	0	0	0
England	589	(577)	528	(500)	1115	127	192	548	68
Wales									
Abergavenny, Nevill Hall Hospital	0	(2)	0	(2)	0	0	0	0	0
Aberystwyth, Bronglais Hospital	1	(0)	1	(0)	2	0	0	1	0
Bangor, Ysbyty Gwynedd District General Hospital	2	(1)	2	(1)	4	0	2	2	0
Bodelwyddan, Glan Clwyd District General Hospital	2	(3)	2	(3)	4	1	0	2	0
Bridgend, Princess of Wales Hospital	0	(1)	0	(1)	0	0	0	0	0
Cardiff, University of Wales Hospital	8	(9)	8	(7)	16	2	4	8	0
Carmarthen, West Wales General Hospital	4	(3)	4	(2)	8	1	0	4	0
Haverford West, Withybush General Hospital	1	(0)	1	(0)	2	0	0	1	0
Llanelli, Prince Philips Hospital	0	(2)	0	(2)	0	0	0	0	0
Merthyr Tydfil, Prince Charles Hospital	0	(1)	0	(0)	0	0	0	0	0
Neath, Neath and Port Talbot Hospital	1	(0)	1	(0)	2	0	0	1	0
Newport, Royal Gwent Hospital	1	(3)	1	(3)	2	0	0	1	0
Penarth, Llandough Hospital	0	(1)	0	(1)	0	0	0	0	0
Pontypridd, Royal Glamorgan Hospital	3	(1)	3	(1)	6	2	1	3	0
Swansea, Morriston Hospital	6	(4)	5	(4)	10	1	0	6	0
Swansea, Singleton Hospital	1	(0)	0	(0)	2	0	0	0	0
Wrexham, Maelor General Hospital	3	(3)	3	(2)	6	0	2	3	0
Total	33	(34)	31	(29)	64	7	9	32	0

Scotland									
Aberdeen, Aberdeen Royal Infirmary	9	(6)	9	(5)	18	1	0	8	4
Airdrie, Monklands District General Hospital	1	(1)	1	(1)	2	0	0	1	1
Dumfries, Dumfries and Galloway Royal Infirmary	3	(0)	3	(0)	6	1	0	3	1
Dundee, Ninewells Hospital	2	(4)	1	(3)	4	0	2	1	1
Dunfermline, Queen Margaret Hospital	5	(2)	4	(2)	10	2	0	4	1
East Kilbride, Hairmyres Hospital	0	(1)	0	(1)	0	0	0	0	0
Edinburgh, Royal Hospital for Sick Children	1	(1)	1	(1)	2	0	0	1	1
Edinburgh, Royal Infirmary of Edinburgh	2	(1)	2	(1)	3	0	0	2	1
Edinburgh, Western General Hospital	6	(9)	6	(8)	12	0	1	6	2
Falkirk, Falkirk and District Royal Infirmary	1	(1)	1	(1)	2	0	0	1	0
Glasgow, Glasgow Royal Infirmary	2	(0)	2	(0)	4	1	2	2	1
Glasgow, Royal Hospital for Sick Children	0	(1)	0	(1)	0	0	0	0	0
Glasgow, Southern General Hospital	7	(13)	7	(13)	14	3	9	7	1
Glasgow, Stobhill General Hospital	0	(2)	0	(2)	0	0	0	0	0
Glasgow, Victoria Infirmary	4	(2)	4	(2)	6	1	8	3	1
Glasgow, Western Infirmary	0	(2)	0	(2)	0	0	0	0	0
Greenock, Inverclyde Royal Hospital	0	(1)	0	(1)	0	0	0	0	0
Inverness, Raigmore Hospital	0	(5)	0	(3)	0	0	0	0	0
Kilmarnock, Crosshouse Hospital	1	(2)	1	(2)	2	0	0	1	0
Kirkcaldy, Victoria Hospital	1	(0)	1	(0)	2	0	0	1	0
Livingstone, St John's Hospital	0	(2)	0	(2)	0	0	0	0	0
Melrose, Borders General Hospital	1	(3)	1	(3)	2	1	0	1	0
Paisley, Royal Alexandra Hospital	1	(0)	1	(0)	2	0	0	1	1
Paisley, The Royal Alexandra Infirmary	0	(1)	0	(1)	0	0	0	0	0
Perth, Perth Royal Infirmary	1	(0)	1	(0)	2	0	0	1	0
Stirling, Stirling Royal Infirmary	3	(1)	2	(1)	6	0	2	2	0
Stornoway, Western Isles Hospital	1	(0)	1	(0)	2	0	0	1	0
Wishaw, Wishaw General Hospital	6	(1)	4	(1)	12	1	0	4	1
Total	58	(62)	53	(57)	113	11	24	51	17
Northern Ireland									
Belfast, Antrim Hospital	3	(2)	3	(2)	6	0	0	3	0
Belfast, Belfast City Hospital	2	(0)	2	(0)	4	1	0	2	0
Belfast, Mater Infirmorum Hospital	3	(0)	3	(0)	6	1	2	3	0
Belfast, Royal Victoria Hospital	14	(18)	11	(15)	26	6	7	10	0
Belfast, The Ulster Hospital	4	(2)	4	(1)	8	2	2	4	0

Coleraine, Causeway Hospital	1	(1)	1	(1)	2	0	0	1	0
Enniskillen, Erne Hospital	0	(2)	0	(2)	0	0	0	0	0
Londonderry, Altnagelvin Area Hospital	1	(4)	1	(4)	2	1	0	1	0
Portadown, Craigavon Area Hospital	4	(3)	3	(2)	8	1	3	3	0
Total	32	(32)	28	(27)	62	12	14	27	0

Appendix IB CADAVERIC NON-HEARTBEATING SOLID ORGAN DONORS AND DONATED ORGANS IN THE UK, 1 APRIL 2002 - 31 MARCH 2003 (2001-2002), BY DONATING HOSPITAL

Donating hospital	All donors		Multi-organ donor		Kidney	Lung	Liver
Avon, Gloucestershire and Wiltshire							
Bristol, Frenchay Hospital	3	(0)	0	(0)	6	0	0
Cheltenham, Cheltenham General Hospital	6	(0)	1	(0)	12	0	1
Gloucester, Gloucestershire Royal Hospital	0	(1)	0	(0)	0	0	0
Total	9	(1)	1	(0)	18	0	1
Bedfordshire and Hertfordshire							
Luton, Luton and Dunstable Hospital	0	(1)	0	(0)	0	0	0
Welwyn Garden City, Queen Elizabeth II Hospital	1	(0)	1	(0)	2	0	1
Total	1	(1)	1	(0)	2	0	1
County Durham and Tees Valley							
Bishop Auckland, Bishop Auckland General Hospital	0	(1)	0	(0)	0	0	0
Total	0	(1)	0	(0)	0	0	0
Cumbria and Lancashire							
Carlisle, Cumberland Infirmary	0	(1)	0	(0)	0	0	0
Total	0	(1)	0	(0)	0	0	0
Essex							
Basildon, Basildon Hospital	1	(0)	1	(0)	2	0	1
Total	1	(0)	1	(0)	2	0	1
Greater Manchester							
Wigan, Royal Albert Edward Infirmary	1	(0)	0	(0)	2	0	0
Total	1	(0)	0	(0)	2	0	0
Kent and Medway							
Ashford, William Harvey Hospital	1	(0)	1	(0)	2	0	1
Dartford, Darent Valley Hospital	0	(4)	0	(3)	0	0	0
Gillingham, Medway Hospital	1	(0)	1	(0)	2	0	1

Total	2	(4)	2	(3)	4	0	2
Leicestershire, Northamptonshire and Rutland							
Leicester, Leicester General Hospital	1	(0)	0	(0)	2	0	0
Leicester, Leicester Royal Infirmary	4	(1)	0	(0)	6	0	0
Total	5	(1)	0	(0)	8	0	0
North Central London							
London, The Royal Free Hospital	2	(0)	1	(0)	4	0	1
London, National Hospital for Neurology and Neurosurgery	2	(0)	1	(0)	4	0	1
Total	4	(0)	2	(0)	8	0	2
North East London							
London, The Royal London Hospital (Whitechapel)	1	(0)	1	(0)	2	0	1
London, Whipps Cross Hospital	1	(0)	0	(0)	2	0	0
Total	2	(0)	1	(0)	4	0	1
North and East Yorkshire and Northern Lincolnshire							
York, York District Hospital	1	(0)	1	(0)	2	0	1
Total	1	(0)	1	(0)	2	0	1
Norfolk, Suffolk and Cambridgeshire							
Cambridge, Addenbrooke's Hospital	7	(7)	0	(0)	14	0	0
Total	7	(7)	0	(0)	14	0	0
Northumberland, Tyne and Wear							
Ashington, Wansbeck General Hospital	0	(1)	0	(0)	0	0	0
Gateshead, Queen Elizabeth Hospital	1	(4)	0	(0)	2	0	0
Newcastle, Freeman Hospital	0	(1)	0	(0)	0	0	0
Newcastle, Newcastle General Hospital	8	(10)	2	(0)	15	1	1
Total	9	(16)	2	(0)	17	1	1
North West London							
London, Charing Cross Hospital	1	(0)	1	(0)	2	0	1
London, St Mary's Hospital	2	(0)	0	(0)	2	0	1
Total	3	(0)	1	(0)	4	0	2
South East London							

London, King's College Hospital	2	(1)	2	(0)	4	0	2
London, St Thomas' Hospital	2	(3)	1	(0)	2	0	2
London, University Hospital Lewisham	0	(1)	0	(1)	0	0	0
Sidcup, Queen Mary's Hospital	0	(1)	0	(0)	0	0	0
Total	4	(6)	3	(1)	6	0	4
Surrey and Sussex							
Camberley, Frimley Park Hospital	2	(0)	2	(0)	4	0	2
Total	2	(0)	2	(0)	4	0	2
South West London							
Croydon, Mayday Hospital	2	(0)	1	(0)	2	0	2
London, St George's Hospital	2	(2)	1	(1)	4	0	1
Total	4	(2)	2	(1)	6	0	3
Thames Valley							
Reading, Royal Berkshire Hospital	3	(0)	0	(0)	6	0	0
Total	3	(0)	0	(0)	6	0	0
West Yorkshire							
Leeds, Leeds General Infirmary	3	(0)	2	(0)	6	0	2
Total	3	(0)	2	(0)	6	0	2
England	61	(40)	21	(5)	113	1	23

**Appendix II NUMBERS OF HEARTBEATING DONORS AND ORGANS RETRIEVED IN THE UK,
1 APRIL 2002 - 31 MARCH 2003, BY KIDNEY DESIGNATED AREA**

Kidney designated area	All donors	Donors		pmp	Kidney	Heart	Organs Lung	Liver	Pancreas
		pmp	Multi-organ donors						
Aberdeen	9	11.5	9	11.5	18	1	0	8	4
Belfast	32	18.9	28	16.6	62	12	14	27	0
Birmingham	58	13.0	53	11.9	113	14	28	53	0
Bristol	20	10.2	16	8.1	40	6	9	16	0
Cambridge	19	7.6	18	7.2	38	4	4	18	5
Cardiff	26	11.6	24	10.7	50	6	5	25	0
Coventry	7	8.6	6	7.4	14	1	2	6	0
Edinburgh	19	11.7	17	10.5	37	3	3	17	6
Glasgow	30	11.3	27	10.2	58	7	21	26	7
Leeds	55	14.9	50	13.5	101	13	26	54	2
Leicester	18	8.5	12	5.7	29	2	2	15	1
Liverpool	36	11.1	31	9.6	66	6	7	33	3
Manchester	60	15.2	56	14.2	112	12	13	59	11
Newcastle	40	14.1	33	11.7	77	7	18	34	0
North Thames	89	12.2	79	10.8	162	26	29	82	18
Nottingham	19	13.8	17	12.3	36	4	4	18	2
Oxford	40 ¹	13.3	40 ¹	13.3	80 ²	7	5	39	8
Plymouth	19	10.7	19	10.7	38	5	10	19	1
Portsmouth	29	12.1	28	11.7	58	7	16	28	7
Sheffield	20	10.9	17	9.3	37	3	4	18	3
South Thames	67	10.0	60	8.9	128	11	19	63	7
TOTAL	712	12.1	640	10.8	1354	157	239	658	85

¹ Includes 4 donors shared with Bristol (only reported under Oxford)

² Includes 8 kidneys from 4 donors shared with Bristol (only reported under Oxford)

**Appendix IIIA RETRIEVAL POPULATIONS FOR KIDNEY CENTRES,
2002-2003 (BASED ON *ONS 2001 CENSUS* FIGURES)**

Kidney centre	Retrieval population (million)
Birmingham	4.46
Bristol	1.97
Cambridge	2.50
Coventry	0.81
Leeds	3.70
Leicester	2.12
Liverpool	3.24
Manchester	3.95
Newcastle	2.83
North Thames	7.32
Nottingham	1.38
Oxford	3.00
Portsmouth	2.39
Plymouth	1.78
Sheffield	1.83
South Thames	6.73
Total (England)	50.01
Cardiff	2.24
Total (Wales)	2.24
Aberdeen	0.78
Edinburgh	1.62
Glasgow	2.66
Total (Scotland)	5.06
Belfast	1.69
Total (Northern Ireland)	1.69
TOTAL (UK)	59.00

Appendix IIIB RETRIEVAL POPULATION FOR LIVER AND CARDIOTHORACIC ZONES 2002-2003 (BASED ON *ONS 2001 CENSUS* FIGURES)

Liver Zone	Retrieval population (million)
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Birmingham	14.95
Cambridge	8.19
Edinburgh	5.06
King's College	14.73
Leeds	7.66
Newcastle	2.54
The Royal Free	5.86

Cardiothoracic Zone	Retrieval population (million)
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Birmingham	7.26
Glasgow	5.06
Harefield	15.72
Manchester	6.36
Newcastle	7.39
Papworth	13.02
Sheffield	4.19



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