NHS
Blood and Transplant

Transplant Activity in the UK

2006-2007

This document has been produced by the Statistics and Audit Directorate.

Cover pictures:
Members of Glamorgan County cricket team help promote organ donation.
Skilled surgeons and their teams carry out thousands of transplants every year.
Staff from the Salisbury District Hospital promoting the Organ Donor Register.
Promoting the NHS Organ Donor Register amongst minority ethnic communities.

CONTENTS

PREFACE

This transplant activity report for the financial year 2006-2007 relates throughout to the UK. All figures quoted are as reported to UK Transplant by 16 May 2007 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.

The information provided in the tables and figures given in Chapters 2-6 does not always distinguish between adult and paediatric transplantation. The data also do not distinguish between patients entitled to NHS treatment (Group 1 patients) and those who are not (Group 2 patients). It should also be noted 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. 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.

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

The number of heartbeating (HB) and non-heartbeating (NHB) 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 mid-2005 estimates based on ONS *2001 Census* figures and are given in **Appendices IIIA** and **IIIB**.

Following comments received on last year's report, a number of changes and additions have been incorporated. In particular, patient and graft survival rates are now given for kidney and pancreas transplants, and patient survival rates are given for cornea transplants.

Graphics from this publication are available from the Statistics and Audit Directorate, UK Transplant. Please email enquiries@uktransplant.nhs.uk for further details.

This report is available on the UK Transplant website:
http://www.uktransplant.org.uk/ukt/statistics/statistics.jsp

1 SUMMARY OF ACTIVITY

During 2006-2007, the number of patients who had their lives saved or improved by an organ transplant was 3,087. Of these, 2,385 received an organ from a deceased donor, and a further 702 received an organ from a living donor. In addition, 2,402 patients had their sight restored through a cornea transplant. There were 793 deceased donors of solid organs and 2,067 donors of ocular tissue. Compared to last year, these figures represent a rise of 10% in the number of solid organ transplants and a decrease of 4% in the number of cornea transplants. There was an increase of 17% in the number of living donors and an increase of 4% in the number of deceased donors. The total number of solid organ donors increased by 10%, and the number of donors of ocular tissue increased by 6%.

The number of patients registered for a transplant continues to increase, so that at 31 March 2007 there were 7,234 on the active transplant lists and a further 1,915 patients were on the temporarily suspended transplant lists. This represents an increase of 8% and18% respectively on the corresponding figures at the end of the previous year. Unfortunately, 459 patients died in 2006-2007 while waiting for their transplant.

Deceased solid organ donation rates continue to vary across the UK, with 9.8 per million population (pmp) in Scotland, 13.0 pmp in England, 17.2 in Wales and 20.3 in Northern Ireland. The corresponding rate in the Republic of Ireland is 19.8 pmp.

Although the total annual number of deceased solid organ donors in the UK has changed little over the last few years, the number of non-heartbeating donors rose from 127 in 2005-2006 to 159 in 2006-2007, an increase of 25%, while the number of deceased heartbeating donors fell from 637 to 634, a decrease of 0.5%. In addition, the number of living kidney donors rose from 589 to 690, an increase of 17%.

In regard to renal transplantation, the number of kidney only transplants rose by 9% and the number of kidney and pancreas transplants increased to 164, an increase of 53% on last year. This led to an overall increase of 11% in the total number of kidney transplants. The number of pancreas only transplants showed a 19% increase. Of the heartbeating kidney donors, 98% were white, while 82% of the transplant recipients were white. The greatest percentage of heartbeating donors and recipients were in the 35-49 year age group, and 61% of recipients were male.

Cardiothoracic transplantation increased by 11% in 2006-2007, with increases of 11% in the number of heart transplants and 12% in the number of lung transplants. The number of deceased cardiothoracic donors increased from 216 to 236 and of these donors, 98% were white, as were 91% of recipients. The greatest percentage of donors was in the 35-49 year age group, while the largest percentage of recipients was in the 50-59 year age group, and 62% of recipients were male.

The total number of liver transplants increased by 8%, due to an increase of 25 in the number of deceased heartbeating liver donors. Of the liver donors, 97% were white, while 83% of the recipients were white. The greatest percentage of donors came from the 35-49 year age group while the largest percentage of recipients came from the 50-59 year age group, and 58% of recipients were male.

In regard to ocular tissue transplantation, compared to last year, there was an increase of 6% in the number of corneas donated but a decrease of 4% in the number grafted. However, both the donor and recipient rates continue to vary considerably across the UK, with donation rates ranging between 6 pmp and 67.7 pmp, and transplant rates between 33.7 pmp and 61.5 pmp.

The figures given for graft and patient survival rates in adult recipients in this report demonstrate that the one, two and five year survival rates following deceased heartbeating donor kidney transplantation continue to rise and rates for non-heartbeating and living donor kidney transplantation maintained. For transplants during the calendar years 1999 to 2001, in adult recipients the five year kidney graft survival rates are 89%, 83% and 73% for living, deceased heartbeating and deceased non-heartbeating donation, respectively. For cardiac transplantation, patient survival is 80% at one year and 69% at five years. The corresponding figures for lung transplantation are 80% at one year and 53% at five years. The one and five year patient survival rates following deceased heartbeating donor liver transplantation are 86% and 74%, respectively. The one year graft survival rates for pancreas and simultaneous kidney and pancreas transplants are 71% and 84%, respectively. The one and five year corneal graft survival rates following a penetrating keratoplasty are 93% and 70%, respectively.

The number of individuals who have pledged to donate their organs after death by registering on the NHS Organ Donation Register (ODR) has increased to 14.1 million. The majority of new registrants continue to come from driving licence applications and reminders through the DVLA, General Practitioner registration and through applications for a Boots Advantage Card. The percentage of the population registered ranges from 19% in the West Midlands to 29% in the South West and Scotland.

As a result of continuing increases in the number of living donor transplants and the number of non-heartbeating donors, the number of transplants in the last financial year was over 3000 for the first time. However, the number of deceased heartbeating donors is slowly decreasing, and the percentage of relatives who consent to organ donation remains at around 60%. Both of these factors are severely limiting the supply of organs available for transplantation.

Dave Collett
Director of Statistics and Audit

2 OVERVIEW

This overview relates to solid organ transplantation. Corresponding information on corneal transplantation is given in Chapter 7.

2.1 Summary of activity

Deceased donor numbers, transplant activity and numbers on the transplant lists at 31 March, for 1 April 1997 to 31 March 2007, are shown in **Figure 2.1**. The total number of transplants in 2006-2007 was 189 higher than that in the previous year.

Figure 2.1 Number of deceased donors and transplants in the UK, 1 April 1997 - 31 March 2007, and patients on the active transplant lists at 31 March

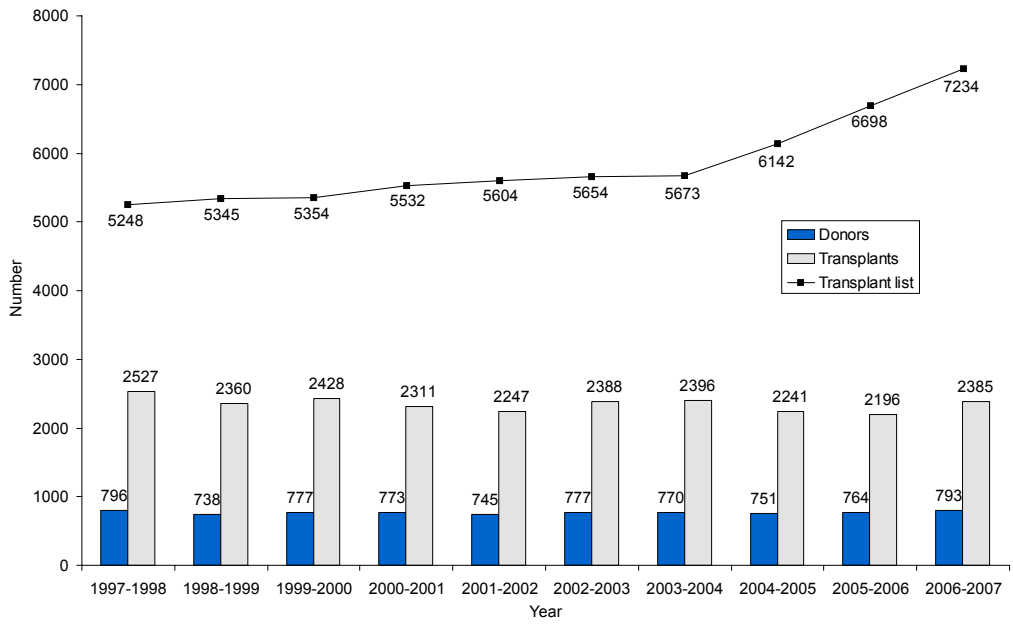
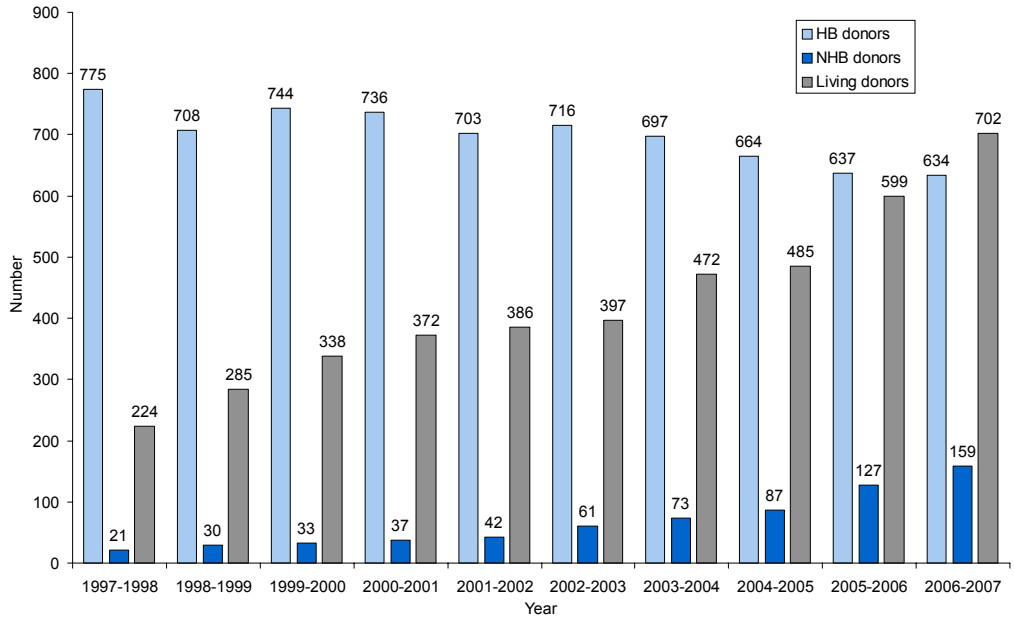


Figure 2.2 shows the number of deceased and living donors for 1997-2007. The number of heartbeating donors was 634 in 2006-2007 compared with 637 in 2005-2006. The number of both living and non-heartbeating donors in 2006-2007 was the highest ever.

Figure 2.2 Number of deceased and living donors in the UK, 1 April 1997 - 31 March 2007



There were 793 deceased solid organ donors reported from the UK in 2006-2007, 29 more than in the previous financial year. A breakdown of the number of donors by organ is given in **Table 2.1**. Of the 793 deceased donors, 159 were non-heartbeating donors: 106 kidney only, 2 kidney and lung, 42 kidney and liver, 1 kidney and pancreas, 1 kidney, liver and lung, 4 kidney, liver and pancreas and 3 liver only donors. There were 8 living liver lobe donor transplants and 4 domino liver donor transplants.

Table 2.1 UK activity summary for 1 April 2006 - 31 March 2007

	Kidney	Pancreas	Heart	Heart/ lung	Lung	Liver	**TOTAL**
Deceased donors	765	244	158	-	141	636	**793**
Deceased organs donated	1515	244	158	-	262	636	**2815**
Deceased transplants	1440	198	156	6	130	647	**2385**[1]
Living donor transplants	690	0	0	-	0	12	**702**

[1] Includes combined transplants: 164 kidney and pancreas, 18 kidney and liver, 1 kidney and heart, 2 liver and lung and 7 liver, pancreas and small bowel/multivisceral transplants

The total number of solid organ transplants in 2006-2007 was 3,087. Of these, 2,385 (77%) transplants were through deceased donations. There were 702 transplants through living donations, 103 (17%) more than in 2005-2006.

Nearly all deceased donors (96%) gave a kidney and of these the majority (82%) also donated at least one other organ. Only 8% of heartbeating donors were single organ donors, the majority of which were kidney only donors.

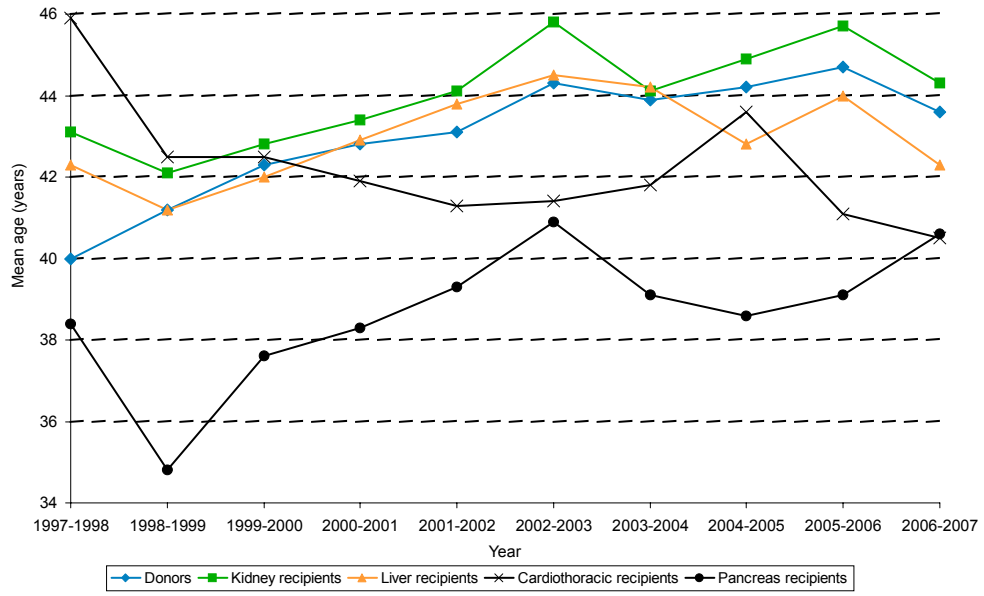
Of the 159 non-heartbeating donors, 156 (98%) gave a kidney while 50 (31%) donated their livers. **Table 2.2** shows solid organ donors by organ type of donor.

Table 2.2 Solid organ donors in the UK, 1 April 2006 – 31 March 2007, by organ type of donor

	Heartbeating	Non-heartbeating	Living donor	TOTAL
Kidney only	33	106	690	**829**
Kidney & thoracic	9	2	-	**11**
Kidney & liver	227	42	-	**269**
Kidney & pancreas	5	1	-	**6**
Kidney, thoracic & liver	102	1	-	**103**
Kidney, thoracic & pancreas	1	-	-	**1**
Kidney, liver & pancreas	115	4	-	**119**
Kidney, thoracic, liver & pancreas	117	-	-	**117**
Thoracic & liver	4	-	-	**4**
Liver only	20	3	12	**35**
Liver & pancreas	1	-	-	**1**
TOTAL	**634**	**159**	**702**	**1495**

Figure 2.3 shows the mean age of deceased solid organ donors and transplant recipients for the last ten years. The mean age of deceased donors has gradually increased over the ten years from 40.0 in 1997-1998 to 43.6 in 2006-2007. In 2006-2007, the mean age of cardiothoracic recipients was the youngest over the ten years and the lowest mean age of all solid organ transplant recipients at 40.5 years. Pancreas recipients had the lowest mean age of all solid organ transplant recipients in each of the previous nine years.

Figure 2.3 Mean age of deceased solid organ donors and transplant recipients in the UK, 1 April 1997 - 31 March 2007



2.2 Transplant list

At 31 March 2007, 9,149 patients were registered on a solid organ transplant list in the UK. Of these 1,915 (21%) patients were temporarily suspended from the active national transplant list. Details of numbers on the transplant lists for each organ type are given in **Table 2.3**.

Table 2.3 shows the numbers of patients on the active waiting list for a transplant at 31 March 2006 and 2007. The total number rose by 536 patients (8%) due to increases in kidney and pancreas transplant lists.

Table 2.3 Active transplant lists in the UK at 31 March 2006 and 2007

	2006	2007	% Change
Kidney and pancreas patients	**5918**	**6540**	**+11**
Kidney[1]	5773	6333	+10
Kidney & pancreas	90	147	+63
Pancreas	55	60	+9
Cardiothoracic patients	**415**	**379**	**-9**
Heart[2]	110	88	-20
Heart/lung[3]	41	26	-37
Lung(s)[4]	264	265	-
Liver patients[5]	**365**	**315**	**-14**
ALL ORGANS	**6698**	**7234**	**+8**

[1] Includes patients waiting for kidney & liver transplants (10 in 2006, 12 in 2007) and kidney & heart transplants (4 in 2006, 3 in 2007)

[2] Includes patients waiting for heart & kidney transplants (4 in 2006, 3 in 2007)

[3] Includes patients waiting for liver & heart/lung transplants (2 in 2006, 1 in 2007)

[4] Includes patients waiting for liver & lung transplants (1 in 2006)

[5] Includes patients waiting for liver & lung transplants (1 in 2006), liver & heart/lung transplants (2 in 2006, 1 in 2007) and liver, pancreas & small bowel transplants (3 in 2006, 2 in 2007)

2.3 Organ donors

In 2006-2007, 793 deceased solid organ donors gave 2,815 solid organs in the UK compared with 764 donors and 2,621 organs in 2005-2006. On average in the UK, 3.5 organs were retrieved per deceased solid organ donor in 2006-2007. Overall, 79% of deceased solid organ donors gave a kidney and at least one other solid organ.

Solid organ donor rates per million population (pmp) for 2005-2006 and 2006-2007 are given by country in **Table 2.4**. Northern Ireland achieved the highest rate in 2006-2007 but was the only country not to provide organs from non-heartbeating donors.

Table 2.4 **Deceased solid organ donor rates per million population (pmp) in the UK, 1 April 2005 - 31 March 2007, by country of donation**

Country of donation	Number of donors							
	2005-2006				2006-2007			
	HB	NHB	**TOTAL**	**(pmp)**	HB	NHB	**TOTAL**	**(pmp)**
England	537	117	**654**	**(13.0)**	513	144	**657**	**(13.0)**
Wales	35	7	**42**	**(14.2)**	42	9	**51**	**(17.2)**
Scotland	45	3	**48**	**(9.4)**	44	6	**50**	**(9.8)**
Northern Ireland	20	0	**20**	**(11.6)**	35	0	**35**	**(20.3)**
TOTAL	**637**	**127**	**764**	**(12.7)**	**634**	**159**	**793**	**(13.2)**

The ethnicity of deceased solid organ donors in 2005-2006 and 2006-2007 is shown in **Table 2.5**. In 2006-2007, 97.7% of donors were reported as white. The proportion of ethnic minority donors remains at less than 3%.

Table 2.5 **Ethnicity of deceased solid organ donors in the UK, 1 April 2005 - 31 March 2007**

Ethnicity	2005-2006		2006-2007	
	N	(%)	N	(%)
White	737	96.5	775	97.7
Asian	10	1.3	9	1.1
Black	10	1.3	3	0.4
Chinese	-	-	1	0.1
Other	7	0.9	5	0.6
TOTAL	**764**		**793**	

2.4 Transplants

Table 2.6 shows that a total of 3,087 transplants were performed in 2006-2007 compared with 2,795 in 2005-2006, an increase of 10%. All multi-organ transplants are identified separately and include 164 kidney and pancreas, 6 heart/lung and 18 kidney and liver transplants.

The deceased heartbeating donor kidney transplants include five en bloc kidneys in 2006-2007 (six in 2005-2006). One non-heartbeating donor single lung and two non-heartbeating donor double lung transplants are reported under single and double lung transplants, respectively, in 2006-2007 (zero and one in 2005-2006).

The total number of kidney transplants increased in 2006-2007 despite a fall of 1% in the number of heartbeating donor kidney transplants; living and non-heartbeating donor transplants increased by 17% and 28%, respectively. The total number of cardiothoracic transplants increased by 11%, the number of liver transplants increased by 8% and the number of pancreas transplants increased by 47%.

Table 2.6 Transplants performed in the UK, 1 April 2005 - 31 March 2007

Transplant	2005-2006	2006-2007	% Change
Deceased heartbeating kidney	991	984	-1
Deceased non-heartbeating kidney	214	273	+28
Living donor kidney	589	690	+17
Kidney & pancreas[1]	107	164	+53
Pancreas	20	27	+35
Deceased heart	139	155	+12
Heart/lung	7	6	-
Single lung	37	34	-8
Double lung	79	94	+19
Deceased heartbeating liver	458	473	+3
Deceased non-heartbeating liver	31	35	+13
Domino liver	1	4	-
Deceased liver lobe	92	112	+20
Living donor liver lobe	9	8	-
Kidney & heart	2	1	-
Kidney & liver	12	18	+50
Liver & pancreas	7	7	-
Liver & lung	0	2	-
TOTAL TRANSPLANTS (SOLID ORGANS)	**2795**	**3087**	**+10**
Total kidney transplants	**1915**	**2130**	**+11**
Total pancreas transplants[2]	**134**	**198**	**+48**
Total cardiothoracic transplants	**264**	**292**	**+11**
Total liver transplants[2]	**610**	**659**	**+8**

Percentage not reported when fewer than 10 in either year

[1] Includes non-heartbeating kidney and pancreas transplants, 1 in 2005-2006 and 3 in 2006-2007

[2] Includes liver, panceas & small bowel/multivisceral transplants, 7 in 2005-2006 and 7 in 2006-2007

3 KIDNEY ACTIVITY

3.1 Overview

A summary of activity for deceased heartbeating and non-heartbeating donor kidney transplants and the transplant list at year end for the last ten years is shown in **Figure 3.1**. The number of patients registered on the active transplant list at 31 March 2007 for a kidney or kidney and pancreas transplant has increased by 43% since 1998.

Figure 3.1 Deceased donor kidney programme in the UK, 1 April 1997 - 31 March 2007
Number of donors, transplants and patients on the active transplant list at 31 March

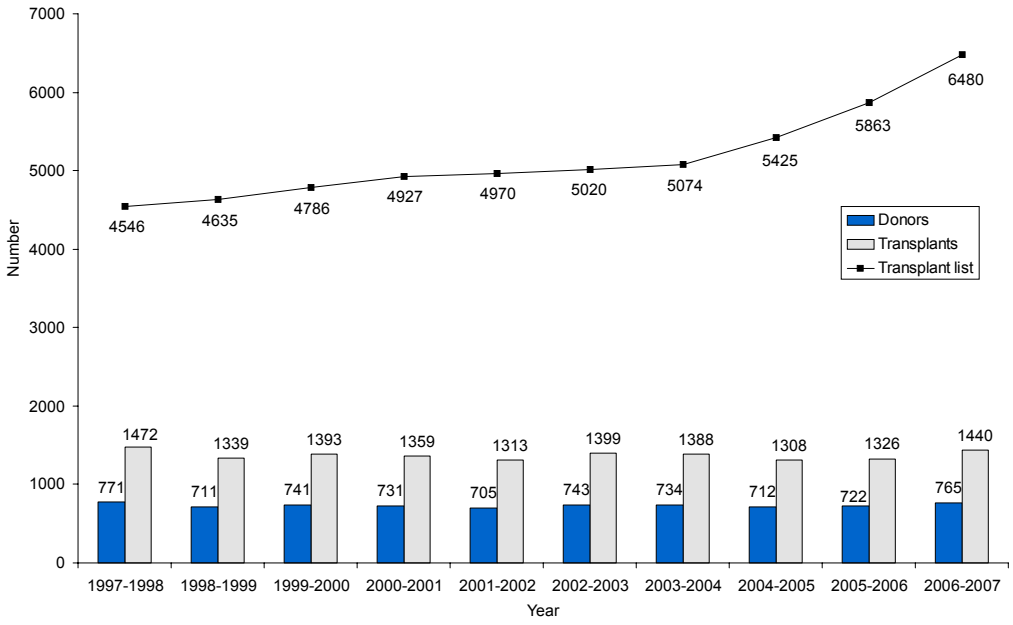


Table 3.1 shows the number of deceased and living donor kidney transplants carried out in 2006-2007 at each centre/alliance. The majority of centres/alliances performed non-heartbeating donor kidney transplants. The number of patients registered on the active kidney or kidney and pancreas transplant list increased to 6,480 at 31 March 2007. Donation and retrieval figures for centres in North and South Thames alliances are not reported individually as they have shared, rather than discrete, retrieval areas and donor populations.

The total number of deceased kidney donors rose slightly to 765 in 2006-2007 from 722 in 2005-2006 and the number of transplants increased from 1,326 to 1,440. The number of non-heartbeating kidney donors increased to 156 from 123 in 2005-2006 and the number of transplants from such donors increased by 28% to 276.

Table 3.1 **Kidney donors and transplants, 1 April 2006 - 31 March 2007 (2005-2006) and transplant list at 31 March 2007 (2006) in the UK, by centre/alliance**

Centre/alliance	Deceased kidney donors				Deceased donor transplants				Living donor transplants		Active transplant list	
	HB		NHB		HB		NHB					
Belfast	35	(19)	0	(0)	38	(23)	0	(0)	7	(9)	228	(234)
Birmingham	39	(41)	7	(5)	65	(70)	9	(8)	52	(44)	565	(504)
Bristol	14	(24)	16	(15)	45	(44)	29	(26)	37	(35)	305	(252)
Cambridge	27	(25)	26	(8)	59	(51)	50	(16)	26	(19)	244	(262)
Cardiff	30	(28)	9	(7)	49	(40)	17	(12)	23	(26)	225	(214)
Coventry	7	(13)	0	(0)	13	(18)	0	(0)	27	(24)	113	(99)
Edinburgh	23	(26)	2	(1)	44	(39)	3	(1)	14	(16)	311	(311)
Glasgow	21	(16)	4	(2)	55	(44)	6	(4)	12	(22)	290	(252)
Great Ormond Street	0	(0)	0	(0)	18	(9)	0	(0)	12	(15)	21	(24)
Leeds	34	(42)	8	(21)	68	(79)	16	(39)	39	(34)	385	(356)
Leicester	11	(10)	0	(0)	20	(25)	1	(0)	32	(34)	329	(266)
Liverpool	47	(32)	0	(0)	46	(69)	1	(1)	13	(13)	213	(179)
Manchester	39	(44)	11	(9)	135	(110)	19	(16)	38	(30)	479	(516)
Newcastle	39	(41)	22	(13)	40	(74)	32	(15)	30	(27)	231	(223)
North Thames[1]	85	(78)	15	(9)	-	-	-	-	-	-	-	-
Royal Free	-	-	-	-	49	(33)	14	(6)	15	(19)	236	(230)
Royal London	-	-	-	-	37	(31)	9	(3)	26	(20)	301	(276)
WLRTC	-	-	-	-	74	(50)	5	(5)	91	(47)	401	(269)
Nottingham	13	(15)	0	(0)	33	(27)	0	(0)	18	(16)	187	(193)
Oxford	25	(28)	5	(11)	75	(71)	10	(21)	22	(22)	346	(227)
Plymouth	20	(16)	11	(9)	15	(20)	20	(18)	19	(9)	121	(92)
Portsmouth	14	(19)	9	(4)	25	(33)	15	(8)	17	(13)	171	(150)
Sheffield	23	(15)	0	(0)	30	(30)	0	(0)	16	(12)	209	(218)
South Thames[1]	63	(67)	11	(9)	-	-	-	-	-	-	-	-
Guys	-	-	-	-	81	(70)	12	(8)	69	(55)	304	(285)
St George's	-	-	-	-	50	(51)	8	(8)	35	(28)	265	(231)
TOTAL	**609**	**(599)**	**156**	**(123)**	**1164**	**(1111)**	**276**	**(215)**	**690**	**(589)**	**6480**	**(5863)**

[1] Donor figures in this area cannot be linked to individual transplant centres due to shared retrieval areas.

3.2 Transplant list

The number of patients registered on the kidney or kidney and pancreas transplant list increased by 11% in the year: on 31 March 2007, 6,480 patients were registered as active, compared with 5,863 at the end of March 2006. The number of patients waiting for a kidney transplant represents 108 patients per million population (pmp).

Of the 6,480 patients on the active transplant list at 31 March 2007, 147 required a kidney and pancreas transplant (90 at 31 March 2006). Additionally, 60 patients were registered for a pancreas only transplant (55 at 31 March 2006).

The outcome of patients registered on the UK kidney and kidney/pancreas transplant lists at 1 April 2006, or subsequently registered during the financial year, is shown in **Table 3.2**. Overall, 17% and 40% of patients waiting on the kidney transplant list and kidney/pancreas transplant list, respectively, during 2006-2007, had received a transplant by 31 March 2007.

Table 3.2 Kidney transplant list and new registrations in the UK, 1 April 2006 - 31 March 2007

Outcome of patient at 31 March 2007	Active and suspended patients at 1 April 2006		New registrations in 2006-2007[1]		**TOTAL**	
	N	**%**	**N**	**%**	**N**	**%**
Kidney transplant list						
Remained active/suspended	5282	73	2832	85	8114	77
Transplanted	1417	20	393	12	1810	17
Removed	302[2]	4	69[3]	2	371	4
Died	231	3	33	1	264	3
TOTAL	**7232**		**3327**		**10559**	
Kidney/pancreas transplant list						
Remained active/suspended	61	41	160	58	221	52
Transplanted	69	47	101	37	170	40
Removed	11	7	8	3	19	5
Died	6	4	6	2	12	3
TOTAL	**147**		**275**		**422**	

[1] Includes re-registrations for second or subsequent transplants
[2] Includes 40 patients removed from kidney list and made active on kidney/pancreas list
[3] Includes 24 patients removed from kidney list and made active on kidney/pancreas list

3.3 Donor and organ supply

Of the 634 deceased heartbeating solid organ donors in the UK in 2006-2007, 609 (96%) donated kidney(s). From these donors, 1,208 kidneys were retrieved, 1,165 (96%) of which were transplanted. **Table 3.3** shows this activity by centre/alliance.

The overall heartbeating kidney donor rate is 10.1 pmp, with retrieval centre/alliance rates ranging from 5.1 to 20.3 pmp. The kidney retrieval rate for the UK is 20.1 pmp and varies from 9.2 to 39.5 pmp. Organ usage rates of at least 95% were observed for 16 of the 20 retrieval centres.

Table 3.3 Kidney donation and retrieval rates for heartbeating donors in the UK, 1 April 2006 - 31 March 2007, by centre/alliance

Centre/alliance	Heartbeating kidney donors (pmp)		Kidneys retrieved (pmp)		Kidneys used (%)	
Belfast	35	(20.3)	68	(39.5)	62	(91)
Birmingham	39	(8.6)	77	(16.9)	76	(99)
Bristol	14	(7.0)	28	(13.9)	26	(93)
Cambridge	27	(10.5)	53	(20.7)	51	(96)
Cardiff	30	(13.1)	60	(26.2)	58	(97)
Coventry	7	(8.4)	14	(16.9)	14	(100)
Edinburgh	23	(9.5)	46	(19.1)	42	(91)
Glasgow	21	(7.8)	42	(15.7)	40	(95)
Leeds	34	(9.0)	68	(18.0)	65	(96)
Leicester	11	(5.1)	20	(9.2)	20	(100)
Liverpool	47	(14.2)	93	(28.1)	91	(98)
Manchester	39	(9.7)	78	(19.3)	76	(97)
Newcastle	39	(13.5)	78	(27.0)	77	(99)
North Thames	85	(11.4)	169	(22.6)	163	(96)
Nottingham	13	(9.2)	25	(17.7)	25	(100)
Oxford	25	(8.1)	49	(16.0)	49	(100)
Plymouth	20	(11.0)	40	(22.0)	40	(100)
Portsmouth	14	(5.7)	28	(11.5)	26	(93)
Sheffield	23	(12.3)	46	(24.6)	44	(96)
South Thames	63	(9.2)	126	(18.3)	120	(95)
TOTAL	**609**	**(10.1)**	**1208**	**(20.1)**	**1165**	**(96)**

There were 156 non-heartbeating kidney donors in 2006-2007. From these donors, 307 kidneys were retrieved, 288 (94%) of which were transplanted. **Table 3.4** shows this activity by centre/alliance.

The overall non-heartbeating kidney donor rate is 2.6 pmp, with centre/alliance rates ranging from 0.8 to 10.2 pmp. The non-heartbeating donor kidney retrieval rate is 5.1 pmp and varies from 1.2 to 20.3 pmp. Organ usage rates of at least 95% were observed for 8 of the 14 retrieval centres. Portsmouth is the only centre that provides for non-heartbeating donation without funding from UK Transplant. Six centres have no non-heartbeating donor retrieval schemes.

Table 3.4 Kidney donation and retrieval rates for non-heartbeating donors in the UK, 1 April 2006 - 31 March 2007, by centre/alliance

Centre/alliance	Non-heartbeating kidney donors (pmp)		Kidneys retrieved (pmp)		Kidneys used (%)	
Birmingham	7	(1.5)	14	(3.1)	12	(86)
Bristol	16	(8.0)	32	(15.9)	29	(91)
Cambridge	26	(10.2)	52	(20.3)	50	(96)
Cardiff	9	(3.9)	16	(7.0)	16	(100)
Edinburgh	2	(0.8)	3	(1.2)	3	(100)
Glasgow	4	(1.5)	8	(3.0)	6	(75)
Leeds	8	(2.1)	16	(4.2)	14	(88)
Manchester	11	(2.7)	21	(5.2)	21	(100)
Newcastle	22	(7.6)	44	(15.2)	42	(95)
North Thames	15	(2.0)	30	(4.0)	27	(90)
Oxford	5	(1.6)	10	(3.3)	10	(100)
Plymouth	11	(6.0)	21	(11.5)	20	(95)
Portsmouth	9	(3.7)	18	(7.4)	18	(100)
South Thames	11	(1.6)	22	(3.2)	20	(91)
TOTAL	**156**	**(2.6)**	**307**	**(5.1)**	**288**	**(94)**

3.4 Transplants

The number of deceased heartbeating donor kidney transplants per million population at each transplant centre is shown in **Table 3.5** for adult patients only. This table includes multi-organ transplants: one kidney and heart, 13 kidney and liver and 163 kidney and pancreas. The transplant rate ranged from 8.2 to 30.4 pmp across centres and overall was 17.9 pmp, compared with the *BTS Standard* of 23 heartbeating kidney transplants pmp per year.

Table 3.5 Deceased heartbeating donor adult kidney transplants in the UK, 1 April 2005 - 31 March 2007, by transplant centre/alliance

Transplant centre/alliance	2005-2006 Transplants	2005-2006 pmp	2006-2007 Transplants	2006-2007 pmp
Belfast	22	12.8	36	20.9
Birmingham	57	12.5	53	11.6
Bristol	37	18.4	38	18.9
Cambridge	51	19.9	59	23.0
Cardiff	40	17.5	49	21.4
Coventry	18	21.7	13	15.7
Edinburgh	39	16.2	44	18.3
Glasgow	40	14.9	49	18.3
Leeds	70	18.5	58	15.3
Leicester	25	11.5	20	9.2
Liverpool	69	20.8	46	13.9
Manchester	100	24.8	123	30.4
Newcastle	74	25.6	37	12.8
North Thames	114	15.2	160	21.4
Nottingham	23	16.3	23	16.3
Oxford	71	23.1	74	24.1
Plymouth	20	11.0	15	8.2
Portsmouth	33	13.5	25	10.2
Sheffield	30	16.0	30	16.0
South Thames	118	17.2	124	18.0
TOTAL	**1051**	**17.5**	**1076**	**17.9**

Living donor kidney transplants increased by 17% to 690 in 2006-2007, and now represent 32% of the total kidney transplant programme. The total number of living donor adult transplants and the number of related and unrelated donor adult transplants performed by each transplant centre/alliance is shown in **Table 3.6**. Also shown are the number of living donor adult transplants per million population and the number as a percentage of patients listed at the end of the year, to indicate the size of the living donor programme relative to the centre's transplant list.

There has been an increase of 8% in the number of living related donor adult transplants and an increase of 50% in living unrelated donor adult transplants. The living donor adult transplant rate was 10.7 pmp in 2006-2007 and ranged from 3.7 to 32.5 pmp at individual transplant centres, compared with the *BTS Standard* of 6.2 living donors pmp. As a percentage of the number of patients on the active transplant list at 31 March 2007, the number of living donor adult transplants in the year was 10% and ranged from 3% to 24% at individual transplant centres.

Table 3.6 **Adult living donor kidney transplants in the UK, 1 April 2005 - 31 March 2007, per million population (pmp) and percentage of active transplant list at 31 March, by transplant centre/alliance**

Transplant centre/ alliance	2005-2006 Related donor	Unrelated donor	TOTAL N	pmp	% list	2006-2007 Related donor	Unrelated donor	TOTAL N	pmp	% list
Belfast	9	0	**9**	**5.2**	**4**	7	0	**7**	**4.1**	**3**
Birmingham	32	10	**42**	**9.2**	**9**	27	20	**48**	**10.5**	**9**
Bristol	19	13	**32**	**15.9**	**13**	20	14	**34**	**16.9**	**12**
Cambridge	13	6	**19**	**7.4**	**7**	19	7	**26**	**10.2**	**11**
Cardiff	25	1	**26**	**11.4**	**12**	15	8	**23**	**10.0**	**10**
Coventry	17	6	**23**	**27.7**	**23**	16	11	**27**	**32.5**	**24**
Edinburgh	12	4	**16**	**6.6**	**5**	11	3	**14**	**5.8**	**5**
Glasgow	8	10	**18**	**6.7**	**7**	7	3	**10**	**3.7**	**3**
Leeds	26	6	**32**	**8.5**	**9**	24	10	**34**	**9.0**	**9**
Leicester	21	12	**33**	**15.2**	**12**	23	9	**32**	**14.7**	**10**
Liverpool	13	0	**13**	**3.9**	**7**	10	3	**13**	**3.9**	**6**
Manchester	22	0	**22**	**5.4**	**4**	27	9	**36**	**8.9**	**8**
Newcastle	16	4	**20**	**6.9**	**9**	21	5	**26**	**9.0**	**12**
North Thames	62	22	**84**	**11.2**	**11**	82	50	**132**	**17.6**	**14**
Nottingham	13	2	**15**	**10.6**	**8**	9	5	**14**	**9.9**	**8**
Oxford	14	8	**22**	**7.2**	**10**	15	7	**22**	**7.2**	**6**
Plymouth	7	2	**9**	**4.9**	**10**	16	3	**19**	**10.4**	**16**
Portsmouth	9	4	**13**	**5.3**	**9**	12	5	**17**	**7.0**	**10**
Sheffield	6	5	**11**	**5.9**	**5**	12	3	**15**	**8.0**	**7**
South Thames	62	20	**82**	**11.9**	**16**	65	28	**93**	**13.5**	**16**
TOTAL	**406**	**135**	**541**	**9.0**	**9**	**438**	**203**	**642**	**10.7**	**10**

The number of deceased heartbeating and living donor paediatric transplants performed by each paediatric transplant centre is shown in **Table 3.7**. The number of living donor paediatric (<18 years) transplants, at 48 in 2006-2007, is the same as last year. However, the number of deceased heartbeating donor transplants increased to 88 from 60 in 2005-2006. The paediatric transplant list has decreased slightly from 116 at 31 March 2006 to 102 at the end of March 2007.

Table 3.7 Paediatric patient kidney transplants in the UK, 1 April 2005 - 31 March 2007, by transplant centre

Paediatric transplant centre	2005-2006 HB donor	2005-2006 Living donor	2005-2006 TOTAL	2006-2007 HB donor	2006-2007 Living donor	2006-2007 TOTAL
Belfast	1	0	**1**	2	0	**2**
Birmingham	13	2	**15**	12	4	**16**
Bristol	7	3	**10**	7	3	**11**
Glasgow	4	4	**8**	6	2	**8**
Great Ormond Street	9	15	**24**	18	12	**30**
Guy's	3	1	**4**	6	10	**16**
Leeds	9	2	**11**	10	5	**15**
Manchester	10	8	**18**	12	2	**14**
Newcastle	0	7	**7**	3	4	**7**
Nottingham	4	1	**5**	10	4	**14**
Adult centres	0	5	**5**	2	2	**4**
TOTAL	**60**	**48**	**108**	**88**	**48**	**137**

Rates of pre-emptive kidney only transplantation are shown in **Table 3.8**. Of the 1,947 kidney only transplant recipients in 2006-2007, dialysis status at transplant was known for 1,904 (97.8%). Of these 1,904 transplants, 286 (15%) were carried out in pre-dialysis patients. Pre-emptive transplants accounted for 32% of all paediatric kidney only transplants with known dialysis status, compared with 14% of those in adults. Pre-emptive transplants also accounted for a higher proportion of living donor transplants than deceased donor transplants: 30% and 7% respectively.

Table 3.8 Pre-emptive kidney only transplants in the UK, 1 April 2006 – 31 March 2007

	Number of kidney only transplants	Number of transplants with known dialysis status at transplant (% of all)		Percentage of patients transplanted prior to the need for dialysis (of those with known status)
Adult				
Deceased donor transplant	1174	1158	(98.6)	5.6
Living donor transplant	642	624	(97.2)	29.2
Paediatric				
Deceased donor transplant	83	79	(95.2)	24.1
Living donor transplant	48	43	(89.6)	46.5

3.5 Demographic characteristics

The ethnicity of heartbeating donors, transplant recipients and patients on the transplant list is shown in **Table 3.9**. Note that the percentages quoted are based only on data where ethnicity information was available. Differences in ethnicity of donors, transplant recipients and patients listed for transplant are clear.

Table 3.9 Ethnicity of heartbeating kidney donors and recipients, 1 April 2005 - 31 March 2007, and transplant list patients at 31 March in the UK

Ethnicity	Donors				Transplant recipients				Active transplant list patients			
	2005-2006		2006-2007		2005-2006		2006-2007		2006		2007	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
White	578	(96.5)	597	(98.0)	932	(84.0)	946	(81.5)	4516	(77.2)	4965	(76.7)
Asian	6	(1.0)	8	(1.3)	104	(9.4)	121	(10.4)	763	(13.0)	882	(13.6)
Black	8	(1.3)	0	(0.0)	55	(5.0)	68	(5.9)	417	(7.1)	474	(7.3)
Chinese	0	(0.0)	0	(0.0)	8	(0.7)	10	(0.9)	58	(1.0)	58	(0.9)
Other	7	(1.2)	4	(0.7)	11	(1.0)	16	(1.4)	98	(1.7)	96	(1.5)
Not reported	0	-	0	-	1	-	3	-	11	-	5	-
TOTAL	**599**		**609**		**1111**		**1164**		**5863**		**6480**	

Table 3.10 shows the age group and sex of heartbeating kidney donors, transplant recipients and patients waiting for a kidney transplant. There was a greater proportion of male transplant recipients than female, 61% compared with 39%. Over 30% of donors, recipients and patients on the transplant list were aged 35-49 years.

Table 3.10 Age and sex of heartbeating kidney donors and transplant recipients, 1 April 2006 - 31 March 2007, and transplant list patients at 31 March 2007

	Age group (years)											
	0-17		18-34		35-49		50-59		60+		**TOTAL**	
Donors												
Male	40		78		102		54		42		316	(52%)
Female	19		39		106		74		55		293	(48%)
TOTAL	**59**	**(10%)**	**117**	**(19%)**	**208**	**(34%)**	**128**	**(21%)**	**97**	**(16%)**	**609**	**(100%)**
Recipients												
Male	52		121		273		166		94		706	(61%)
Female	36		76		195		84		67		458	(39%)
TOTAL	**88**	**(8%)**	**197**	**(17%)**	**468**	**(40%)**	**250**	**(21%)**	**161**	**(14%)**	**1164**	**(100%)**
Transplant list												
Male	49		517		1232		963		1002		3763	(58%)
Female	53		385		928		685		666		2717	(42%)
TOTAL	**102**	**(2%)**	**902**	**(14%)**	**2160**	**(33%)**	**1648**	**(25%)**	**1668**	**(26%)**	**6480**	**(100%)**

4 PANCREAS ACTIVITY

4.1 Overview

A summary of activity for deceased heartbeating donor pancreas transplants and the transplant list for 1 April 1997 to 31 March 2007 is shown in **Figure 4.1**. The number of patients registered on the active transplant list at 31 March for a pancreas only or simultaneous kidney/pancreas (SPK) transplant has more than tripled over the ten-year period, from 46 patients in 1997 to 207 patients in 2007. The number of pancreas donors and transplants has also increased steadily since 1998-1999 from 30 donors, resulting in 24 transplants, to 239 donors and 193 transplants in 2006-2007.

The proportion of pancreata retrieved that cannot be used for transplantation, is greater than in kidney, liver or heart transplantation. However, these pancreata are generally used in islet cell research for the benefit of diabetic patients.

Figure 4.1 **Deceased heartbeating pancreas programme in the UK, 1 April 1997 - 31 March 2007**
Number of donors, transplants and patients on the active transplant list at 31 March

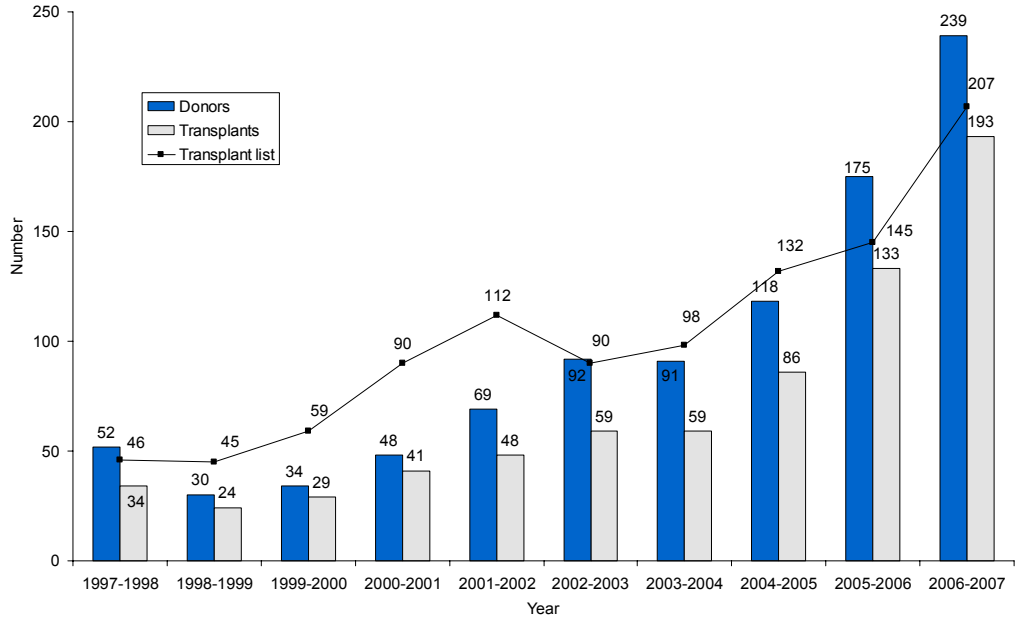


Table 4.1 shows the number of deceased heartbeating pancreas donors and the number of pancreas transplants carried out in 2006-2007 at each centre and by type of pancreas transplant. Compared with the previous financial year, the total number of deceased heartbeating pancreas donors increased to 239 in 2006-2007 from 175 in 2005-2006 and the number of transplants increased to 193 from 133.

Note that Liverpool ceased to provide a pancreas transplant program in February 2007.

Table 4.1 **Pancreas donors and transplants, 1 April 2006 - 31 March 2007 (2005-2006) and transplant list at 31 March 2007 (2006) in the UK, by centre**

Centre	Deceased heartbeating donors[1,2]						Deceased heartbeating transplants[4,5]						Active transplant list	
	SPK		Pancreas only		**Total**		SPK		Pancreas only		**Total**			
Cambridge	34	(24)	0	(1)	**34**	**(25)**	15	(7)	0	(1[6])	**15**	**(8[6])**	2	(2)
Cardiff	13	(6)	0	(0)	**13**	**(6)**	9	(5)	3	(2)	**12**	**(7)**	13	(11)
Edinburgh	24	(19)	0	(0)	**24**	**(19)**	14	(8)	1	(4)	**15**	**(12)**	13	(14)
Liverpool[3]	12	(14)	0	(0)	**12**	**(14)**	5	(5)	1	(0)	**6**	**(5)**	22	(9)
Manchester	34	(26)	0	(0)	**34**	**(26)**	22	(19)	6	(1)	**28**	**(20)**	44	(40)
WLRTC	24	(17)	0	(0)	**24**	**(17)**	13	(4)	2	(4)	**15**	**(8)**	23	(26)
Newcastle	14	(11)	0	(0)	**14**	**(11)**	7	(10)	1	(1)	**8**	**(11)**	13	(8)
Oxford	46	(38)	1	(0)	**47**	**(38)**	46	(32)	10	(6)	**56**	**(38)**	68	(10)
Guy's	37	(18)	0	(1)	**37**	**(19)**	30	(16)	1	(2)	**31**	**(18)**	9	(24)
Non-designated	0	(0)	0	(0)	**0**	**(0)**	0	(0)	7[7]	(6[7])	**7[7]**	**(6[7])**	0	(1)
TOTAL	**238**	**(173)**	**1**	**(2)**	239	(175)	**161**	**(106)**	**32**	**(27)**	**193**	**(133)**	**207**	**(145)**

WLRTC - West London Renal and Transplant Centre

[1] Includes 19 (6) donors aged less than 8 or greater than 55 years in 2006-2007 (2005-2006)

[2] There were an additional 5 (2) non-heartbeating donors in 2006-2007 (2005-2006)

[3] Liverpool ceased to provide a pancreas transplant program in February 2007

[4] Includes 13 (2) transplants using organs from donors aged less than 8 or greater than 55 years in 2006-2007 (2005-2006)

[5] There were an additional 5 (1) non-heartbeating donor transplants in 2006-2007 (2005-2006)

[6] Includes one liver, pancreas and small bowel transplant

[7] Includes liver, pancreas and small bowel/multivisceral transplants performed at Queen Elizabeth Hospital, Birmingham

4.2 Transplant list

The number of patients registered on the pancreas transplant list increased by 43% in the year: on 31 March 2007, 207 patients were registered active, compared with 145 at the end of March 2006.

Of the 207 patients on the active transplant list at 31 March 2007, 147 required a SPK transplant (90 at 31 March 2006). Additionally, 60 patients were actively registered for a pancreas only transplant (55 at 31 March 2006).

The outcome of patients registered on the UK pancreas transplant list at 1 April 2006, or subsequently registered during the financial year, is shown in **Table 4.2**. Overall, 40% of patients waiting for a SPK transplant and 15% waiting for a pancreas only transplant had received a transplant by 31 March 2007.

Table 4.2 Pancreas transplant list and new registrations in the UK, 1 April 2006 - 31 March 2007

Outcome of patient at 31 March 2007	Active and suspended patients at 1 April 2006		New registrations in 2006-2007[1]		**TOTAL**	
	N	**%**	**N**	**%**	**N**	**%**
Pancreas transplant list						
Remained active/suspended	96	74	38	75	**134**	**74**
Transplanted	16	12	11	22	**27**	**15**
Removed	17[2]	13	2[3]	4	**19**	**11**
Died	0	0	0	0	**0**	**0**
TOTAL	**129**		**51**		**180**	
Kidney/pancreas transplant list						
Remained active/suspended	61	41	160	58	**221**	**52**
Transplanted	69	47	101	37	**170**	**40**
Removed	11	7	8	3	**19**	**5**
Died	6	4	6	2	**12**	**3**
TOTAL	**147**		**275**		**422**	

[1] Includes re-registrations for second or subsequent transplants
[2] Includes 5 registrations removed from pancreas list but active on kidney/pancreas list
[3] Includes 1 registration removed from pancreas list but active on kidney/pancreas list

4.3 Donor and organ supply

In 2006-2007, there were 220 deceased heartbeating pancreas donors aged between 8 and 55 years the age range where donor organs are generally suitable for pancreas transplantation (prior to February 2007, 50 was the general upper age limit for pancreas transplantation). This represents 47% of all deceased heartbeating solid organ donors aged between 8 and 55 years. Of 220 pancreata donated, 178 (81%) resulted in pancreas transplants. **Table 4.3** shows this activity by transplant centre.

Table 4.3 Pancreas donation and retrieval rates for heartbeating donors (aged 8 to 55 years) in the UK, 1 April 2006 - 31 March 2007, by centre

Centre	HB donors[3]	HB pancreas donors (% of HB donors)[3]		Pancreas used (% of retrieved)[3]	
Cambridge	60	32	(53)	26	(81)
Cardiff	21	12	(57)	9	(75)
Edinburgh	54	23	(43)	21	(91)
Liverpool	53	12	(23)	7	(58)
Manchester	66	34	(52)	26	(76)
WLRTC	55	21	(38)	13	(62)
Newcastle	38	14	(37)	11	(79)
Oxford	64	36	(56)	33	(92)
Guy's	53	36	(68)	32	(89)
TOTAL	**464**	**220[1]**	**(47)**	**178[2]**	**(81)**

WLRTC - West London Renal and Transplant Centre

[1] There were an additional 19 pancreas donors outside of the 8 - 55 age range

[2] There were an additional 13 pancreata transplanted from donors outside of the 8 - 55 age range

[3] Excludes 2 liver, pancreas and small bowel/multivisceral

4.4 Transplants

There were 193 deceased heartbeating donor pancreas transplants in 2006-2007 an increase of 48% on the 129 transplants performed in 2005-2006. Of these 193, 161 (83%) were SPK transplants. The number of transplants performed at each centre is shown in **Table 4.1**.

4.5 Demographic characteristics

The ethnicity of deceased heartbeating donors, transplant recipients and patients on the transplant list is shown in **Table 4.4**. Asian patients represented 4.8% of the active pancreas transplant list at 31 March 2006 and 2007 and 4.7% of pancreas transplant recipients in 2006-2007. There were only two Asian pancreas donors in the last financial year and one in the previous financial year.

Table 4.4 Ethnicity of deceased heartbeating pancreas donors and recipients, 1 April 2005 - 31 March 2007 and transplant list patients at 31 March in the UK

Ethnicity	Donors				Transplant recipients				Active transplant list patients			
	2005-2006		2006-2007		2005-2006		2006-2007		2006		2007	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
White	168	(96)	236	(98.7)	121	(91.0)	181	(93.8)	136	(93.8)	194	(93.7)
Asian	1	(0.6)	2	(0.8)	5	(3.8)	9	(4.7)	7	(4.8)	10	(4.8)
Black	4	(2.3)	0	(0)	6	(4.5)	2	(1)	1	(0.7)	2	(1)
Other	2	(1.1)	1	(0.4)	1	(0.8)	1	(0.5)	1	(0.7)	1	(0.5)
TOTAL	**175**		**239**		**133**		**193**		**145**		**207**	

Table 4.5 shows the age group and sex of deceased heartbeating pancreas donors, transplant recipients and patients waiting for a pancreas transplant. There was a greater proportion of male transplant recipients than female, 62% compared with 38%. There were 19 pancreas donors outside the preferred age range of 8 to 55 years, 13 of which resulted in a transplant, and the age group 35-50 years had the highest proportion of pancreas donors, recipients and patients on the transplant list.

Table 4.5 Age and sex of deceased heartbeating pancreas donors and transplant recipients, 1 April 2006 - 31 March 2007, and transplant list patients at 31 March 2007

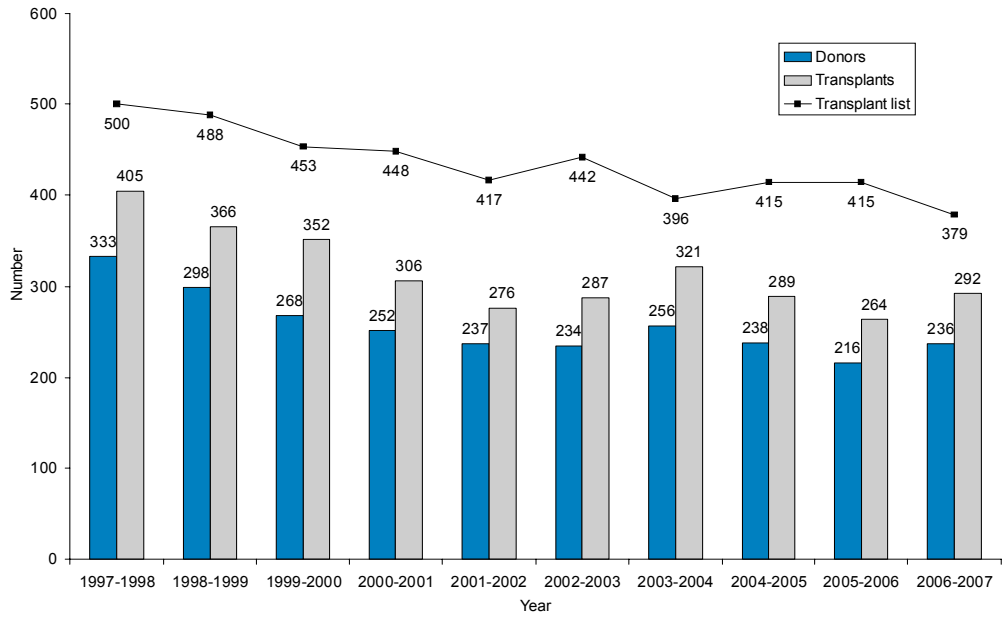
	Age group (years)													
	<8		8-17		18-34		35-50		51-60		61+		**TOTAL**	
Donors														
Male	4		19		55		47		5		1		131	(55%)
Female	2		10		22		52		18		4		108	(45%)
TOTAL	**6**	**(3%)**	**29**	**(12%)**	**77**	**(32%)**	**99**	**(41%)**	**23**	**(10%)**	**5**	**(2%)**	**239**	**(100%)**
Recipients														
Male	1		1		18		79		19		1		119	(62%)
Female	3		3		19		43		6		0		72	(38%)
TOTAL	**4**	**(2%)**	**4**	**(2%)**	**37**	**(19%)**	**122**	**(64%)**	**25**	**(13%)**	**1**	**(1%)**	**191**	**(100%)**
Transplant list														
Male	0		0		19		78		13		2		112	(54%)
Female	0		0		21		64		10		0		95	(46%)
TOTAL	**0**	**(–)**	**0**	**(–)**	**40**	**(19%)**	**142**	**(69%)**	**23**	**(11%)**	**2**	**(1%)**	**207**	**(100%)**

5 CARDIOTHORACIC ACTIVITY

5.1 Overview

A summary of the deceased donor cardiothoracic activity from 1 April 1997 to 31 March 2007 is shown in **Figure 5.1**. The number of patients registered on the active transplant list at 31 March for a cardiothoracic transplant has decreased by 24% since 1998. In 2006-2007 the number of deceased donor transplants was 292, an 11% increase from the previous financial year.

Figure 5.1 **Deceased donor cardiothoracic programme in the UK, 1 April 1997 - 31 March 2007**
Number of donors, transplants and patients on the active transplant list at 31 March



5.2 Transplant list

Table 5.1 shows the number of patients on the active transplant lists at 31 March 2007 by centre. The lung transplant list accounts for 70% of the patients waiting for a cardiothoracic transplant. Overall, Newcastle and Harefield have the largest cardiothoracic lists.

The outcome of patients registered at 1 April 2006 and throughout the subsequent year is shown in **Table 5.2**. Of the 819 patients on the transplant list for a cardiothoracic organ in 2006-2007, 394 (48%) were still waiting at the end of the year, 284 (35%) had received a transplant and 141 (17%) had either died or been removed from the transplant list.

Table 5.1 Patients on the cardiothoracic transplant lists at 31 March 2007 (2006) in the UK, by centre

Centre	Active transplant lists							
	Heart		Heart/lung		Lung		**TOTAL**	
Birmingham	7	(5)	3	(4)	9	(11)	**19**	**(20)**
Glasgow	3	(4)	0	(0)	0	(0)	**3**	**(4)**
Great Ormond Street	5	(8)	1	(0)	3	(1)	**9**	**(9)**
Harefield	28	(33)	5	(11)	81	(78)	**114**	**(122)**
Manchester	6	(15)	2	(3)	57	(45)	**65**	**(63)**
Newcastle[1]	29	(23)	8	(8)	81	(82)	**118**	**(113)**
Papworth	10	(22)	7	(15)	34	(47)	**51**	**(84)**
TOTAL	**88**	**(110)**	**26**	**(41)**	**265**	**(264)**	**379**	**(415)**

[1] Adult and paediatric patients on transplant list

Table 5.2 Cardiothoracic transplant lists and new registrations in the UK, 1 April 2006 - 31 March 2007

Outcome of patient at 31 March 2007	Active and suspended patients at 1 April 2006		New registrations in 2006-2007[1]		**TOTAL**	
	N	%	N	%	**N**	**%**
Heart transplant list						
Remained active/suspended	31	27	66	34	**97**	**32**
Transplanted	46	41	104	54	**150**	**49**
Removed	23	20	9	5	**32**	**10**
Died	13	12	15	8	**28**	**9**
TOTAL	**113**		**194**		**307**	
Heart/lung transplant list						
Remained active/suspended	21	60	5	36	**26**	**53**
Transplanted[2]	4	11	7	50	**11**	**22**
Removed	5	14	0	0	**5**	**10**
Died	5	14	2	14	**7**	**14**
TOTAL	**35**		**14**		**49**	
Lung transplant list						
Remained active/suspended	134	52	137	67	**271**	**59**
Transplanted	81	31	42	21	**123**	**27**
Removed	15	6	5	2	**20**	**4**
Died	29	11	20	10	**49**	**11**
TOTAL	**259**		**204**		**463**	

[1] Includes re-registrations for second or subsequent transplants

[2] Heart, lung or heart/lung

Table 5.3 Cardiothoracic organ donors in the UK, 1 April 2006 - 31 March 2007 (2005-2006), by age group and retrieval centre

Retrieval centre	Type of cardiothoracic donor						TOTAL	
	Heart only		Heart & lung		Lung(s) only			
Adult								
Birmingham	14	(11)	11	(12)	15	(18)	**40**	**(41)**
Glasgow	8	(9)	1	(6)	3	(9)	**12**	**(24)**
Great Ormond Street	2	(0)	0	(0)	0	(0)	**2**	**(0)**
Harefield	7	(12)	6	(13)	9	(12)	**22**	**(37)**
Manchester	17	(8)	11	(8)	12	(7)	**40**	**(23)**
Newcastle	13	(10)	16	(6)	16	(13)	**45**	**(29)**
Papworth	21	(18)	13	(16)	15	(11)	**49**	**(45)**
Other European countries	0	(0)	2	(1)	0	(1)	**2**	**(2)**
TOTAL	**84**[1]	**(69**[1]**)**	**60**	**(62)**	**74**[1]	**(75**[1]**)**	**218**[1]	**(206**[1]**)**
Paediatric								
Birmingham	0	(0)	0	(1)	1	(0)	**1**	**(1)**
Great Ormond Street	3	(4)	3	(2)	0	(0)	**6**	**(6)**
Harefield	0	(0)	0	(0)	1	(0)	**1**	**(0)**
Manchester	0	(0)	0	(0)	2	(1)	**2**	**(1)**
Newcastle	5	(0)	0	(0)	0	(0)	**5**	**(0)**
Papworth	3	(2)	0	(0)	0	(0)	**3**	**(2)**
TOTAL	**11**	**(6)**	**3**	**(3)**	**4**	**(1)**	**18**	**(10)**

Paediatric donors are aged 14 years or under

[1] Includes organs retrieved by other centres

5.3 Donor and organ supply

The number of cardiothoracic organ donors classified by retrieval centre, rather than geographical zone, is summarised in **Table 5.3**. Three of the 74 adult lung only donors were non-heartbeating donors. Of the 215 adult deceased heartbeating cardiothoracic donors, 39% donated only the heart, 28% heart and lung and 33% lung only. Of the 18 paediatric deceased heartbeating cardiothoracic donors, the majority (61%) donated only the heart.

Table 5.4 shows the number of deceased 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.

Of the 634 heartbeating solid organ donors, 37% donated cardiothoracic organs. Overall, 90% of the 415 organs retrieved were transplanted: 96% of hearts and 87% of lungs.

Table 5.4 Deceased heartbeating cardiothoracic organ donation and retrieval rates in the UK, 1 April 2006 - 31 March 2007, by donation zone

Donation zone	Number of donors		Number of organs retrieved (used)				TOTAL retrieved (used)	
	Heartbeating solid organ	Cardiothoracic	Hearts		Lungs			
Birmingham	97	36	23	(22)	44	(43)	**67**	**(65)**
Glasgow	44	12	9	(9)	8	(8)	**17**	**(17)**
Harefield	115	27	18	(17)	32	(21)	**50**	**(38)**
Manchester	108	51	33	(30)	57	(43)	**90**	**(73)**
Newcastle[1]	112	47	33	(31)	56	(55)	**89**	**(86)**
Papworth	158	60	42	(42)	60	(54)	**102**	**(96)**
TOTAL	**634**	**233**	**158**	**(151)**	**257**	**(224)**	**415**	**(375)**

[1] Newcastle transplant adult and paediatric patients

Deceased heartbeating donation rates per million population are shown in **Table 5.5**. The overall cardiothoracic donor rate was 3.9 pmp in 2006-2007 and varied across the donation zones from 2.0 pmp to 6.3 pmp.

Table 5.5 Deceased heartbeating cardiothoracic organ donation rates per million population (pmp) in the UK, 1 April 2006 - 31 March 2007, by donation zone

Donation zone	Heartbeating solid organ donors pmp	Cardiothoracic donors pmp		
		Heart	Lung	Total
Birmingham	9.9	2.3	2.3	3.7
Glasgow	8.6	1.8	0.8	2.4
Harefield	8.6	1.3	1.3	2.0
Manchester	13.4	4.1	3.8	6.3
Newcastle	12.9	3.8	3.5	5.4
Papworth	10.4	2.8	2.2	4.0
TOTAL	**10.5**	**2.6**	**2.3**	**3.9**

5.4 Transplants

Table 5.6 shows cardiothoracic transplant activity for each centre. In 2006-2007, 292 transplants were carried out, an increase of 11% on 2005-2006. Of these, 53% were deceased donor heart transplants. Two adult non-heartbeating lung transplants were performed by Newcastle and one by Harefield. There was one heart and kidney transplant and two lung and liver transplants in 2006-2007, shown in the 2006-2007 adult deceased heart and adult deceased lung(s) columns, respectively.

Table 5.6 Cardiothoracic transplants, 1 April 2006 - 31 March 2007 (2005-2006), by age group and centre

Transplant centre	Transplant type						TOTAL	
	Deceased heart		Heart/ lung		Deceased lung(s)			
Adult								
Birmingham	11	(20)	1	(0)	13	(10)	25	(30)
Glasgow	10	(6)	0	(0)	0	(0)	10	(6)
Great Ormond Street	1	(1)	1	(1)	0	(2)	2	(4)
Harefield	25	(20)	1	(1)	18	(19)	44	(40)
Manchester	19	(18)	0	(0)	22	(17)	41	(35)
Newcastle	19	(17)	1	(1)	41	(40)	61	(58)
Papworth	40	(30)	1	(4)	28	(24)	69	(58)
TOTAL	**125**	**(112)**	**5**	**(7)**	**122**	**(112)**	**252**	**(231)**
Paediatric								
Great Ormond Street	20	(20)	1	(0)	7	(4)	28	(24)
Newcastle	11	(8)	0	(0)	1	(0)	12	(8)
TOTAL	**31**	**(29[1])**	**1**	**(0)**	**8**	**(4)**	**40**	**(33[1])**

Paediatric recipients are aged under 16 years at time of transplant

[1] Includes 1 transplant performed by Harefield

There were 35 adult urgent heart transplants in 2006-2007, representing 29% of all adult heart transplants and ranging from 15% at Papworth to 64% at Birmingham.

There were 13 paediatric urgent heart transplants in 2006-2007, representing 42% of all paediatric heart transplants. The overall cardiothoracic transplant rate was 4.9 per million population (pmp) in 2006-2007. However, the heart transplant rate was 2.6 pmp, below the *BTS Standard* of 4 pmp for cardiac transplantation in the UK.

5.5 Demographic characteristics

The ethnicity of cardiothoracic donors, transplant recipients and patients on the transplant list is shown in **Table 5.7**. While 1.7% of donors in 2006-2007 were non-white, 8.6% of the transplant list at 31 March 2007 was non-white.

Table 5.7 Ethnicity of cardiothoracic donors and recipients, 1 April 2005 - 31 March 2007, and transplant list patients at 31 March in the UK

Ethnicity	Donors				Transplant recipients				Active transplant list patients			
	2005-2006		2006-2007		2005-2006		2006-2007		2006		2007	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
White	207	(95.8)	232	(98.3)	245	(92.8)	267	(91.4)	388	(93.5)	350	(92.3)
Asian	2	(0.9)	4	(1.7)	10	(3.8)	13	(4.5)	17	(4.1)	18	(4.7)
Black	3	(1.4)	0	(0)	5	(1.9)	8	(2.7)	8	(1.9)	8	(2.1)
Other	4	(1.9)	0	(0)	4	(1.5)	4	(1.4)	2	(0.5)	3	(0.8)
TOTAL	**216**		**236**		**264**		**292**		**415**		**379**	

Of the 292 cardiothoracic recipients, 62% were male compared with 57% of donors and 54% of the transplant list; see **Table 5.8**. Of the 236 cardiothoracic donors, 37% were in the 35 to 49 years age group compared with 24% of recipients and 29% of the transplant list.

Table 5.8 Age and sex of cardiothoracic donors and transplant recipients, 1 April 2006 - 31 March 2007, and transplant list patients at 31 March 2007

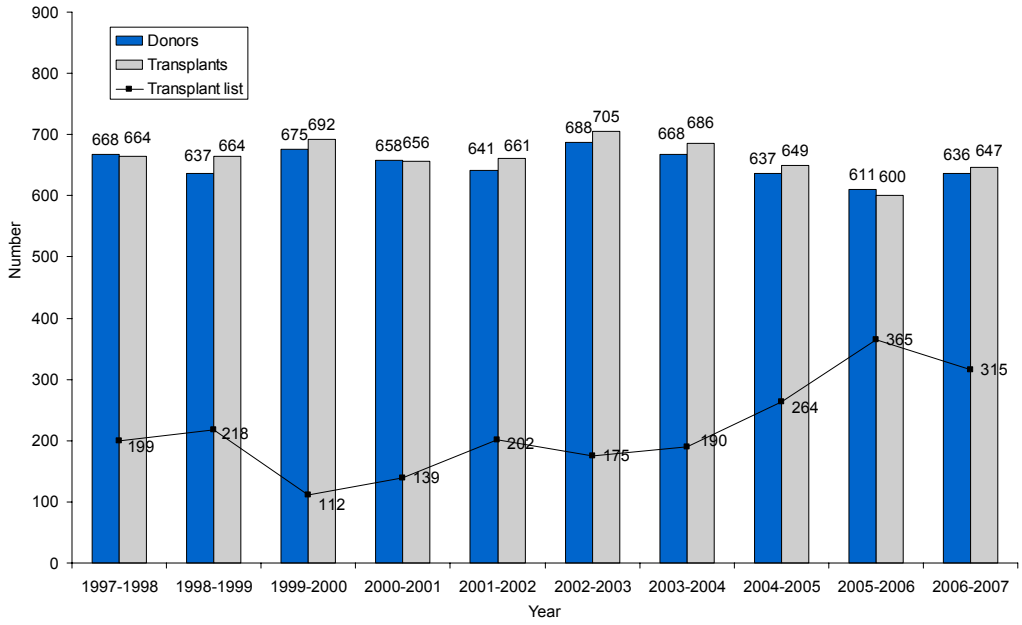
	Age group (years)											
	0-17		18-34		35-49		50-59		60+		**TOTAL**	
Donors												
Male	24		41		45		17		7		**134**	**(57%)**
Female	10		22		43		24		3		**102**	**(43%)**
TOTAL	**34**	**(14%)**	**63**	**(27%)**	**88**	**(37%)**	**41**	**(17%)**	**10**	**(4%)**	**236**	**(100%)**
Recipients												
Male	18		33		50		51		29		**181**	**(62%)**
Female	27		19		20		38		7		**111**	**(38%)**
TOTAL	**45**	**(15%)**	**52**	**(18%)**	**70**	**(24%)**	**89**	**(30%)**	**36**	**(12%)**	**292**	**(100%)**
Transplant list												
Male	6		31		60		69		39		**205**	**(54%)**
Female	11		51		51		48		13		**174**	**(46%)**
TOTAL	**17**	**(4%)**	**82**	**(22%)**	**111**	**(29%)**	**117**	**(31%)**	**52**	**(14%)**	**379**	**(100%)**

6 LIVER ACTIVITY

6.1 Overview

The number of deceased liver donors and transplants in the UK has remained relatively constant in the last ten years as shown in **Figure 6.1**. However, the number of patients on the active transplant list at 31 March has increased by 58% since 1998.

Figure 6.1 Deceased donor liver programme in the UK, 1 April 1997 - 31 March 2007
Number of donors, transplants and patients on the active transplant list at 31 March



The number of deceased donors, deceased and living donor transplants, and patients on the active or suspended transplant list, by centre, is shown in **Table 6.1**. In 2006-2007, 636 solid organ donors donated their liver for transplant: 586 heartbeating and 50 non-heartbeating. There were 315 patients, including two patients registered for a liver, panceas and small bowel transplant, on the active transplant list at 31 March 2007, a decrease of 14% from 2006.

Overall, the number of heartbeating donor liver transplants, including seven liver, pancreas and small bowel/multivisceral transplants, increased by 8% to 612, and the number of non-heartbeating donor transplants increased by 13% to 35, compared with the previous financial year. Additionally, there were eight living liver lobe donor transplants in NHS Group 1 (four) and Group 2 (four) paediatric recipients and four domino donor transplants in NHS Group 1 adult recipients. There were 107 adult super-urgent transplants in 2006-2007, representing 19% of all adult transplants; ranging from 14% at Cambridge to 30% at Leeds. There were 20 paediatric super-urgent transplants in 2006-2007, representing 21% of all paediatric transplants; ranging from 17% at King's College to 25% at Birmingham.

Table 6.1 **Deceased and living liver donors and transplants, 1 April 2006 - 31 March 2007 (2005-2006) and transplant list patients at 31 March 2007 (2006) in the UK, by age group and centre**

Retrieval/ transplant centre	Deceased donors						Deceased transplants						Living donor transplants		Active transplant list	
	HB		NHB		**TOTAL**		HB		NHB		**TOTAL**					
Adult																
Birmingham	138	(120)	7	(4)	**145**	**(124)**	121	(111)	6	(2)	**127**	**(113)**	1	(0)	54	(56)
Cambridge	71	(81)	8	(1)	**79**	**(82)**	64	(72)	5	(1)	**69**	**(73)**	0	(0)	14	(19)
Edinburgh	38	(42)	0	(1)	**38**	**(43)**	50	(40)	0	(1)	**50**	**(41)**	0	(0)	20	(27)
King's College	128	(135)	23	(18)	**151**	**(153)**	125	(119)	16	(13)	**141**	**(132)**	2	(4)	124	(127)
Leeds	76	(81)	7	(15)	**83**	**(96)**	64	(77)	6	(8)	**70**	**(85)**	0	(0)	39	(47)
Newcastle	34	(37)	0	(2)	**34**	**(39)**	37	(30)	0	(2)	**37**	**(32)**	0	(0)	9	(11)
Royal Free	62	(49)	2	(1)	**64**	**(50)**	58	(43)	1	(1)	**59**	**(44)**	1	(0)	30	(35)
TOTAL	**552**[1]	**(546**[1]**)**	**47**	**(42)**	**599**[1]	**(588**[1]**)**	**519**	**(492)**	**34**	**(28)**	**553**	**(520)**	**4**[2]	**(4**[3]**)**	**290**	**(322)**
Paediatric																
Birmingham	9	(11)	0	(0)	**9**	**(11)**	44	(30)	0	(1)	**44**	**(31)**	0	(0)	9	(18)
Cambridge	6	(1)	0	(0)	**6**	**(1)**	0	(0)	0	(0)	**0**	**(0)**	0	(0)	0	(0)
Edinburgh	3	(1)	0	(0)	**3**	**(1)**	0	(1)	0	(0)	**0**	**(1)**	0	(0)	0	(0)
King's College	8	(2)	2	(1)	**10**	**(3)**	35	(29)	1	(2)	**36**	**(31)**	8	(6)	16	(20)
Leeds	4	(4)	1	(0)	**5**	**(4)**	14	(17)	0	(0)	**14**	**(17)**	0	(0)	0	(5)
Newcastle	3	(2)	0	(0)	**3**	**(2)**	0	(0)	0	(0)	**0**	**(0)**	0	(0)	0	(0)
Royal Free	1	(1)	0	(0)	**1**	**(1)**	0	(0)	0	(0)	**0**	**(0)**	0	(0)	0	(0)
TOTAL	**34**	**(22)**	**3**	**(1)**	**37**	**(23)**	**93**	**(77)**	**1**	**(3)**	**94**	**(80)**	**8**[4]	**(6**[5]**)**	**25**	**(43)**

[1] Includes donors whose livers were retrieved by other teams

[2] Includes 4 domino transplants in NHS Group 1 recipients

[3] Includes 4 living liver lobe transplants in NHS Group 2 recipients

[4] Includes 4 and 4 living liver lobe transplants in NHS Group 1 and Group 2 recipients, respectively

[5] Includes 3 and 2 living liver lobe transplants in NHS Group 1 and Group 2 recipients, respectively, and 1 domino transplant in an NHS Group 1 recipient

6.2 Transplant list

The outcome of patients registered at 1 April 2006 and patients registered during the year is shown in **Table 6.2**. This includes patients registered for a liver, pancreas and small bowel/multivisceral transplant. Of the 1,199 patients waiting on the list during 2006-2007, 54% were transplanted and 27% were still waiting at 31 March 2007.

Table 6.2 Liver transplant list and new registrations in the UK, 1 April 2006 - 31 March 2007

Outcome of patient at 31 March 2007	Active and suspended patients at 1 April 2006		New registrations in 2006-2007[1]		**TOTAL**	
	N	%	N	%	**N**	**%**
Remained active/suspended	63	16	258	32	**321**	**27**
Transplanted	222	58	427	52	**649**	**54**
Removed	70	18	60	7	**130**	**11**
Died	30	8	69	8	**99**	**8**
TOTAL	**385**		**814**		**1199**	

[1] Includes re-registrations for second or subsequent transplants

6.3 Donor and organ supply

Of the 793 solid organ donors, 636 (80%) donated their liver and 588 (92%) of these donated livers were transplanted; see **Table 6.3**. Of livers retrieved from heartbeating and non-heartbeating donors, 94% and 70% were transplanted, respectively.

Table 6.3 Deceased liver retrieval rates in the UK, 1 April 2006 - 31 March 2007, by donation zone

Donation zone	**Number of donors**						**Number of livers retrieved (used)**					
	Solid organ			Liver								
	HB	NHB	**TOTAL**	HB	NHB	**TOTAL**	HB		NHB		**TOTAL**	
Birmingham	163	13	**176**	153	8	**161**	153	(147)	8	(6)	**161**	**(153)**
Cambridge	81	29	**110**	76	11	**87**	76	(71)	11	(8)	**87**	**(79)**
Edinburgh	44	6	**50**	35	0	**35**	35	(35)	0	(0)	**35**	**(35)**
King's College	149	59	**208**	141	20	**161**	141	(132)	20	(15)	**161**	**(147)**
Leeds	88	18	**106**	78	7	**85**	78	(72)	7	(5)	**85**	**(77)**
Newcastle	43	22	**65**	38	0	**38**	38	(35)	0	(0)	**38**	**(35)**
Royal Free	66	12	**78**	65	4	**69**	65	(61)	4	(1)	**69**	**(62)**
TOTAL	**634**	**159**	**793**	**586**	**50**	**636**	**586**	**(553)**	**50**	**(35)**	**636**	**(588)**

Table 6.4 shows the deceased solid organ and liver donor rates per million population for 2006-2007. Overall, the liver donor rate was 10.6 pmp and ranged from 6.9 to 12.0 pmp across the donation zones.

Table 6.4 Deceased liver donation rates per million population (pmp), 1 April 2006 - 31 March 2007, by donation zone

Donation zone	Solid organ donor pmp	Liver donor pmp
Birmingham	13.2	12.0
Cambridge	11.7	9.2
Edinburgh	9.8	6.9
King's College	13.9	10.8
Leeds	13.2	10.6
Newcastle	18.7	11.0
Royal Free	13.3	11.8
TOTAL	**13.2**	**10.6**

6.4 Transplants

The number of whole, reduced and split liver transplants in 2006-2007 is shown in **Table 6.5**. 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.

Overall, the number of liver transplants rose by 8% in 2006-2007. There were 647 deceased liver transplants performed in 2006-2007: 529 whole liver, including 13 liver and kidney, 6 liver, pancreas and small bowel/multivisceral and 2 liver and lung; and 118 deceased liver lobe, including 5 liver and kidney and 1 multivisceral. Split liver transplants accounted for 87% of liver lobe transplant activity. The transplant rate overall was 10.7 pmp and varied between centres from 7.3 to 12.8. The *BTS Standard* states that each centre should aim to achieve at least 12 liver transplants pmp per year.

Table 6.5 Deceased liver transplants performed in the UK, 1 April 2005 - 31 March 2007

	2005-2006					2006-2007				
Transplant centre	Whole liver	Reduced liver	Split liver	**TOTAL (pmp)**		Whole liver	Reduced liver	Split liver	**TOTAL (pmp)**	
Birmingham	113	4	27	144	(10.8)	126	7	38	171	(12.8)
Cambridge	72	0	1	73	(7.7)	67	0	2	69	(7.3)
Edinburgh	38	0	4	42	(8.3)	44	0	6	50	(9.8)
King's College	123	5	35	163	(10.9)	129	7	41	177	(11.8)
Leeds	82	2	18	102	(12.7)	70	1	13	84	(10.5)
Newcastle	32	0	0	32	(9.2)	35	0	2	37	(10.7)
Royal Free	43	0	1	44	(7.5)	58	0	1	59	(10.1)
TOTAL	**503**	**11**	**86**	**600**	**(10.0)**	**529**	**15**	**103**	**647**	**(10.7)**

Birmingham, King's College and Leeds transplant paediatric patients

6.5 Demographic characteristics

The ethnicity of liver donors, transplant recipients and transplant list patients is shown in **Table 6.6**. In 2006-2007, the proportion of Asian patients waiting on the transplant list was much greater than that of Asian donors, 7.6% compared with 1.4%, respectively.

Table 6.6 Ethnicity of liver donors and recipients, 1 April 2005 - 31 March 2007, and transplant list patients at 31 March in the UK

Ethnicity	Donors				Transplant recipients				Active transplant list patients			
	2005-2006		2006-2007		2005-2006		2006-2007		2006		2007	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
White	594	(95.7)	627	(96.8)	520	(85.2)	549	(83.3)	309	(84.7)	262	(83.2)
Asian	6	(1.0)	9	(1.4)	56	(9.2)	76	(11.5)	34	(9.3)	24	(7.6)
Black	10	(1.6)	4	(0.6)	15	(2.5)	25	(3.8)	8	(2.2)	8	(2.5)
Chinese	0	(0.0)	1	(0.2)	4	(0.7)	3	(0.5)	0	(0.0)	1	(0.3)
Other	11	(1.8)	7	(1.1)	15	(2.5)	6	(0.9)	14	(3.8)	19	(6.0)
TOTAL	**621**		**648**		**610**		**659**		**365**		**315**	

The age and sex distribution of donors and recipients in 2006-2007, and patients on the transplant list at 31 March 2007, are shown in **Table 6.7**. The 35-49 year age group had the largest proportion of donors (35%), and the 50-59 year age group had the largest proportion of patients transplanted (29%) and patients on the transplant list (33%).

Table 6.7 Age and sex of liver donors and transplant recipients, 1 April 2006 - 31 March 2007, and transplant list patients at 31 March 2007

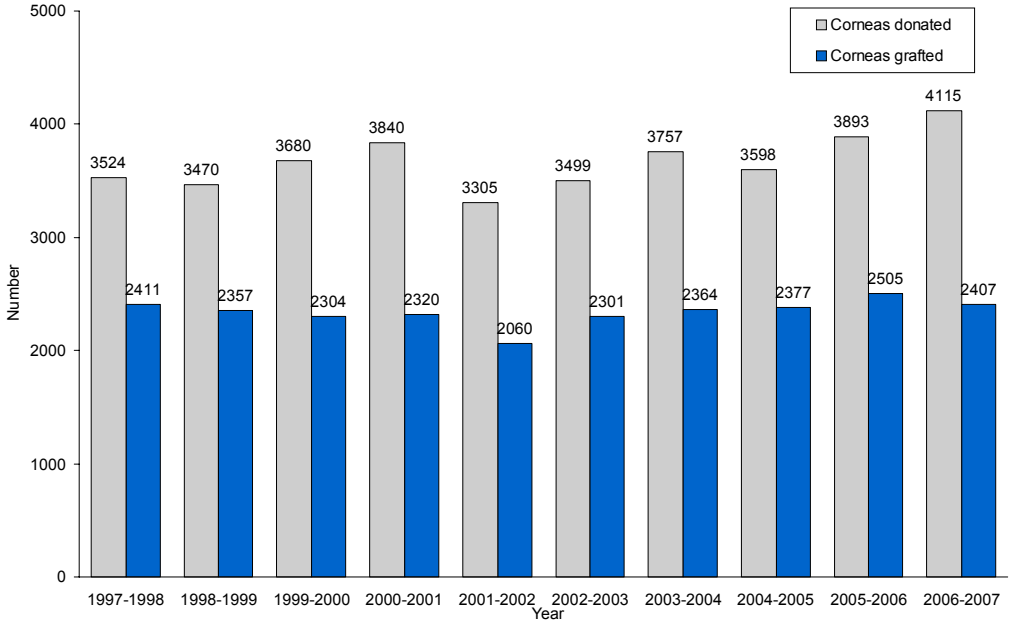
	Age group (years)											
	0-17		18-34		35-49		50-59		60+		**TOTAL**	
Donors												
Male	43		89		113		50		45		**340**	**(52%)**
Female	19		45		112		75		57		**308**	**(48%)**
TOTAL	**62**	**(10%)**	**134**	**(21%)**	**225**	**(35%)**	**125**	**(19%)**	**102**	**(16%)**	**648**	**(100%)**
Recipients												
Male	53		32		107		124		68		**384**	**(58%)**
Female	51		42		73		66		43		**275**	**(42%)**
TOTAL	**104**	**(16%)**	**74**	**(11%)**	**180**	**(27%)**	**190**	**(29%)**	**111**	**(17%)**	**659**	**(100%)**
Transplant list												
Male	11		12		49		64		41		**177**	**(56%)**
Female	15		16		28		41		38		**138**	**(44%)**
TOTAL	**26**	**(8%)**	**28**	**(9%)**	**77**	**(24%)**	**105**	**(33%)**	**79**	**(25%)**	**315**	**(100%)**

7 CORNEA ACTIVITY

7.1 Overview

The number of corneas donated increased by 6% in 2006-2007 to 4115. This number is higher than that in any of the previous nine years, The number of corneas grafted decreased in 2006-2007 by 4%, as shown in **Figure 7.1**. Additionally, 211 sclera were issued and used.

Figure 7.1 Cornea programme in the UK, 1 April 1997 - 31 March 2007
Number of corneas donated and corneas grafted



In 2006-2007 there were 2,067 cornea donors, of whom 1,866 donated corneas only and 201 donated corneas and solid organs: see **Table 7.1**. Compared with 2005-2006, the number of cornea only donors increased by 96 (5%) and the number of cornea and solid organ donors increased by 17 (8%). In 2005-2006, corneas were retrieved from 23% of deceased heartbeating solid organ donors; this was the same in 2006-2007. Of the 159 non-heartbeating solid organ donors in 2006-2007, 53 also donated corneas, 33% compared with 29% in 2005-2006.

Table 7.1 also shows the number and rate per million population (pmp) of donors in 2006-2007 by country and English Strategic Health Authority (StHA), with figures for 2005-2006 in parentheses. England had the highest cornea donor rate in the UK in 2006-2007 (37.3 pmp). In 2006-2007, the cornea donor rate increased in England, Scotland and Wales but fell in Northern Ireland. Across the StHAs the cornea donor rate ranged from 6.8 pmp to 78.9 pmp.

Table 7.1 **Cornea donation rates per million population, pmp, in the UK, 1 April 2006 - 31 March 2007 (2005-2006), by country and English Strategic Health Authority**

Country of residence/ Strategic Health Authority	Cornea only		Solid organ and cornea		**TOTAL**		**TOTAL pmp**	
North East	130	(126)	17	(6)	147	(132)	57.4	(51.6)
North West	282	(216)	21	(23)	303	(239)	44.2	(34.9)
Yorkshire and The Humber	211	(205)	10	(15)	221	(220)	43.7	(43.5)
East Midlands	131	(87)	5	(6)	136	(93)	31.6	(21.6)
West Midlands	61	(102)	12	(9)	73	(111)	13.6	(20.7)
East of England	180	(233)	26	(19)	206	(252)	37.2	(45.5)
London	24	(31)	27	(14)	51	(45)	6.8	(6.0)
South East Coast	235	(271)	17	(14)	252	(285)	59.9	(67.7)
South Central	87	(86)	7	(12)	94	(98)	23.8	(24.8)
South West	374	(300)	26	(31)	400	(331)	78.9	(65.3)
England	**1715**	**(1657)**	**168**	**(149)**	**1883**	**(1806)**	**37.3**	**(35.8)**
Isle of Man	**0**	**(0)**	**0**	**(0)**	**0**	**(0)**	**0.0**	**(0.0)**
Channel Islands	**0**	**(0)**	**0**	**(0)**	**0**	**(0)**	**0.0**	**(0.0)**
Wales	**72**	**(51)**	**11**	**(11)**	**83**	**(62)**	**28.0**	**(20.9)**
Scotland	**71**	**(54)**	**15**	**(16)**	**86**	**(70)**	**16.9**	**(13.8)**
Northern Ireland	**8**	**(8)**	**7**	**(8)**	**15**	**(16)**	**8.7**	**(9.3)**
TOTAL	**1866**	**(1770)**	**201**	**(184)**	**2067**	**(1954)**	**34.3**	**(32.5)**

7.2 Donor and tissue supply

In 2006-2007, 98% (98% in 2005-2006) of retrieved corneas reported to the National Transplant Database were supplied to the Corneal Transplant Service (CTS) Eye Banks in Bristol and Manchester. **Table 7.2** shows the number of corneas supplied to and taken from the CTS Eye Banks for those centres that supplied more than 25 corneas in 2006-2007. 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 (PK), which is where donor and tissue selection criteria were met. Centres with a negative balance have taken more corneas than they supplied to the CTS Eye Banks.

Table 7.2 Corneas supplied to and taken from the CTS Eye Banks, 1 April 2006 - 31 March 2007

Centre	Corneas supplied	Suitable for PK (%)		Corneas taken	Balance
East Grinstead, Queen Victoria Hospital	480	286	(60)	38	442
Exeter, Royal Devon & Exeter Hospital	314	190	(61)	3	311
Norwich, West Norwich Hospital	259	212	(82)	20	239
Bolton, Royal Bolton Hospital	230	120	(52)	16	214
National Blood Service Yorkshire	198	108	(55)	0	198
Bristol, Eye Hospital	193	128	(66)	57	136
Nottingham, University Hospital	170	117	(69)	73	97
Middlesbrough, South Cleveland Hospital	156	84	(54)	11	145
Newcastle, Royal Victoria Infirmary	120	73	(61)	38	82
Liverpool, Royal Liverpool University Hospital	100	53	(53)	74	26
Plymouth, Royal Eye Infirmary	86	61	(71)	25	61
Southampton, University Hospitals	61	38	(62)	39	22
London, Moorfields Eye Hospital	58	30	(52)	171	-113
Leeds, General Infirmary	54	16	(30)	6	48
Manchester, Royal Eye Hospital	53	29	(55)	91	-38
Newport, Royal Gwent Hospital	50	35	(70)	8	42
Leeds, St James University Hospital	48	25	(52)	95	-47
Cambridge, Addenbrookes Hospital	45	31	(69)	13	32
Cardiff, University of Wales Hospital	42	24	(57)	20	22
Preston, Royal Preston Hospital	38	19	(50)	2	36
Leicester, Royal Infirmary	37	24	(65)	47	-10
Reading, Royal Berkshire Hospital	34	23	(68)	36	-2
Birmingham, Birmingham & Midland Eye Centre	32	21	(66)	68	-36
Prescot, Whiston Hospital	32	16	(50)	0	32
Barnstaple, North Devon District Hospital	30	23	(77)	2	28
Hereford, Victoria Eye Hospital	28	18	(64)	2	26
Glasgow, Gartnavel General Hospital	28	20	(71)	82	-54
Truro, Royal Cornwall Hospital (Treliske)	26	19	(73)	3	23
Stoke, North Staffordshire Royal Infirmary	26	16	(62)	0	26
Centres supplying more than 25 corneas	**3028**	**1859**	**(61)**	**1040**	**1988**
All other centres	**993**	**653**	**(66)**	**1362**	**-369**
TOTAL	**4021**	**2512**	**(62)**	**2402**	**1619**

PK - Penetrating keratoplasty

Of the 4,021 corneas supplied to the CTS Eye Banks, 2,512 (62%) were suitable for a PK. This was a decrease compared with 2005-2006, when 67% of corneas supplied to the CTS Eye Banks were suitable for a PK. The main reason for this decline was that the Eye Banks experienced problems with serology testing kits, which showed that some corneas were reactive for HTLV when the result was negative on the basis of confirmatory tests. A new type of kit is considered for use by the Eye Banks, which should resolve this problem.

7.3 CTS Eye Bank activity

The activity levels for the Bristol and Manchester Eye Banks are shown in **Table 7.3**. The numbers of corneas received by the CTS Eye Banks increased in 2006-2007 by 5%, whereas the number of corneas issued decreased by 3%. In 2006-2007, 4,021 corneas were received into the CTS Eye Banks, of which 2,541 (63%) were subsequently issued for grafting. The difference equates to corneas unsuitable for transplantation.

Table 7.3 Corneas received into the Bristol and Manchester Eye Banks, 1 April 2006 - 31 March 2007 (2005-2006), by year

	Total received		Number issued[1]		% issued		Difference between number received and issued	
Bristol	1880	(1953)	1231	(1279)	65	(65)	649	(674)
Manchester	2141	(1868)	1310	(1343)	61	(72)	831	(525)
TOTAL	**4021**	**(3821)**	**2541**	**(2622)**	**63**	**(69)**	**1480**	**(1199)**

[1] Number issued of those received in each year

The outcome of corneas received into the CTS Eye Banks is given in **Table 7.4**. Of the corneas supplied to the Eye Banks in 2006-2007, 59% were issued for a penetrating graft, 1% were issued for lamellar grafts and 3% were issued but not used. Of the corneas supplied to the Eye Banks, 18% were unsuitable because of medication contraindications, 12% had endothelial deficiencies or stromal opacity and 6% were discarded because of bacterial or fungal contamination. Less than 1% of corneas became outdated, that is, they exceeded 28 days storage. Corneas that were unsuitable for transplantation were, where possible, used for research when permission had been given by the relatives.

7.4 Transplants

Transplant activity by country of residence and Strategic Health Authority in England for the years 2005-2006 and 2006-2007 is detailed in **Table 7.5**. The overall transplant rate was 41.6 pmp in 2005-2006; this decreased to 39.9 pmp in 2006-2007. The transplant rates increased in Wales and Scotland, but decreased in England and Northern Ireland. Wales had the highest transplant rate in the UK: 41.9 pmp. England had the second highest rate in the UK: 40.2 pmp and this ranged from 33.7 pmp to 61.5 pmp across the StHAs.

Table 7.4 Outcome of corneas received into the Bristol and Manchester Eye Banks, 1 April 2006 - 31 March 2007 (2005-2006), by year

Outcome of cornea	Bristol				Manchester				TOTAL			
	N		%		N		%		N		%	
Used												
Penetrating keratoplasty	1139	(1172)	61	(60)	1225	(1227)	57	(66)	2364	(2399)	59	(63)
Lamellar keratoplasty	12	(30)	1	(2)	18	(16)	1	(1)	30	(46)	1	(1)
Lathed lamellar lenticule	1	(0)	<1	(0)	0	(0)	0	(0)	1	(0)	<1	(0)
Other/not reported	1	(3)	<1	(<1)	6	(16)	<1	(1)	7	(19)	<1	(<1)
Total used	**1153**	**(1205)**	**61**	**(62)**	**1249**	**(1259)**	**58**	**(67)**	**2402**	**(2464)**	**60**	**(64)**
Not used												
Issued, not used	78	(74)	4	(4)	61	(84)	3	(4)	139	(158)	3	(4)
Unsuitable - endothelium, stromal opacity, other	236	(197)	13	(10)	251	(172)	12	(9)	487	(369)	12	(10)
Medical reason - virology	166	(278)	9	(14)	313	(152)	15	(8)	479	(430)	12	(11)
Medical reason - other	117	(78)	6	(4)	124	(50)	6	(3)	241	(128)	6	(3)
Contaminated	114	(105)	6	(5)	130	(118)	6	(6)	244	(223)	6	(6)
Other/not reported	16	(16)	1	(1)	13	(33)	1	(2)	29	(49)	1	(1)
Total not used	**727**	**(748)**	**39**	**(38)**	**892**	**(609)**	**42**	**(33)**	**1619**	**(1357)**	**40**	**(36)**
TOTAL	**1880**	**(1953)**			**2141**	**(1868)**			**4021**	**(3821)**		

Table 7.5 Cornea transplants performed per million population (pmp) in the UK, 1 April 2005 - 31 March 2007, by country of residence and English Strategic Health Authority

Country of residence/ Strategic Health Authority	Number of transplants (pmp) 2005-2006		2006-2007	
North East	91	(35.5)	89	(34.8)
North West	281	(41.0)	262	(38.2)
Yorkshire and The Humber	262	(51.8)	311	(61.5)
East Midlands	256	(59.4)	206	(47.8)
West Midlands	228	(42.5)	218	(40.6)
East of England	200	(36.1)	197	(35.6)
London	231	(30.7)	271	(36.0)
South East Coast	194	(46.1)	142	(33.7)
South Central	176	(44.6)	155	(39.2)
South West	199	(39.3)	175	(34.5)
England	**2118**	**(42.0)**	**2026**	**(40.2)**
Isle of Man	**6**	**(75.0)**	**2**	**(25.0)**
Channel Islands	**4**	**(26.7)**	**4**	**(26.7)**
Wales	**107**	**(36.1)**	**124**	**(41.9)**
Scotland	**174**	**(34.2)**	**178**	**(35.0)**
Northern Ireland	**64**	**(37.2)**	**48**	**(27.9)**
TOTAL[1]	**2502**	**(41.6)**	**2402**	**(39.9)**

[1] Includes UK recipients where the postcode was unspecified and non-UK recipients

8 TRANSPLANT SURVIVAL

This chapter shows graft survival estimates for kidney, pancreas and cornea transplants, and patient survival for kidney, pancreas, cardiothoracic and liver transplants, performed in the UK, by organ type and, where appropriate, by calendar year group. Separate estimates are presented for adult and paediatric patients, using organ specific age definitions where the data were available, and for heartbeating and non-heartbeating donor organ recipients.

In all cases, the Kaplan-Meier estimate of the survivor function was used and groups were compared using the log-rank test. The analyses do not take account of risk factors, which may change over time. Graft survival is defined as time from transplant to graft failure, censoring for death with a functioning graft and grafts still functioning at time of analysis. Patient survival is defined as time from transplant to patient death, censoring for patients still alive at time of analysis.

8.1 Kidney graft and patient survival

8.1.1 Adult recipients

8.1.1.1 Deceased heartbeating donor transplants

Figure 8.1 shows long-term graft survival in adult (≥18 years) recipients for first deceased heartbeating donor kidney only transplants in the UK. **Table 8.1** shows the graft survival estimates and confidence intervals for one, two, five and ten years post-transplant. There have been significant improvements in one, two and five year survival over the year groups, p<0.0001 in each case.

Figure 8.1 **Long-term graft survival after first adult deceased heartbeating donor kidney only transplant in the UK, 1 January 1993 – 31 December 2005**

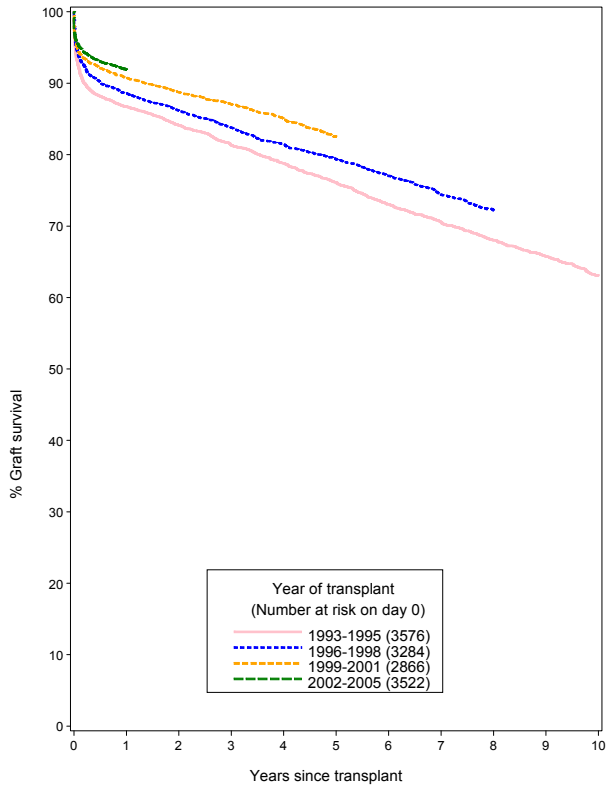


Table 8.1 **Long-term graft survival after first adult deceased heartbeating donor kidney only transplant in the UK, 1 January 1993 - 31 December 2005**

Year of transplant	No. at risk on day 0	% Graft survival (95% confidence interval) One year		Two year		Five year		Ten year	
1993-1995	3576	87	(86-88)	84	(83-85)	76	(75-78)	63	(61-65)
1996-1998	3284	89	(87-90)	86	(85-87)	79	(78-81)		
1999-2001	2866	91	(90-92)	89	(88-90)	83	(81-84)		
2002-2005	3522	92	(91-93)						

Table 8.2 shows the patient survival estimates and confidence intervals for one, two, five and ten years post-transplant. There have been significant improvements in one, two and five year survival over the year groups, p<0.0002 in each case.

Table 8.2 Long-term patient survival after first adult deceased heartbeating donor kidney only transplant in the UK, 1 January 1993 - 31 December 2005

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval)							
		One year		Two year		Five year		Ten year	
1993-1995	3585	93	(92-94)	90	(89-91)	82	(81-83)	67	(66-69)
1996-1998	3288	94	(93-95)	92	(91-92)	84	(83-86)		
1999-2001	2869	95	(94-96)	93	(92-94)	87	(86-88)		
2002-2005	3521	96	(95-97)						

8.1.1.2 Deceased non-heartbeating donor transplants

Long-term graft survival in adult recipients for non-heartbeating donor kidney transplants in the UK is shown in **Figure 8.2**.

Figure 8.2 Long-term graft survival after first adult deceased non-heartbeating donor kidney only transplant in the UK, 1 January 1993 – 31 December 2005

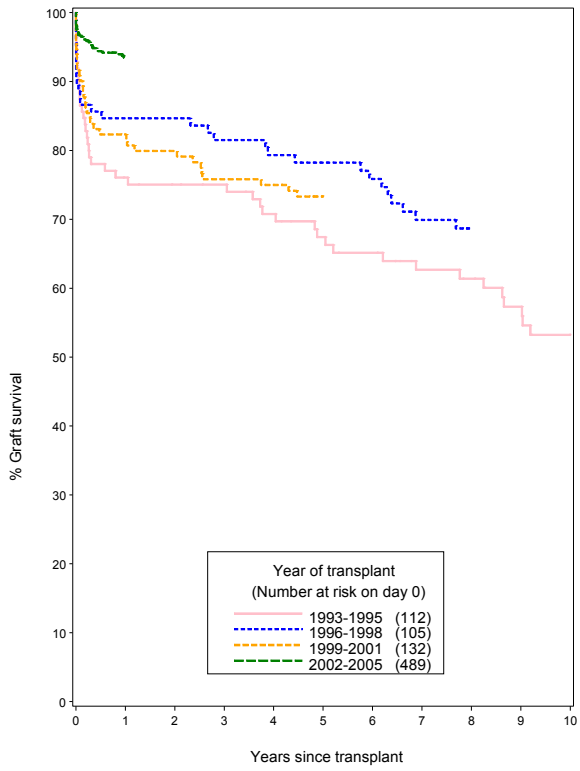


Table 8.3 shows the graft survival estimates and confidence intervals for one, two, five and ten years post-transplant. There has been a significant improvement in one year survival over the year groups, p<0.0001. One year graft survival is comparable with that for heartbeating donor transplants in the most recent time period.

Table 8.3 Long-term graft survival after first adult deceased non-heartbeating donor kidney only transplant in the UK, 1 January 1993 - 31 December 2005

Year of transplant	No. at risk on day 0	% Graft survival (95% confidence interval)							
		One year		Two year		Five year		Ten year	
1993-1995	112	76	(67-83)	75	(66-82)	67	(57-76)	53	(42-63)
1996-1998	105	85	(76-90)	85	(76-90)	78	(69-85)		
1999-2001	132	82	(75-88)	80	(72-86)	73	(65-80)		
2002-2005	489	93	(91-95)						

Table 8.4 shows the patient survival estimates and confidence intervals for each year group. There has been a significant improvement in one year survival over the year groups, p<0.002.

Table 8.4 Long-term patient survival after first adult deceased non-heartbeating donor kidney only transplant in the UK, 1 January 1993 - 31 December 2005

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval)							
		One year		Two year		Five year		Ten year	
1993-1995	112	86	(78-91)	84	(76-90)	76	(67-83)	63	(53-71)
1996-1998	105	93	(86-97)	91	(84-95)	80	(71-87)		
1999-2001	132	91	(85-95)	90	(83-94)	83	(76-89)		
2002-2005	489	96	(94-97)						

8.1.1.3 Living donor transplants

Long-term graft survival in adult recipients for living donor kidney transplants in the UK is shown in **Figure 8.3**. **Table 8.5** shows graft survival estimates and confidence intervals for each year group. There has been a significant improvement in five year survival over the year groups, p<0.02.

Figure 8.3 **Long-term graft survival after first adult living donor kidney only transplant in the UK, 1 January 1993 – 31 December 2005**

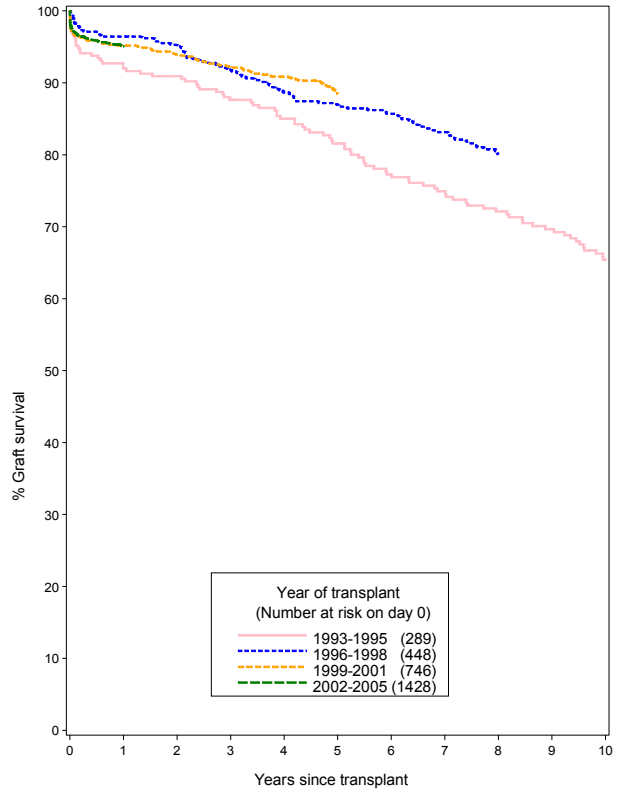


Table 8.5 **Long-term graft survival after first adult living donor kidney transplant in the UK, 1 January 1993 - 31 December 2005**

Year of transplant	No. at risk on day 0	% Graft survival (95% confidence interval) One year		Two year		Five year		Ten year	
1993-1995	289	92	(88-95)	91	(87-94)	82	(76-86)	65	(59-71)
1996-1998	448	96	(94-98)	95	(93-97)	87	(83-90)		
1999-2001	746	95	(93-96)	94	(92-95)	89	(86-91)		
2002-2005	1428	95	(94-96)						

Table 8.6 shows the patient survival estimates and confidence intervals for one, two, five and ten years post-transplant. There were no statistically significant differences in patient survival across the year groups, (p>0.1).

Table 8.6 **Long-term patient survival after first adult living donor kidney transplant in the UK, 1 January 1993 - 31 December 2005**

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Five year		Ten year	
1993-1995	290	98	(95-99)	97	(94-98)	94	(90-96)	89	(84-92)
1996-1998	448	99	(97-99)	98	(96-99)	95	(93-97)		
1999-2001	747	98	(97-99)	97	(96-98)	95	(93-96)		
2002-2005	1428	98	(98-99)						

8.1.2 Paediatric recipients

8.1.2.1 Deceased heartbeating donor transplants

Figure 8.4 shows long-term graft survival in paediatric (<18 years) recipients for first deceased heartbeating donor kidney only transplants in the UK. Graft survival estimates and confidence intervals are shown for each year group in **Table 8.7**. There have been significant improvements in one and five year survival over the year groups, p<0.04. Two year survival estimates do not differ significantly, (p>0.1).

Figure 8.4 **Long-term graft survival after first paediatric deceased heartbeating donor kidney only transplant in the UK, 1 January 1993 – 31 December 2005**

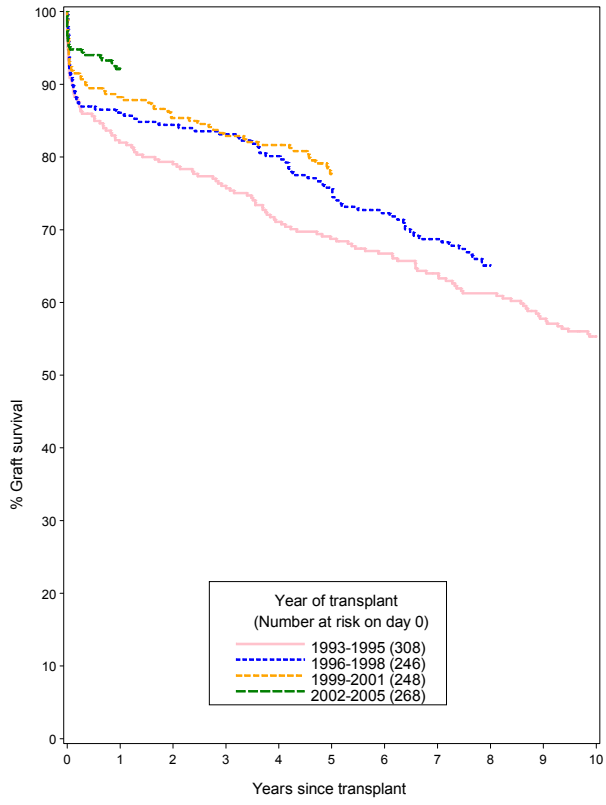


Table 8.7 Long-term graft survival after first paediatric deceased heartbeating donor kidney only transplant in the UK, 1 January 1993 - 31 December 2005

Year of transplant	No. at risk on day 0	% Graft survival (95% confidence interval) One year		Two year		Five year		Ten year	
1993-1995	308	82	(77-86)	79	(74-83)	69	(63-74)	55	(49-61)
1996-1998	246	86	(81-90)	84	(79-88)	76	(70-81)		
1999-2001	248	88	(84-92)	85	(80-89)	78	(72-82)		
2002-2005	268	92	(88-95)						

Table 8.8 shows the patient survival estimates and confidence intervals for one, two, five and ten years post-transplant. There have been improvements in one and five year survival over the year groups ($p<0.09$). Two year survival estimates do not differ significantly, ($p>0.1$).

Table 8.8 Long-term patient survival after first paediatric deceased heartbeating donor kidney only transplant in the UK, 1 January 1993 - 31 December 2005

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Five year		Ten year	
1993-1995	308	98	(95-99)	97	(95-99)	94	(91-96)	88	(83-91)
1996-1998	246	97	(94-99)	97	(93-98)	95	(91-97)		
1999-2001	248	99	(97-100)	99	(97-100)	98	(95-99)		
2002-2005	267	100	(-)						

8.1.2.2 Living donor transplants

Long-term graft survival in paediatric recipients for living donor kidney transplants in the UK is shown in **Figure 8.5**. **Table 8.9** shows graft survival estimates and confidence intervals for each year group. There were no statistically significant differences in graft survival across the year groups, (p>0.1).

Figure 8.5 Long-term graft survival after first paediatric living donor kidney only transplant in the UK, 1 January 1993 – 31 December 2005

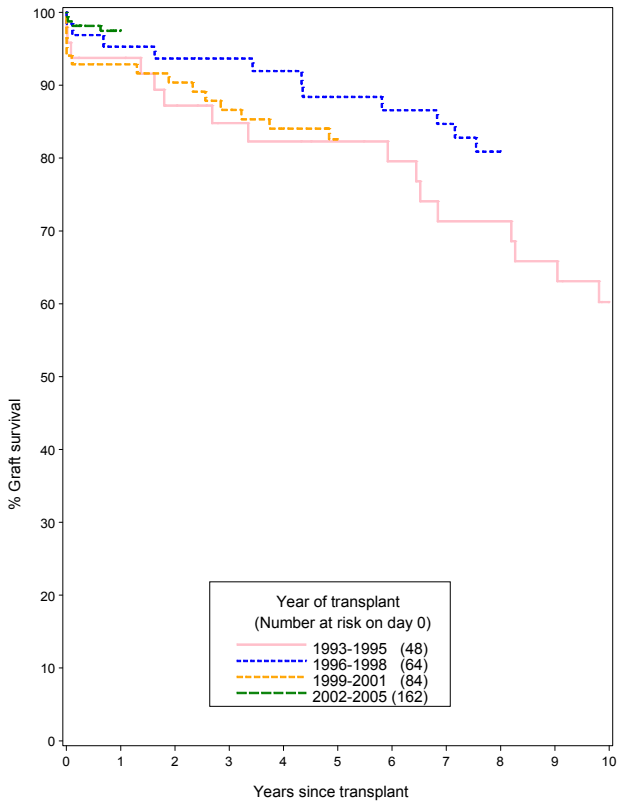


Table 8.9 Long-term graft survival after first paediatric living donor kidney transplant in the UK, 1 January 1993 - 31 December 2005

Year of transplant	No. at risk on day 0	% Graft survival (95% confidence interval) One year		Two year		Five year		Ten year	
1993-1995	48	94	(82-98)	87	(74-94)	82	(68-91)	60	(43-74)
1996-1998	64	95	(86-98)	94	(84-98)	88	(77-94)		
1999-2001	84	93	(85-97)	90	(82-95)	83	(72-89)		
2002-2005	162	97	(93-99)						

Table 8.10 shows the patient survival estimates and confidence intervals for one, two, five and ten years post-transplant. There were no statistically significant differences in patient survival across the year groups, (p>0.1).

Table 8.10 Long-term patient survival after first paediatric living donor kidney transplant in the UK, 1 January 1993 - 31 December 2005

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval)							
		One year		Two year		Five year		Ten year	
1993-1995	48	96	(84-99)	96	(84-99)	93	(81-98)	93	(81-98)
1996-1998	64	100	(-)	100	(-)	100	(-)		
1999-2001	85	98	(91-99)	96	(89-99)	95	(87-98)		
2002-2005	162	98	(94-99)						

There were insufficient paediatric recipients of first deceased non-heartbeating donor kidney only transplants to permit reliable analysis by year of transplant.

8.2 Pancreas graft and patient survival

National pancreas follow-up data were only available for transplants performed since 1 January 2001. There are insufficient data available to analyse long-term survival effects. **Figure 8.6** shows pancreas graft survival in recipients receiving their first deceased heartbeating donor pancreas transplant performed in the UK between 1 January 2002 and 31 December 2006, by type of transplant (simultaneous kidney/pancreas (SPK) and pancreas only). Graft survival estimates and confidence intervals are shown by transplant type at 30 days, 90 days and one year in **Table 8.11**.

Figure 8.6 **Pancreas graft survival after first deceased heartbeating donor transplant in the UK, 1 January 2002 – 31 December 2006**

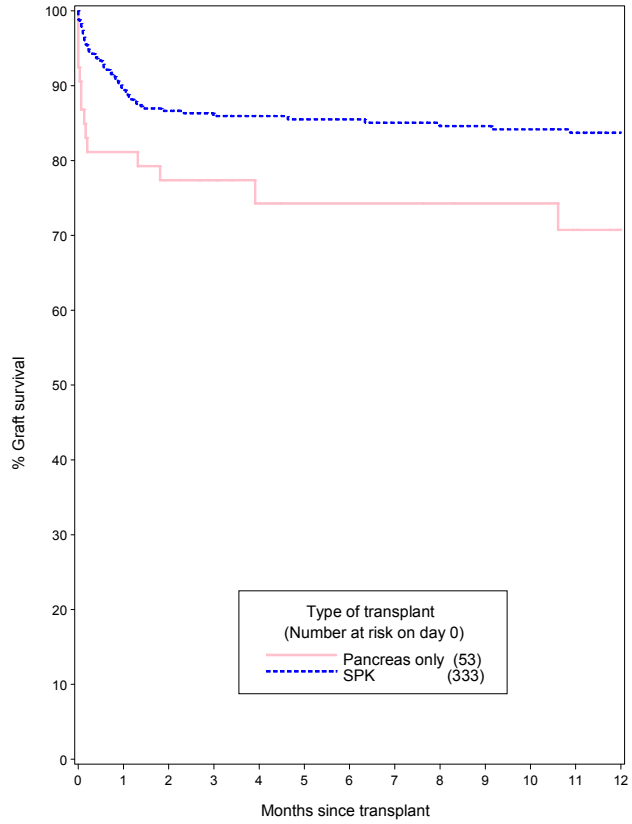


Table 8.11 **Pancreas graft survival after first heartbeating donor transplant in the UK, 1 January 2002 - 31 December 2006**

Transplant	No. at risk on day 0	% Graft survival (95% confidence interval) 30-day		90-day		One year	
Pancreas only	53	81	(68-89)	77	(64-86)	71	(55-82)
SPK	333	90	(86-93)	86	(82-90)	84	(79-87)

Table 8.12 **Pancreas patient survival after first heartbeating donor transplant in the UK, 1 January 2002 - 31 December 2006**

Transplant	No. at risk on day 0	% Patient survival (95% confidence interval) 30-day		90-day		One year	
Pancreas only	55	100	(-)	100	(-)	100	(-)
SPK	334	98	(96-99)	95	(92-97)	94	(90-96)

8.3 Cardiothoracic patient survival

8.3.1 Adult recipients

Long-term patient survival for adult (≥16 years) recipients after first heart only transplants is shown in **Figure 8.7**. Domino and deceased donor transplants are included as well as urgent and heterotopic transplants. **Table 8.13** shows the survival estimates and confidence intervals for one, two, five and ten years post-transplant. There was some evidence of a difference in five year survival over the year groups (p<0.1). One and two year survival estimates do not differ significantly, (p>0.1).

Figure 8.7 Long-term patient survival after first adult heart only transplant in the UK, 1 January 1993 – 31 December 2005

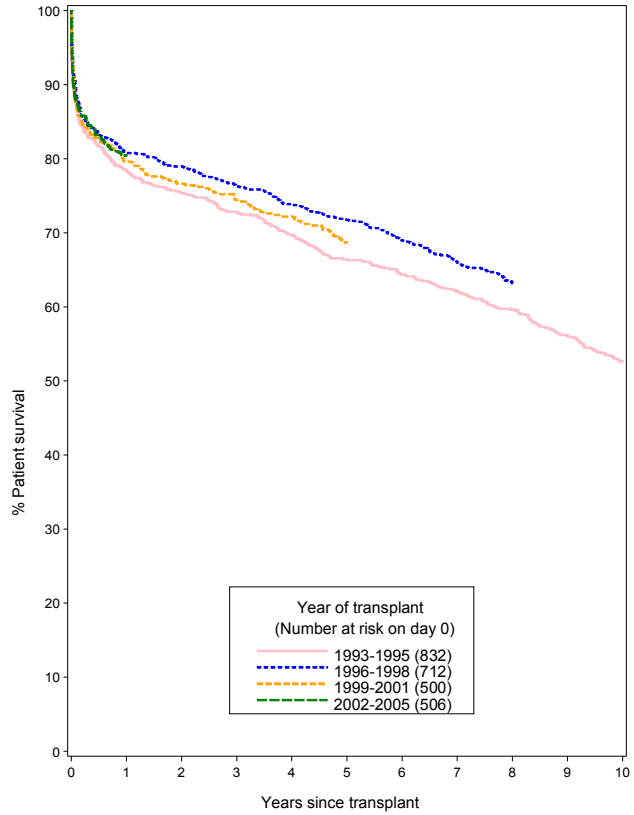


Table 8.13 Long-term patient survival after first adult heart only transplant in the UK, 1 January 1993 - 31 December 2005

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Five year		Ten year	
1993-1995	832	78	(75-81)	75	(72-78)	66	(63-70)	53	(49-56)
1996-1998	712	81	(78-84)	79	(76-82)	72	(68-75)		
1999-2001	500	80	(76-83)	77	(73-80)	69	(64-73)		
2002-2005	506	80	(77-84)						

Patient survival for adult recipients after first heart/lung block transplants is shown in **Figure 8.8**. Patient survival estimates and confidence intervals for each year group are shown in **Table 8.14**. There were no statistically significant differences in patient survival across the year groups, (p>0.1).

Figure 8.8 **Long-term patient survival after first adult heart/lung block transplant in the UK, 1 January 1993 – 31 December 2005**

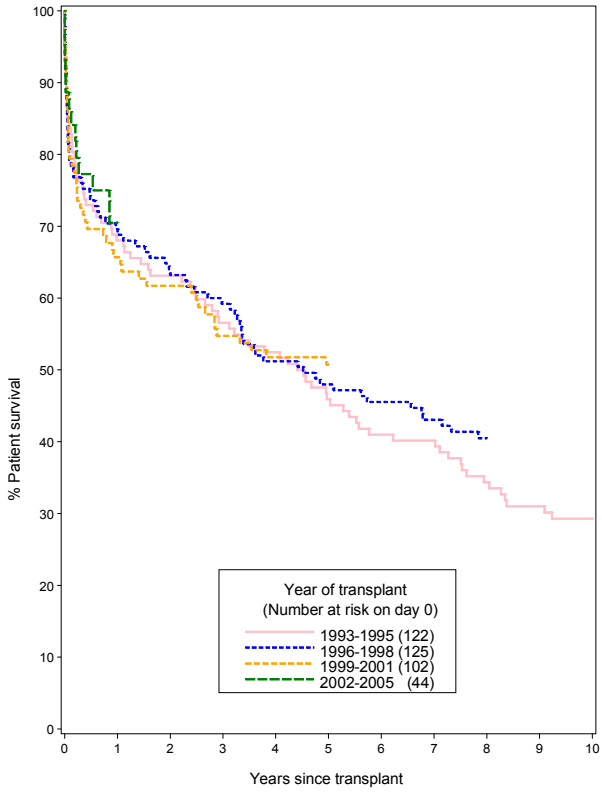


Table 8.14 **Long-term patient survival after first adult heart/lung block transplant in the UK, 1 January 1993 - 31 December 2005**

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Five year		Ten year	
1993-1995	122	68	(59-76)	63	(54-71)	46	(37-54)	29	(21-38)
1996-1998	125	70	(61-77)	63	(54-71)	48	(39-56)		
1999-2001	102	66	(56-74)	62	(52-70)	51	(41-60)		
2002-2005	44	70	(55-82)						

Patient survival for first deceased heartbeating lung only transplants for adult recipients is shown in **Figure 8.9**, with survival estimates and confidence intervals shown in **Table 8.15**. There is evidence of differences in one, two and five year patient survival across the year groups, $p<0.05$.

Figure 8.9 **Long-term patient survival after first adult deceased heartbeating donor lung only transplant in the UK, 1 January 1993 – 31 December 2005**

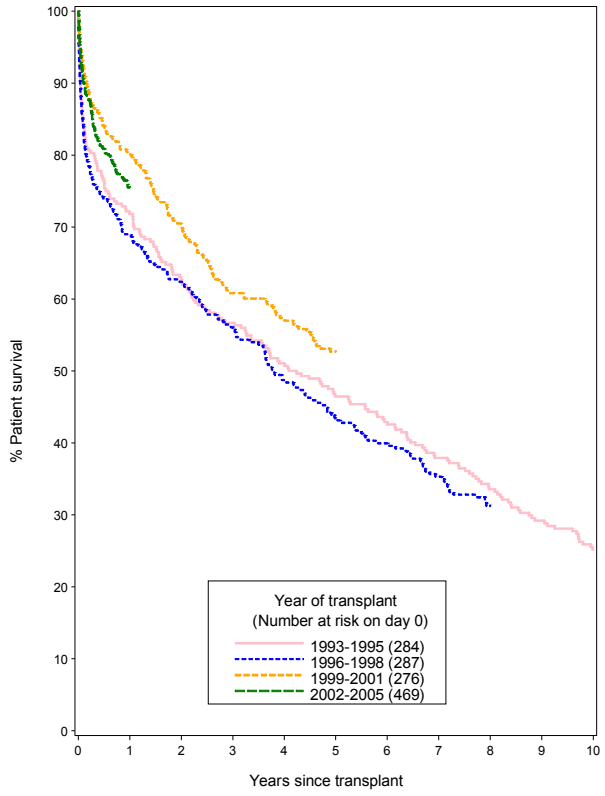


Table 8.15 **Long-term patient survival after first adult deceased heartbeating donor lung only transplant in the UK, 1 January 1993 - 31 December 2005**

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Five year		Ten year	
1993-1995	284	72	(66-77)	63	(57-68)	46	(41-52)	25	(20-30)
1996-1998	287	69	(63-74)	62	(56-68)	43	(37-49)		
1999-2001	276	80	(75-84)	70	(64-75)	53	(47-58)		
2002-2005	469	76	(71-79)						

8.3.2 Paediatric recipients

Long-term patient survival for paediatric recipients after first heart only transplant is shown in **Figure 8.10**. Domino and deceased donor transplants are included as well as urgent and heterotopic transplants. **Table 8.16** shows the survival estimates and confidence intervals for one, two, five and ten years post-transplant. There is evidence of an improvement in one year survival over the year groups, p<0.001, and some evidence of an improvement in two year survival, p<0.08, but five year estimates do not differ significantly, (p>0.1).

Figure 8.10 Long-term patient survival after first paediatric heart only transplant in the UK, 1 January 1993 – 31 December 2005

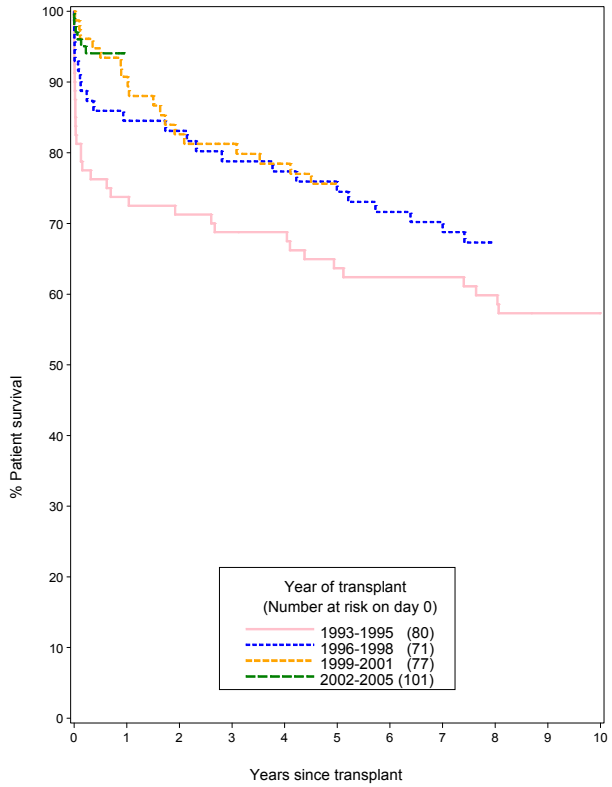


Table 8.16 Long-term patient survival after first paediatric heart only transplant in the UK, 1 January 1993 - 31 December 2005

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Five year		Ten year	
1993-1995	80	74	(63-82)	71	(60-80)	64	(52-73)	57	(46-67)
1996-1998	71	85	(74-91)	83	(72-90)	74	(63-83)		
1999-2001	77	91	(82-95)	83	(72-90)	76	(64-84)		
2002-2005	101	94	(87-97)						

The number of paediatric lung and heart/lung transplant recipients was too small to perform the analysis by year of transplant.

8.4 Liver patient survival

8.4.1 Adult recipients

Long-term patient survival for adult (≥ 17 years) recipients after first elective deceased heartbeating donor liver only transplants is shown in **Figure 8.11**. **Table 8.17** shows patient survival estimates at one, two, five and ten years post-transplant. There have been significant improvements in one and two year patient survival over the year groups, p<0.002, and some evidence of an improvement in five year patient survival (p<0.07).

Figure 8.11 Long-term patient survival after first elective adult deceased heartbeating donor liver only transplant in the UK, 1 January 1993 – 31 December 2005

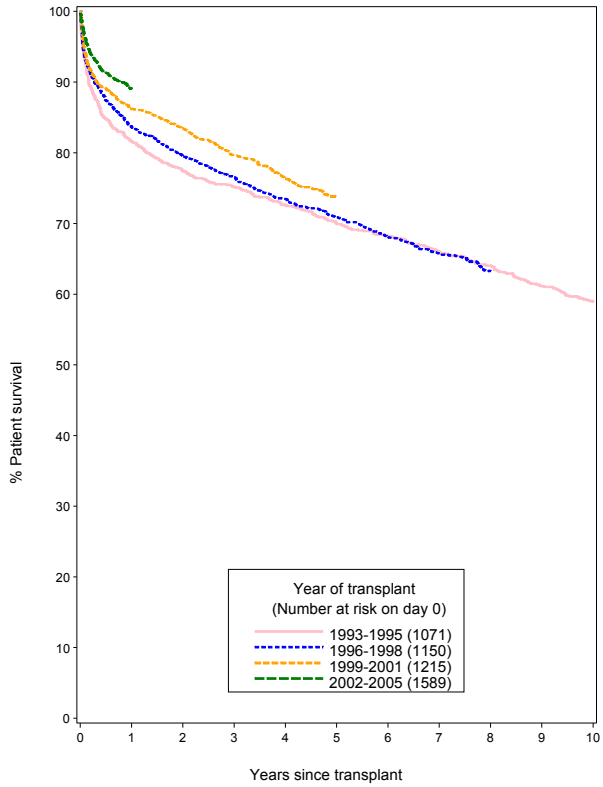
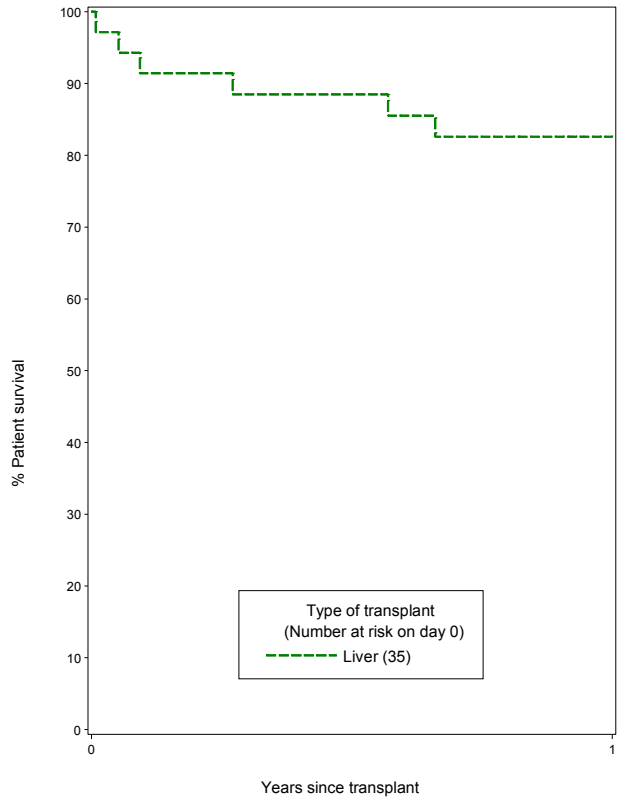


Table 8.17 Long-term patient survival after first elective adult deceased heartbeating donor liver only transplant in the UK, 1 January 1993 - 31 December 2005

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Five year		Ten year	
1993-1995	1071	82	(79-84)	77	(75-80)	70	(67-73)	59	(56-62)
1996-1998	1150	84	(81-86)	80	(77-82)	71	(68-73)		
1999-2001	1215	86	(84-88)	83	(81-85)	74	(71-76)		
2002-2005	1589	89	(87-91)						

Patient survival for adult (≥ 17 years) recipients after first elective deceased non-heartbeating donor liver only transplants is shown in **Figure 8.12**. The majority of non-heartbeating liver transplants have been performed since 1 January 2002, so there are insufficient data available to analyse long-term patient survival, but patient survival at one year is 83% (95% confidence interval: 65-92).

Figure 8.12 Liver patient survival after first elective adult deceased non-heartbeating donor transplant in the UK, 1 January 2002 – 31 December 2005



8.4.2 Paediatric recipients

Figure 8.13 and **Table 8.18** show long-term patient survival estimates for first elective deceased heartbeating donor liver only transplants in paediatric (<17 years) recipients. There have been no statistically significant improvements in one, two or five year patient survival over the year groups (p>0.1).

Figure 8.13 **Long-term patient survival after first elective paediatric deceased heartbeating donor liver only transplant in the UK, 1 January 1993 – 31 December 2005**

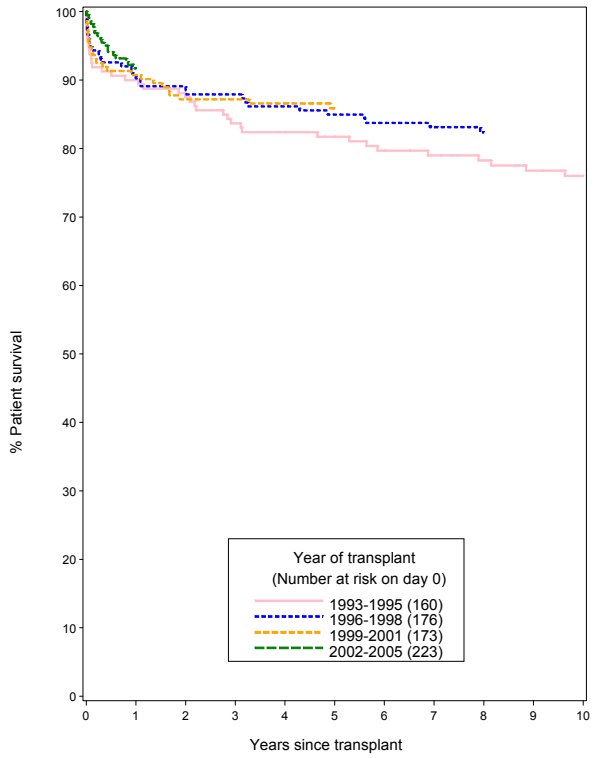


Table 8.18 **Long-term patient survival after first elective paediatric deceased heartbeating donor liver only transplant in the UK, 1 January 1993 – 31 December 2005**

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Five year		Ten year	
1993-1995	160	90	(84-94)	87	(81-92)	82	(75-87)	76	(68-82)
1996-1998	176	90	(85-94)	88	(83-92)	85	(79-89)		
1999-2001	173	91	(85-94)	87	(81-91)	86	(80-90)		
2002-2005	223	92	(87-95)						

The number of paediatric non-heartbeating donor liver transplant recipients was too small to estimate patient survival.

8.5 Cornea graft survival

Graft survival estimates for first penetrating keratoplasty (PK) are presented in **Figure 8.14** and **Table 8.19**. The one, two and five year graft survival estimates are 93%, 86% and 70%, respectively, for grafts between 1 January 2000 and 31 December 2006. Good quality cornea follow-up data were only available for transplants performed since 1 April 1999, so there are insufficient data available to compare graft survival over earlier time periods.

Figure 8.14 Cornea graft survival after first PKP graft in the UK, 1 January 2000 – 31 December 2006

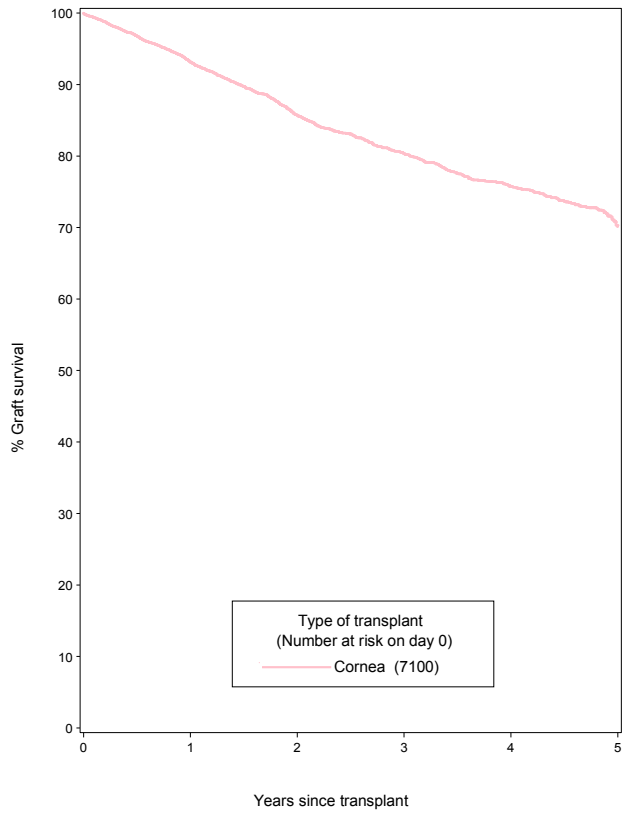


Table 8.19 Cornea graft survival after first PK in the UK, 1 January 2000 - 31 December 2006

No. at risk on day 0	% Graft survival (95% confidence interval)		
	One year	Two year	Five year
7100	93 (92-94)	86 (85-87)	70 (68-72)

9 NHS ORGAN DONOR REGISTER

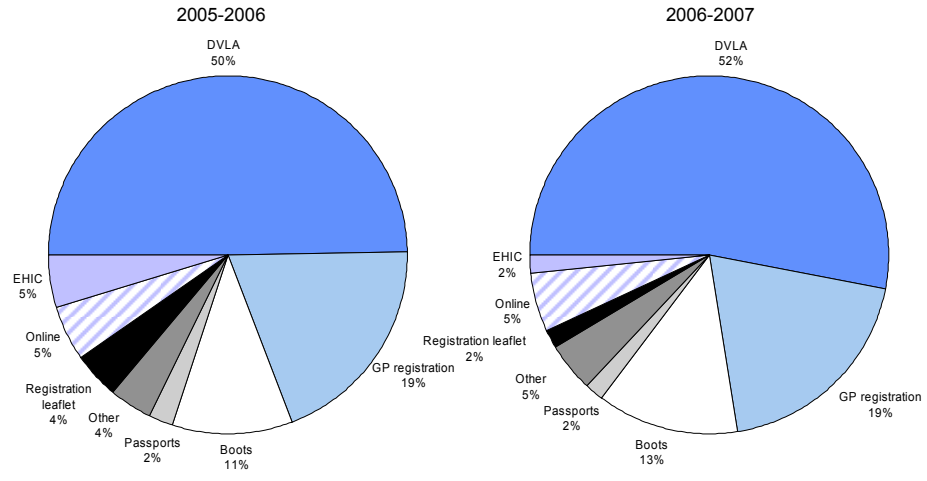
By the end of March 2007 the NHS Organ Donor Register (ODR) held 14,094,759 registrations. During the year data on the register were continually reviewed and validated.

Of the 793 deceased donors in 2006-2007, 25% were registered on the ODR compared with 23% in 2005-2006. Similarly, 34% of cornea-only donors in 2006-2007 were registered on the ODR compared with 30% in 2005-2006.

There are a number of registration routes: Health Department registration leaflets readily available in the community; campaigns in both national and regional newspapers and by community groups; the European Health Insurance Card; when registering as a patient with a General Practitioner (via 'Connecting for Health'); 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, online registrations via the UK Transplant website and by telephone.

The source of applications for registration on the ODR is illustrated in **Figure 9.1**. This figure shows that 19% of registrations in 2006-2007 arrived by means of GP surgeries, 53% from driving licence applications and reminders through the DVLA and 13% through the Boots Advantage Card route.

Figure 9.1 Source of applications for registration on the NHS Organ Donor Register, 1 April 2005 - 31 March 2007



At the end of March 2007 89% of registrations, where the information was available, 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 (67%) 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 9.1.**

Table 9.1 Preparedness of those registered on the NHS Organ Donor Register at 31 March 2007 to donate different organs*

Registrants prepared to donate all organs 89%

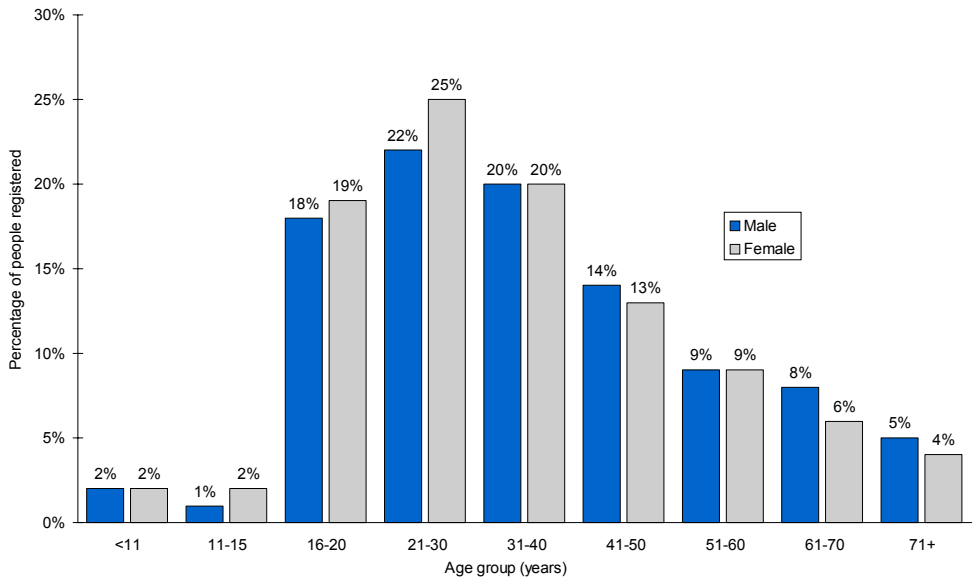
Of those not prepared to donate all organs ("restricted donors"):

Not prepared to donate:	"Restricted donors"	% of all Registrants
Kidneys	8	0.9
Pancreas	29	3.1
Heart	43	4.7
Lungs	23	2.5
Liver	18	1.9
Corneas	67	7.3

* This information was not available for 7% of the total registered

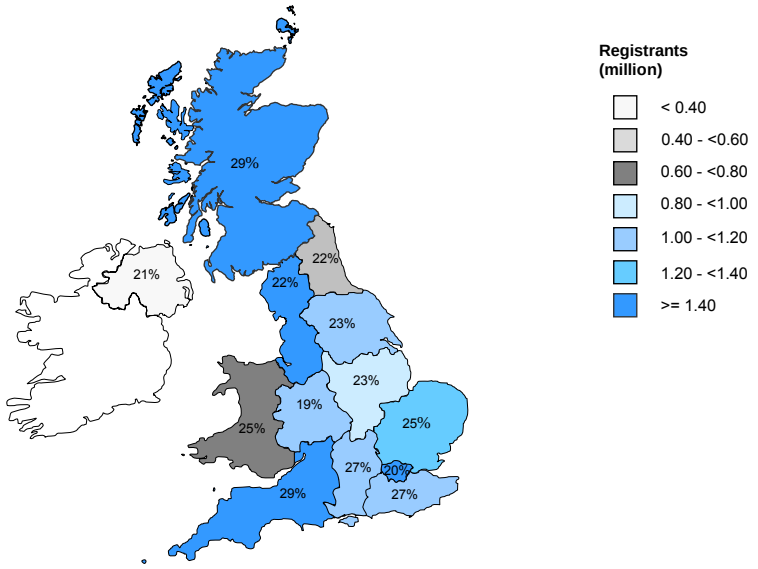
People of all ages are eligible for organ donor registration: the distribution of age by sex at time of registration is shown in **Figure 9.2**. The highest proportion of males and females, representing 22% and 25%, respectively, of registrations, are registered in the 21-30 years age group. The lowest proportions are in the under 11 and 11-15 age groups. Of all the registrations on the NHS Organ Donor Register, 46% were male and 54% were female.

Figure 9.2 Age and gender of people registered on the NHS Organ Donor Register by 31 March 2007



Those registered on the ODR come from all parts of the UK. **Figure 9.3** illustrates the percentage of the population registered in each Strategic Health Authority at 31 March 2007, and the number of registrations.

Figure 9.3 Proportion of population registered on the NHS Organ Donor Register by 31 March 2007, by Strategic Health Authority



10 NATIONAL POTENTIAL DONOR AUDIT

10.1 Introduction

In this chapter, summary data from the national Potential Donor Audit (PDA) covering the 24-month period from 1 January 2005 to 31 December 2006 are presented. The data comprise all audited patient deaths in UK Intensive Care Units (ICUs) in the time period, based on PDA forms received by UK Transplant on or before 13 April 2007, validated and input onto the National Transplant Database.

10.2 Definitions

Potential heartbeating (HB) donors are defined as patients for whom death was diagnosed following brain stem tests and who had no absolute medical contraindications to HB solid organ donation.

Potential non-heartbeating (NHB) donors are defined as patients suitable for NHB donation, with no absolute medical contraindications and for whom treatment was withdrawn.

The referral rate is the percentage of potential donors referred to a coordinator.

The approach rate is the percentage of potential donors for whom solid organ donation was considered, whose family were approached for consent to donation.

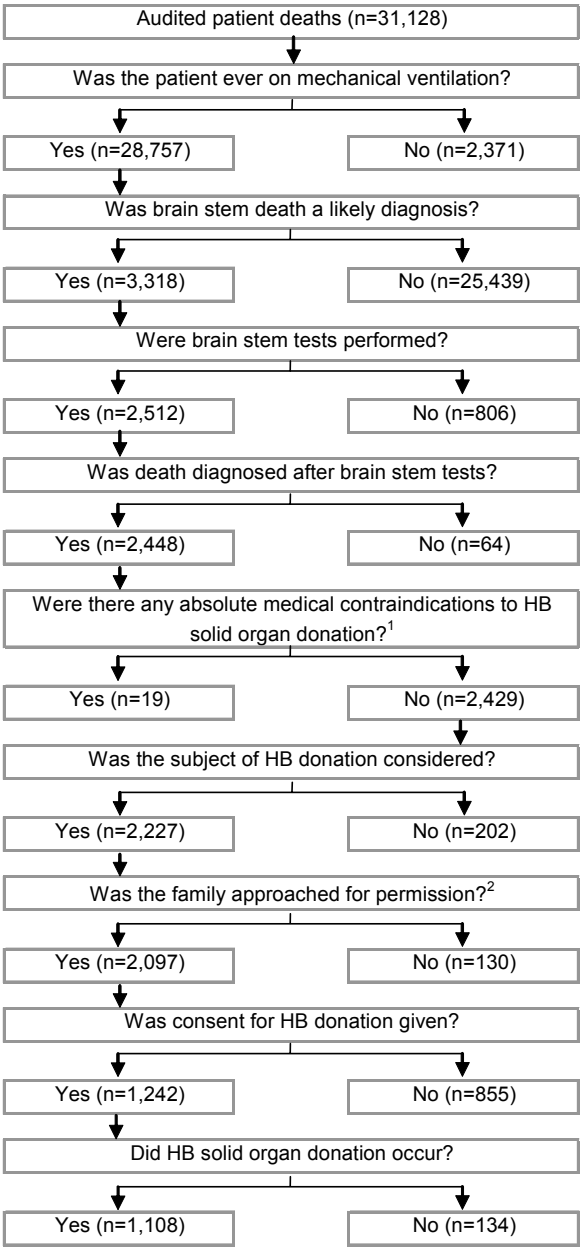
The consent rate is the percentage of potential donors whose families were approached or made the approach for consent to donation who gave consent.

The conversion rate is the percentage of potential donors who became actual donors.

10.3 Breakdown of audited deaths in ICUs

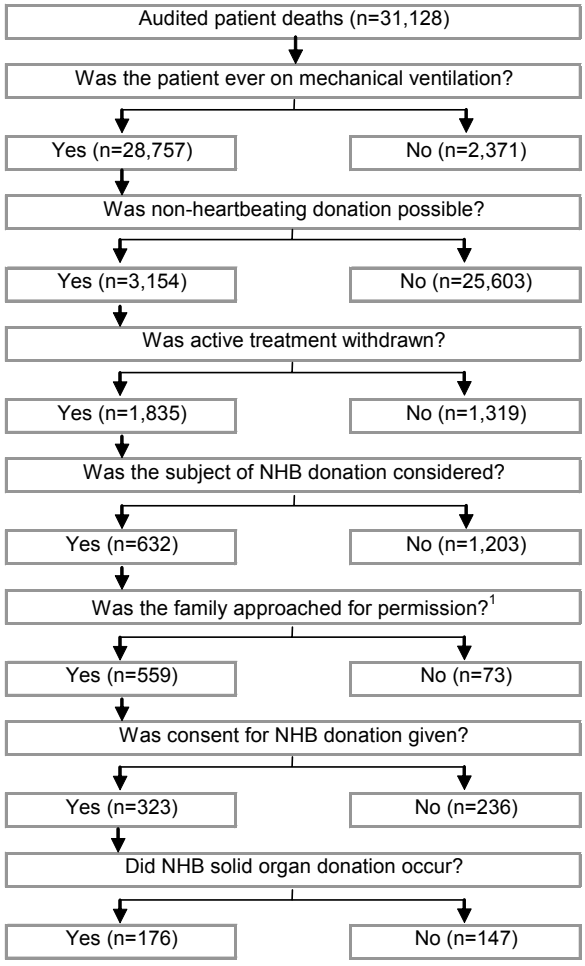
In the 24-month period there were a total of 31,128 audited patient deaths in UK ICUs. **Figures 10.1** and **10.2** show a detailed breakdown from the number of audited patient deaths to the number of HB and NHB solid organ donors, respectively. **Table 10.1** shows the key percentages calculated from the flow chart information.

Figure 10.1 HB donation



[1] Either known or suspected CJD or known HIV
[2] Includes cases where the family made the approach

Figure 10.2 NHB donation



[1] Includes cases where the family made the approach

Table 10.1 Summary of key percentages

	HB	NHB
Potential donors	2,429	1,835
Referral rate	79%	29%
Approach rate	94%	88%
Consent rate	59%	58%
Conversion rate	46%	10%

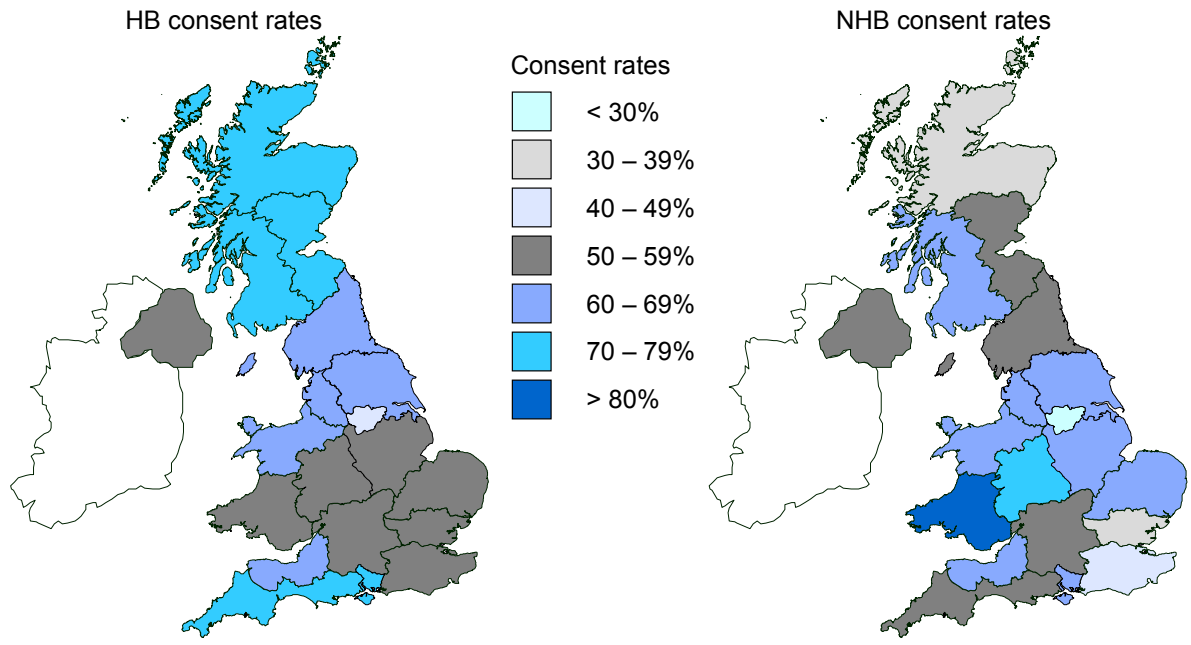
10.4 Consent rates

The overall HB consent rate was 59% and the 95% confidence limits for this percentage range from 57% to 61%. For NHB donation, the overall consent rate was 58% and the 95% confidence limits range from 54% to 62%.

Consent rates by donor transplant coordinator team are illustrated in **Figure 10.3** for both HB and NHB donation. Caution should be applied when interpreting these consent rates as no adjustment has been made for the mix of patients in terms of age, sex, ethnicity and temporal effects.

The HB consent rates range from 47% in Sheffield to 79% in Plymouth and the NHB consent rates range from 25% in Sheffield to 85% in Cardiff, although the numbers used in the NHB analysis are very small, so additional caution should be applied when interpreting the rates. **Appendix IV** contains the number of families approached and the precise HB and NHB consent rates for each donor transplant co-ordinator team.

Figure 10.3 Consent rates by donor transplant coordinator team



APPENDICES

Appendix IA provides details of the 634 deceased heartbeating solid organ donors reported in 2006-2007. 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 159 deceased 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 IV gives the refusal rate for each donor transplant co-ordinator team from the national Potential Donor Audit.

Appendix IA Deceased heartbeating solid organ donors and donated organs in the UK, 1 April 2006 - 31 March 2007 (2005-2006), by donating hospital

Donating hospital	All donors		Multi-organ donor		Kidney	Heart	Lung	Liver	Pancreas
East Midlands									
Boston, Pilgrim Hospital	1	(2)	1	(2)	2	0	0	1	0
Chesterfield, Chesterfield Royal Hospital	2	(4)	2	(4)	4	1	2	2	1
Derby, Derbyshire Royal Infirmary	0	(1)	0	(1)	0	0	0	0	0
Kettering, Kettering General Hospital	3	(4)	3	(4)	4	0	0	3	0
Leicester, Glenfield General Hospital	1	(0)	1	(0)	2	1	0	1	0
Leicester, Leicester Royal Infirmary	5	(3)	5	(2)	10	2	0	5	3
Lincoln, Lincoln County Hospital	1	(1)	1	(1)	2	0	0	1	1
Northampton, Northampton General Hospital	2	(1)	2	(1)	4	0	0	2	2
Nottingham, Nottingham City Hospital	1	(0)	1	(0)	2	1	0	1	1
Nottingham, Nottingham University Hospital	11	(13)	10	(12)	21	4	4	9	8
Sutton-In-Ashfield, King's Mill Hospital	1	(1)	1	(1)	2	0	1	1	1
Worksop, Bassetlaw District General Hospital	1	(1)	1	(1)	2	1	0	1	1
Total	**29**	**(31)**	**28**	**(29)**	**55**	**10**	**7**	**27**	**18**
East of England									
Basildon, Basildon Hospital	4	(0)	4	(0)	8	0	0	4	2
Bedford, Bedford Hospital	2	(0)	2	(0)	4	0	2	2	0
Bury St Edmunds, West Suffolk Hospital	2	(0)	2	(0)	3	1	1	2	2
Cambridge, Addenbrooke's Hospital	14	(12)	14	(11)	28	6	4	14	5
Chelmsford, Broomfield Hospital	0	(3)	0	(3)	0	0	0	0	0
Colchester, Colchester General Hospital	0	(1)	0	(1)	0	0	0	0	0
Great Yarmouth, James Paget Hospital	1	(2)	1	(2)	2	0	2	1	0
Harlow, Princess Alexandra Hospital	2	(3)	2	(3)	4	1	0	2	1
Hemel Hempstead, Hemel Hempstead General Hospital	5	(4)	5	(3)	10	0	0	5	3
Huntingdon, Hinchingbrooke Hospital	0	(2)	0	(1)	0	0	0	0	0
Ipswich, Ipswich Hospital	1	(4)	1	(4)	2	1	2	1	0
Kings Lynn, The Queen Elizabeth Hospital	0	(2)	0	(1)	0	0	0	0	0
Luton, Luton And Dunstable Hospital	1	(1)	1	(1)	2	0	0	1	0
Norwich, Norfolk And Norwich University Hospital	3	(3)	3	(3)	6	1	2	3	2
Papworth, Papworth Hospital	3	(0)	2	(0)	6	0	2	2	1
Stevenage, Lister Hospital	3	(7)	3	(7)	6	1	1	3	1

Donating hospital	All donors		Multi-organ donor		Kidney	Heart	Lung	Liver	Pancreas
Watford, Watford General Hospital	3	(2)	2	(2)	6	0	0	2	0
Welwyn Garden City, Queen Elizabeth Hospital	4	(3)	4	(3)	8	1	2	4	2
Westcliff-On-Sea, Southend Hospital	5	(0)	4	(0)	10	0	0	4	1
Total	**53**	**(49)**	**50**	**(45)**	**105**	**12**	**18**	**50**	**20**
London									
Barnet, Barnet General Hospital	3	(1)	3	(0)	6	1	1	3	0
Enfield, Chase Farm Hospital	1	(1)	1	(0)	2	0	0	1	0
Harefield, Harefield Hospital	0	(3)	0	(2)	0	0	0	0	0
Harrow, Northwick Park Hospital	1	(1)	1	(1)	2	0	0	1	0
Isleworth, West Middlesex University Hospital	3	(1)	3	(1)	6	1	0	3	1
Kingston, Kingston Hospital	0	(1)	0	(1)	0	0	0	0	0
London, Central Middlesex Hospital	0	(1)	0	(1)	0	0	0	0	0
London, Charing Cross Hospital	10	(7)	10	(6)	20	1	2	10	1
London, Great Ormond Street Hospital For Children	2	(4)	1	(3)	4	0	0	1	0
London, King's College Hospital	12	(7)	11	(7)	22	0	2	12	4
London, Nat. Hosp. For Neurology And Neurosurgery	3	(5)	3	(5)	6	1	2	3	2
London, Newham General Hospital	1	(0)	1	(0)	2	0	0	1	1
London, North Middlesex Hospital	1	(1)	1	(1)	2	0	0	1	1
London, Queen Elizabeth Hospital	3	(6)	2	(5)	4	0	0	3	1
London, Royal Brompton Hospital	1	(2)	1	(1)	2	0	0	1	0
London, Royal Free Hospital	8	(9)	8	(8)	16	4	5	8	4
London, St George's Hospital	10	(9)	10	(9)	20	4	5	10	6
London, St Mary's Hospital	0	(2)	0	(2)	0	0	0	0	0
London, St Thomas' Hospital	1	(3)	1	(3)	2	0	0	1	0
London, The Royal London Hospital (Whitechapel)	8	(9)	8	(9)	16	2	3	8	3
London, The Wellington Hospital	1	(0)	1	(0)	2	0	2	1	0
London, The Whittington Hospital	1	(0)	1	(0)	2	0	0	1	0
London, University College Hospital	0	(1)	0	(1)	0	0	0	0	0
London, University Hospital Lewisham	1	(2)	1	(1)	2	0	2	1	1
Orpington, Princess Royal University Hospital	1	(0)	1	(0)	2	1	0	1	1
Romford, Oldchurch Hospital	7	(9)	7	(8)	13	4	6	6	5
Romford, Queens Hospital	6	(0)	6	(0)	10	1	2	6	3
Sidcup, Queen Mary's Hospital	3	(2)	3	(2)	6	1	3	3	1
Southall, Ealing Hospital	1	(0)	1	(0)	2	0	0	1	0

Donating hospital	All donors		Multi-organ donor		Kidney	Heart	Lung	Liver	Pancreas
Uxbridge, Hillingdon Hospital	3	(0)	2	(0)	4	0	2	3	1
Total	**92**	**(87)**	**88**	**(77)**	**175**	**21**	**37**	**90**	**36**
North East									
Ashington, Wansbeck Hospital	1	(1)	1	(1)	2	0	0	1	0
Durham, University Hospital Of North Durham	2	(1)	2	(1)	4	0	2	2	1
Gateshead, Queen Elizabeth Hospital	2	(1)	1	(1)	4	0	0	1	0
Hartlepool, University Hospital Of Hartlepool	2	(4)	2	(4)	4	1	2	2	2
Middlesbrough, The James Cook University Hospital	14	(12)	13	(9)	28	5	4	13	3
Newcastle, Newcastle General Hospital	15	(19)	12	(12)	30	5	8	12	6
North Shields, North Tyneside General Hospital	0	(1)	0	(1)	0	0	0	0	0
Stockton-On-Tees, University Hospital of North Tees	1	(3)	1	(3)	2	0	1	1	0
Sunderland, Sunderland Royal Hospital	1	(0)	1	(0)	2	1	2	1	0
Total	**38**	**(42)**	**33**	**(32)**	**76**	**12**	**19**	**33**	**12**
North West									
Ashton-Under-Lyme, Tameside General Hospital	3	(2)	2	(2)	4	0	1	3	1
Barrow-In-Furness, Furness General Hospital	2	(1)	2	(1)	4	1	0	2	0
Blackburn, Royal Blackburn Hospital	3	(2)	3	(1)	6	3	2	3	2
Blackpool, Blackpool Victoria Hospital	4	(4)	4	(3)	6	3	2	4	1
Bolton, Royal Bolton Hospital	2	(4)	1	(4)	2	0	0	2	0
Burnley, Burnley General Hospital	0	(1)	0	(1)	0	0	0	0	0
Bury, Fairfield General Hospital	0	(1)	0	(0)	0	0	0	0	0
Carlisle, Cumberland Infirmary	1	(1)	1	(1)	2	0	0	1	0
Chester, Countess Of Chester Hospital	8	(3)	8	(3)	15	3	3	8	1
Crewe, Leighton Hospital	1	(1)	1	(1)	2	0	0	1	0
Lancaster, Royal Lancaster Infirmary	0	(1)	0	(0)	0	0	0	0	0
Liverpool, Alder Hey Children's Hospital	2	(2)	2	(1)	4	1	2	2	1
Liverpool, Royal Liverpool University Hospital	2	(0)	2	(0)	4	0	0	2	0
Liverpool, The Cardiothoracic Centre	1	(0)	0	(0)	0	0	0	1	0
Liverpool, University Hospital Aintree	5	(2)	3	(0)	6	2	2	4	0
Liverpool, Walton Centre For Neurology And Neurosurgery	13	(8)	13	(8)	26	3	8	13	3
Macclesfield, Macclesfield District General Hospital	1	(0)	0	(0)	0	0	0	1	0
Manchester, Manchester Royal Infirmary	3	(0)	3	(0)	6	0	2	3	2
Manchester, North Manchester General Hospital	1	(2)	1	(2)	2	0	0	1	0

Donating hospital	All donors		Multi-organ donor		Kidney	Heart	Lung	Liver	Pancreas
Manchester, Royal Manchester Childrens Hospital (Pendlebury)	2	(2)	2	(2)	4	0	4	2	2
Manchester, Wythenshawe Hospital	3	(0)	3	(0)	6	0	3	3	2
Oldham, Royal Oldham Hospital (Rochdale Road)	2	(3)	2	(3)	4	2	4	2	0
Prescot, Whiston Hospital	5	(5)	4	(5)	8	1	3	5	1
Preston, Royal Preston Hospital	3	(11)	3	(8)	6	0	0	3	1
Rochdale, Rochdale Infirmary	0	(1)	0	(1)	0	0	0	0	0
Runcorn, Halton General Hospital	0	(1)	0	(1)	0	0	0	0	0
Salford, Hope Hospital	13	(10)	12	(10)	26	5	8	11	6
Southport, Southport District General Hospital	1	(0)	1	(0)	2	0	1	1	1
Stockport, Stepping Hill Hospital	1	(2)	0	(2)	0	0	0	1	0
Warrington, Warrington Hospital	0	(4)	0	(4)	0	0	0	0	0
Wigan, Royal Albert Edward Infirmary	1	(1)	1	(1)	2	0	0	1	1
Wirral, Arrowe Park Hospital	1	(1)	1	(1)	2	0	2	1	0
Total	**84**	**(76)**	**75**	**(66)**	**149**	**24**	**47**	**81**	**25**
South Central									
Aylesbury, Stoke Mandeville Hospital	1	(1)	1	(1)	2	0	0	1	1
Banbury, Horton General Hospital	0	(1)	0	(1)	0	0	0	0	0
Basingstoke, North Hampshire Hospital	2	(2)	1	(2)	4	0	0	1	0
Milton Keynes, Milton Keynes General Hospital	0	(3)	0	(3)	0	0	0	0	0
Newport, St Mary's Hospital	1	(1)	1	(1)	2	0	0	1	1
Oxford, John Radcliffe Hospital	5	(6)	5	(4)	10	1	4	4	4
Oxford, Radcliffe Infirmary	6	(7)	6	(6)	12	0	0	6	3
Portsmouth, Queen Alexandra Hospital	4	(4)	4	(4)	8	0	0	4	0
Reading, Royal Berkshire Hospital	2	(4)	2	(3)	4	0	2	2	2
Slough, Wexham Park Hospital	3	(1)	3	(1)	6	2	4	3	2
Southampton, Southampton University Hospitals	3	(7)	3	(7)	6	0	2	3	2
Winchester, Royal Hampshire County Hospital	1	(0)	1	(0)	2	0	0	1	1
Total	**28**	**(37)**	**27**	**(33)**	**56**	**3**	**12**	**26**	**16**
South East Coast									
Ashford, William Harvey Hospital	2	(2)	2	(2)	4	1	0	2	0
Brighton, Royal Sussex County Hospital	5	(4)	5	(3)	10	1	0	5	4
Camberley, Frimley Park Hospital	0	(4)	0	(4)	0	0	0	0	0
Canterbury, Kent And Canterbury Hospital	0	(1)	0	(1)	0	0	0	0	0

Donating hospital	All donors		Multi-organ donor		Kidney	Heart	Lung	Liver	Pancreas
Chertsey, St Peter's Hospital	1	(0)	1	(0)	2	0	0	1	1
Chichester, St Richard's Hospital	2	(2)	2	(1)	4	0	0	2	1
Dartford, Darent Valley Hospital	1	(2)	1	(2)	2	0	0	1	1
Eastbourne, Eastbourne District General Hospital	1	(2)	1	(2)	2	0	0	1	0
Epsom General Hospital	0	(2)	0	(2)	0	0	0	0	0
Gillingham, Medway Hospital	2	(2)	2	(2)	4	0	0	2	2
Guildford, Royal Surrey County Hospital	1	(2)	0	(2)	2	0	0	0	0
Hastings, Conquest Hospital	2	(2)	1	(2)	4	1	0	1	0
Haywards Heath, Hurstwood Park Hospital	3	(2)	3	(2)	6	2	4	3	2
Haywards Heath, Princess Royal Hospital	1	(0)	0	(0)	0	0	0	1	0
Maidstone, Maidstone District General Hospital	3	(3)	3	(3)	6	1	0	3	1
Margate, Queen Elizabeth The Queen Mother Hospital	2	(1)	2	(1)	4	0	0	2	2
Redhill, East Surrey Hospital	5	(5)	5	(3)	10	2	2	5	2
Tunbridge Wells, Kent And Sussex Hospital	2	(2)	2	(2)	4	0	2	2	2
Worthing, Worthing Hospital	4	(1)	3	(1)	6	0	0	4	3
Total	**37**	**(39)**	**33**	**(35)**	**70**	**8**	**8**	**35**	**21**
South West									
Barnstaple, North Devon District Hospital	2	(1)	1	(1)	4	1	0	1	1
Bath, Royal United Hospital	0	(2)	0	(1)	0	0	0	0	0
Bournemouth, Royal Bournemouth General Hospital	1	(1)	1	(1)	2	0	0	1	1
Bristol, Bristol Royal Hospital For Children	1	(0)	1	(0)	0	0	0	1	1
Bristol, Bristol Royal Infirmary	1	(1)	1	(1)	2	0	0	1	1
Bristol, Frenchay Hospital	6	(9)	6	(8)	12	2	6	6	2
Bristol, Southmead Hospital	0	(3)	0	(3)	0	0	0	0	0
Cheltenham, Cheltenham General Hospital	1	(1)	1	(1)	2	0	0	1	1
Dorchester, Dorset County Hospital	1	(3)	1	(3)	2	0	0	1	1
Exeter, Royal Devon And Exeter Hospital (Wonford)	2	(2)	1	(2)	2	0	0	2	0
Gloucester, Gloucestershire Royal Hospital	4	(2)	4	(2)	8	1	0	4	3
Plymouth, Derriford Hospital	10	(8)	9	(7)	18	0	2	10	2
Poole, Poole General Hospital	5	(3)	5	(3)	10	1	0	5	2
Salisbury, Salisbury District Hospital	1	(3)	1	(3)	2	0	0	1	1
Swindon, Great Western Hospital	4	(4)	3	(3)	5	1	2	4	2
Taunton, Taunton And Somerset Hospital (Musgrove Park)	1	(4)	1	(2)	2	0	0	1	0
Torquay, Torbay Hospital	1	(1)	1	(1)	2	1	2	1	1

Donating hospital	All donors		Multi-organ donor		Kidney	Heart	Lung	Liver	Pancreas
Truro, Royal Cornwall Hospital (Treliske)	3	(1)	2	(1)	6	2	2	2	1
Weston-Super-Mare, Weston-Super-Mare General Hospital	0	(3)	0	(3)	0	0	0	0	0
Yeovil, Yeovil District Hospital	1	(0)	0	(0)	2	0	0	0	0
Total	**45**	**(52)**	**39**	**(46)**	**81**	**9**	**14**	**42**	**20**
West Midlands									
Birmingham, Birmingham Heartlands Hospital	4	(1)	3	(0)	5	1	2	3	1
Birmingham, City Hospital	1	(1)	1	(1)	2	1	2	1	0
Birmingham, Diana Princess Of Wales Children Hospital	1	(0)	1	(0)	2	0	0	1	0
Birmingham, Queen Elizabeth Hospital	4	(8)	3	(6)	6	1	2	4	1
Birmingham, Selly Oak Hospital	5	(10)	4	(8)	10	1	8	4	2
Coventry, University Hospital	5	(10)	5	(9)	10	3	2	5	3
Dudley, Russells Hall Hospital	2	(3)	2	(3)	4	1	0	2	0
Hereford, The County Hospital	0	(3)	0	(3)	0	0	0	0	0
Nuneaton, George Eliot Hospital	3	(1)	2	(1)	4	0	0	3	1
Redditch, The Alexandra Hospital	0	(2)	0	(2)	0	0	0	0	0
Shrewsbury, Royal Shrewsbury Hospital	4	(2)	4	(2)	8	0	2	4	0
Solihull, Solihull Hospital	1	(0)	1	(0)	2	0	2	1	1
Stafford, Stafford District General Hospital	0	(3)	0	(3)	0	0	0	0	0
Stoke-On-Trent, Stoke City General Hospital	3	(1)	2	(1)	6	0	3	2	1
Stoke, North Staffordshire Royal Infirmary	9	(5)	8	(3)	16	1	2	9	3
Sutton Coldfield, Good Hope District General Hosp.	1	(1)	1	(1)	2	0	0	1	0
Telford, The Princess Royal Hospital	2	(1)	2	(1)	4	0	2	2	1
Walsall, Manor Hospital	2	(1)	2	(1)	4	1	0	2	0
Warwick, Warwick Hospital	0	(2)	0	(2)	0	0	0	0	0
West Bromwich, Sandwell General Hospital	0	(2)	0	(2)	0	0	0	0	0
Wolverhampton, New Cross Hospital	2	(2)	2	(2)	4	1	1	2	1
Worcestershire Royal Hospital	1	(3)	1	(2)	2	0	0	1	0
Total	**50**	**(62)**	**44**	**(53)**	**91**	**11**	**28**	**47**	**15**
Yorkshire and the Humber									
Barnsley, Barnsley District General Hospital	2	(0)	1	(0)	4	0	0	1	0
Bradford, Bradford Royal Infirmary	1	(4)	1	(4)	2	1	0	1	1
Dewsbury, Dewsbury And District Hospital	1	(1)	1	(1)	2	1	2	1	0
Doncaster, Doncaster Royal Infirmary	3	(1)	3	(1)	6	1	4	1	0

Donating hospital	All donors		Multi-organ donor		Kidney	Heart	Lung	Liver	Pancreas
Grimsby, Diana Princess Of Wales Hospital	2	(4)	2	(4)	4	0	2	2	1
Halifax, Calderdale Royal Hospital	1	(3)	1	(3)	2	0	2	0	0
Harrogate, Harrogate District Hospital	1	(2)	1	(2)	2	0	0	1	0
Huddersfield, Huddersfield Royal Infirmary	3	(2)	1	(1)	4	0	0	2	0
Hull, Hull Royal Infirmary	5	(7)	5	(6)	10	3	4	4	2
Keighley, Airedale General Hospital	1	(0)	1	(0)	2	0	0	1	1
Leeds, Leeds General Infirmary	8	(11)	8	(11)	16	3	7	7	3
Leeds, St James's University Hospital	2	(3)	2	(2)	4	1	1	2	2
Northallerton, Friarage Hospital	2	(0)	2	(0)	4	0	0	2	1
Pontefract, Pontefract General Infirmary	0	(2)	0	(2)	0	0	0	0	0
Rotherham, Rotherham District General Hospital	0	(2)	0	(2)	0	0	0	0	0
Scarborough, Scarborough General Hospital	1	(0)	1	(0)	2	0	0	1	0
Scunthorpe, Scunthorpe General Hospital	5	(5)	5	(3)	10	2	4	5	3
Sheffield, Northern General Hospital	2	(2)	1	(1)	4	0	0	1	0
Sheffield, Royal Hallamshire Hospital	12	(5)	12	(5)	24	5	6	12	2
Sheffield, Sheffield Children's Hospital	1	(1)	1	(0)	2	1	0	1	0
York, York District Hospital	2	(3)	2	(3)	4	1	0	2	0
Total	**55**	**(58)**	**51**	**(51)**	**108**	**19**	**32**	**47**	**16**
Channel Islands									
St Helier, Jersey General Hospital	1	(1)	1	(1)	2	0	0	1	1
St Martins, Princess Elizabeth Hospital	0	(1)	0	(1)	0	0	0	0	0
Total	1	(2)	1	(2)	2	0	0	1	1
Isle of Man									
Douglas, Nobles I-O-M Hospital	1	(2)	1	(2)	2	0	2	1	0
Total	1	(2)	1	(2)	2	0	2	1	0
England	**513**	**(537)**	**470**	**(471)**	**970**	**129**	**224**	**480**	**200**
Northern Ireland									
Belfast, Antrim Hospital	0	(1)	0	(1)	0	0	0	0	0
Belfast, Belfast City Hospital	1	(0)	1	(0)	2	0	0	1	0
Belfast, Mater Infirmorum Hospital	1	(1)	0	(1)	2	0	0	0	0
Belfast, Royal Belfast Hospital For Sick Children	1	(2)	1	(2)	2	1	0	1	1

Donating hospital	All donors		Multi-organ donor		Kidney	Heart	Lung	Liver	Pancreas
Belfast, Royal Victoria Hospital	17	(12)	16	(9)	33	4	6	15	3
Belfast, The Ulster Hospital	6	(0)	6	(0)	12	0	3	6	0
Coleraine, Causeway Hospital	2	(0)	2	(0)	4	0	0	2	0
Enniskillen, Erne Hospital	2	(3)	2	(2)	4	0	2	2	1
Londonderry, Altnagelvin Area Hospital	3	(1)	3	(1)	5	1	4	3	1
Portadown, Craigavon Area Hospital	2	(0)	2	(0)	4	1	0	2	1
Total	**35**	**(20)**	**33**	**(16)**	**68**	**7**	**15**	**32**	**7**
Scotland									
Aberdeen, Aberdeen Royal Infirmary	3	(10)	3	(8)	6	1	0	3	3
Dumfries, Dumfries And Galloway Royal Infirmary	3	(1)	3	(1)	6	1	0	2	1
Dundee, Ninewells Hospital	2	(4)	2	(4)	4	0	0	2	1
Dunfermline, Queen Margaret Hospital	0	(3)	0	(2)	0	0	0	0	0
East Kilbride, Hairmyres Hospital	3	(0)	3	(0)	6	0	0	3	1
Edinburgh, Royal Hospital For Sick Children	1	(0)	1	(0)	2	1	0	1	1
Edinburgh, Royal Infirmary Of Edinburgh	6	(2)	6	(2)	12	0	6	5	1
Edinburgh, Western General Hospital	5	(6)	5	(6)	10	3	0	4	1
Falkirk, Falkirk Royal Infirmary	0	(1)	0	(1)	0	0	0	0	0
Glasgow, Victoria Infirmary	0	(1)	0	(1)	0	0	0	0	0
Glasgow, Glasgow Royal Infirmary	1	(1)	1	(1)	2	0	0	1	1
Glasgow, Royal Hospital For Sick Children	1	(0)	1	(0)	2	0	0	1	1
Glasgow, Southern General Hospital	6	(7)	4	(7)	12	1	0	4	4
Glasgow, Western Infirmary	0	(3)	0	(2)	0	0	0	0	0
Inverness, Raigmore Hospital	2	(0)	0	(0)	4	0	0	0	0
Kilmarnock, Crosshouse Hospital	0	(1)	0	(1)	0	0	0	0	0
Kirkcaldy, Victoria Hospital	1	(2)	1	(2)	2	0	0	1	0
Livingston, St John's Hospital	1	(0)	1	(0)	2	0	0	1	0
Melrose, Borders General Hospital	1	(1)	1	(1)	2	0	0	1	1
Paisley, Royal Alexandra Hospital	2	(0)	1	(0)	4	1	0	1	0
Perth, Perth Royal Infirmary	1	(0)	1	(0)	2	1	2	1	1
Stirling, Stirling Royal Infirmary	3	(2)	2	(2)	6	0	0	2	0
Wishaw, Wishaw General Hospital	2	(0)	2	(0)	4	0	0	2	0
Total	**44**	**(45)**	**38**	**(41)**	**88**	**9**	**8**	**35**	**17**

Donating hospital	All donors		Multi-organ donor		Kidney	Heart	Lung	Liver	Pancreas
Wales									
Abergavenny, Nevill Hall Hospital	1	(0)	1	(0)	2	0	0	1	1
Aberystwyth, Bronglais Hospital	2	(0)	2	(0)	4	1	0	2	0
Bangor, Ysbyty Gwynedd District General Hospital	6	(1)	5	(1)	10	4	0	6	1
Bodelwyddan, Glan Clwyd District General Hospital	4	(1)	4	(1)	8	1	2	4	1
Bridgend, Princess Of Wales Hospital	2	(2)	2	(2)	4	0	0	1	1
Cardiff, University Of Wales Hospital	7	(9)	7	(8)	14	3	2	7	3
Carmarthen, West Wales General Hospital	0	(2)	0	(2)	0	0	0	0	0
Haverford West, Withybush General Hospital	1	(1)	1	(0)	2	0	0	1	0
Llanelli, Prince Philips Hospital	0	(1)	0	(1)	0	0	0	0	0
Merthyr Tydfil, Prince Charles Hospital	4	(2)	4	(1)	8	0	0	4	1
Neath, Neath And Port Talbot Hospital	0	(1)	0	(1)	0	0	0	0	0
Newport, Royal Gwent Hospital	1	(3)	1	(3)	2	0	0	1	1
Penarth, Llandough Hospital	2	(1)	2	(0)	4	1	4	2	1
Swansea, Morriston Hospital	10	(8)	9	(7)	20	3	0	8	5
Wrexham, Maelor General Hospital	2	(3)	2	(2)	4	0	2	2	0
Total	**42**	**(35)**	**40**	**(29)**	**82**	**13**	**10**	**39**	**15**

Appendix IB Deceased non-heartbeating solid organ donors and donated organs in the UK, 1 April 2006 - 31 March 2007 (2005-2006), by donating hospital

Donating hospital	All donors		Multi-organ donor		Kidney	Lung	Liver
East of England							
Bury St Edmunds, West Suffolk Hospital	3	(0)	2	(0)	6	0	2
Cambridge, Addenbrooke's Hospital	17	(7)	5	(1)	34	0	5
Colchester, Colchester General Hospital	0	(1)	0	(1)	0	0	0
Great Yarmouth, James Paget Hospital	1	(0)	0	(0)	2	0	0
Harlow, Princess Alexandra Hospital	3	(0)	3	(0)	6	0	3
Huntingdon, Hinchingbrooke Hospital	1	(0)	0	(0)	2	0	0
Luton, Luton And Dunstable Hospital	3	(1)	0	(0)	6	0	0
Papworth, Papworth Hospital	1	(0)	0	(0)	2	0	0
Stevenage, Lister Hospital	1	(0)	0	(0)	2	0	0
Total	**30**	**(9)**	**10**	**(2)**	**60**	**0**	**10**
London							
Kingston, Kingston Hospital	1	(0)	0	(0)	2	0	0
London, Great Ormond Street Hospital For Children	1	(1)	1	(1)	2	0	1
London, King's College Hospital	5	(2)	4	(1)	8	2	5
London, Newham General Hospital	1	(1)	1	(1)	2	0	1
London, Royal Free Hospital	2	(0)	0	(0)	4	0	0
London, St George's Hospital	2	(4)	1	(3)	4	0	1
London, St Thomas' Hospital	1	(0)	0	(0)	2	0	0
London, The Royal London Hospital (Whitechapel)	3	(3)	2	(2)	6	0	2
London, The Whittington Hospital	1	(0)	1	(0)	2	0	1
London, University College Hospital	1	(0)	0	(0)	2	0	0
London, University Hospital Lewisham	0	(1)	0	(0)	0	0	0
Romford, Oldchurch Hospital	1	(2)	1	(2)	2	0	1
Romford, Queens Hospital	1	(0)	0	(0)	2	0	0
Sidcup, Queen Mary's Hospital	1	(1)	1	(1)	2	0	1
Total	**21**	**(15)**	**12**	**(11)**	**40**	**2**	**13**

Donating hospital	All donors		Multi-organ donor		Kidney	Lung	Liver
North East							
Gateshead, Queen Elizabeth Hospital	1	(0)	0	(0)	2	0	0
Middlesbrough, The James Cook University Hospital	4	(7)	0	(1)	8	0	0
Newcastle, Newcastle General Hospital	14	(3)	0	(0)	28	0	0
Sunderland, Sunderland Royal Hospital	2	(4)	0	(0)	4	0	0
Total	**21**	**(14)**	**0**	**(1)**	**42**	**0**	**0**
North West							
Bolton, Royal Bolton Hospital	1	(2)	0	(1)	2	0	0
Bury, Fairfield General Hospital	1	(0)	1	(0)	2	0	1
Carlisle, Cumberland Infirmary	1	(0)	0	(0)	2	0	0
Chorley and South Ribble Hospital	1	(0)	0	(0)	2	0	0
Manchester, North Manchester General Hospital	0	(1)	0	(0)	0	0	0
Manchester, Royal Manchester Childrens Hospital (Pendlebury)	1	(0)	1	(0)	2	0	1
Manchester, Wythenshawe Hospital	1	(0)	0	(0)	1	0	0
Preston, Royal Preston Hospital	2	(2)	0	(0)	4	0	0
Salford, Hope Hospital	3	(3)	2	(1)	6	0	2
Wigan, Royal Albert Edward Infirmary	1	(1)	1	(1)	2	0	1
Total	**12**	**(9)**	**5**	**(3)**	**23**	**0**	**5**
South Central							
Aylesbury, Stoke Mandeville Hospital	0	(1)	0	(0)	0	0	0
Banbury, Horton General Hospital	0	(1)	0	(0)	0	0	0
Oxford, John Radcliffe Hospital	1	(0)	0	(0)	2	0	0
Portsmouth, Queen Alexandra Hospital	2	(1)	0	(1)	4	0	0
Reading, Royal Berkshire Hospital	2	(3)	0	(0)	4	0	0
Slough, Wexham Park Hospital	0	(1)	0	(0)	0	0	0
Southampton, Southampton University Hospitals	6	(3)	3	(2)	12	2	2
Wycombe, Wycombe General Hospital	0	(2)	0	(0)	0	0	0
Total	**11**	**(12)**	**3**	**(3)**	**22**	**2**	**2**
South East Coast							
Ashford, William Harvey Hospital	0	(1)	0	(1)	0	0	0
Chertsey, St Peter's Hospital	0	(1)	0	(0)	0	0	0
Chichester, St Richard's Hospital	1	(0)	1	(0)	2	0	1

Donating hospital	All donors		Multi-organ donor		Kidney	Lung	Liver
Hastings, Conquest Hospital	0	(1)	0	(1)	0	0	0
Haywards Heath, Princess Royal Hospital	1	(0)	1	(0)	2	0	1
Maidstone, Maidstone District General Hospital	1	(0)	0	(0)	2	0	0
Worthing, Worthing Hospital	0	(1)	0	(0)	0	0	0
Total	**3**	**(4)**	**2**	**(2)**	**6**	**0**	**2**
South West							
Barnstaple, North Devon District Hospital	0	(2)	0	(0)	0	0	0
Bath, Royal United Hospital	0	(4)	0	(0)	0	0	0
Bristol, Bristol Royal Hospital For Children	1	(1)	0	(0)	2	0	0
Bristol, Bristol Royal Infirmary	5	(0)	2	(0)	10	0	2
Bristol, Frenchay Hospital	7	(6)	2	(0)	14	0	2
Cheltenham, Cheltenham General Hospital	1	(1)	1	(0)	2	0	1
Dorchester, Dorset County Hospital	1	(0)	1	(0)	2	0	1
Gloucester, Gloucestershire Royal Hospital	0	(2)	0	(0)	0	0	0
Plymouth, Derriford Hospital	9	(8)	0	(0)	17	0	0
Poole, Poole General Hospital	1	(0)	0	(0)	2	0	0
Swindon, Great Western Hospital	1	(1)	0	(0)	2	0	0
Truro, Royal Cornwall Hospital (Treliske)	0	(1)	0	(0)	0	0	0
Weston-Super-Mare, Weston-Super-Mare General Hospital	2	(1)	2	(0)	4	0	2
Yeovil, Yeovil District Hospital	1	(1)	0	(0)	2	0	0
Total	**29**	**(28)**	**8**	**(0)**	**57**	**0**	**8**
West Midlands							
Birmingham, Queen Elizabeth Hospital	8	(3)	4	(2)	14	0	5
Birmingham, Selly Oak Hospital	1	(0)	0	(0)	0	0	1
Shrewsbury, Royal Shrewsbury Hospital	0	(2)	0	(2)	0	0	0
Total	**9**	**(5)**	**4**	**(4)**	**14**	**0**	**6**
Yorkshire and the Humber							
Grimsby, Diana Princess Of Wales Hospital	2	(0)	0	(0)	4	0	0
Halifax, Calderdale Royal Hospital	1	(1)	0	(1)	2	0	0
Hull, Hull Royal Infirmary	2	(8)	1	(5)	4	0	1
Leeds, Leeds General Infirmary	2	(10)	2	(5)	4	0	2
Leeds, St James's University Hospital	0	(1)	0	(0)	0	0	0

Donating hospital	All donors		Multi-organ donor		Kidney	Lung	Liver
Wakefield, Pinderfields General Hospital	1	(0)	0	(0)	2	0	0
York, York District Hospital	0	(1)	0	(1)	0	0	0
Total	**8**	**(21)**	**3**	**(12)**	**16**	**0**	**3**
England	**144**	**(117)**	**47**	**(38)**	**280**	**4**	**49**
Scotland							
Edinburgh, Western General Hospital	2	(1)	1	(1)	3	1	0
Glasgow, Southern General Hospital	3	(2)	0	(0)	6	0	0
Glasgow, Western Infirmary	1	(0)	0	(0)	2	0	0
Total	**6**	**(3)**	**1**	**(1)**	**11**	**1**	**0**
Wales							
Cardiff, University Of Wales Hospital	5	(5)	1	(0)	8	0	0
Newport, Royal Gwent Hospital	2	(2)	1	(0)	4	0	1
Pontypridd, Royal Glamorgan Hospital	1	(0)	0	(0)	2	0	0
Swansea, Morriston Hospital	1	(0)	0	(0)	2	0	0
Total	**9**	**(7)**	**2**	**(0)**	**16**	**0**	**1**

Appendix II **Numbers of heartbeating donors and organs retrieved in the UK, 1 April 2006 - 31 March 2007, by kidney designated area**

Kidney designated area	Donors				Organs				
	All donors	pmp	Multi-organ donors	pmp	Kidney	Heart	Lung	Liver	Pancreas
Belfast	35	20.3	33	19.2	68	7	15	32	7
Birmingham	42	9.2	37	8.1	77	8	26	39	11
Bristol	16	8.0	13	6.5	28	3	6	14	6
Cambridge	27	10.5	26	10.2	53	9	15	26	10
Cardiff	30	13.1	29	12.7	60	8	6	27	13
Coventry	8	9.6	7	8.4	14	3	2	8	4
Edinburgh	23	9.5	21	8.7	46	6	8	19	9
Glasgow	21	7.8	17	6.3	42	3	0	16	8
Leeds	35	9.3	33	8.7	68	12	22	31	14
Leicester	11	5.1	11	5.1	20	3	0	11	4
Liverpool	53	16.0	47	14.2	93	15	27	52	9
Manchester	43	10.6	39	9.7	78	14	26	41	18
Newcastle	39	13.5	34	11.8	78	12	19	34	12
North Thames	87	11.6	83	11.1	169	18	28	83	32
Nottingham	13	9.2	12	8.5	25	5	5	11	10
Oxford	26	8.5	25	8.1	49	5	12	25	19
Plymouth	21	11.5	19	10.4	40	4	6	20	8
Portsmouth	14	5.7	13	5.3	28	0	2	13	6
Sheffield	23	12.3	21	11.2	46	9	12	19	4
South Thames	67	9.7	61	8.9	126	14	20	65	35
Total	**634**	**10.5**	**581**	**9.6**	**1208**	**158**	**257**	**586**	**239**

Appendix IIIA **Retrieval populations for kidney centres, 2006-2007 (Mid-2005 estimates based on ONS *2001 census* figures)**

Kidney centre	Retrieval population (million)
Birmingham	4.55
Bristol	2.01
Cambridge	2.56
Coventry	0.83
Leeds	3.78
Leicester	2.17
Liverpool	3.31
Manchester	4.04
Newcastle	2.89
North Thames	7.48
Nottingham	1.41
Oxford	3.07
Plymouth	1.82
Portsmouth	2.44
Sheffield	1.87
South Thames	6.88
Total (England)	**51.11**
Cardiff	2.29
Total (Wales)	**2.29**
Edinburgh	2.41
Glasgow	2.68
Total (Scotland)	**5.09**
Belfast	1.72
Total (Northern Ireland)	**1.72**
TOTAL (UK)	**60.21**

Appendix IIIB **Retrieval population for liver and cardiothoracic zones 2006-2007 (Mid-2005 estimates based on *ONS 2001 Census* figures)**

Liver zone	**Retrieval population (million)**
Birmingham	13.38
Cambridge	9.43
Edinburgh	5.09
King's College	14.96
Leeds	8.01
Newcastle	3.47
The Royal Free	5.87

Cardiothoracic zone	**Retrieval population (million)**
Birmingham	9.80
Glasgow	5.09
Harefield	13.41
Manchester	8.08
Newcastle	8.66
Papworth	15.17

Appendix IV **Number of families approached and unadjusted consent rates, by donor transplant co-ordinator team**

Donor transplant co-ordinator team	**HB**		**NHB**	
	Families approached N	Unadjusted consent rate %	Families approached N	Unadjusted consent rate %
Belfast	97	52%	2	50%
Bristol	61	66%	49	65%
Cambridge	66	53%	60	68%
Cardiff	105	58%	13	85%
East Midlands	90	52%	5	60%
East of Scotland	54	74%	7	57%
Leeds	113	62%	64	66%
Liverpool	130	62%	6	67%
Manchester	143	68%	36	69%
Newcastle	145	60%	31	52%
North of Scotland	24	75%	3	33%
North Thames	290	52%	52	38%
Oxford	102	53%	42	57%
Plymouth	52	79%	43	53%
Portsmouth	48	77%	35	60%
Sheffield	76	47%	4	25%
South Thames	242	59%	68	40%
West Midlands	195	56%	25	72%
West of Scotland	64	70%	14	64%

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NHS
Blood and Transplant

UK Transplant
Fox Den Road, Stoke Gifford, Bristol BS34 8RR
Tel: 0117 975 7575 Fax: 0117 975 7577
E-mail: enquiries@uktransplant.nhs.uk

Organ Donor Line: 0845 60 60 400
Web: www.uktransplant.org.uk