NHS
Blood and Transplant

Organ Donation and Transplantation

Activity Report 2014/15

Preface

This report has been produced by Statistics and Clinical Studies, NHS Blood and Transplant.

All figures quoted in this report are as reported to NHS Blood and Transplant by 10 May 2015 for the UK Transplant Registry, 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.

Former Strategic Health Authorities have been used throughout the report for convenience in comparisons with the previous year's figures.

The information provided in the tables and figures given in Chapters 2-10 does not always distinguish between adult and paediatric transplantation. For the most part, 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 NHS Blood and Transplant.

The UK definition of an organ donor is any donor from whom at least one 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 or more transplants.

The number of donors after brain death (DBD) and donors after circulatory death (DCD) by hospital are documented in **Appendices I**. Donation and transplant rates in this report are presented per million population (pmp): population figures used throughout this report are mid-2013 estimates based on ONS 2012 Census figures and are given in **Appendix III**.

All charts presented in this report are available as an accompanying slide set available from http://www.odt.nhs.uk.

Acknowledgement

NHS Blood and Transplant would like to thank all those in the donation and transplantation communities responsible for providing data to the UK Transplant Registry and the Potential Donor Audit, without whom this report would not be possible. Thanks also go to NHS Blood and Transplant staff responsible for data entry and accuracy and completeness of the data.

Foreword

Organ transplantation both saves and transforms lives. However, with the exception of living donation, organ transplantation is only possible because of the tragedy of a sudden and often premature death, and we must never lose sight of this. The bedrock for the increases in donor and transplant numbers reported since the publication of the report from the Organ Donation Taskforce in 2008 has been the principle that donation should be considered as a component of end of life care whenever it is a clinical possibility and thus salvaging something positive.

There are sound professional, ethical and legal reasons for a strict operational separation between intensive care medicine and transplantation. The public (potential future donors) and patients' families need to have confidence that intensive care teams are primarily focused on helping the patient in front of them, until death is inevitable. However, fully realising the potential for donation within a framework of end of life care will only be achieved through close strategic collaboration between our various professional bodies. This joint foreword reflects this.

For the first time since 2007-8, we have not seen an increase in the number of organ donors and transplants in 2014-15. Indeed, there have been slight falls in the number of both living and deceased donors compared to the previous year, with a 5% reduction in the number of patients receiving a transplant. Whilst NHS Blood and Transplant, as the national organ procurement organisation, is quite properly trying to understand why there has been a fall in donor numbers, we need to make a clear distinction between reductions in the potential for organ donation and falls in realising this potential when it presents itself. For instance, there have been very significant improvements in the outcomes for patients suffering traumatic brain injury, brain haemorrhage and stroke over the last decade. All of these advances reduce the potential for organ donation and all are to be welcomed because they too save lives and improve lives. Our challenge is to ensure that when the possibility for donation exists, every effort is taken to ensure that it is considered – by the clinicians caring for the patient, by the patient's close family and friends and by transplant teams.

The current UK strategy for organ donation and transplantation, Taking Organ Transplantation to 2020, emphasises the pressing need to reduce family refusal rates and it is disappointing that there has been no improvement in the overall consent (or authorisation) rate in 2014-15. However, we are encouraged that NHS Blood and Transplant continue to devote considerable attention to this key point in the donation pathway by improving the support that it is giving families when the possibility of donation is raised with them and supporting the intensive care teams through approach and end of life care. We also welcome the increased investment this year in public behaviour change activities that we hope will lead to increased sign up to the NHS Organ Donor Register and an improvement in the proportion of families saying yes to donation. We hope it delivers the increase in consent (authorisation) we are all seeking and that investment in this activity is maintained in future years.

On behalf of the Intensive Care Society and British Transplantation Society we would like to thank everybody working in the fields of donation, retrieval and transplantation for their commitment and industry. It is through their efforts that there were nearly 500 additional donors and 1000 additional transplants performed last year compared to 2007/8.

Finally, and most importantly, we would like to take this opportunity to recognise our donors and their families. Without donation there can be no transplantation; without a donor there can be no recipient. We're grateful to every family that supported a relative's decision to donate or made a decision on their behalf in 2014-15 and they should be truly proud of this. Occasionally, there will be cases – like that of little Teddy Houlston – that attract the attention of the world. Every single donor and family was important and helped to save and transform the lives of strangers - something we hope will become increasingly the norm.

Professor Derek Manas
President,
The British Transplantation Society

Dr Stephen Brett
President,
The Intensive Care Society

Contents

Summary of Donor and Transplant Activity

In the financial year to 31 March 2015, compared with the previous year

- there was a 3% fall in the number of deceased donors to 1,282
- the number of donors after brain death fell by 1% to 772, while the number of donors after circulatory death fell by 6% to 510
- the number of living donors fell by 5% to 1,092, accounting for approximately half of the total number of organ donors
- the number of patients whose lives were saved or improved by an organ transplant fell by 5% to 4,431
- 3,575 patients had their sight restored through a cornea transplant, representing a fall of 3%

The total number of patients registered for a transplant has fallen slightly, so that:

- there were 6,943 patients waiting for a transplant at the end of March 2015, with a further 3,375 temporarily suspended from transplant lists
- 429 patients died while on the active waiting list for their transplant and a further 807 were removed from the transplant list. The removals were mostly as a result of deteriorating health and ineligibility for transplant and many of these patients would have died shortly afterwards.

Some of the other key messages from this report are that, compared with last year, there has been:

- a fall of 7% in the number of pancreas transplants
- a fall of 3% in the total number of liver transplants
- a fall of 12% in the total number of cardiothoracic organ transplants
- a fall of 4% in the total number of kidney transplants
- an increase in the overall referral rate of potential donors from 76% to 80% and the proportion of approaches involving a Specialist Nurse – Organ Donation from 76% to 78%
- a fall in the overall consent/authorisation rate for organ donation from 59% to 58%

Overview of Organ Donation and Transplantation

A summary of organ donation and transplantation activity in the UK during the financial year from 1 April 2014 to 31 March 2015

2.1 Summary of activity

The total number of deceased donors and transplants fell this year for the first time in 11 years. The number of patients on the active transplant list at 31 March 2015 is 83 fewer than on the same date last year. This drop reflects an increasing number of transplants performed over the last 10 years, and a reasonably steady number of patients joining the transplant list each year. In the most recent year there have been fewer transplants but an increasing number of patients have been suspended from the transplant list. Donor and transplant numbers (1 April 2005 to 31 March 2015) and the number of patients registered on the transplant lists at 31 March each year are shown in **Figure 2.1**. There were 169 fewer deceased donor transplants in 2014-2015 than in the previous year, representing a 5% decrease. The corresponding decrease in the number of deceased donors was 3%.

Figure 2.1 **Number of deceased donors and transplants in the UK, 1 April 2005 - 31 March 2015, and patients on the active transplant list at 31 March**

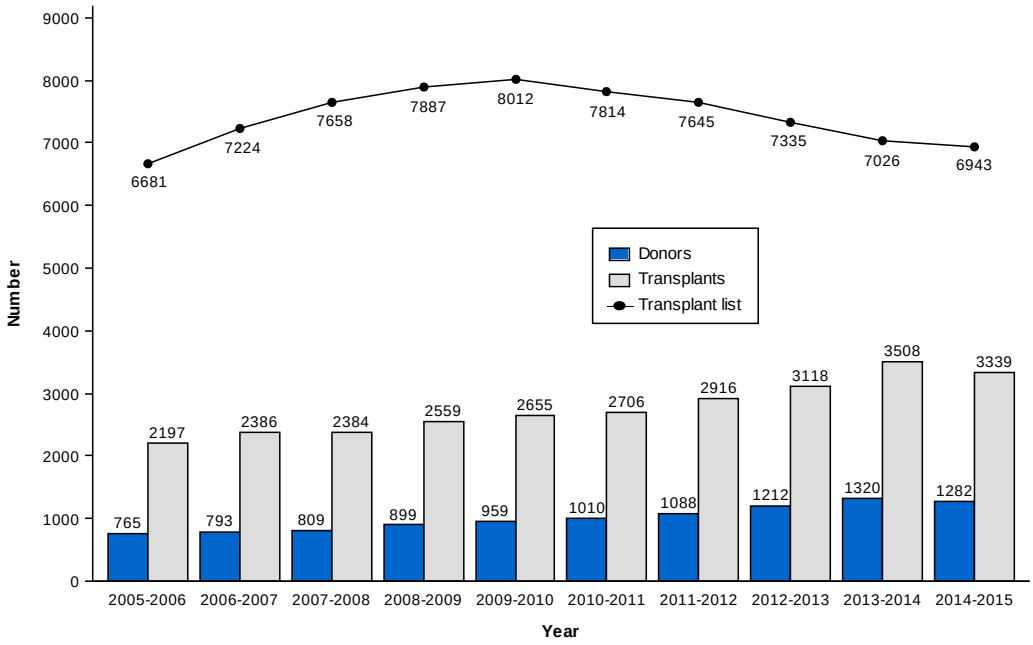


Figure 2.2 shows the number of deceased and living donors during 2005-2015. The number of deceased organ donors in the UK remained stable over a number of years but following the implementation of the Organ Donation Taskforce recommendations in 2008, the numbers rose. This increase has continued for 6 years until this year when there has been a slight fall in donor numbers. There have been 1,050 to 1,150 living donors each year in the last 6 years. Compared with last year's high, there was a 5% fall to 1,092 living donors this year.

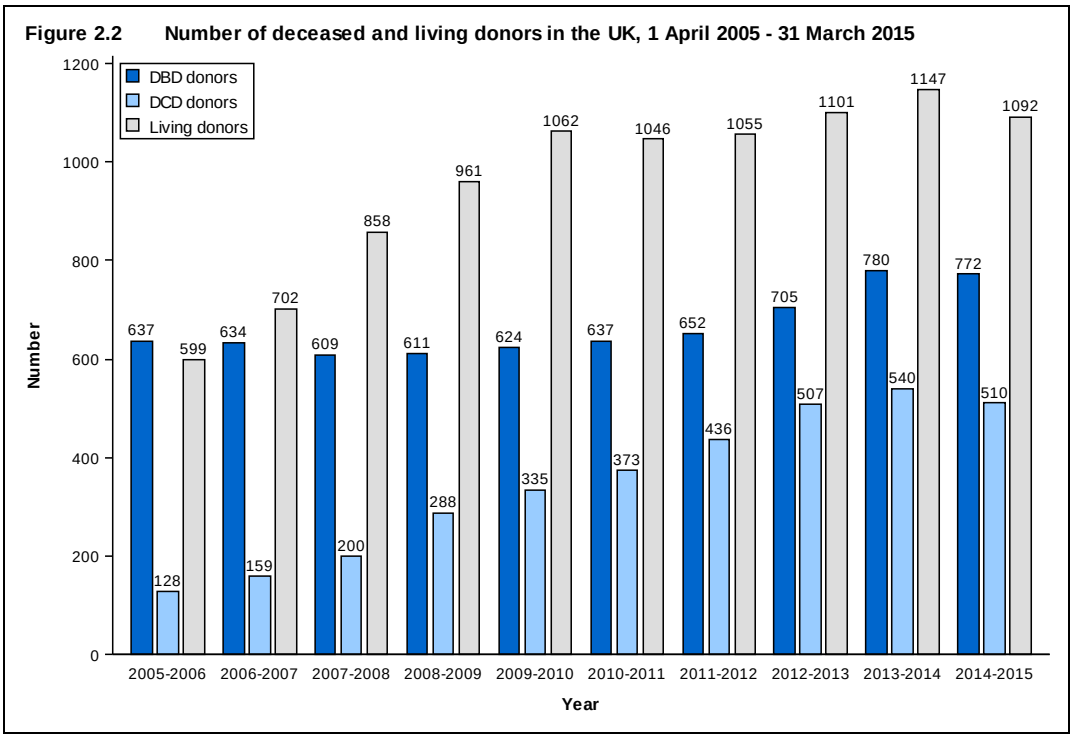
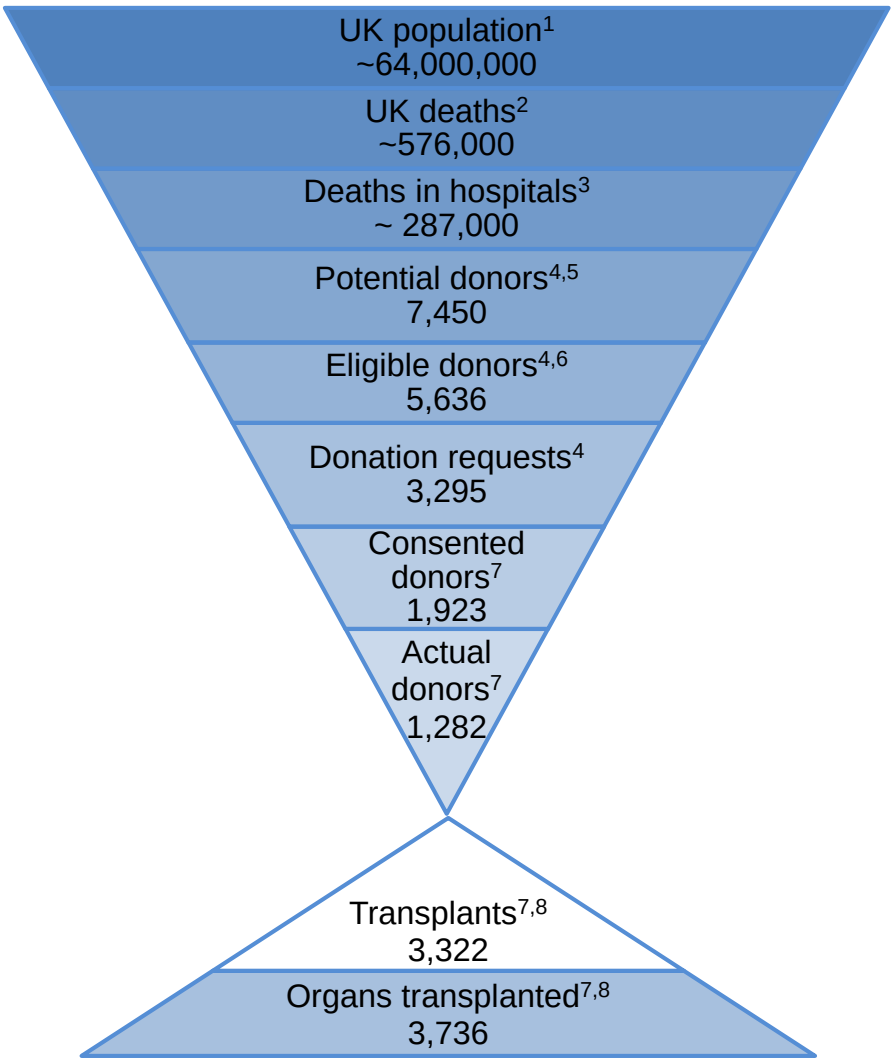


Figure 2.3 shows the potential deceased organ donor population in the UK. Not everyone can be a deceased organ donor and this figure highlights the small proportion of deaths in the UK that represent potential donors. *Please note that the information presented comes from several different sources. The NHSBT Potential Donor Audit, collects information on most but not all actual donors and the potential for donation could therefore be slightly underestimated. The quoted numbers of transplants and organs transplanted are those achieved using organs from deceased actual donors in the UK, some of which may have been performed overseas, and does not reflect the number of deceased donor transplants in the UK, which may have used organs from overseas donors.*

Figure 2.3 UK potential deceased organ donor population, 1 April 2014 – 31 March 2015



[1] Mid 2013 estimates: www.ons.gov.uk
[2] 2013 data: England & Wales www.ons.gov.uk; Scotland www.gro-scotland.gov.uk; Northern Ireland www.nisra.gov.uk
[3] 2013 data: England & Wales www.ons.gov.uk; Scotland www.isdscotland.org; Northern Ireland www.nisra.gov.uk
[4] 2014/2015 data: NHSBT, Potential Donor Audit
[5] Potential donor - patients for whom death was confirmed following neurological tests or patients who had treatment withdrawn and death was anticipated within four hours
[6] Eligible donor - Potential donor with no absolute medical contraindications to solid organ donation
[7] 2014/2015 deceased donor data: NHSBT, UK Transplant Registry
[8] Using organs from actual donors in the UK

Table 2.1 shows the number of deceased donors and transplants in 2014-2015 and patients on the transplant list at 31 March 2015 for each country in the UK.

Table 2.1 Deceased donors and transplants 1 April 2014 - 31 March 2015, and transplant lists as at 31 March 2015, by Country of residence

	Country of residence[1]							
	England		Wales		Scotland		Northern Ireland	
Organ	N	(pmp)	N	(pmp)	N	(pmp)	N	(pmp)
Kidney								
Deceased donors	992	(18.4)	64	(20.8)	94	(17.6)	48	(26.2)
Transplants[2,3]	1611	(29.9)	66	(21.4)	153	(28.7)	44	(24.0)
Transplant list	4927	(91.5)	159	(51.6)	442	(82.9)	141	(77.0)
Pancreas								
Deceased donors	378	(7.0)	26	(8.4)	41	(7.7)	16	(8.7)
Transplants[2]	184	(3.4)	17	(5.5)	20	(3.8)	3	(1.6)
Transplant list	175	(3.2)	11	(3.6)	24	(4.5)	6	(3.3)
Heart								
Deceased donors	144	(2.7)	6	(1.9)	19	(3.6)	4	(2.2)
Transplants[2]	155	(2.9)	7	(2.3)	16	(3.0)	0	(0.0)
Transplant list	239	(4.4)	13	(4.2)	13	(2.4)	8	(4.4)
Lung								
Deceased donors	172	(3.2)	6	(1.9)	16	(3.0)	9	(4.9)
Transplants[2]	160	(3.0)	9	(2.9)	8	(1.5)	7	(3.8)
Transplant list	270	(5.0)	23	(7.5)	26	(4.9)	12	(6.6)
Liver								
Deceased donors	755	(14.0)	55	(17.9)	77	(14.4)	32	(17.5)
Transplants[2]	664	(12.3)	28	(9.1)	103	(19.3)	25	(13.7)
Transplant list	494	(9.2)	22	(7.1)	52	(9.8)	21	(11.5)
Intestinal								
Deceased donors	19	(0.4)	1	(0.3)	1	(0.2)	0	(0.0)
Transplants[2]	21	(0.4)	1	(0.3)	0	(0.0)	0	(0.0)
Transplant list	8	(0.1)	0	(0.0)	0	(0.0)	0	(0.0)
Total								
Deceased donors	**1060**	**(19.7)**	**71**	**(23.1)**	**97**	**(18.2)**	**48**	**(26.2)**
Transplants[2]	**2795**	**(51.9)**	**128**	**(41.6)**	**300**	**(56.3)**	**79**	**(43.2)**
Transplant list	**5941**	**(110.3)**	**221**	**(71.8)**	**550**	**(103.2)**	**179**	**(97.8)**

[1] Excludes patients residing in Channel Islands, Isle of Man, overseas and in the Republic of Ireland
[2] Deceased donor transplants
[3] Kidney only transplants

2.2 Transplant list

At 31 March 2015, 6,943 patients were registered for an organ transplant in the UK on the active transplant list. A further 3,375 patients were temporarily suspended from the active national transplant list because they were unfit or otherwise unavailable for transplant. Details of numbers of patients on each of the organ transplant lists are given in **Table 2.2** for 31 March 2014 and 2015. Between these dates, the total number fell by 83 patients (1%) due to decreases in the number of patients on the kidney, pancreas and intestinal transplant lists.

Table 2.2 Active transplant lists in the UK at 31 March 2014 and 2015

	2014	2015	% Change
Kidney & pancreas patients	**5932**	**5720**	**-4**
Kidney	5663	5468	-3
Kidney & pancreas	201	201	0
Pancreas	35	15	-57
Pancreas islets	33	36	+9
Cardiothoracic patients	**531**	**599**	**+13**
Heart	245	262	+7
Heart/lung	15	13	-13
Lung(s)	271	324	+20
Liver patients	**531**	**596**	**+12**
Intestinal patients	**13**	**9**	**-**
Other multi-organ patients[1]	**19**	**19**	**0**
ALL PATIENTS	**7026**	**6943**	**-1**

Percentages not reported when fewer than 10 in either year

[1] Includes patients waiting for kidney and liver transplants (16 in 2014, 13 in 2015), kidney and heart transplants (1 in 2014, 4 in 2015), liver and lung transplants (1 in 2014, 1 in 2015), liver and pancreas transplants (1 in 2014), liver and heart transplants (1 in 2015)

During 2014-2015, 429 patients died whilst active/suspended on the transplant list. This information is shown by organ in **Table 2.3**.

Table 2.3	Number of patient deaths on transplant lists in the UK, 1 April 2014 and 31 March 2015
Kidney & pancreas patients	**269**
Kidney	243
Kidney & pancreas	26
Pancreas	0
Cardiothoracic patients	**79**
Heart	34
Heart/lung	4
Lung	41
Liver patients	**80**
Intestinal patients	**1**
ALL PATIENTS	**429**

2.3 Transplants

There was a 5% fall in the total number of organ transplants (from deceased and living donors) last year: 4,431 transplants were performed in 2014-2015 compared with 4,655 in 2013-2014 (**Table 2.4**). All multi-organ transplants are identified separately as are transplants from living donors.

There was a 5% fall in total organ transplants last year. The fall was seen across the organs although DBD kidney transplantation increased by 1% and there were small increases in the number of DBD pancreas, DCD lungs and livers and living donor liver lobes. The greatest increase was in the number of DCD kidney and pancreas transplants (57%).

Table 2.4 Transplants performed in the UK, 1 April 2013 - 31 March 2015

Transplant	2013-2014	2014-2015	% Change
DBD kidney	1156	1163	+1
DCD kidney	784	717	-9
Living donor kidney	1115	1052	-6
DBD Kidney & pancreas	153	118	-23
DCD Kidney & pancreas	35	55	+57
DBD Pancreas	22	24	+9
DCD Pancreas	4	5	-
Pancreas islets	32	23	-28
Deceased heart[1]	197	180	-9
Heart/lung	8	1	-
DBD Single lung	27	17	-37
DCD Single lung	5	6	-
DBD Double lung	148	128	-14
DCD Double lung	30	34	+13
DBD liver	582	563	-3
DCD liver	151	176	+17
Domino liver	4	2	-
DBD liver lobe	135	87	-36
DCD liver lobe	0	1	-
Living donor liver lobe	28	38	+36
Bowel only[2]	11	6	-
Liver, bowel & pancreas	2	3	-
Multivisceral[3]	10	11	+10
Modified multivisceral	3	4	-
Kidney & heart	1	1	-
Kidney & liver	12	14	+17
Liver & pancreas	0	1	-
Lung & kidney	0	1	-
TOTAL ORGAN TRANSPLANTS	**4655**	**4431**	**-5**
Total kidney transplants[4]	**3257**	**3122**	**-4**
Total pancreas transplants[4]	**261**	**244**	**-7**
Total cardiothoracic transplants	**416**	**368**	**-12**
Total liver transplants[4]	**924**	**896**	**-3**
Total intestinal transplants	**26**	**24**	**-8**

Percentage not reported when fewer than 10 in either year
[1] Including DCD heart (1 in 2013-2014, 1 in 2014-2015)
[2] Including a kidney (1 in 2013-2014)
[3] Including a kidney (1 in 2014-2015)
[4] Includes intestinal transplants

The total approximate number of patients with a functioning transplant in the UK on 31 March 2015 is 47,100 (**Table 2.5**). This reflects information held on the UK transplant registry database and excludes those patients who are known to be lost to follow-up.

Table 2.5 Number of transplants reported as functioning at 31 March 2015

	Functioning transplants[1]
Kidney	32700
Pancreas	1900
Cardiothoracic	3700
Liver	8700
Intestinal	100
ALL PATIENTS[2]	**47100**

[1] Approximate number being followed up
[2] Number of patients with a functioning transplant
Multi-organ transplants (excluding intestinal transplants) are counted in each organ
Excludes those patients known to be lost to follow-up

Organ Donation Activity

Key messages

- **There has been a 3% fall in deceased organ donors (to 1,282) and a 5% fall in living organ donors (to 1,092) compared with last year**
- **Compared with 809 deceased donors in 2007-2008, there has been an increase of 58% to 1,282 in 2014-2015**
- **There has been a fall in donors after brain death of 1% to 772 and a fall of 6% in donors after circulatory death to 510, compared with last year**
- **Donors after circulatory death provide, on average, one less organ for transplantation than donors after brain death**
- **Donor characteristics are continuing to change: donors are older, more obese, and less likely to have suffered a trauma-related death, all of which have adverse effects on transplant outcomes**

3.1 Summary of activity

There was a 3% fall in the number of deceased organ donors in 2014-2015 (1,282), with a target of 1,439 donors set for the year. This was the result of a fall in donors after brain death (DBD) of 1% and 6% in donors after circulatory death (DCD). The 1,282 donors represented a 58% increase over the number of organ donors in 2007-2008 (809).

The 1,282 deceased organ donors gave 4,361 organs compared with 1,320 donors and 4,536 organs in 2013-2014. This represents a 4% fall in organs donated. **Table 3.1** shows deceased organ donors according to the organs they donated.

Nearly all deceased donors (94%) gave a kidney and, of these, the majority (75%) also donated at least one other organ. Only 13% of donors after brain death were single organ donors, the majority (57%) of these donating just their kidneys. By contrast, 52% of donors after circulatory death were single organ donors, the majority (92%) of these donating just their kidneys.

Although the vast majority of living organ donors donated a kidney, 40 donated part of their liver. All living donations are approved by the Human Tissue Authority.

Table 3.1 Solid organ donors in the UK, 1 April 2014 - 31 March 2015, by organ types donated

	DBD	DCD	Living donor	**TOTAL**
Kidney only	56	241	1052	**1349**
Kidney & thoracic	14	9	-	**23**
Kidney & liver	239	116	-	**355**
Kidney & pancreas	9	14	-	**23**
Kidney, thoracic & liver	62	12	-	**74**
Kidney, thoracic & pancreas	7	4	-	**11**
Kidney, liver & pancreas	153	70	-	**223**
Kidney, liver, pancreas & bowel	4	-	-	**4**
Kidney, thoracic, liver & pancreas	160	18	-	**178**
Kidney, thoracic, liver, pancreas & bowel	16	-	-	**16**
Thoracic only	2	1	-	**3**
Thoracic & liver	4	2	-	**6**
Thoracic, liver & pancreas	1	-	-	**1**
Thoracic, liver, pancreas & bowel	1	-	-	**1**
Liver only	41	20	40	**101**
Liver & pancreas	3	2	-	**5**
Pancreas only	-	1	-	**1**
TOTAL	**772**	**510**	**1092**	**2374**

3.2 Organ donors

Organ donor rates per million population (pmp) for 2014-2015 are given by country and former Strategic Health Authority according to where the donor lived in **Table 3.2** while the number of deceased donors are shown based on location of the hospital in which they died in **Table 3.3**. **Table 3.4** shows the number of deceased donors by Organ Donation Services Team. **Appendix I** shows a more detailed breakdown of the number of donors from the donating hospitals and **Appendix III** details the populations used. Number and rates of utilised donors are given in Chapter 4.

Table 3.2 Organ donor rates per million population (pmp), in the UK, 1 April 2014 - 31 March 2015, by country/ Strategic Health Authority of donor residence[1]

Country of donation/	DBD		DCD		**TOTAL**		Living	
Strategic Health Authority	N	(pmp)	N	(pmp)	N	(pmp)	N	(pmp)
North East	31	(11.9)	30	(11.5)	61	(23.4)	45	(17.2)
North West	73	(10.3)	48	(6.8)	121	(17.0)	129	(18.2)
Yorkshire and The Humber	53	(9.9)	47	(8.8)	100	(18.7)	83	(15.5)
North of England	**157**	**(10.4)**	**125**	**(8.3)**	**282**	**(18.7)**	**257**	**(17.1)**
East Midlands	49	(10.7)	41	(8.9)	90	(19.6)	53	(11.5)
West Midlands	55	(9.7)	33	(5.8)	88	(15.5)	100	(17.6)
East of England	75	(12.6)	75	(12.6)	150	(25.2)	97	(16.3)
Midlands and East	**179**	**(11.0)**	**149**	**(9.2)**	**328**	**(20.2)**	**250**	**(15.4)**
London	**104**	**(12.4)**	**48**	**(5.7)**	**152**	**(18.1)**	**187**	**(22.2)**
South East Coast	67	(14.7)	43	(9.5)	110	(24.2)	67	(14.7)
South Central	48	(11.3)	19	(4.5)	67	(15.8)	69	(16.2)
South West	74	(13.8)	47	(8.7)	121	(22.5)	74	(13.8)
South of England	**189**	**(13.3)**	**109**	**(7.7)**	**298**	**(21.0)**	**210**	**(14.8)**
England	**629**	**(11.7)**	**431**	**(8.0)**	**1060**	**(19.7)**	**904**	**(16.8)**
Isle of Man	**5**	**(62.5)**	**0**	**(0.0)**	**5**	**(62.5)**	**4**	**(50.0)**
Channel Islands	**1**	**(6.3)**	**0**	**(0.0)**	**1**	**(6.3)**	**2**	**(12.5)**
Wales	**38**	**(12.3)**	**33**	**(10.7)**	**71**	**(23.1)**	**41**	**(13.3)**
Scotland	**65**	**(12.2)**	**32**	**(6.0)**	**97**	**(18.2)**	**81**	**(15.2)**
Northern Ireland	**34**	**(18.6)**	**14**	**(7.7)**	**48**	**(26.2)**	**60**	**(32.8)**
TOTAL	**772**	**(12.0)**	**510**	**(7.9)**	**1282**	**(19.9)**	**1092**	**(17.0)**

[1] Includes 130 donors (26 deceased, 104 living) where the hospital postcode was used in place of an unknown donor postcode

Table 3.2 shows variation in the number of DBD and DCD donors pmp across the UK. There were 12.0 DBD donors pmp for the UK as a whole, but across the former English Strategic Health Authorities (SHA) this ranged between 9.7 and 14.7 pmp. Across the four countries of the UK, Northern Ireland had the highest rate of 18.6 pmp. However, the number of eligible donors pmp also varies and further information can be seen in Chapter 13. It should be noted that these figures are not directly comparable, since not all donors are reported in the Potential Donor Audit. For DCD donors the UK rate is 7.9 pmp, ranging from 6.0 to 10.7 pmp across countries of the UK and from 4.5 to 12.6 pmp in the former English SHAs. No adjustment has been made for any differences in demographics of the populations across countries or SHAs.

Table 3.3 Deceased organ donors in the UK, 1 April 2014 - 31 March 2015, by country/ Strategic Health Authority of hospital of donor death

Country of donation/ Strategic Health Authority	DBD N	DCD N	**TOTAL** N
North East	42	31	73
North West	73	48	121
Yorkshire and The Humber	54	45	99
North of England	**169**	**124**	**293**
East Midlands	37	35	72
West Midlands	62	40	102
East of England	65	69	134
Midlands and East	**164**	**144**	**308**
London	**138**	**63**	**201**
South East Coast	46	35	81
South Central	47	21	68
South West	73	47	120
South of England	**166**	**103**	**269**
England	**637**	**434**	**1071**
Isle of Man	**4**	**0**	**4**
Channel Islands	**1**	**0**	**1**
Wales	**32**	**28**	**60**
Scotland	**64**	**34**	**98**
Northern Ireland	**34**	**14**	**48**
TOTAL	**772**	**510**	**1282**

Table 3.4	Deceased organ donors in the UK, 1 April 2014 - 31 March 2015 by Organ Donation Services Team		
Team	DBD N	DCD N	**TOTAL** N
Eastern	70	69	139
London	99	50	149
Midlands	84	63	147
North West	77	48	125
Northern	47	34	81
Northern Ireland	34	14	48
Scotland	64	34	98
South Central	56	27	83
South East	93	48	141
South Wales	28	29	57
South West	58	42	100
Yorkshire	62	52	114
TOTAL	**772**	**510**	**1282**

The mean number of organs retrieved per donor in 2014-2015 is given by country in **Table 3.5**. Overall, an average of 3.8 organs were donated per DBD donor and 2.7 per DCD donor. For DBD donors, the rate ranged from 3.6 organs per donor in Northern Ireland and Wales to 4.0 in Scotland.

Table 3.5	Organs retrieved per donor, in the UK, 1 April 2014 - 31 March 2015, by country of donor residence								
Country	Adult			Paediatric			All		
	DBD	DCD	TOTAL	DBD	DCD	TOTAL	DBD	DCD	TOTAL
England	3.8	2.7	**3.3**	5.2	3.7	**4.7**	3.8	2.7	**3.4**
Wales	3.6	2.8	**3.2**	-	2.0	**2.0**	3.6	2.7	**3.2**
Scotland	4.0	2.8	**3.6**	8.0	4.0	**6.0**	4.0	2.9	**3.6**
Northern Ireland	3.5	2.7	**3.3**	4.7	3.0	**4.3**	3.6	2.7	**3.4**
TOTAL	**3.8**	**2.7**	**3.3**	**5.3**	**3.6**	**4.7**	**3.8**	**2.7**	**3.4**

3.3 Demographic characteristics

While the number of donors overall has increased over the last 10 years, it is important to be aware that there have been changes over time with regard to donor characteristics (**Table 3.6**). In 2014-2015, 33% of deceased donors were aged 60 years or more compared with 17% in 2005-2006 (**Figure 3.1**). In particular the proportion of these donors aged at least 70 years has increased from 3% to 11% over the same time period. It is notable that there are fewer older donors this year compared with last year. The proportion of clinically obese donors (Body Mass Index (BMI) of 30 or higher) has increased from 16% to 26% in deceased donors in the last 10 years (**Figure 3.2**). In addition, the proportion of all deceased donors after a trauma death has fallen from 16% to 8% over the same time period. All of these changes may have an adverse impact on the quality of the organs and the subsequent transplant outcome for the recipient.

Table 3.6 also indicates the ethnicity of deceased organ donors, highlighting that 6% of donors are from ethnic minority groups. By contrast, ethnic minority groups represent 11% of the UK population.

Table 3.6 Demographic characteristics of organ donors in the UK 1 April 2014 - 31 March 2015

		DBD		DCD		TOTAL	
		N	%	N	%	N	%
Age	0-17	32	4	16	3	48	4
	18-49	329	43	171	34	500	39
	50-59	194	25	124	24	318	25
	60-69	144	19	133	26	277	22
	70+	73	9	66	13	139	11
	Mean (SD)	49	17	52	17	50	17
BMI	0-19	53	7	37	7	90	7
	20-29	535	69	318	62	853	67
	30+	184	24	154	30	338	26
	Unknown	0	0	1	0	1	0
	Mean (SD)	26	6	27	6	27	6
Cause of death	Intracranial	663	86	410	80	1073	84
	Trauma	65	8	42	8	107	8
	Other	44	6	58	11	102	8
Ethnicity	White	718	93	484	95	1202	94
	Asian	22	3	10	2	32	2
	Black	12	2	8	2	20	2
	Other	20	3	8	2	28	2
Blood group	O	377	49	228	45	605	47
	A	281	36	218	43	499	39
	B	78	10	50	10	128	10
	AB	36	5	14	3	50	4
Sex	Male	392	51	315	62	707	55
	Female	380	49	195	38	575	45
TOTAL		**772**	**100**	**510**	**100**	**1282**	**100**

Figure 3.1 Age of deceased donors in the UK, 1 April 2005 - 31 March 2015

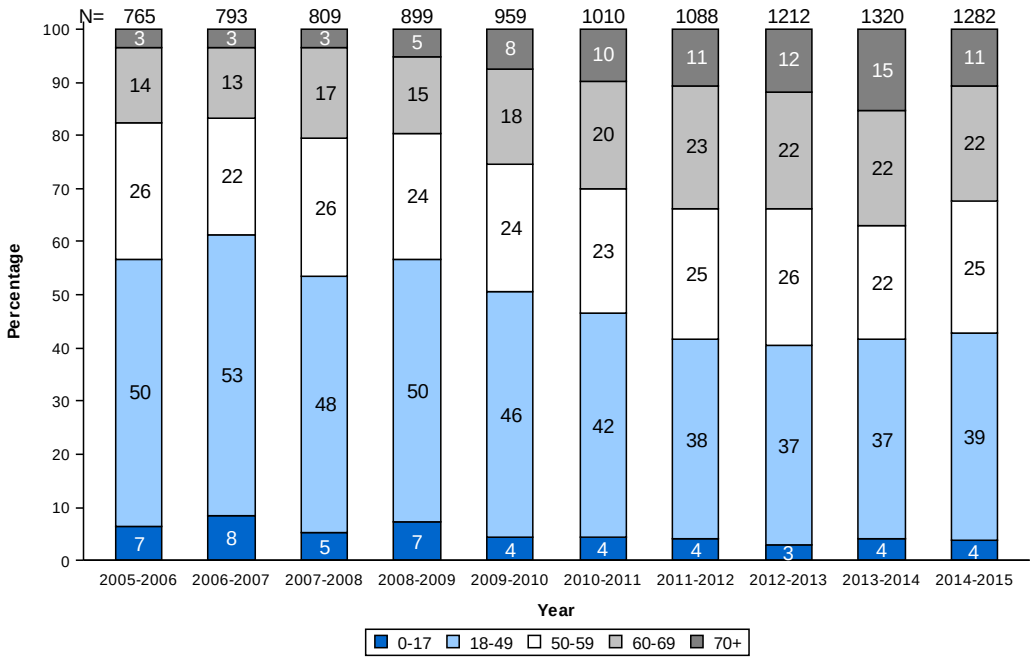
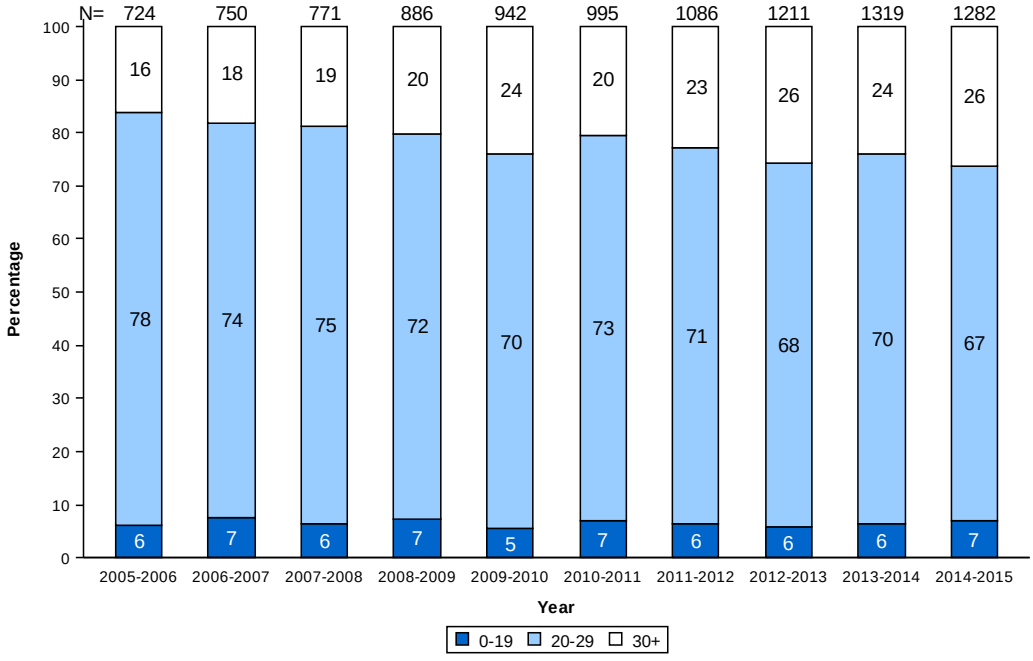


Figure 3.2 BMI of deceased donors in the UK, 1 April 2005 - 31 March 2015



*Note that BMI cannot be determined for all deceased donors thus numbers indicated in **Figure 3.2** are the numbers of donors for which BMI was available, not total number of donors.*

The National Organ Retrieval Service and Usage of Organs

Key messages

- **National Organ Retrieval Service teams attended 792 DBD donors and 829 DCD donors; 97% of DBD donors and 62% of DCD donors attended proceeded to donation**
- **Overall, 52% of organs offered from those donors that did proceed were transplanted, but individually, these rates were 83% for kidneys, 65% for livers, 33% for pancreases, 31% for hearts, 19% for lungs and 9% for bowels**
- **The number of deceased donors per million of population was 19.9, however 6% of actual donors resulted in no organ transplants which has risen slightly from the previous year**

4.1 The National Organ Retrieval Service (NORS)

At any one time, 7 abdominal and 6 cardiothoracic NORS teams are on call to retrieve organs from deceased donors in the UK for transplantation. Each team has a designated area for which they are first on-call, based on the proximity of their base to each donor hospital. If a team is first on-call for a particular donor hospital, they are required to attend donors at that hospital within an agreed timescale if at least one organ has been accepted for transplantation. If the team is already retrieving when they are called to attend, then a second team will be called in to retrieve and so on. In two areas of the country, two abdominal teams share the on call responsibilities, each being on-call for different weeks of the year, which means there are 9 abdominal teams in total.

The number of DBD and DCD donors that were attended by each of the teams in 2014-2015 is shown in **Table 4.1**. The geographical distribution of donors and the on-call arrangements lead to variation in these numbers across teams. The figures are broken down by whether the donor proceeded to organ donation (actual donors) or not. Non-proceeding donors are more common in the pool of potential DCD donors as prolonged time to death after treatment withdrawal can cause unsuitability of organs for transplantation. A small number of donors are attended by local kidney transplant teams. This is typically for DCD donors when only the kidneys have been accepted for transplantation and the teams are appropriately reimbursed if they are willing and able to retrieve.

Table 4.1 Number of actual and non-proceeding donors attended by each NORS team

NORS team	DBD				DCD			
	Actual	Non-proceeding	% non-proc	**No. attended**	Actual	Non-proceeding	% non-proc	**No. attended**
Abdominal								
Birmingham	110	1	1	**111**	66	53	45	**119**
Cambridge	99	1	1	**100**	89	46	34	**135**
Cardiff	39	0	-	**39**	22	13	37	**35**
King's College	133	1	1	**134**	80	48	38	**128**
Leeds / Manchester	116	3	3	**119**	92	62	40	**154**
Newcastle	82	4	5	**86**	53	29	35	**82**
Oxford	62	2	3	**64**	35	21	38	**56**
Royal Free	64	4	6	**68**	37	24	39	**61**
Scotland	64	2	3	**66**	34	21	38	**55**
Abdominal total	**769**	**18**	**2**	**787**	**508**	**317**	**38**	**825**
Cardiothoracic								
Birmingham	54	24	31	**78**	8	17	68	**25**
Harefield	69	39	36	**108**	11	17	61	**28**
Manchester	38	16	30	**54**	10	19	66	**29**
Newcastle	33	10	23	**43**	9	17	65	**26**
Papworth	53	19	26	**72**	8	15	65	**23**
Scotland	19	38	67	**57**	-	-	-	**-**
Cardiothoracic total	**266**	**146**	**35**	**412**	**46**	**85**	**65**	**131**
Total donors attended	**772**	**20**	**3**	**792**	**510**	**319**	**38**	**829**

Note: There were 5 additional UK donors attended by local teams (St George's and Belfast) and 1 donor attended by an overseas team

4.2 Retrieval and usage of organs

The number of consented donors and 'offered' donors (where at least one organ was offered for transplant) are shown in **Table 4.2**. The number of organs offered from these 'offered' donors is also shown. Each year a number of actual organ donors result in no transplants. Donors resulting in at least one transplant are termed 'utilised' donors and the number of actual and utilised donors is shown in **Table 4.2**. The number of donors per million of population (pmp) is also shown. In 2014-2015, 6% of actual donors resulted in no organ transplants compared with 4% in the previous year.

Table 4.2 Consented, offered, actual and utilised deceased donors in the UK, 1 April 2014 - 31 March 2015

	DBD	(pmp)	DCD	(pmp)	Total	(pmp)
Consented donors[1]	847	(13.2)	1076	(16.7)	1923	(29.9)
Offered donors[2]	818	(12.7)	997	(15.5)	1815	(28.2)
Kidneys offered	*1583*		*1907*		*3490*	
Livers offered	*791*		*912*		*1703*	
Pancreases offered	*566*		*366*		*932*	
Bowels offered	*245*		*1*		*246*	
Hearts offered	*509*		*4*		*513*	
Lungs offered	*1134*		*724*		*1858*	
Actual donors	772	(12.0)	510	(7.9)	1282	(19.9)
Utilised donors[3]	754	(11.7)	456	(7.1)	1210	(18.8)

[1] Consented donors defined as patients where consent for at least one organ was given
[2] Offered donors defined as donors where one or more organs were offered for transplantation
[3] Utilised donors defined as donors where one or more organs were retrieved and transplanted

There were 1,282 actual deceased organ donors last year, but not all organs from these donors were offered for transplantation. **Table 4.3** shows the number of organs offered, retrieved and transplanted from the 772 DBD and 510 DCD actual donors. The number of organs from these donors that were subsequently used for research purposes is also shown. The number of organs offered for transplantation excludes those where the donor did not meet the nationally agreed age criteria for suitability for donation of that specific organ. Note that there are no nationally agreed age criteria for kidney and liver donation.

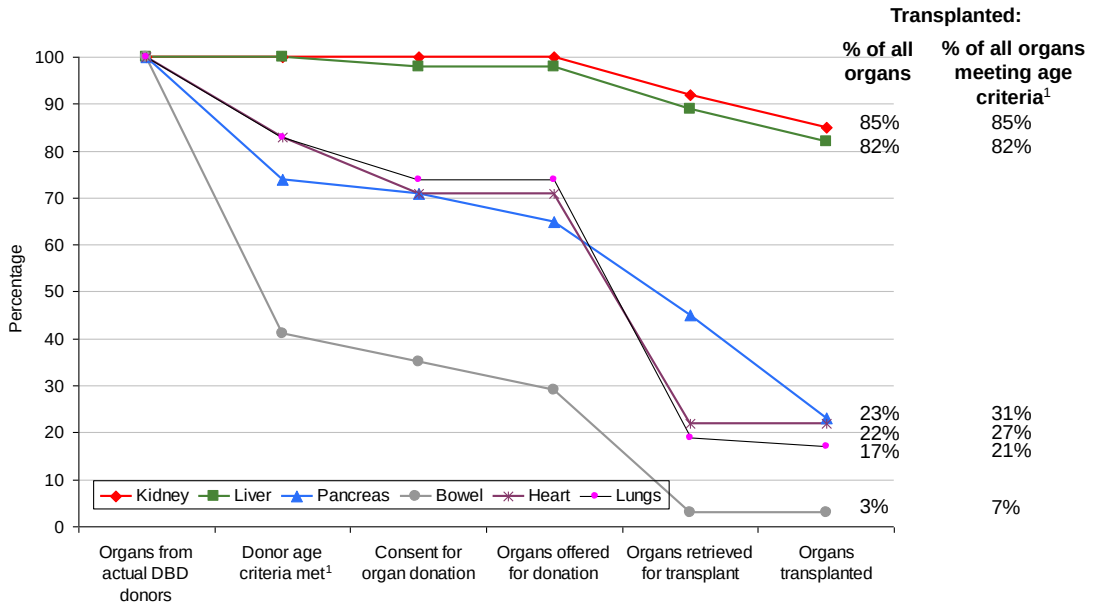
Table 4.3 Donation and transplantation of organs from 1282 deceased donors in the UK, 1 April 2014 – 31 March 2015

Organ	Organs meeting initial suitability criteria and offered for transplantation	Organs retrieved for transplantation N	Organs retrieved for transplantation % of offered	Organs transplanted N	Organs transplanted % of retrieved	Organs transplanted % of offered	Organs used for research (from actual organ donors)
DBD donor organs							
Kidney	1540	1425	93	1314	92	85	66
Liver	760	684	90	635	93	84	40
Pancreas[1]	501	350	70	178	51	36	115
Bowel[2,3]	226	21	9	21	100	9	0
Heart[4]	549	173	32	170	98	31	2
Lung[5]	1144	286	25	264	92	23	2
Total	**4720**	**2939**	**62**	**2582**	**88**	**55**	**225**
DCD donor organs[6]							
Kidney	1020	962	94	817	85	80	119
Liver	494	240	49	177	74	36	57
Pancreas[1]	231	109	47	63	58	27	32
Lung[5]	664	87	13	74	85	11	7
Total	**2409**	**1398**	**58**	**1131**	**81**	**47**	**215**
Deceased donor organs							
Kidney	2560	2387	93	2131	89	83	185
Liver	1254	924	74	812	88	65	97
Pancreas[1]	732	459	63	241	53	33	147
Bowel[2,3]	226	21	9	21	100	9	0
Heart[4]	549	173	32	170	98	31	2
Lung[5]	1808	373	21	338	91	19	9
Total	**7129**	**4337**	**61**	**3713**	**86**	**52**	**440**

[1] Excludes donors aged > 60 years
[2] Excludes 3 bowels transplanted from overseas donors
[3] Excludes donors aged > 55 years or weighing > 80kg
[4] Excludes donors aged > 65 years or died due to myocardial infarction
[5] Excludes donors aged > 65 years
[6] Excludes DCD hearts

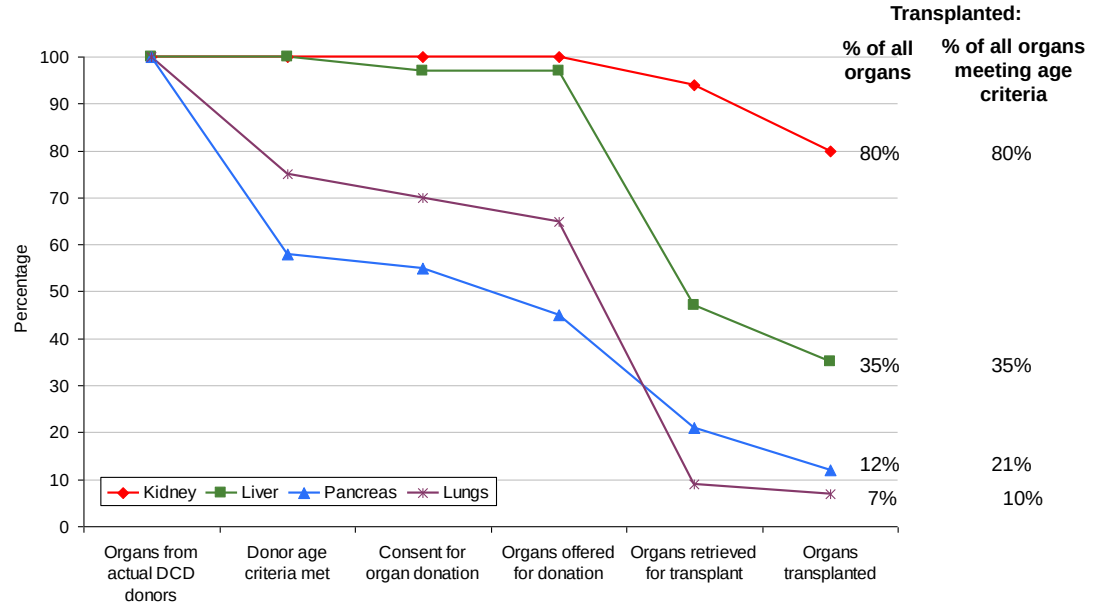
Figures 4.1 and **4.2** show line graphs of the pathway for all donor organs through to transplantation. The charts start at 100% for each organ, representing all organs from the 772 DBD and 510 DCD donors. The proportion of these organs where any national donor age criteria are met is then shown, followed by the proportion with consent (authorisation in Scotland), the proportion offered, the proportion retrieved and finally the proportion transplanted. For example, **Figure 4.1** shows that only 23% of the pancreases from the 772 DBD donors were transplanted. Transplantation rates for kidneys and livers are generally high, while for other organs, even after allowing for the agreed age criteria, the rates are generally low.

Figure 4.1 Donation and transplantation rates of organs from DBD organ donors in the UK, 1 April 2014 – 31 March 2015



[1] Hearts – in addition to age criteria, donors who died due to myocardial infarction are excluded
Bowels – in addition to age criteria, donors who weigh >80kg are excluded

Figure 4.2 Donation and transplantation rates of organs from DCD organ donors in the UK, 1 April 2014 – 31 March 2015



Reasons for organs not being offered for transplantation, being offered but not accepted and being retrieved but not subsequently transplanted are shown in **Table 4.4** and **Table 4.5** for abdominal organs from DBD and DCD donors, respectively. **Table 4.6** shows the same information for cardiothoracic organs. Reasons for the medical unsuitability of an organ include infections, tumours, anatomy and disease. Non-medical reasons include donor size and donor instability. Clinical unsuitability of an organ encompasses poor perfusion, prolonged ischaemia, past history of the donor and, in the case of pancreases for islet usage, insufficiency of viable islet yield. Reasons reported under 'other' include logistical and recipient related issues in addition to un-coded reasons reported of a miscellaneous nature.

These tables also show the number of organs from UK donors that were transplanted overseas. These organs were not accepted for transplantation by any UK transplant centre, but were accepted for suitable recipients identified elsewhere, usually in Europe. In 2014-2015 only a small number of livers, hearts and lungs were exported for transplantation outside the UK. Organs from outside the UK are occasionally imported for transplant. Further information on the import and export of organs can be found in **Appendix IV**.

Table 4.4 Reasons for non-retrieval and non-use of abdominal organs from DBD donors in the UK, 1 April 2014 – 31 March 2015

	Kidney	Liver	Pancreas	Bowel
All DBD organ donors	**772**	**772**	**772**	**772**
Donors from whom organs not offered for donation	2	12	271	546
Reasons for organs not being offered				
Family permission refused	2	10	17	45
Permission refused by coroner	0	2	3	3
Donor unsuitable – age	0	0	202	2
Donor unsuitable – past history	0	0	33	9
Donor age >55 and donor weight >80kg	0	0	0	451
Other	0	0	16	36
TOTAL DONORS WITH ORGANS NOT OFFERED	**2**	**12**	**271**	**546**
Organs offered for donation	**1540**	**760**	**501**	**226**
Organs not retrieved (% of organs offered for donation)	**115 (7)**	**76 (10)**	**151 (30)**	**205 (91)**
Reasons for non-retrieval				
Donor				
Donor unsuitable – medical	19	3	10	9
Donor unsuitable – non-medical	5	3	16	127
Donor age	12	1	10	3
Organ				
Organ unsuitable – clinical	58	34	88	34
Poor function	9	13	6	3
Other				
Other	12	22	21	29
TOTAL ORGANS OFFERED, NOT RETRIEVED	**115**	**76**	**151**	**205**
Organs retrieved (% of organs offered for donation)	**1425 (93)**	**684 (90)**	**350 (70)**	**21 (9)**
Organs transplanted in the UK	1314	633	178	21[2]
Organs transplanted overseas	0	2[1]	0	0
Organs not transplanted	111	49	172	0
Reasons for organ not being transplanted				
Donor				
Donor unsuitable – medical	31	5	16	0
Donor unsuitable – non-medical	1	1	0	0
Donor age	0	1	0	0
Organ				
Organ unsuitable – clinical	30	36	120	0
Poor function	2	0	1	0
Other				
Other	47	6	35	0
TOTAL ORGANS RETRIEVED, NOT TRANSPLANTED (Number used for research)	**111 (66)**	**49 (40)**	**172 (115)**	**0 (0)**

[1] Transplanted into super-urgent patients in the Republic of Ireland
[2] Excludes 3 bowels transplanted from overseas donors

Table 4.5 Reasons for non-retrieval and non-use of abdominal organs from DCD donors in the UK, 1 April 2014 – 31 March 2015

	Kidney	Liver	Pancreas
All DCD organ donors	**510**	**510**	**510**
Donors from whom organs not offered for donation	0	16	279
Reasons for organs not being offered			
Family permission refused	0	11	12
Permission refused by coroner	0	4	3
Donor unsuitable – age	0	0	213
Donor unsuitable – past history	0	0	29
Other	0	1	22
TOTAL DONORS WITH ORGANS NOT OFFERED	**0**	**16**	**279**
Organs offered for donation	**1020**	**494**	**231**
Organs not retrieved (% of organs offered for donation)	**58 (6)**	**254 (51)**	**122 (53)**
Reasons for non-retrieval			
Donor			
Donor unsuitable – medical	5	3	3
Donor unsuitable – non-medical	1	17	17
Donor age	6	35	25
Organ			
Organ unsuitable – clinical	31	98	51
Poor function	6	24	7
Other			
Other	9	77	19
TOTAL ORGANS OFFERED, NOT RETRIEVED	**58**	**254**	**122**
Organs retrieved (% of organs offered for donation)	**962 (94)**	**240 (49)**	**109 (47)**
Organs transplanted in the UK	817	177	63
Organs transplanted overseas	0	0	0
Organs not transplanted	145	63	46
Reasons for organ not being transplanted			
Donor			
Donor unsuitable – medical	53	6	8
Donor unsuitable – non-medical	0	2	0
Donor age	0	0	0
Organ			
Organ unsuitable – clinical	41	40	25
Poor function	2	0	0
Other			
Other	49	15	13
TOTAL ORGANS RETRIEVED, NOT TRANSPLANTED (Number used for research)	**145 (119)**	**63 (57)**	**46 (32)**

Table 4.6 Reasons for non-retrieval and non-use of cardiothoracic organs from organ donors in the UK, 1 April 2014 – 31 March 2015

	Heart (DBD)	Lung (DBD)	Lung (DCD)
All organ donors	**772**	**772**	**510**
Donors from whom organs not offered for donation	223	200	178
Reasons for organs not being offered			
Family permission refused	56	41	35
Permission refused by coroner	30	24	17
Donor age >65 years	135	135	126
Donor cause of death cardiac arrest or myocardial infarction	2	0	0
TOTAL DONORS WITH ORGANS NOT OFFERED	**223**	**200**	**178**
Organs offered for donation	**549**	**1144**	**664**
Organs not retrieved (% of organs offered for donation)	**376 (68)**	**858 (75)**	**577 (87)**
Reasons for non-retrieval			
Donor			
Donor unsuitable – medical	21	42	40
Donor unsuitable – non-medical	49	51	36
Donor age	21	12	16
Organ			
Organ unsuitable – clinical	93	228	224
Poor function	157	425	189
Other			
Other	35	100	72
TOTAL ORGANS OFFERED, NOT RETRIEVED	**376**	**858**	**577**
Organs retrieved (% of organs offered for donation)	**173 (32)**	**286 (25)**	**87 (13)**
Organs transplanted in the UK	168	254	74
Organs transplanted overseas	2	10	0
Organs not transplanted	3	22	13
Reasons for organ not being transplanted			
Donor			
Donor unsuitable – medical	0	0	2
Donor unsuitable – non-medical	0	0	2
Organ			
Organ unsuitable – clinical	1	2	2
Poor function	0	6	2
Other			
Other	2	14	5
TOTAL ORGANS RETRIEVED, NOT TRANSPLANTED (Number used for research)	**3 (2)**	**22 (2)**	**13 (7)**

Kidney Activity

Key messages

- **A new National DCD Kidney Allocation Scheme was introduced on 3 September 2014.**
- **The number of deceased kidney donors decreased by 3% to 1,204**
- **Kidney transplants from living donors decreased by 6% to 1,052, while transplants from deceased donors decreased by 3% to 2,069**
- **77 kidney transplants were made possible by the paired living kidney donation programme**
- **Non-directed altruistic living kidney donation resulted in 107 living donor kidney transplants**
- **The number of patients registered on the kidney transplant list this year fell by 3% from 5,881 to 5,686**

5.1 Overview

A new National DCD Kidney Allocation Scheme was introduced on 3 September 2014 which replaced previous local arrangements for the allocation of kidneys from DCD donors. One kidney from all DCD donors is now allocated primarily to the local centre, with the second kidney being offered to other centres on a regional basis for donors aged 5-49 years. The exceptions to this are in London and Scotland, where regional sharing schemes have been accepted by all centres for both kidneys. Patients are prioritised according to the 2006 DBD Kidney Allocation Scheme points system which is based on a range of clinical factors.

As part of the changes associated with implementation of this scheme, all offering of DCD kidneys has moved to the ODT Duty Office and Specialist Nurses for Organ Donation (SNODs) are no longer offering kidneys for transplant. The SNODs are contacting transplant centres for any advice about suitability of potential donors at an early stage in the donation process, however, and the way in which they are doing this has been formalised.

The number of deceased kidney donors fell by 3% in 2014-2015 compared to 2013-2014 and the number of deceased donor kidney transplants fell by 3%. There were 5686 patients waiting for a kidney transplant at 31 March 2015, and for the sixth year running the number of patients on the national list for a kidney transplant have declined.

A summary of activity for deceased donor kidney transplants and the transplant list at year end for the last ten years is shown in **Figure 5.1**. The number of patients registered on the active transplant list at 31 March 2015 for a kidney or kidney and pancreas transplant has fallen by 3% since 2006.

Figure 5.1 **Deceased donor kidney programme in the UK, 1 April 2005 - 31 March 2015, Number of donors, transplants and patients on the active transplant list at 31 March**

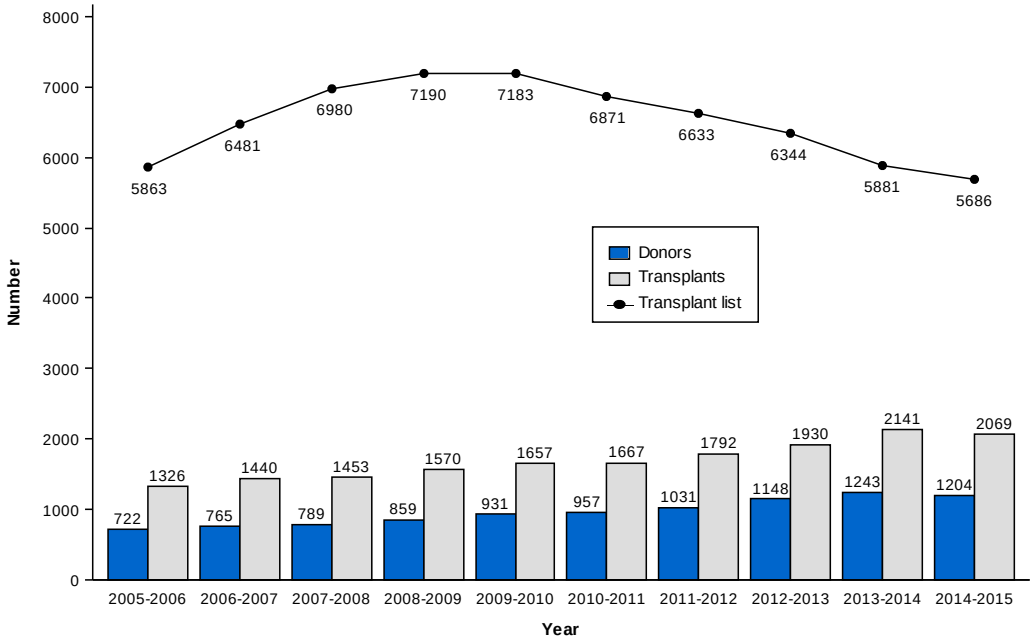


Table 5.1 shows the number of deceased and living donor kidney transplants carried out in 2014-2015 at each centre. Kidney transplants from donors after circulatory death are increasingly common and in this financial year all adult kidney transplant centres performed such transplants. As yet, very few kidneys from donors after circulatory death are transplanted in paediatric patients (<18 years). Donation figures for centres in North and South Thames are not reported individually as they have shared designated areas and donor populations. Multi-organ transplants including a kidney are included in the table.

The total number of deceased kidney donors decreased to 1204 in 2014-2015 from 1243 in 2013-2014 and the number of transplants decreased from 2141 to 2069. The number of kidney donors after circulatory death decreased to 484 from 521 in 2013-2014 and the number of transplants from such donors decreased by 6% to 772.

Throughout this chapter, intestinal transplants involving a kidney are not included in the kidney transplant activity reported. Any kidneys retrieved and used for such transplants are however used in the kidney donor activity.

Table 5.1 **Kidney donors and transplants, 1 April 2014 - 31 March 2015 (2013-2014) and transplant list at 31 March 2015 (2014) in the UK, by centre/ alliance**

Centre/ alliance	Deceased kidney donors				Deceased donor transplants				Living donor transplants		Active transplant list	
	DBD		DCD		DBD		DCD					
Belfast	34	(30)	14	(14)	31	(37)	13	(3)	54	(58)	131	(114)
Birmingham	49	(54)	27	(32)	101	(90)	18	(17)	67	(80)	458	(502)
Bristol	27	(26)	19	(28)	52	(67)	13	(22)	40	(54)	306	(314)
Cambridge	40	(37)	48	(43)	65	(59)	69	(85)	40	(40)	169	(191)
Cardiff	24	(23)	21	(17)	22	(38)	38	(47)	36	(37)	110	(121)
Coventry	9	(8)	10	(9)	24	(22)	8	(8)	30	(26)	112	(107)
Edinburgh	28	(35)	27	(26)	47	(53)	30	(34)	31	(35)	175	(185)
Glasgow	32	(24)	7	(18)	56	(64)	37	(41)	44	(45)	272	(311)
Great Ormond Street	0	(0)	0	(0)	5	(7)	2	(3)	23	(18)	7	(14)
Leeds	29	(30)	34	(31)	74	(61)	87	(98)	46	(44)	261	(262)
Leicester	20	(20)	12	(11)	58	(62)	25	(19)	32	(43)	234	(276)
Liverpool	37	(49)	19	(22)	35	(39)	26	(23)	41	(39)	185	(176)
Manchester	36	(37)	28	(24)	114	(140)	54	(45)	98	(89)	583	(597)
Newcastle	42	(48)	33	(39)	25	(35)	36	(52)	57	(57)	213	(181)
North Thames[1]	90	(98)	46	(54)	-	-	-	-	-	-	-	-
Royal Free	-	-	-	-	71	(38)	37	(37)	32	(35)	243	(274)
Royal London	-	-	-	-	65	(58)	17	(21)	47	(60)	317	(295)
WLRTC	-	-	-	-	87	(84)	29	(18)	64	(64)	423	(474)
Nottingham	12	(16)	21	(22)	28	(39)	27	(34)	17	(21)	131	(122)
Oxford	32	(27)	16	(26)	84	(86)	56	(52)	51	(42)	258	(258)
Plymouth	34	(28)	21	(22)	22	(18)	16	(27)	20	(22)	85	(84)
Portsmouth	19	(26)	11	(21)	52	(44)	10	(17)	23	(26)	205	(228)
Sheffield	30	(22)	12	(7)	37	(41)	18	(7)	20	(20)	179	(188)
South Thames[1]	96	(84)	58	(55)	-	-	-	-	-	-	-	-
Guy's	-	-	-	-	82	(79)	68	(77)	87	(100)	347	(336)
St George's	-	-	-	-	59	(59)	38	(34)	37	(44)	282	(271)
TOTAL	**720**	**(722)**	**484**	**(521)**	**1297[2]**	**(1320)**	**772**	**(821)**	**1052[3,5]**	**(1115[4,6])**	**5686**	**(5881)**

WLRTC - West London Renal and Transplant Centre
[1] Donor figures in this area cannot be linked to individual transplant centres due to shared retrieval areas.
[2] Includes an additional 1 transplant performed at Manchester, Wythenshawe Hospital
[3] Includes an additional 8 transplants at London, Cromwell Hospital and 7 transplants at London, London Bridge Hospital
[4] Includes an additional 6 transplants performed at London, The London Clinic, 5 transplants at London, Cromwell Hospital and 5 transplants at London, London Bridge Hospital
[5] Includes 3 domino donors; [6] Includes 2 domino donors

5.2 Transplant list

The number of patients registered on the kidney or kidney and pancreas transplant list fell by 3% in the year: on 31 March 2015, 5,686 patients were registered as active, compared with 5,881 at the end of March 2014. The number of patients waiting for a kidney transplant represents 88.4 patients per million population (pmp).

Of the 5,686 patients on the active transplant list at 31 March 2015, 201 required a kidney and pancreas transplant (201 at 31 March 2014). Additionally, 51 patients were registered for a pancreas only transplant (69 at 31 March 2014).

The outcome of patients registered on the UK kidney and kidney/pancreas transplant list at 1 April 2014, or subsequently registered during the financial year, is shown in **Table 5.2**. A total of 3,579 patients joined the kidney transplant list last year, an increase of 4% from the previous year. A further 238 joined the kidney/pancreas transplant list.

Table 5.2 Kidney transplant list and new registrations in the UK, 1 April 2014 - 31 March 2015

Outcome of patient at 31 March 2015	Active and suspended patients at 1 April 2014		New registrations in 2014-2015[1]		**TOTAL**	
	N	**%**	**N**	**%**	**N**	**%**
Kidney transplant list						
Remained active/suspended	5713	66	2909	81	**8622**	**71**
Transplanted	2183	25	608	17	**2791**	**23**
Removed	491[2]	6	40[3]	1	**531**	**4**
Died	221	3	22	1	**243**	**2**
TOTAL	**8608**		**3579**		**12187**	
Kidney/pancreas transplant list						
Remained active/suspended	127	39	204	86	**331**	**59**
Transplanted	148	46	26	11	**174**	**31**
Removed	28	9	1	0	**29**	**5**
Died	19	6	7	3	**26**	**5**
TOTAL	**322**		**238**		**560**	

[1] Includes re-registrations for second or subsequent transplants
[2] Includes 5 patients removed from kidney list and made active on kidney/pancreas list
[3] Includes 7 patients removed from kidney list and made active on kidney/pancreas list

Table 5.3 shows the active transplant list in the UK at 31 March 2015 and 2014 by country/ former Strategic Health Authority of patient's residence. In 2015, the overall kidney transplant list rate was 88.4 pmp with rates across the Strategic Health Authorities ranging from 58.5 pmp to 138.5 pmp.

Table 5.3 Active kidney transplant list at 31 March, by country/ Strategic Health Authority of patient residence

Country/ Strategic Health Authority of residence	Kidney transplant list (pmp) 2015		2014	
North East	173	(66.3)	149	(57.1)
North West	714	(100.6)	720	(101.4)
Yorkshire and The Humber	425	(79.6)	436	(81.6)
North of England	**1312**	**(87.2)**	**1305**	**(86.7)**
East Midlands	413	(89.8)	460	(100.0)
West Midlands	587	(103.5)	624	(110.1)
East of England	362	(60.8)	375	(63.0)
Midlands and East	**1362**	**(84.0)**	**1459**	**(90.0)**
London	**1166**	**(138.5)**	**1217**	**(144.5)**
South East Coast	266	(58.5)	265	(58.2)
South Central	371	(87.3)	389	(91.5)
South West	450	(83.6)	449	(83.5)
South of England	**1087**	**(76.7)**	**1103**	**(77.8)**
England	**4927**	**(91.5)**	**5084**	**(94.4)**
Isle of Man	**10**	**(125.0)**	**7**	**(87.5)**
Channel Islands	**4**	**(25.0)**	**8**	**(50.0)**
Wales	**159**	**(51.6)**	**162**	**(52.6)**
Scotland	**442**	**(82.9)**	**492**	**(92.3)**
Northern Ireland	**141**	**(77.0)**	**123**	**(67.2)**
TOTAL[1]	**5686**	**(88.4)**	**5881**	**(91.4)**

[1] Includes patients in 2015 (2014) residing in: Unspecified UK 1 (1); Republic of Ireland 0 (1); Overseas 2 (3)

An indication of outcomes for adult patients listed for a kidney only transplant is summarised in **Figure 5.2**. This shows the proportion of patients transplanted or still waiting one, three and five years after joining the list. It also shows the proportion removed from the transplant list (typically because they become too unwell for transplant) and those dying while on the transplant list. Only 21% of patients are transplanted within one year, while five years after listing 66% of patients have received a transplant.

The median (average) waiting time for a kidney only transplant is 1,022 days for an adult patient and is shown by blood group in **Table 5.4** and patient ethnicity in **Table 5.5**. Because of the need to match donor and recipient blood groups and tissue types, waiting times to transplant differ according to patient blood groups and ethnicity due to differences between the donor pool and patients awaiting a kidney transplant. Note that these waiting times are not adjusted for other relevant factors which may be influential and which may differ across blood or ethnic groups.

Figure 5.2 **Post-registration outcome for 2886 new adult kidney only registrations made in the UK, 1 April 2009 - 31 March 2010**

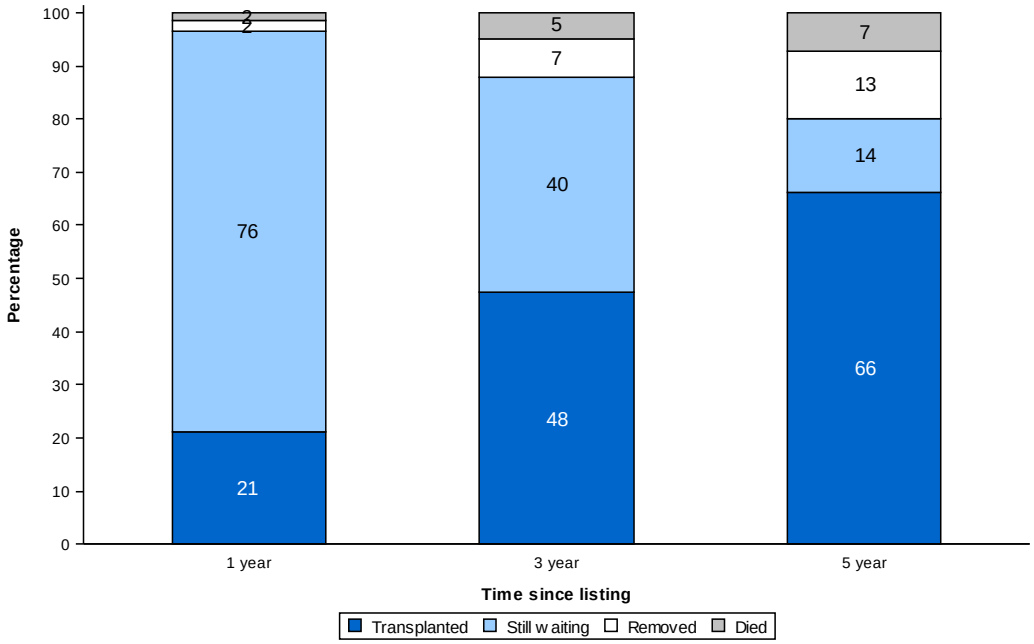


Table 5.4 **Median waiting time to kidney only transplant in the UK, for patients registered 1 April 2008 - 31 March 2012**

Blood group	Number of patients registered	Waiting time (days) Median	95% Confidence interval
Adult			
O	4032	1198	1167 - 1229
A	3213	829	800 - 858
B	1216	1187	1118 - 1256
AB	363	464	405 - 523
TOTAL	**8824**	**1022**	**1000 - 1044**
Paediatric			
O	151	384	294 - 474
A	106	228	145 - 311
B	41	210	143 - 277
AB	15	450	175 - 725
TOTAL	**313**	**316**	**259 - 373**

Table 5.5 Median waiting time to kidney only transplant in the UK, for patients registered 1 April 2008 - 31 March 2012

Ethnicity	Number of patients registered	Waiting time (days)	
		Median	95% Confidence interval
Adult			
White	6477	955	930 - 980
Asian	1350	1208	1148 - 1268
Black	734	1226	1154 - 1298
Other	239	1087	982 - 1192
TOTAL[1]	**8824**	**1022**	**1000 - 1044**
Paediatric			
White	207	238	180 - 296
Asian	74	541	386 - 696
Black	22	466	265 - 667
Other[3]	9	-	-
TOTAL[2]	**313**	**316**	**259 - 373**

[1] Includes 24 patients whose ethnicity was not reported
[2] Includes 1 patient whose ethnicity was not reported
[3] Median waiting time not reported for fewer than 10 patients

5.3 Donor and organ supply

Of the 772 organ donors after brain death in the UK in 2014-2015, 720 (93%) were kidney donors. From these donors, 1,425 kidneys were retrieved. There were 484 kidney donors after circulatory death in 2014-2015. From these donors, 962 kidneys were retrieved. **Table 5.6** shows this activity by donor country/Strategic Health Authority of donor's residence. No adjustments have been made for potential demographic differences in populations.

The overall rate for kidney donors after brain death is 11.2 pmp, with rates across the Strategic Health Authorities ranging from 9.0 to 12.8 pmp. The number of kidneys retrieved from donors after brain death in the UK is 22.1 pmp and varies from 18.2 to 26.2 pmp.

The overall rate for kidney donors after circulatory death is 7.5 pmp, with rates across the Strategic Health Authorities ranging from 4.5 to 11.8 pmp. The number of kidneys retrieved from donors after circulatory death is 14.9 pmp and varies from 8.9 to 23.2 pmp.

Table 5.6 Kidney donation and retrieval rates for deceased donors in the UK, 1 April 2014 - 31 March 2015, by country/ Strategic Health Authority

Country/ Strategic Health Authority of residence	Kidney donors (pmp)				Kidneys retrieved (pmp)			
	DBD		DCD		DBD		DCD	
North East	30	(11.5)	29	(11.1)	54	(20.7)	58	(22.2)
North West	68	(9.6)	47	(6.6)	129	(18.2)	91	(12.8)
Yorkshire and The Humber	51	(9.6)	46	(8.6)	103	(19.3)	93	(17.4)
North of England	**149**	**(9.9)**	**122**	**(8.1)**	**286**	**(19.0)**	**242**	**(16.1)**
East Midlands	47	(10.2)	40	(8.7)	91	(19.8)	80	(17.4)
West Midlands	51	(9.0)	30	(5.3)	104	(18.3)	61	(10.8)
East of England	73	(12.3)	70	(11.8)	143	(24.0)	138	(23.2)
Midlands and East	**171**	**(10.5)**	**140**	**(8.6)**	**338**	**(20.8)**	**279**	**(17.2)**
London	**95**	**(11.3)**	**43**	**(5.1)**	**186**	**(22.1)**	**82**	**(9.7)**
South East Coast	57	(12.5)	42	(9.2)	112	(24.6)	86	(18.9)
South Central	42	(9.9)	19	(4.5)	87	(20.5)	38	(8.9)
South West	69	(12.8)	43	(8.0)	141	(26.2)	87	(16.2)
South of England	**168**	**(11.8)**	**104**	**(7.3)**	**340**	**(24.0)**	**211**	**(14.9)**
England	**583**	**(10.8)**	**409**	**(7.6)**	**1150**	**(21.3)**	**814**	**(15.1)**
Isle of Man	**5**	**(62.5)**	**0**	**(0.0)**	**10**	**125.0)**	**0**	**(0.0)**
Channel Islands	**1**	**(6.3)**	**0**	**(0.0)**	**2**	**(12.5)**	**0**	**(0.0)**
Wales	**35**	**(11.4)**	**29**	**(9.4)**	**72**	**(23.4)**	**57**	**(18.5)**
Scotland	**62**	**(11.6)**	**32**	**(6.0)**	**123**	**(23.1)**	**64**	**(12.0)**
Northern Ireland	**34**	**(18.6)**	**14**	**(7.7)**	**68**	**(37.2)**	**27**	**(14.8)**
TOTAL[1]	**720**	**(11.2)**	**484**	**(7.5)**	**1425**	**(22.1)**	**962**	**(14.9)**

[1] Includes 26 donors where the hospital postcode was used in place of an unknown donor postcode

5.4 Transplants

The number of kidney transplants by recipient country/Strategic Health Authority of residence is shown in **Table 5.7**. No adjustments have been made for potential demographic differences in populations. The deceased donor transplant rate ranged from 16.9 to 41.6 pmp across Strategic Health Authorities and overall was 29.2 pmp. The living donor transplant rate ranged from 12.0 to 19.2 pmp across the Strategic Health Authorities and overall was 15.9 pmp.

Table 5.7 Kidney only transplant rates per million population (pmp), in the UK, 1 April 2014 - 31 March 2015, by country/ Strategic Health Authority

Country/ Strategic Health Authority of residence	DBD		DCD		**TOTAL**		Living	
	N	(pmp)	N	(pmp)	N	(pmp)	N	(pmp)
North East	14	(5.4)	30	(11.5)	44	(16.9)	50	(19.2)
North West	128	(18.0)	67	(9.4)	195	(27.5)	133	(18.7)
Yorkshire and The Humber	106	(19.9)	99	(18.5)	205	(38.4)	66	(12.4)
North of England	**248**	**(16.5)**	**196**	**(13.0)**	**444**	**(29.5)**	**249**	**(16.5)**
East Midlands	94	(20.4)	61	(13.3)	155	(33.7)	55	(12.0)
West Midlands	113	(19.9)	30	(5.3)	143	(25.2)	92	(16.2)
East of England	91	(15.3)	76	(12.8)	167	(28.1)	92	(15.5)
Midlands and East	**298**	**(18.4)**	**167**	**(10.3)**	**465**	**(28.7)**	**239**	**(14.7)**
London	**231**	**(27.4)**	**119**	**(14.1)**	**350**	**(41.6)**	**154**	**(18.3)**
South East Coast	60	(13.2)	44	(9.7)	104	(22.9)	67	(14.7)
South Central	87	(20.5)	39	(9.2)	126	(29.6)	60	(14.1)
South West	84	(15.6)	38	(7.1)	122	(22.7)	74	(13.8)
South of England	**231**	**(16.3)**	**121**	**(8.5)**	**352**	**(24.8)**	**201**	**(14.2)**
England	**1008**	**(18.7)**	**603**	**(11.2)**	**1611**	**(29.9)**	**843**	**(15.6)**
Isle of Man	**3**	**(37.5)**	**0**	**(0.0)**	**3**	**(37.5)**	**4**	**(50.0)**
Channel Islands	**2**	**(12.5)**	**0**	**(0.0)**	**2**	**(12.5)**	**3**	**(18.8)**
Wales	**30**	**(9.7)**	**36**	**(11.7)**	**66**	**(21.4)**	**44**	**(14.3)**
Scotland	**88**	**(16.5)**	**65**	**(12.2)**	**153**	**(28.7)**	**76**	**(14.3)**
Northern Ireland	**31**	**(16.9)**	**13**	**(7.1)**	**44**	**(24.0)**	**55**	**(30.1)**
TOTAL[1]	**1162**	**(18.1)**	**717**	**(11.1)**	**1879**	**(29.2)**	**1025**	**(15.9)**

[1] Excludes 27 recipients of a living donor kidney and 1 recipient of a DBD kidney who reside outside of the UK

The number of kidney only transplants from deceased donors at each transplant centre is shown in **Table 5.8** for adult patients only. Kidney transplants from donors after brain death include 2 en bloc kidneys and 15 double kidney transplants in 2014-2015 (5 and 25 in 2013-2014). Kidney transplants from donors after circulatory death include 6 en bloc and 41 double kidney transplants in 2014-2015 (4 and 66 in 2013-2014). This table excludes multi-organ transplants: 12 kidney and liver, 1 kidney and heart, 173 kidney and pancreas, and 1 kidney and lung.

Table 5.8 Adult kidney only transplants in the UK, 1 April 2013 - 31 March 2015, by transplant centre/ region

Transplant centre/ region	2013-2014 DBD	DCD	Living donor	TOTAL	2014-2015 DBD	DCD	Living donor	TOTAL
Belfast	37	3	57	97	30	13	53	96
Birmingham	79	17	77	173	88	17	58	163
Bristol	61	22	49	132	50	13	32	95
Cambridge	41	78	40	159	50	57	40	147
Cardiff	31	44	37	112	20	32	35	87
Coventry	22	8	26	56	23	8	30	61
Edinburgh	33	34	35	102	32	28	30	90
Glasgow	58	41	41	140	53	37	37	127
Guys	47	69	87	203	56	56	73	185
Leeds	52	98	44	194	62	86	43	191
Leicester	62	19	43	124	58	25	32	115
Liverpool	39	23	39	101	35	26	41	102
Manchester	111	37	76	224	91	42	82	215
Newcastle	27	51	54	132	20	36	53	109
Nottingham	30	34	17	81	27	27	13	67
Oxford	34	42	42	118	41	43	51	135
Plymouth	18	27	22	67	22	16	20	58
Portsmouth	44	17	26	87	52	10	23	85
Sheffield	41	7	20	68	37	18	20	75
St Georges	59	34	44	137	59	38	37	134
The Royal Free	37	35	35	107	68	37	32	137
The Royal London	58	21	60	139	65	17	47	129
WLRTC	80	18	64	162	82	29	64	175
TOTAL	**1101**	**779**	**1051**[1]	**2931**	**1121**	**711**	**961**[2]	**2793**

[1] Includes 6 transplants performed at The London Clinic, 5 at London Cromwell Hospital, 4 at London Bridge and 1 at Great Ormond Street Hospital
[2] Includes 8 transplants performed at London Cromwell Hospital and 7 at London Bridge
WLRTC - West London Renal and Transplant Centre

Living donor kidney transplants fell by 6% to 1052 in 2014-2015, representing 34% of the total kidney transplant programme. The total number of living donor adult transplants performed by each transplant centre is shown in **Table 5.9**. Also shown is 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.

Most living donor transplants are 'directed'. This means that a kidney is donated to a specific recipient known to the donor - a close family member or friend. There has been a 10% decrease in these transplants. In addition there are now a number of 'non-directed' living donor transplants (also known as altruistic donor transplants). Last year 107 such donors donated a kidney to a recipient, 105 transplanted into an adult recipient and 2 transplanted into a paediatric recipient. Of the 105 transplanted into an adult recipient, 17 went into an altruistic donor chain, benefitting patients in the paired/pooled scheme. The kidneys from the paired donors of these recipients led to 15 adult and 2 paediatric transplants for patients on the deceased donor transplant list. Thus 17 altruistic donors creating chains benefited 32 adult and 2 paediatric patients.

In 2014-2015, there were also 62 paired living kidney donor transplants. When a potential donor and recipient are biologically incompatible (blood group or tissue type), they may consider joining a list of others in the same situation with the hope that an exchange of kidneys between them can lead to a compatible living donor transplant. The scheme also includes compatible pairs who would like a better match. This type of exchange is known as paired donation and most exchanges are between two pairs (i.e. two donors and their respective incompatible recipients), or between three pairs.

As a percentage of the number of patients on the active transplant list at 31 March 2015, the number of living donor adult transplants in the year was 17% and ranged from 11% to 40% at individual transplant centres.

Table 5.9 Adult living donor kidney transplants in the UK, 1 April 2014 - 31 March 2015, and percentage of active transplant list at 31 March, by transplant centre/ region

	2014-2015				TOTAL	
Transplant centre/ region	Directed	Non-directed (altruistic) to waiting list	Paired/ pooled exchanges	Altruistic donor chain[3]	**N**	**% list**
Belfast	43	5	5	0	**53**	**40**
Birmingham	43	9	2	4	**58**	**13**
Bristol	22	6	3	1	**32**	**11**
Cambridge	26	4	8	2	**40**	**24**
Cardiff	27	4	2	2	**35**	**32**
Coventry	23	1	5	1	**30**	**27**
Edinburgh	23	3	4	0	**30**	**17**
Glasgow	30	3	3	1	**37**	**14**
Guy's	67	3	1	2	**73**	**21**
Leeds	38	2	3	0	**43**	**17**
Leicester	28	3	0	1	**32**	**14**
Liverpool	36	4	1	0	**41**	**22**
Manchester	66	8	8	0	**82**	**14**
Newcastle	47	3	2	1	**53**	**25**
Nottingham	9	4	0	0	**13**	**11**
Oxford	40	2	3	6	**51**	**20**
Plymouth	15	3	2	0	**20**	**24**
Portsmouth	18	3	1	1	**23**	**11**
Sheffield	17	1	2	0	**20**	**11**
St George's	27	9	1	0	**37**	**13**
The Royal Free	24	3	1	4	**32**	**13**
The Royal London	37	5	1	4	**47**	**15**
WLRTC	55	3	4	2	**64**	**15**
TOTAL	**776[1]**	**91[2]**	**62**	**32**	**961[1]**	**17**

[1] Includes 8 transplants performed at London Cromwell Hospital and 7 at London Bridge
[2] Includes 3 domino donor transplants
[3] Includes transplants for paired pooled and deceased donor transplant list patients

Non-directed, altruistic donor kidneys are matched to a suitable recipient on a national basis and thus are rarely used in the transplant centre responsible for the 'work-up' of the donor. The number of non-directed donors according to donor hospital (rather than transplant hospital) and whether the altruistic donor donated as part of a chain within the paired/ pooled scheme or directly to the deceased donor list is shown in **Table 5.10**.

Table 5.10 **Altruistic kidney donors in the UK, 1 April 2013 - 31 March 2015, by donor centre**

	2013-2014				2014-2015			
Donor centre	Transplant list	Chain	**Total**	**%**	Transplant list	Chain	**Total**	**%**
Belfast	5	1	6	5	6	4	10	9
Birmingham	2	1	3	3	5	1	6	6
Bristol	2	1	3	3	4	0	4	4
Cambridge	6	1	7	6	3	1	4	4
Cardiff	1	2	3	3	3	1	4	4
Coventry	0	0	0	0	2	0	2	2
Edinburgh	9	1	10	8	6	3	9	8
Glasgow	3	0	3	3	4	0	4	4
Guy's	11	1	12	10	10	0	10	9
Leeds	2	2	4	3	2	2	4	4
Leicester	0	0	0	0	0	0	0	0
Liverpool	3	0	3	3	5	0	5	5
Manchester	8	5	13	11	8	0	8	7
Newcastle	1	0	1	1	4	0	4	4
Nottingham	2	0	2	2	3	0	3	3
Oxford	7	4	11	9	4	2	6	6
Plymouth	10	4	14	12	6	2	8	7
Portsmouth	10	2	12	10	7	0	7	7
Sheffield	1	1	2	2	1	0	1	1
St George's	4	1	5	4	2	0	2	2
The Royal Free	2	0	2	2	2	0	2	2
The Royal London	1	0	1	1	0	1	1	1
WLRTC	1	0	1	1	3	0	3	3
Total donors	**91**	**27**	**118**	**100**	**90**	**17**	**107**	**100**

WLRTC – West London Renal and Transplant Centre

The number of deceased donor and living donor transplants in paediatric patients (<18 years) performed by each paediatric transplant centre is shown in **Table 5.11**. There were 91 living donor transplants and 48 deceased donor transplants in paediatric patients in 2014-2015. The paediatric transplant list has increased by 4% from 70 patients at 31 March 2014 to 73 at the end of March 2015.

Occasionally older paediatric patients are listed and/or transplanted at adult kidney transplant centres and these are indicated in **Table 5.11**.

Table 5.11 Paediatric patient kidney transplants in the UK, 1 April 2013 - 31 March 2015, by transplant centre

	2013-2014				2014-2015			
Paediatric transplant centre	DBD	DCD	Living donor	**TOTAL**	DBD	DCD	Living donor	**TOTAL**
Belfast	0	0	1	**1**	1	0	1	**2**
Birmingham	6	0	3	**9**	10	1	9	**20**
Bristol	6	0	5	**11**	2	0	8	**10**
Glasgow	6	0	4	**10**	3	0	7	**10**
Great Ormond Street	7	3	17	**27**	5	2	23	**30**
Guy's	4	1	13	**18**	4	1	14	**19**
Leeds	8	0	0	**8**	10	1	3	**14**
Manchester	6	1	13	**20**	5	1	16	**22**
Newcastle	2	0	3	**5**	0	0	4	**4**
Nottingham	9	0	4	**13**	1	0	4	**5**
Adult centres	1	0	1	**2**	1	0	2	**3**
TOTAL	**55**	**5**	**64[1]**	**124**	**42**	**6**	**91[2]**	**139**

[1] Includes 1 non-directed donor transplant
[2] Includes 2 non-directed donor transplants and 2 altruistic donor chains (as patients on transplant list at end of chain)

At 31 March 2015, there were approximately 32,700 recipients with a functioning kidney transplant (including multi-organ transplants) being followed-up as reported to the UK Transplant Registry.

Rates of pre-emptive kidney only transplantation are shown in **Table 5.12**. Of the 2,932 kidney only transplant recipients in 2014-2015, dialysis status at time of transplant was reported for 2,829 (96%). Of these 2,829 transplants, 671 (24%) were carried out in pre-dialysis patients.

Pre-emptive transplants accounted for 31% of all paediatric kidney only transplants with reported dialysis status, compared with 22% of those in adults. Living donor transplants are more likely to be carried out before the need for dialysis than deceased donor transplants: 35% and 16% respectively. This is because a living donor transplant can often be carried out more quickly than a deceased donor kidney transplant as the latter often necessitates a long waiting time.

Table 5.12 Pre-emptive kidney only transplants in the UK, 1 April 2014 - 31 March 2015

	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	1832	1799	(98.2)	16.1
Living donor transplant	961	894	(93.0)	34.4
Paediatric				
Deceased donor transplant	48	48	(100.0)	25.0
Living donor transplant	91	88	(96.7)	36.3

The length of time that elapses between a kidney being removed from the donor to its transplantation into the recipient is called Cold Ischaemia Time (CIT). Generally, the shorter this time, the more likely the kidney is to work immediately and the better the long-term outcome. The factors which determine CIT include a) transportation of the kidney from the retrieval hospital to the hospital where the transplant is performed, b) the need to tissue type the donor and cross-match the donor and potential recipients, c) the occasional necessity of moving the kidney to another hospital if a transplant cannot go ahead, d) contacting and preparing the recipient for the transplant and e) access to the operating theatre. Median CITs are shown in addition to inter-quartile ranges in **Table 5.13**.

Table 5.13 Median cold ischaemia time for kidney only transplants in the UK, 1 April 2014 - 31 March 2015

	Number of kidney only transplants[1]	Median (hours)	Inter-quartile range[2] Q1	Q3
Adult				
DBD donor transplant	1121	14.3	11.3	18.1
DCD donor transplant	711	13.3	10.3	16.6
Total	**1832**	**14.0**	**10.9**	**17.6**
Paediatric				
DBD donor transplant	42	12.5	10.3	16.1
DCD donor transplant	6	9.6	7.3	11.3
Total	**48**	**12.3**	**9.9**	**16.1**
TOTAL	**1880**	**13.9**	**10.9**	**17.6**

[1] Not all cold ischaemia times are reported
[2] 25% of times are shorter than Q1, 25% are longer than Q3

Kidneys from donors after brain death are allocated on the basis of a national Kidney Allocation Scheme which incorporates HLA matching between donor and recipient. These HLA matches are based on four levels which are described in **Table 5.14**. Patients with 000 HLA-A, B, DR mismatch (Level 1) are prioritised in the schemes, whereas kidneys are rarely transplanted as a Level 4 match. More information about the allocation scheme can be found at www.odt.nhs.uk. **Table 5.15** gives the HLA mismatch group for adult and paediatric patients for DBD donor transplants but also for DCD and living donor transplants. For half of the year, DCD kidneys were allocated according to local transplant centre policies and on a local basis and consequently the levels of HLA match are inferior. For living donor transplantation, many transplants have a less good HLA match between donor and recipient. Very often there is no genetic relationship between donor and recipient.

Table 5.14 HLA mismatch groups

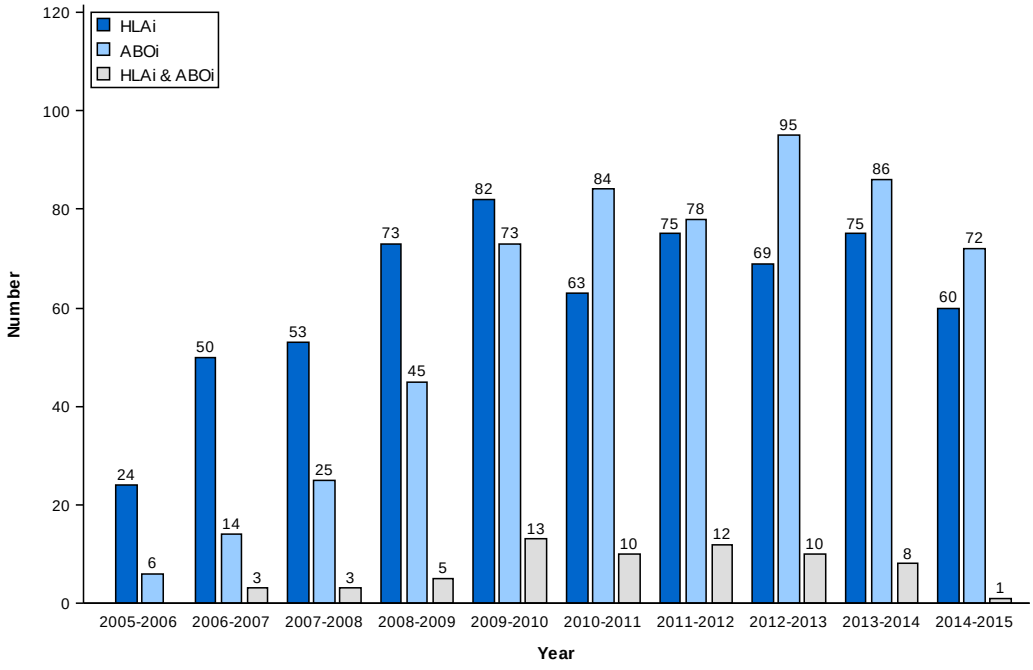
Level	HLA mismatch summary	HLA mismatch combinations included
1	000	000
2	[0 DR and 0/1 B]	100, 010, 110, 200, 210
3	[0 DR and 2 B] or [1 DR and 0/1 B]	020, 120, 220, 001, 101, 201, 011, 111, 211
4	[1 DR and 2 B] or [2 DR]	021, 121, 221, 002, 102, 202, 012, 112, 212, 022, 122, 222

Table 5.15 HLA matching for kidney only transplants in the UK, 1 April 2014 - 31 March 2015,

	DBD		DCD		Living	
	N	(%)	N	(%)	N	(%)
Adult						
Level 1	155	(14)	16	(2)	103	(11)
Level 2	386	(34)	184	(26)	143	(15)
Level 3	544	(49)	412	(58)	423	(44)
Level 4	36	(3)	99	(14)	277	(29)
Not reported					15	
Paediatric						
Level 1	3	(7)	0	(0)	9	(10)
Level 2	33	(79)	5	(83)	26	(29)
Level 3	6	(14)	0	(0)	53	(58)
Level 4	0	(0)	1	(17)	2	(2)
Not reported					1	

Often, potential living donors and their recipients are HLA or blood group incompatible. Increasingly it is possible to proceed with transplantation across the incompatibilities with appropriate management. The number of HLA and ABO blood group incompatible transplants over the last ten years is shown in **Figure 5.3**. Of the 624 HLA incompatible (HLAi) transplants performed; 176 used kidneys from deceased donors and 448 used living donor kidneys whilst the vast majority of ABO incompatible (ABOi) transplants used living donor kidneys (573 of 578). Due to the nature of reporting HLA incompatible transplants the numbers presented may be subject to change over time.

Figure 5.3 Incompatible kidney only transplants in the UK, 1 April 2005 - 31 March 2015



5.5 Demographic characteristics

The age group, sex, ethnicity and blood group of deceased donors, transplant recipients and patients on the transplant list is shown in **Table 5.16** and living donors and transplants in **Table 5.17**. Note that all percentages quoted are based only on data where relevant information was available. Changes made to the Kidney Allocation Scheme in 2006 mean that tissue matching criteria between donor and recipient are less strict than previously and waiting time to transplant is now more important than it was in deciding kidney allocation. These changes have an indirect benefit for patients from ethnic minority groups, who are less often a good tissue match with the predominantly white donor pool. As a result, access to transplantation is becoming more equitable.

Table 5.16 Demographic characteristics of deceased kidney donors and transplant recipients, 1 April 2014 - 31 March 2015, and transplant list patients at 31 March

	Donors		Transplant recipients		Active transplant list patients	
	N	(%)	N	(%)	N	(%)
Age group (years)						
0 - 17	48	(4)	50	(2)	73	(1)
18 - 34	186	(15)	293	(14)	624	(11)
35 - 49	285	(24)	623	(30)	1608	(28)
50 - 59	306	(25)	528	(26)	1592	(28)
60 - 69	254	(21)	431	(21)	1301	(23)
70+	125	(10)	144	(7)	488	(9)
mean (SD)	50	(17)	49	(15)	52	(14)
Sex						
Male	656	(54)	1248	(60)	3373	(59)
Female	548	(46)	818	(40)	2311	(41)
Not reported			3	(0)	2	(0)
Ethnicity						
White	1130	(94)	1497	(72)	3785	(67)
Asian	29	(2)	328	(16)	990	(17)
Black	19	(2)	161	(8)	631	(11)
Chinese	3	(0)	33	(2)	81	(1)
Other	23	(2)	31	(1)	95	(2)
Not reported			19	(1)	104	(2)
Blood group						
O	568	(47)	921	(45)	2980	(52)
A	466	(39)	757	(37)	1656	(29)
B	123	(10)	261	(13)	910	(16)
AB	47	(4)	130	(6)	140	(2)
Graft number						
First graft			1781	(86)	4360	(77)
Re-graft			287	(14)	1326	(23)
Not reported			1	(0)		
TOTAL	**1204**	**(100)**	**2069**	**(100)**	**5686**	**(100)**

Table 5.17 Demographic characteristics of living kidney donors and transplant recipients, 1 April 2014 - 31 March 2015

	Donors		Transplant recipients	
	N	(%)	N	(%)
Age group (years)				
0 - 17	0	(0)	91	(9)
18 - 34	201	(19)	219	(21)
35 - 49	384	(37)	342	(33)
50 - 59	262	(25)	230	(22)
60 - 69	169	(16)	131	(12)
70+	34	(3)	39	(4)
Not reported	2	(0)		
mean (SD)	47	(13)	43	(17)
Sex				
Male	494	(47)	627	(60)
Female	557	(53)	422	(40)
Not reported	1	(0)	3	(0)
Ethnicity				
White	901	(86)	858	(82)
Asian	70	(7)	92	(9)
Black	37	(4)	42	(4)
Chinese	6	(1)	4	(0)
Other	27	(3)	33	(3)
Not reported	11	(1)	23	(2)
Blood group				
O	582	(55)	470	(45)
A	339	(32)	411	(39)
B	106	(10)	142	(13)
AB	15	(1)	29	(3)
Not reported	10	(1)		
Graft number				
First graft			909	(86)
Re-graft			143	(14)
TOTAL	**1052**	**(100)**	**1052**	**(100)**

Pancreas Activity

Key messages

- **The number of patients waiting on the pancreas transplant list fell by 7% during the year, to 252 at 31 March 2015**
- **The number of pancreas donors after brain death fell by 3% to 354, while transplants from donors after brain death fell by 20% to 163**
- **The number of pancreas donors after circulatory death increased by 20% to 109, while transplants from donors after circulatory death increased by 47% to 63**
- **23 islet transplants were made possible by the pancreas islet transplant programme, a fall of 28% compared with last year**

6.1 Overview

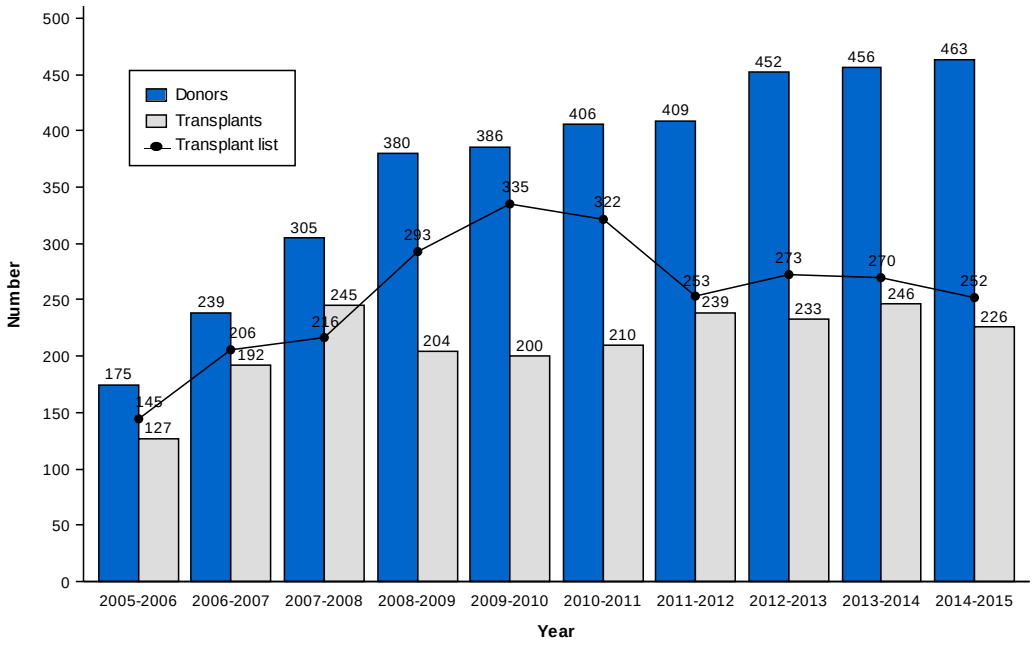
The number of patients registered on the active transplant list at 31 March for a pancreas only, simultaneous kidney/pancreas (SPK) and islet transplant has increased significantly over the last ten years from 145 patients in 2006 to 252 patients in 2015. The number of pancreas donors and transplants has also increased steadily from 175 donors resulting in 127 transplants in 2005-2006, to 463 donors and 226 transplants in 2014-2015, although the actual number of transplants is less than in the previous 3 years. A summary of activity for deceased donor pancreas transplants and the transplant list for 1 April 2005 - 31 March 2015 is shown in **Figure 6.1**.

A National Pancreas Allocation Scheme was introduced on 1 December 2010. Patients are prioritised according to a points system based on a range of clinical factors. A score is calculated for every potentially suitable patient on the national active transplant list and the pancreas is allocated preferentially to the patient with the most points. This differs from the previous system in which donor organs were allocated so that transplant centres selected suitable recipients rather than individual patients being identified centrally.

Pancreases from donors after brain death and donors after circulatory death are allocated through this scheme. Patients listed for a vascularised pancreas or islet transplant are prioritised through one combined national transplant list. The scheme has reduced the incidence of long waiting patients and is improving equity in access to transplant irrespective of where in the UK each patient resides.

Throughout this chapter, intestinal transplants involving a pancreas are not included in the pancreas transplant activity reported. Any pancreases retrieved and used for such transplants are however included in the pancreas donor activity. In 2014-2015 there were 18 intestinal transplants including a pancreas.

Figure 6.1 **Deceased pancreas and islet programme in the UK, 1 April 2005 - 31 March 2015, Number of donors, transplants and patients on the active transplant list at 31 March**



6.2 Transplant list

Table 6.1 shows the number of patients on the active transplant lists at 31 March 2015 by centre. The number of patients registered on the pancreas transplant list fell by 7% in the year: on 31 March 2015, 252 patients were registered active, compared with 270 at the end of March 2014.

Of the 252 patients on the active transplant list at 31 March 2015, 201 required a SPK transplant (201 at 31 March 2014), 15 (6%) patients required a pancreas only transplant (36 at 31 March 2014) and 36 (14%) were registered for a pancreas islet transplant.

The outcome of patients registered on the UK whole pancreas transplant list at 1 April 2014, or subsequently registered during the financial year, is shown in **Table 6.2**. 18 patients joined the pancreas transplant list while 238 joined the list for kidney and pancreas.

Patients listed for a routine islet transplant are generally waiting for their first islet graft. The majority of islet transplant recipients are likely to require more than one graft to complete their treatment. To optimise transplant outcome the follow-up graft should be performed within six to twelve months of the first. Patients requiring follow-up grafts are priority listed.

Table 6.1 Patients on the pancreas transplant lists at 31 March 2015 (2014) in the UK, by centre

Centre	Active transplant lists									
	Kidney/pancreas		Pancreas alone		Islet				**TOTAL**	
					Routine		Priority			
Bristol	-	-	-	-	4	(2)	0	(0)	**4**	**(2)**
Cambridge	18	(21)	0	(2)	0	(0)	0	(0)	**18**	**(23)**
Cardiff	7	(6)	2	(9)	0	(0)	0	(0)	**9**	**(15)**
Edinburgh	30	(24)	0	(0)	15	(10)	3	(0)	**48**	**(34)**
Guys	26	(26)	1	(2)	0	(0)	0	(0)	**27**	**(28)**
King's College	0	(0)	0	(0)	1	(1)	0	(1)	**1**	**(2)**
Manchester	32	(44)	0	(2)	2	(9)	1	(1)	**35**	**(56)**
Newcastle	15	(10)	0	(3)	4	(6)	2	(0)	**21**	**(19)**
Oxford	64	(59)	10	(16)	4	(0)	0	(2)	**78**	**(77)**
The Royal Free	0	(0)	0	(0)	0	(1)	0	(0)	**0**	**(1)**
WLRTC	9	(11)	2	(2)	0	(0)	0	(0)	**11**	**(13)**
TOTAL	**201**	**(201)**	**15**	**(36[1])**	**30**	**(29)**	**6**	**(4)**	**252**	**(270)**

[1] Includes one patient waiting for a pancreas and liver transplant

Table 6.2 Whole pancreas transplant list and new registrations in the UK, 1 April 2014 - 31 March 2015

Outcome of patient at 31 March 2015	Active and suspended patients at 1 April 2014		New registrations in 2014-2015[1]		TOTAL	
	N	**%**	**N**	**%**	**N**	**%**
Pancreas transplant list						
Remained active/suspended	88	71	10	56	**98**	**69**
Transplanted	20	16	8	44	**28**	**20**
Removed	16[2]	13	0	0	**16**	**11**
Died	0	0	0	0	**0**	**0**
TOTAL	**124**		**18**		**142**	
Kidney/pancreas transplant list						
Remained active/suspended	127	39	204	86	**331**	**59**
Transplanted	148	46	26	11	**174**	**31**
Removed	28	9	1	0	**29**	**5**
Died	19	6	7	3	**26**	**5**
TOTAL	**322**		**238**		**560**	

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

The active whole pancreas transplant list rates by country/Strategic Health Authority of patient's residence are shown in **Table 6.3**. At 31 March 2015, the overall transplant list rate was 3.4 pmp and across the Strategic Health Authorities ranged from 2.3 to 4.8 pmp.

Table 6.3	Active pancreas alone and kidney/pancreas transplant list at 31 March, by country/ Strategic Health Authority of patient residence			
Country/ Strategic Health Authority of residence	**Pancreas transplant list (pmp)**			
	2015		2014	
North East	12	(4.6)	10	(3.8)
North West	16	(2.3)	20	(2.8)
Yorkshire and The Humber	13	(2.4)	22	(4.1)
North of England	**41**	**(2.7)**	**52**	**(3.5)**
East Midlands	17	(3.7)	18	(3.9)
West Midlands	17	(3.0)	23	(4.1)
East of England	20	(3.4)	20	(3.4)
Midlands and East	**54**	**(3.3)**	**61**	**(3.8)**
London	**21**	**(2.5)**	**31**	**(3.7)**
South East Coast	13	(2.9)	15	(3.3)
South Central	20	(4.7)	11	(2.6)
South West	26	(4.8)	23	(4.3)
South of England	**59**	**(4.2)**	**49**	**(3.5)**
England	**175**	**(3.2)**	**193**	**(3.6)**
Isle of Man	**0**	**(0.0)**	**2**	**(25.0)**
Channel Islands	**0**	**(0.0)**	**0**	**(0.0)**
Wales	**11**	**(3.6)**	**18**	**(5.8)**
Scotland	**24**	**(4.5)**	**19**	**(3.6)**
Northern Ireland	**6**	**(3.3)**	**5**	**(2.7)**
TOTAL	**216**	**(3.4)**	**237**	**(3.7)**

An indication of longer term outcomes for patients listed for a pancreas or kidney/pancreas transplant are summarised in **Figure 6.2**. This shows the proportion of patients transplanted or still waiting six months, one year, two years and three years after joining the list. It also shows the proportion removed from the transplant list (typically because they become too unwell for transplant) and those dying while on the transplant list. 36% of patients are transplanted within one year, while three years after listing 76% of patients have received a transplant. The median (average) waiting time for a pancreas transplant is 392 days and is shown by blood group in **Table 6.4** and ethnicity in **Table 6.5**. Note that these waiting times are not adjusted for other relevant factors which may be influential and which may differ across blood or ethnic groups.

Figure 6.2 **Post-registration outcome for 235 new pancreas only and kidney/pancreas registrations made in the UK, 1 April 2011 - 31 March 2012**

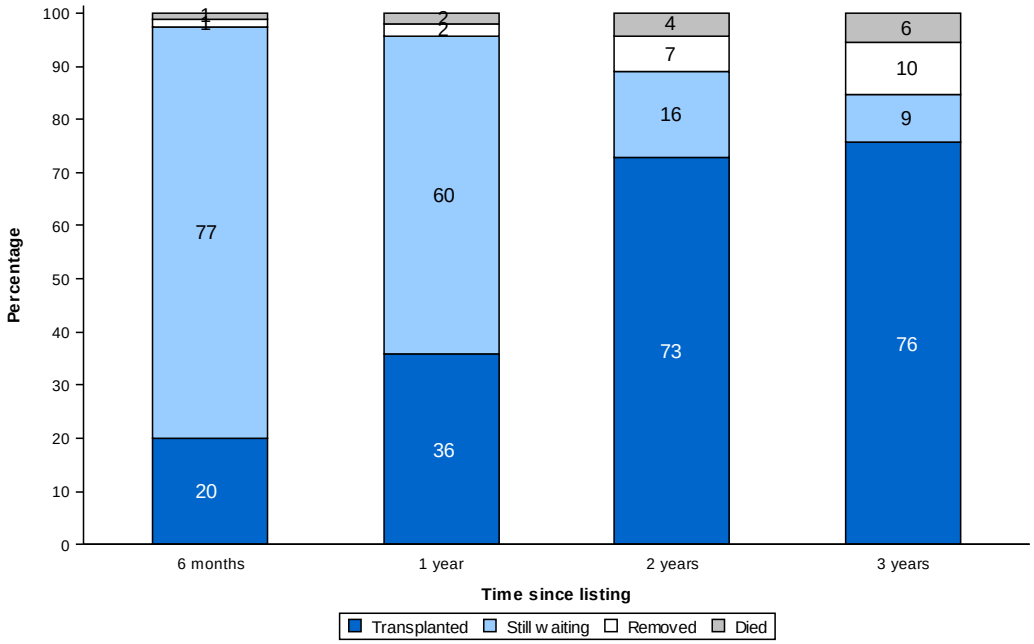


Table 6.4 **Median waiting time to pancreas only and kidney/pancreas transplant in the UK, for patients registered 1 April 2009 - 31 March 2013**

Blood group	Number of patients registered	Waiting time (days) Median	95% Confidence interval
Adult			
O	491	492	468 - 516
A	441	329	289 - 369
B	104	280	206 - 354
AB	30	92	44 - 140
TOTAL	**1066**	**392**	**364 - 420**

Table 6.5 **Median waiting time to pancreas only and kidney/pancreas transplant in the UK, for patients registered 1 April 2009 - 31 March 2013**

Ethnicity	Number of patients registered	Waiting time (days) Median	95% Confidence interval
Adult			
White	941	403	375 - 431
Asian	58	346	295 - 397
Black	39	268	224 - 312
Other	20	278	120 - 436
TOTAL[1]	**1066**	**392**	**364 - 420**

[1] Includes 8 patients whose ethnicity was not reported

6.3 Donor and organ supply

Of the 772 organ donors after brain death in the UK in 2014-2015, 354 (46%) donated a pancreas. There were 109 pancreas donors after circulatory death in 2014-2015. **Table 6.6** shows this activity by country/Strategic Health Authority of the donor's residence. No adjustments have been made for potential demographic differences in populations.

The overall rate for pancreas donors after brain death is 5.5 pmp, with rates ranging from 3.0 to 7.4 pmp across the Strategic Health Authorities and for donors after circulatory death is 1.7 pmp, with rates ranging from 0.7 to 2.7 pmp across the Strategic Health Authorities.

Table 6.6 Pancreas donation rates for deceased donors in the UK, 1 April 2014 - 31 March 2015, by country/ Strategic Health Authority

Country/ Strategic Health Authority of residence	Pancreas donors (pmp)					
	DBD		DCD		TOTAL	
North East	17	(6.5)	7	(2.7)	**24**	**(9.2)**
North West	40	(5.6)	10	(1.4)	**50**	**(7.0)**
Yorkshire and The Humber	16	(3.0)	10	(1.9)	**26**	**(4.9)**
North of England	**73**	**(4.9)**	**27**	**(1.8)**	**100**	**(6.6)**
East Midlands	17	(3.7)	11	(2.4)	**28**	**(6.1)**
West Midlands	24	(4.2)	5	(0.9)	**29**	**(5.1)**
East of England	35	(5.9)	15	(2.5)	**50**	**(8.4)**
Midlands and East	**76**	**(4.7)**	**31**	**(1.9)**	**107**	**(6.6)**
London	**51**	**(6.1)**	**11**	**(1.3)**	**62**	**(7.4)**
South East Coast	25	(5.5)	8	(1.8)	**33**	**(7.3)**
South Central	23	(5.4)	3	(0.7)	**26**	**(6.1)**
South West	40	(7.4)	10	(1.9)	**50**	**(9.3)**
South of England	**88**	**(6.2)**	**21**	**(1.5)**	**109**	**(7.7)**
England	**288**	**(5.3)**	**90**	**(1.7)**	**378**	**(7.0)**
Isle of Man	**2**	**(25.0)**	**0**	**(0.0)**	**2**	**(25.0)**
Channel Islands	**0**	**(0.0)**	**0**	**(0.0)**	**0**	**(0.0)**
Wales	**18**	**(5.8)**	**8**	**(2.6)**	**26**	**(8.4)**
Scotland	**34**	**(6.4)**	**7**	**(1.3)**	**41**	**(7.7)**
Northern Ireland	**12**	**(6.6)**	**4**	**(2.2)**	**16**	**(8.7)**
TOTAL[1]	**354**	**(5.5)**	**109**	**(1.7)**	**463**	**(7.2)**

[1] Includes 10 donors where the hospital postcode was used in place of an unknown donor postcode

6.4 Transplants

The number of pancreas and islet transplants by recipient country/ Strategic Health Authority of residence is shown in **Table 6.7**. No adjustments have been made for potential demographic differences in populations. For donors after brain death the transplant rate ranged from 1.4 to 3.9 pmp across Strategic Health Authorities and overall was 2.5 pmp. For donors after circulatory death the overall rate was 1.0 pmp and ranged from 0.0 to 2.0 pmp across Strategic Health Authorities.

Table 6.7 Pancreas transplant rates per million population (pmp), in the UK, 1 April 2014 - 31 March 2015, by country/ Strategic Health Authority

Country/ Strategic Health Authority of residence	DBD		DCD		TOTAL	
	N	(pmp)	N	(pmp)	N	(pmp)
North East	6	(2.3)	0	(0.0)	**6**	**(2.3)**
North West	10	(1.4)	5	(0.7)	**15**	**(2.1)**
Yorkshire and The Humber	11	(2.1)	6	(1.1)	**17**	**(3.2)**
North of England	**27**	**(1.8)**	**11**	**(0.7)**	**38**	**(2.5)**
East Midlands	15	(3.3)	9	(2.0)	**24**	**(5.2)**
West Midlands	17	(3.0)	5	(0.9)	**22**	**(3.9)**
East of England	15	(2.5)	8	(1.3)	**23**	**(3.9)**
Midlands and East	**47**	**(2.9)**	**22**	**(1.4)**	**69**	**(4.3)**
London	**19**	**(2.3)**	**7**	**(0.8)**	**26**	**(3.1)**
South East Coast	11	(2.4)	4	(0.9)	**15**	**(3.3)**
South Central	7	(1.6)	4	(0.9)	**11**	**(2.6)**
South West	21	(3.9)	4	(0.7)	**25**	**(4.6)**
South of England	**39**	**(2.8)**	**12**	**(0.8)**	**51**	**(3.6)**
England	**132**	**(2.5)**	**52**	**(1.0)**	**184**	**(3.4)**
Isle of Man	**1**	**(12.5)**	**1**	**(12.5)**	**2**	**(25.0)**
Channel Islands	**0**	**(0.0)**	**0**	**(0.0)**	**0**	**(0.0)**
Wales	**10**	**(3.2)**	**7**	**(2.3)**	**17**	**(5.5)**
Scotland	**17**	**(3.2)**	**3**	**(0.6)**	**20**	**(3.8)**
Northern Ireland	**3**	**(1.6)**	**0**	**(0.0)**	**3**	**(1.6)**
TOTAL	**163**	**(2.5)**	**63**	**(1.0)**	**226**	**(3.5)**

There were 226 deceased donor pancreas transplants in 2014-2015 representing a decrease of 8% on the 246 transplants performed in 2013-2014. Of these 226, 173 (77%) were SPK transplants, 30 (13%) were pancreas only transplants (pancreas alone (PTA) or pancreas after kidney (PAK)) and 23 (10%) were islet transplants. The number of transplants performed at each centre is shown in **Table 6.8** by transplant type and **Table 6.9** by donor type. Note that King's College, The Royal Free and Bristol only perform islet transplants. Cambridge, Guy's, WLRTC and Cardiff only perform pancreas transplants.

The length of time that elapses between a pancreas being removed from the donor to its transplantation into the recipient is called the Cold Ischaemia Time (CIT). Generally, the shorter this time, the more likely the pancreas is to work immediately and the better the long-term outcome. The median CIT for a DBD donor whole pancreas transplant is 10.5 hours (Inter-Quartile (IQ) range 9.1 – 12.0) and for a DCD donor transplant is 10.4 hours (IQ range 8.7 – 12.8) and overall is 10.4 hours (IQ range 9.0 – 12.0).

At 31 March 2015, there were approximately 1,900 recipients with a functioning pancreas transplant (including multi-organ transplants) being followed-up, as reported to the UK Transplant Registry.

Table 6.8 Pancreas transplants, 1 April 2014 - 31 March 2015 (2013-2014) by centre

Centre	Transplant type									
	SPK		PTA[1]		PAK		Islet			
							Routine		Priority	
Bristol	-	-	-	-	-	-	1	(0)	0	(0)
Cambridge	26	(24)	1	(0)	2	(3)	-	-	-	-
Cardiff	8	(9)	2	(2)	6	(1)	-	-	-	-
Edinburgh	16	(20)	0	(0)	0	(1)	6	(6)	1	(4)
Guys	28	(33)	1	(1)	1	(1)	-	-	-	-
King's College	-	-	-	-	-	-	0	(2)	0	(2)
Manchester	29	(30)	1	(1)	2	(0)	2	(2)	0	(1)
Newcastle	5	(6)	1	(1)	1	(2)	3	(4)	1	(3)
Oxford	56	(62)	8	(8)	2	(4)	2	(2)	3	(5)
The Royal Free	-	-	-	-	-	-	2	(0)	2	(1)
WLRTC	5	(4)	0	(0)	2	(1)	-	-	-	-
TOTAL	**173**	**(188)**	**14**	**(13)**	**16**	**(13)**	**16**	**(16)**	**7**	**(16)**

WLRTC - West London Renal and Transplant Centre
[1] Includes liver and pancreas transplants

Table 6.9 Pancreas transplants, 1 April 2014 - 31 March 2015 by centre

Centre	Transplant and donor type							
	SPK		PTA		Islet		**TOTAL**	
	DBD	DCD	DBD	DCD	DBD	DCD	**DBD**	**DCD**
Bristol	-	-	-	-	1	0	**1**	**0**
Cambridge	14	12	3	0	-	-	**17**	**12**
Cardiff	2	6	6	2	-	-	**8**	**8**
Edinburgh	14	2	0	0	6	1	**20**	**3**
Guys	17	11	2	0	-	-	**19**	**11**
Manchester	18	11	3	0	2	0	**23**	**11**
Newcastle	5	0	2	0	3	1	**10**	**1**
Oxford	43	13	7	3	5	0	**55**	**16**
The Royal Free	-	-	-	-	3	1	**3**	**1**
WLRTC	5	0	2	0	-	-	**7**	**0**
TOTAL	**118**	**55**	**25**	**5**	**20**	**3**	**163**	**63**

WLRTC - West London Renal and Transplant Centre

6.5 Demographic characteristics

The age group, sex, ethnicity and blood group of deceased donors, transplant recipients and patients on the transplant list is shown in **Table 6.10**.

Table 6.10 Demographic characteristics of deceased pancreas donors and transplant recipients, 1 April 2014 - 31 March 2015, and transplant list patients at 31 March

	Donors		Transplant recipients		Active transplant list patients	
	N	(%)	N	(%)	N	(%)
Age group (years)						
0 - 17	35	(8)	-	-	-	-
18 - 34	146	(32)	47	(21)	50	(20)
35 - 49	167	(36)	119	(53)	131	(52)
50 - 59	109	(24)	50	(22)	59	(23)
60 - 69	6	(1)	9	(4)	12	(5)
70+	0	(0)	1	(0)	0	(0)
mean (SD)	38	(14)	43	(10)	44	(9)
Sex						
Male	246	(53)	118	(52)	119	(47)
Female	217	(47)	108	(48)	133	(53)
Ethnicity						
White	422	(91)	203	(90)	230	(91)
Asian	14	(3)	10	(4)	10	(4)
Black	12	(3)	4	(2)	8	(3)
Chinese	2	(0)	1	(0)	2	(1)
Other	13	(3)	3	(1)	0	(0)
Not reported			5	(2)	2	(1)
Blood group						
O	238	(51)	109	(48)	139	(55)
A	162	(35)	80	(35)	90	(36)
B	45	(10)	22	(10)	19	(8)
AB	18	(4)	15	(7)	4	(2)
Graft number						
First graft			208	(92)	225	(89)
Re-graft			18	(8)	27	(11)
TOTAL	**463**	**(100)**	**226**	**(100)**	**252**	**(100)**

Cardiothoracic Activity

Key messages

- **At 31 March 2015, there were 267 patients on the active heart transplant list, 325 on the lung list and 13 on the heart/lung list**
- **Of the 772 organ donors after brain death, 267 (35%) were cardiothoracic organ donors**
- **The number of heart transplants from deceased donors fell by 9% to 181 this year; over 80% of these were urgent heart transplants**
- **The number of lung or heart/lung transplants from deceased donors fell by 14% to 187**

7.1 Overview

Last year the number of heart transplants fell by 9% to 181 and the number of lung or heart/lung transplants fell by 14% to 187. There were increases in both the heart and the lung transplant lists since March 2014. The number of patients registered on the active heart transplant list at year end has increased by 143% since 2006, while the number of patients registered for a lung or heart/lung transplant has increased by 11% since 2006.

A summary of the deceased donor cardiothoracic activity from 1 April 2005 to 31 March 2015 is shown in **Figure 7.1** for heart activity and **Figure 7.2** for lung activity. Donors who donate both heart and lung(s) are included in both figures, but heart/lung block transplants and patients active on the transplant list for a heart/lung block are only included in **Figure 7.2**.

Figure 7.1 **Deceased donor heart programme in the UK, 1 April 2005 - 31 March 2015, Number of donors, transplants and patients on the active transplant list at 31 March**

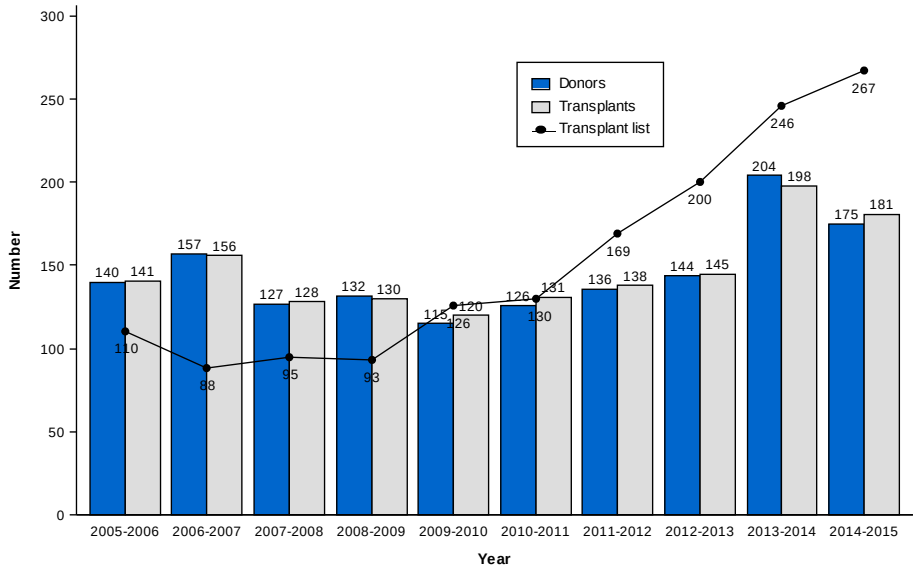
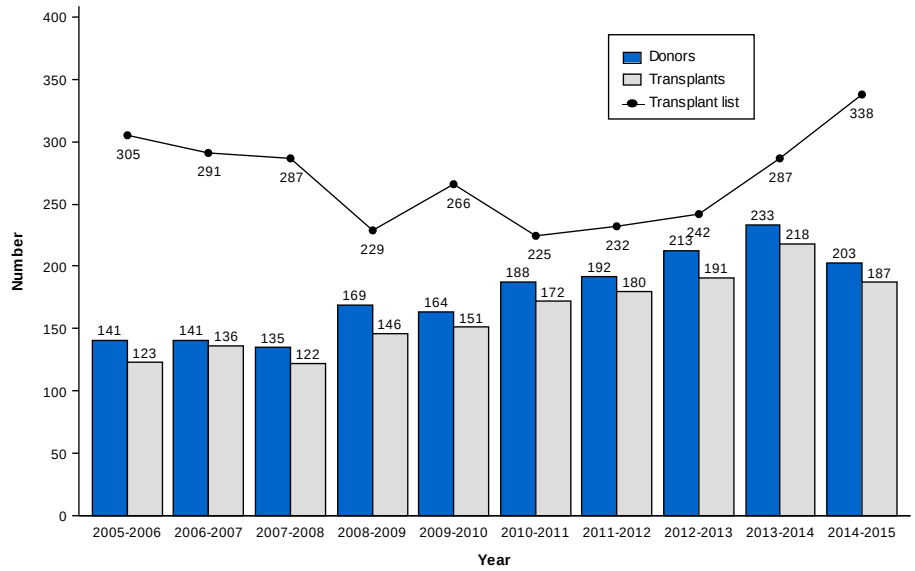


Figure 7.2 **Deceased donor lung and heart/lung programme in the UK, 1 April 2005 - 31 March 2015, Number of donors, transplants and patients on the active transplant list at 31 March**



7.2 Transplant list

Table 7.1 shows the number of patients on the active transplant lists at 31 March 2015 by centre. The lung transplant list accounts for 54% of the patients waiting for a cardiothoracic organ transplant. Overall, Newcastle and Harefield have the largest cardiothoracic lists.

During 2014-2015, 293 patients joined the heart transplant list while 9 joined the heart/lung list and 311 joined the lung transplant list. Outcomes for patients on the list at 1 April 2014 and those joining the list during the year are shown in **Table 7.2**.

Table 7.3 shows the transplant list rate per million population by country/Strategic Health Authority of patient's residence. The overall heart transplant list rate at 31 March 2015 was 4.4 pmp and ranged from 2.6 to 11.9 across the Strategic Health Authorities. The overall lung transplant list rate was 5.3 pmp and ranged from 3.7 to 6.5 across the Strategic Health Authorities.

An indication of longer term outcomes for adult patients listed for a cardiothoracic organ transplant is summarised in **Figure 7.3** and **Figure 7.4**. This shows the proportion of patients transplanted or still waiting six months, one year, two years and three years after joining the non-urgent heart list or the lung list, respectively. It also shows the proportion removed from the transplant list and those dying while on the transplant list. Within six months of listing, 29% of non-urgent heart patients are transplanted while 10% have died while waiting. For patients listed for a lung transplant, 37% are transplanted within six months, rising to 69% after three years. The patients removed from these lists may also subsequently have died.

Table 7.1 Patients on the cardiothoracic transplant lists at 31 March 2015 (2014) in the UK, by centre

Centre	Active transplant lists									
	Heart				Heart/lung		Lung		**TOTAL**	
	Non-urgent		Urgent							
Adult										
Birmingham	22	(18)	2	(0)	0	(1)	34	(28)	**58**	**(47)**
Glasgow	6	(12)	3	(1)	0	(0)	0	(0)	**9**	**(13)**
Great Ormond Street	4	(1)	0	(0)	0	(0)	3	(3)	**7**	**(4)**
Harefield	66	(65)	3	(4)	2	(2)	115	(81)	**186**	**(152)**
Manchester	24	(15)	4	(1)	2	(3)	49	(50)	**79**	**(69)**
Newcastle	59	(47)	2	(4)	4	(2)	86	(71)	**151**	**(124)**
Papworth	40	(45)	5	(3)	4	(4)	27	(30)	**76**	**(82)**
TOTAL	**221**	**(203)**	**19**	**(13)**	**12**	**(12)**	**314**	**(263)**	**566**	**(491)**
Paediatric										
Great Ormond Street	18	(19)	4	(3)	1	(3)	9	(9)	**32**	**(34)**
Newcastle	4	(1)	1	(7)	0	(0)	2	(0)	**7**	**(8)**
TOTAL	**22**	**(20)**	**5**	**(10)**	**1**	**(3)**	**11**	**(9)**	**39**	**(42)**

Table 7.2 Cardiothoracic transplant lists and new registrations in the UK, 1 April 2014 - 31 March 2015

Outcome of patient at 31 March 2015	Active and suspended patients at 1 April 2014		New registrations in 2014-2015[1]		**TOTAL**	
	N	%	N	%	**N**	**%**
Heart transplant list						
Remained active/suspended	161	63	129	44	**290**	**53**
Transplanted	59	23	121	41	**180**	**33**
Removed	22	9	21	7	**43**	**8**
Died	12	5	22	8	**34**	**6**
TOTAL	**254**		**293**		**547**	
Heart/lung transplant list						
Remained active/suspended	9	56	5	56	**14**	**56**
Transplanted[2]	2	13	1	11	**3**	**12**
Removed	3	19	1	11	**4**	**16**
Died	2	13	2	22	**4**	**16**
TOTAL	**16**		**9**		**25**	
Lung transplant list						
Remained active/suspended	133	53	199	64	**332**	**59**
Transplanted	84	33	93	30	**177**	**31**
Removed	12	5	2	1	**14**	**2**
Died	24	9	17	5	**41**	**7**
TOTAL	**253**		**311**		**564**	

[1] Includes re-registrations for second or subsequent transplants
[2] Heart, lung or heart/lung

Table 7.3 Active cardiothoracic transplant list at 31 March, by country/ Strategic Health Authority of patient residence

Country/ Strategic Health Authority of residence	Heart transplant list (pmp)				Lung transplant list (pmp)			
	2015		2014		2015		2014	
North East	31	(11.9)	24	(9.2)	15	(5.7)	13	(5.0)
North West	29	(4.1)	23	(3.2)	46	(6.5)	41	(5.8)
Yorkshire and The Humber	21	(3.9)	17	(3.2)	29	(5.4)	33	(6.2)
North of England	**81**	**(5.4)**	**64**	**(4.3)**	**90**	**(6.0)**	**87**	**(5.8)**
East Midlands	12	(2.6)	10	(2.2)	19	(4.1)	17	(3.7)
West Midlands	20	(3.5)	21	(3.7)	29	(5.1)	26	(4.6)
East of England	24	(4.0)	28	(4.7)	22	(3.7)	29	(4.9)
Midlands and East	**56**	**(3.5)**	**59**	**(3.6)**	**70**	**(4.3)**	**72**	**(4.4)**
London	**36**	**(4.3)**	**35**	**(4.2)**	**38**	**(4.5)**	**21**	**(2.5)**
South East Coast	23	(5.1)	26	(5.7)	26	(5.7)	18	(4.0)
South Central	18	(4.2)	20	(4.7)	19	(4.5)	15	(3.5)
South West	25	(4.6)	19	(3.5)	27	(5.0)	26	(4.8)
South of England	**66**	**(4.7)**	**65**	**(4.6)**	**72**	**(5.1)**	**59**	**(4.2)**
England	**239**	**(4.4)**	**223**	**(4.1)**	**270**	**(5.0)**	**239**	**(4.4)**
Isle of Man	**1**	**(12.5)**	**0**	**(0.0)**	**0**	**(0.0)**	**0**	**(0.0)**
Channel Islands	**0**	**(0.0)**	**0**	**(0.0)**	**2**	**(12.5)**	**0**	**(0.0)**
Wales	**13**	**(4.2)**	**7**	**(2.3)**	**23**	**(7.5)**	**16**	**(5.2)**
Scotland	**13**	**(2.4)**	**19**	**(3.6)**	**26**	**(4.9)**	**19**	**(3.6)**
Northern Ireland	**8**	**(4.4)**	**8**	**(4.4)**	**12**	**(6.6)**	**9**	**(4.9)**
TOTAL[1,2]	**280**	**(4.4)**	**261**	**(4.1)**	**338**	**(5.3)**	**287**	**(4.5)**

[1] Includes heart patients in 2015 (2014) residing in: Republic of Ireland 6(4)
[2] Includes lung patients in 2015 (2014) residing in: Republic of Ireland 5(4)

Figure 7.3 **Post-registration outcome for 101 new non-urgent heart only registrations made in the UK, 1 April 2011 - 31 March 2012**

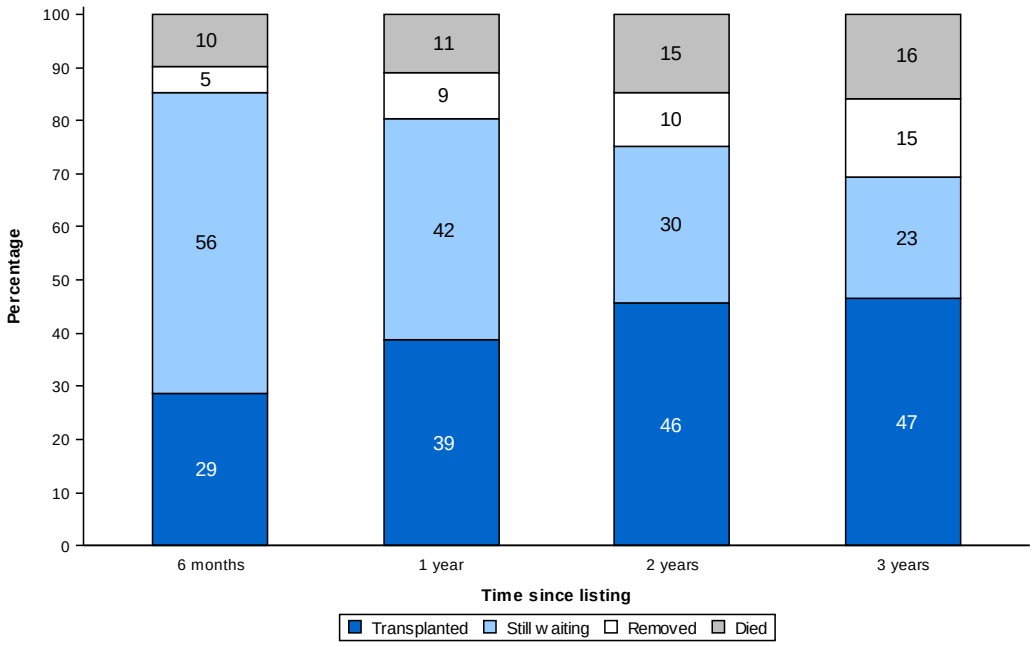


Figure 7.4 **Post-registration outcome for 251 new lung only registrations made in the UK, 1 April 2011 - 31 March 2012**

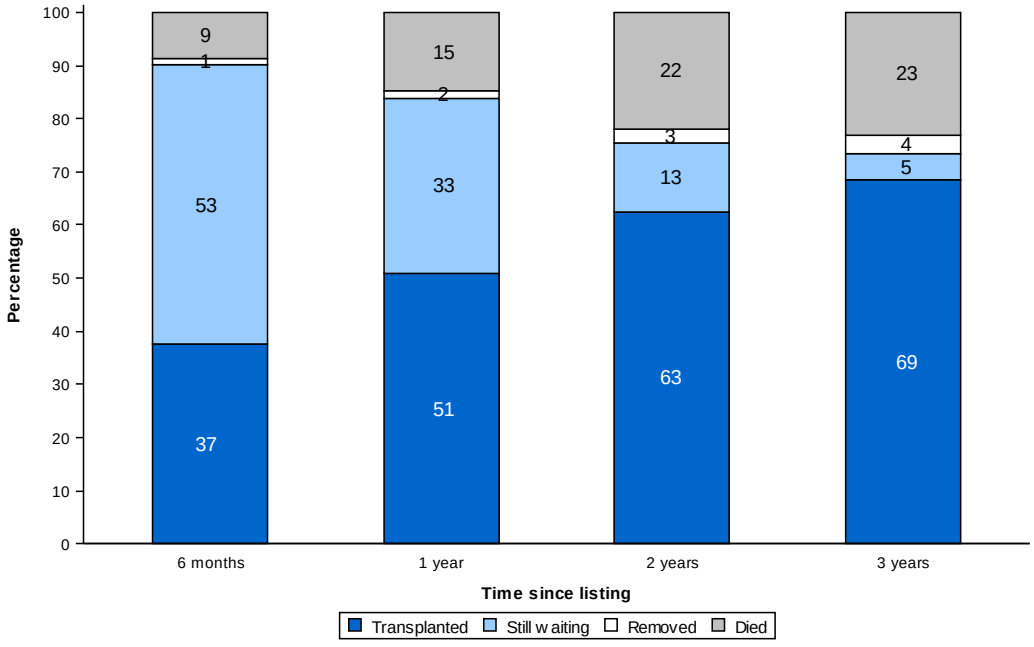


Table 7.4 and **Table 7.5** show the median waiting time to cardiothoracic transplant by blood group and ethnicity, respectively, for patients registered between April 2010 and March 2013. Median waiting time for adult non-urgent heart patients is 1033 days overall, compared with 233 days for adult lung patients. The median waiting time for paediatric non-urgent heart patients is 357 days; this is not broken down by blood group or ethnicity due to low numbers. Paediatric recipients are aged less than 16 years at time of listing. Note that these waiting times are not adjusted for other relevant factors which may be influential and which may differ across blood or ethnic groups.

Table 7.4 Median waiting time to cardiothoracic transplant in the UK, for patients registered 1 April 2010 - 31 March 2013

Blood group	Number of patients registered	Waiting time (days) Median	95% Confidence interval
Adult non-urgent heart			
O[1]	103	-	-
A	109	329	174 - 484
B	22	253	14 - 492
AB	19	92	44 - 140
TOTAL[1]	**253**	**1033**	**-**
Paediatric non-urgent heart	**25**	**357**	**0 - 855**
Adult lung			
O	329	397	319 - 475
A	278	133	110 - 156
B	68	184	98 - 270
AB	18	146	56 - 236
TOTAL	**693**	**233**	**199 - 267**

[1] 95% confidence interval cannot be estimated

Table 7.5 Median waiting time to cardiothoracic transplant in the UK, for patients registered 1 April 2010 - 31 March 2013

Ethnicity	Number of patients registered	Waiting time (days) Median	95% Confidence interval
Adult non-urgent heart			
White[1]	222	1033	-
Asian	17	909	263 - 1555
Black[2]	9	-	-
Other[2]	5	-	-
TOTAL[1]	**253**	**1033**	**-**
Paediatric non-urgent heart	**25**	**357**	**0 - 855**
Adult lung			
White	664	230	197 - 263
Asian	18	539	106 - 972
Black[2]	6	-	-
Other[2]	5	-	-
TOTAL	**693**	**233**	**199 - 267**

[1] 95% confidence interval cannot be estimated
[2] Median waiting time not reported for fewer than 10 patients

Table 7.6 Cardiothoracic organ donors in the UK, 1 April 2014 - 31 March 2015 (2013-2014), by age group and allocation zone

Allocation zone	Type of cardiothoracic donor								TOTAL	
	Heart only		Heart & lung		Lung(s) only					
					DBD		DCD			
Adult										
Birmingham	18	(13)	8	(10)	16	(16)	6	(6)	48	(45)
Glasgow	12	(8)	5	(8)	6	(14)	3	(4)	26	(34)
Harefield	20	(22)	12	(23)	29	(23)	5	(10)	66	(78)
Manchester	16	(14)	9	(9)	8	(14)	10	(2)	43	(39)
Newcastle	13	(16)	10	(17)	15	(15)	8	(10)	46	(58)
Papworth	24	(26)	15	(23)	17	(18)	12	(5)	68	(72)
TOTAL	**103[1]**	**(99)**	**59**	**(90)**	**91**	**(100)**	**44**	**(37)**	**297**	**(326)**
Paediatric[2]										
Birmingham	1	(1)	0	(0)	0	(0)	0	(0)	1	(1)
Glasgow	0	(0)	1	(0)	0	(0)	0	(0)	1	(0)
Harefield	1	(0)	1	(0)	1	(0)	0	(1)	3	(1)
Manchester	0	(1)	1	(0)	1	(0)	0	(0)	2	(1)
Newcastle	3	(1)	1	(4)	0	(0)	0	(1)	4	(6)
Papworth	2	(8)	2	(0)	0	(0)	1	(0)	5	(8)
TOTAL	**7**	**(11[1])**	**6**	**(4)**	**2**	**(0)**	**1**	**(2)**	**16**	**(17)**

[1] Includes 1 donor after circulatory death
[2] Paediatric donors are aged 15 years or under

7.3 Donor and organ supply

The number of cardiothoracic organ donors classified by allocation zone of the donor hospital is summarised in **Table 7.6**. The numbers reflect the number of organs retrieved from within each zone (by any retrieval team) rather than the number of retrievals made by that centre. 44 of the 135 adult lung only donors were donors after circulatory death and there were no living donors. There were 0 domino heart donors. Of the 252 adult cardiothoracic donors after brain death, 40% donated only the heart, 23% heart and lung and 36% lung only. Of the 15 paediatric cardiothoracic donors after brain death, 47% donated only the heart, 40% heart and lung and 13% lung only.

Table 7.7 shows the number of organ donors after brain death identified in each allocation zone, the number that donated cardiothoracic organs and the number of organs retrieved.

Of the 772 organ donors after brain death, 35% donated cardiothoracic organs. Overall, 95% of the 478 organs retrieved were transplanted: 98% of hearts and 92% of lungs.

Table 7.7 Cardiothoracic organ donation and retrieval rates from donors after brain death in the UK, 1 April 2014 - 31 March 2015, by donation zone

Allocation zone	Number of donors		Number of organs retrieved (used)				TOTAL retrieved (used)	
	DBD solid organ	Cardiothoracic	Hearts		Lungs			
Birmingham	115	43	27	(26)	43	(38)	**70**	**(64)**
Glasgow	66	24	18	(18)	23	(19)	**41**	**(37)**
Harefield	192	64	34	(34)	86	(78)	**120**	**(112)**
Manchester	98	35	26	(25)	36	(35)	**62**	**(60)**
Newcastle[1]	113	42	27	(27)	49	(45)	**76**	**(72)**
Papworth	188	59	42	(41)	67	(66)	**109**	**(107)**
TOTAL	**772**	**267**	**174**	**(171)**	**304**	**(281)**	**478**	**(452)**

[1] Newcastle transplant adult and paediatric patients

The rates per million population for cardiothoracic donors are shown in **Table 7.8** by donor country/Strategic Health Authority of residence. No adjustments have been made for potential demographic differences in populations. The overall cardiothoracic donor rate was 4.9 pmp in 2014-2015 and varied across the Strategic Health Authorities from 3.3 pmp to 6.9 pmp, while the rate in Northern Ireland was 6 pmp.

Table 7.8 Cardiothoracic donation and retrieval rates for deceased donors in the UK, 1 April 2014 - 31 March 2015, by country/ Strategic Health Authority

Country/ Strategic Health Authority	Heart (pmp)		Lung (pmp)				Total (pmp)	
			DBD		DCD			
North East	12	(4.6)	9	(3.4)	2	(0.8)	18	(6.9)
North West	18	(2.5)	17	(2.4)	8	(1.1)	35	(4.9)
Yorkshire and The Humber	15	(2.8)	6	(1.1)	6	(1.1)	23	(4.3)
North of England	**45**	**(3.0)**	**32**	**(2.1)**	**16**	**(1.1)**	**76**	**(5.0)**
East Midlands	10	(2.2)	9	(2.0)	4	(0.9)	19	(4.1)
West Midlands	14	(2.5)	11	(1.9)	2	(0.4)	23	(4.1)
East of England	22	(3.7)	17	(2.9)	6	(1.0)	35	(5.9)
Midlands and East	**46**	**(2.8)**	**37**	**(2.3)**	**12**	**(0.7)**	**77**	**(4.7)**
London	**24**	**(2.9)**	**22**	**(2.6)**	**3**	**(0.4)**	**40**	**(4.8)**
South East Coast	6	(1.3)	12	(2.6)	4	(0.9)	19	(4.2)
South Central	5	(1.2)	9	(2.1)	2	(0.5)	14	(3.3)
South West	18	(3.3)	21	(3.9)	2	(0.4)	35	(6.5)
South of England	**29**	**(2.0)**	**42**	**(3.0)**	**8**	**(0.6)**	**68**	**(4.8)**
England	**144**	**(2.7)**	**133**	**(2.5)**	**39**	**(0.7)**	**261**	**(4.8)**
Isle of Man	**2**	**(25.0)**	**0**	**(0.0)**	**0**	**(0.0)**	**2**	**(25.0)**
Channel Islands	**0**	**(0.0)**	**0**	**(0.0)**	**0**	**(0.0)**	**0**	**(0.0)**
Wales	**6**	**(1.9)**	**4**	**(1.3)**	**2**	**(0.6)**	**11**	**(3.6)**
Scotland	**19**	**(3.6)**	**13**	**(2.4)**	**3**	**(0.6)**	**28**	**(5.3)**
Northern Ireland	**4**	**(2.2)**	**8**	**(4.4)**	**1**	**(0.5)**	**11**	**(6.0)**
TOTAL[1]	**175[2]**	**(2.7)**	**158**	**(2.5)**	**45**	**(0.7)**	**313**	**(4.9)**

[1] Includes 6 donors where the hospital postcode was used in place of an unknown donor postcode
[2] Includes 1 donor after circulatory death

7.4 Transplants

The number of cardiothoracic organ transplants by recipient country/Strategic Health Authority of residence is shown in **Table 7.9**. No adjustments have been made for potential demographic differences in populations. The transplant rate ranged from 2.9 to 7.8 pmp across Strategic Health Authorities and overall was 5.6 pmp. Lung transplants include the small number of heart/lung transplants performed.

Table 7.9 Cardiothoracic organ transplant rates per million population (pmp) in the UK, 1 April 2014 - 31 March 2015, by country/ Strategic Health Authority

Country/ Strategic Health Authority	Heart (pmp)		Lungs (pmp) DBD		Lungs (pmp) DCD		Total (pmp)	
North East	7	(2.7)	6	(2.3)	2	(0.8)	15	(5.7)
North West	28	(3.9)	11	(1.5)	5	(0.7)	44	(6.2)
Yorkshire and The Humber	6	(1.1)	15	(2.8)	4	(0.7)	25	(4.7)
North of England	**41**	**(2.7)**	**32**	**(2.1)**	**11**	**(0.7)**	**84**	**(5.6)**
East Midlands	13	(2.8)	13	(2.8)	4	(0.9)	30	(6.5)
West Midlands	27	(4.8)	15	(2.6)	2	(0.4)	44	(7.8)
East of England	19	(3.2)	19	(3.2)	7	(1.2)	45	(7.6)
Midlands and East	**59**	**(3.6)**	**47**	**(2.9)**	**13**	**(0.8)**	**119**	**(7.3)**
London	**19**	**(2.3)**	**4**	**(0.5)**	**1**	**(0.1)**	**24**	**(2.9)**
South East Coast	10	(2.2)	10	(2.2)	3	(0.7)	23	(5.1)
South Central	13	(3.1)	10	(2.4)	1	(0.2)	24	(5.6)
South West	13	(2.4)	20	(3.7)	8	(1.5)	41	(7.6)
South of England	**36**	**(2.5)**	**40**	**(2.8)**	**12**	**(0.8)**	**88**	**(6.2)**
England	**155**	**(2.9)**	**123**	**(2.3)**	**37**	**(0.7)**	**315**	**(5.8)**
Isle of Man	**0**	**(0.0)**	**0**	**(0.0)**	**0**	**(0.0)**	**0**	**(0.0)**
Channel Islands	**1**	**(6.3)**	**0**	**(0.0)**	**0**	**(0.0)**	**1**	**(6.3)**
Wales	**7**	**(2.3)**	**8**	**(2.6)**	**1**	**(0.3)**	**16**	**(5.2)**
Scotland	**16**	**(3.0)**	**7**	**(1.3)**	**1**	**(0.2)**	**24**	**(4.5)**
Northern Ireland	**0**	**(0.0)**	**6**	**(3.3)**	**1**	**(0.5)**	**7**	**(3.8)**
TOTAL[1,2]	**179[3]**	**(2.8)**	**144**	**(2.2)**	**40**	**(0.6)**	**363**	**(5.6)**

[1] Excludes 4 recipients who reside in the Republic of Ireland
[2] Excludes 1 recipient whose postcode was unknown
[3] Includes 1 transplant from a donor after circulatory death

Table 7.10 shows cardiothoracic organ transplant activity for each centre. In 2014-2015, a total of 368 transplants were carried out, a decrease of 12% on 2013-2014. Of these, 49% were deceased donor heart transplants. The 179 adult lung transplants include 39 (22%) from donors after circulatory death: 10 were performed by Harefield, 9 by Papworth, 8 by Newcastle, 6 by Birmingham, 5 by Manchester, and 1 by Great Ormond Street.

Table 7.10 Cardiothoracic organ transplants, 1 April 2014 - 31 March 2015 (2013-2014), by age group and centre

Transplant centre	Transplant type										TOTAL	
	Heart				Heart/ lung		Lung(s)					
	Non-urgent		Urgent				DBD		DCD			
Adult												
Birmingham	3	(3)	28	(17)	0	(1)	18	(18)	6	(3)	55	(42)
Glasgow	5	(5)	8	(14)	0	(0)	0	(0)	0	(0)	13	(19)
Great Ormond Street	0	(1)	0	(2)	0	(0)	0	(1)	1	(0)	1	(4)
Harefield	2	(3)	23	(23)	0	(0)	39	(50)	10	(12)	74	(88)
Manchester	2	(5)	24	(26)	0	(0)	19	(28)	5	(3)	50	(62)
Newcastle	2	(8)	13	(20)	0	(1)	34	(45)	8	(11)	57	(85)
Papworth	11	(17)	22	(27)	1	(5)	30	(29)	9	(4)	73	(82)
TOTAL	**25[1]**	**(42)**	**118**	**(129)**	**1**	**(7)**	**140**	**(171)**	**39**	**(33)**	**323**	**(382)**
Paediatric[2]												
Great Ormond Street	2	(2)	14	(13)	0	(0)	5	(3)	1	(2)	22	(20)
Newcastle	2	(2)	19	(10)	0	(1)	1	(1)	0	(0)	22	(14)
Papworth	0	(0)	1	(0)	0	(0)	0	(0)	0	(0)	1	(0)
TOTAL	**4**	**(4)**	**34**	**(23[1])**	**0**	**(1)**	**6**	**(4)**	**1**	**(2)**	**45**	**(34)**

[1] Includes one transplant from a donor after circulatory death
[2] Paediatric recipients are aged under 16 years at time of transplant

There were 118 adult urgent heart transplants in 2014-2015, representing 83% of all adult heart transplants (75% in 2013-2014). There were 34 paediatric urgent heart transplants in 2014-2015, representing 89% of all paediatric heart transplants (85% in 2013-2014). A small number of hearts and lungs were imported from outside the UK for transplantation in the UK: 3 hearts from the Republic of Ireland (ROI) and 8 from elsewhere, 2 lungs from ROI and 2 from elsewhere. Further information is provided in the Appendix.

The length of time that elapses between cardiothoracic organs being removed from the donor to its transplantation into the recipient is called the Cold Ischaemia Time (CIT). Generally, the shorter this time, the more likely the organ is to work immediately and the better the long-term outcome. In 2014-2015 the median CIT for a heart transplant was 3.1 hours (Inter-Quartile Range (IQR) 2.4- 3.8). The median CIT for DBD donor lung transplant was 4.6 hours (IQR 2.4- 3.8) and for a DCD donor lung transplant was 5.6 hours (IQR 5-5.9) and overall was 4.9 hours (IQR 3.9-5.8). However, this analysis does not take into account the use of donor organ maintenance systems for some transplants. These enable warm blood perfusion to continue ex-vivo during transportation. For such transplants, the definition of ischaemia time used here (cross clamp to reperfusion) overestimates the true ischaemia time because the organ is not subject to ischaemia during transportation.

At 31 March 2015 there were approximately 3,700 recipients with a functioning cardiothoracic organ transplant being followed-up as reported to the UK Transplant Registry.

7.5 Demographic characteristics

The age group, sex, ethnicity and blood group of deceased donors, transplant recipients and patients on the transplant list is shown in **Table 7.11**.

Table 7.11 Demographic characteristics of deceased cardiothoracic organ donors and transplant recipients 1 April 2014 - 31 March 2015, and transplant list patients at 31 March in the UK

	Donors		Transplant recipients		Active transplant list patients	
	N	(%)	N	(%)	N	(%)
Age group (years)						
0 – 17	25	(8)	50	(14)	44	(7)
18 – 34	75	(24)	67	(18)	96	(16)
35 – 49	109	(35)	77	(21)	136	(22)
50 – 59	74	(24)	109	(30)	194	(32)
60 – 69	30	(10)	65	(18)	132	(22)
70+	0	(0)	0	(0)	3	(0)
mean (SD)	41	(15)	42	(19)	46	(17)
Sex						
Male	161	(51)	234	(64)	377	(62)
Female	152	(49)	133	(36)	228	(38)
Not reported			1	(0)		
Ethnicity						
White	287	(92)	337	(92)	534	(88)
Asian	9	(3)	21	(6)	35	(6)
Black	7	(2)	5	(1)	21	(3)
Chinese	3	(1)	0	(0)	3	(0)
Other	7	(2)	0	(0)	8	(1)
Not reported			5	(1)	4	(1)
Blood group						
O	164	(52)	153	(42)	331	(55)
A	113	(36)	164	(45)	197	(33)
B	28	(9)	38	(10)	66	(11)
AB	8	(3)	13	(4)	11	(2)
Graft number						
First graft			362	(98)	584	(97)
Re-graft			6	(2)	21	(3)
TOTAL	**313**	**(100)**	**368**	**(100)**	**605**	**(100)**

Liver Activity

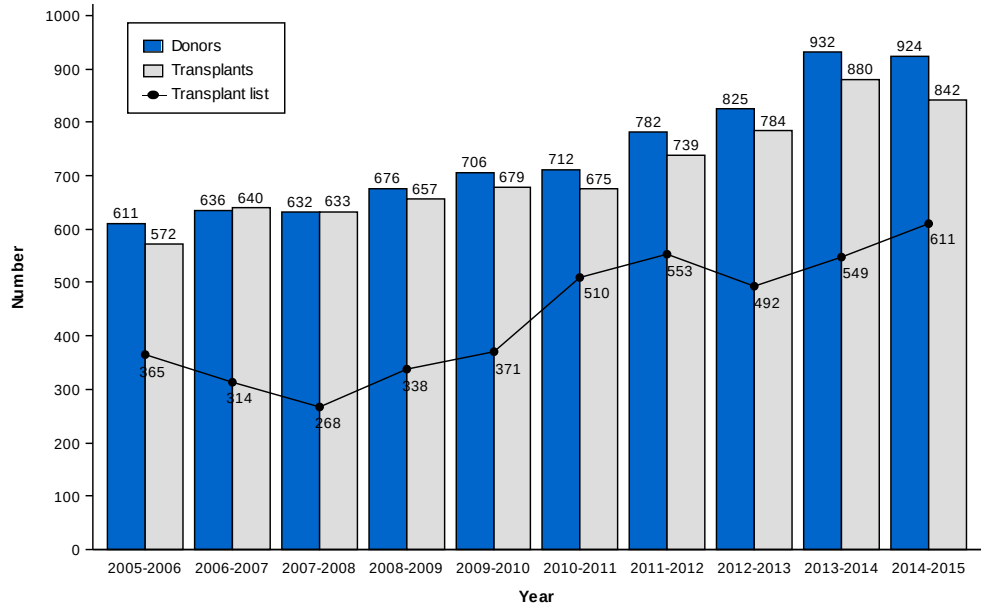
Key messages

- **The number of patients on the active liver transplant list at 31 March 2015 was 611, an increase of 11% from 2014**
- **The number of liver donors after brain death fell by 4% to 684, while transplants from donors after brain death fell by 9% to 665**
- **The number of liver donors after circulatory death increased by 9% to 240, while transplants from donors after circulatory death increased by 16% to 177**

8.1 Overview

The number of deceased liver donors and transplants in the UK in the last ten years is shown in **Figure 8.1**. Over this period, there has been a steady increase in the number of patients registered on the active transplant list at 31 March and a recent increase in the numbers of donors and transplants, although the most recent year has seen a decrease in numbers.

Figure 8.1 **Deceased donor liver programme in the UK, 1 April 2005 - 31 March 2015, Number of donors, transplants and patients on the active transplant list at 31 March**



Intestinal transplants that used a liver are not included in the liver activity reported. However, any livers retrieved and used for such transplants are included in the liver donor activity. Liver only transplants in intestinal failure patients are included in the liver transplant activity. Intestinal transplant activity is reported in the Chapter 9.

The number of deceased donors, deceased and living donor transplants, and patients on the active transplant list, by centre, is shown in **Table 8.1**. The numbers of liver donors reflect the number of organs retrieved from within each zone (by any retrieval team) rather than the number of retrievals made by that centre. In 2014-2015, 924 organ donors donated their liver for transplant: 684 donors after brain death and 240 donors after circulatory death. There were 611 patients on the active transplant list at 31 March 2015, an increase of 11% from 2014.

Overall, the number of liver transplants (either whole liver or liver lobe transplants) from donors after brain death fell by 9% to 665, and donors after circulatory death increased by 16% to 177, compared with the previous financial year. Additionally, there were 38 living liver lobe donor transplants in NHS Group 1 (26) and Group 2 (12) paediatric and adult recipients, and 2 domino donor transplants in NHS Group 1 (2) adult recipients.

Patients are prioritised as super-urgent if they require a new liver as soon as possible due to rapid failure of the native organ. Other patients are referred to as elective. There were 94 deceased donor adult super-urgent transplants in 2014-2015, representing 12% of all adult transplants. There were 14 deceased donor paediatric super-urgent transplants in 2014-2015, representing 23% of all paediatric transplants.

Table 8.1 **Deceased and living liver donors and transplants, 1 April 2014 - 31 March 2015 (2013-2014) and transplant list patients at 31 March 2015 (2014) in the UK, by age group and centre**

Allocation zone/ transplant centre	Deceased donors[1]						Deceased transplants						Living donor transplants		Active transplant list	
	DBD		DCD		TOTAL		DBD		DCD		TOTAL					
Adult																
Birmingham	140	(153)	63	(50)	203	(203)	143	(138)	49	(44)	192	(182)	2	(7)	129	(110)
Cambridge	71	(64)	27	(26)	98	(90)	59	(58)	28	(19)	87	(77)	0	(2)	59	(51)
Edinburgh	93	(92)	20	(18)	113	(110)	81	(84)	15	(11)	96	(95)	0	(0)	47	(53)
King's College	166	(152)	52	(55)	218	(207)	147	(138)	39	(36)	186	(174)	9	(5)	147	(139)
Leeds	105	(112)	43	(29)	148	(141)	75	(100)	22	(21)	97	(121)	8	(2)	86	(81)
Newcastle	31	(41)	8	(17)	39	(58)	30	(42)	5	(6)	35	(48)	0	(0)	27	(19)
Royal Free	61	(78)	19	(17)	80	(95)	72	(80)	15	(14)	87	(94)	1	(2)	71	(68)
TOTAL	**667**	**(692)**	**232**	**(212)**	**899**	**(904)**	**607**	**(640)**	**173**	**(151)**	**780**	**(791)**	**20[2]**	**(18)[3]**	**566**	**(521)**
Paediatric																
Birmingham	8	(4)	1	(1)	9	(5)	23	(29)	0	(1)	23	(30)	4	(2)	21	(13)
Cambridge	3	(2)	0	(0)	3	(2)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Edinburgh	1	(1)	2	(0)	3	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
King's College	3	(3)	3	(3)	6	(6)	29	(44)	4	(1)	33	(45)	8	(7)	18	(14)
Leeds	0	(7)	1	(1)	1	(8)	6	(12)	0	(0)	6	(12)	8	(5)	6	(1)
Newcastle	1	(0)	0	(2)	1	(2)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Royal Free	1	(3)	1	(1)	2	(4)	0	(2)	0	(0)	0	(2)	0	(0)	0	(0)
TOTAL	**17**	**(20)**	**8**	**(8)**	**25**	**(28)**	**58**	**(87)**	**4**	**(2)**	**62**	**(89)**	**20[4]**	**(14)[5]**	**45**	**(28)**

[1] Includes donors whose livers were retrieved by other teams
[2] Includes 9 and 9 living liver lobe transplants, 2 and 0 domino transplants in NHS Group 1 and Group 2 recipients, respectively
[3] Includes 10 and 4 living liver lobe transplants in NHS Group 1 and Group 2 recipients, respectively
[4] Includes 17 and 3 living liver lobe transplants in NHS Group 1 and Group 2 recipients, respectively
[5] Includes 13 and 0 living liver lobe transplants, 1 and 0 altruistic donor transplants in NHS Group 1 and Group 2 recipients, respectively

8.2 Transplant list

During 2014-2015, 1,206 patients joined the liver transplant list. Outcomes for patients on the list at 1 April 2014 and those joining the list during the year are shown in **Table 8.2**. There have been 141 (12%) new registrations that were super-urgent.

Table 8.2 Liver transplant list and new registrations in the UK, 1 April 2014 – 31 March 2015

Outcome of patient at 31 March 2015	Active and suspended patients at 1 April 2014		New registrations in 2014-2015[1]		**TOTAL**	
	N	%	N	%	**N**	**%**
Remained active/suspended	147	27	479	40	**626**	**36**
Transplanted	284	52	594	49	**878**	**50**
Removed	96	18	74	6	**170**	**10**
Died	21	4	59	5	**80**	**5**
TOTAL	**548**		**1206**		**1754**	

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

Table 8.3 shows the transplant list rate per million population in the UK, by country/Strategic Health Authority of patient's residence. At 31 March 2015, the overall rate was 9.5 pmp and ranged from 4.9 to 11.5 pmp across the Strategic Health Authorities.

Table 8.3 Active liver transplant list at 31 March, by country/ Strategic Health Authority of patient residence

Country/ Strategic Health Authority of residence	Liver transplant list (pmp) 2015		2014	
North East	20	(7.7)	16	(6.1)
North West	64	(9.0)	59	(8.3)
Yorkshire and The Humber	51	(9.6)	41	(7.7)
North of England	**135**	**(9.0)**	**116**	**(7.7)**
East Midlands	25	(5.4)	32	(7.0)
West Midlands	65	(11.5)	52	(9.2)
East of England	65	(10.9)	48	(8.1)
Midlands and East	**155**	**(9.6)**	**132**	**(8.1)**
London	**90**	**(10.7)**	**76**	**(9.0)**
South East Coast	46	(10.1)	41	(9.0)
South Central	21	(4.9)	20	(4.7)
South West	47	(8.7)	48	(8.9)
South of England	**114**	**(8.0)**	**109**	**(7.7)**
England	**494**	**(9.2)**	**433**	**(8.0)**
Isle of Man	**1**	**(12.5)**	**1**	**(12.5)**
Channel Islands	**1**	**(6.3)**	**0**	**(0.0)**
Wales	**22**	**(7.1)**	**16**	**(5.2)**
Scotland	**52**	**(9.8)**	**56**	**(10.5)**
Northern Ireland	**21**	**(11.5)**	**21**	**(11.5)**
TOTAL[1]	**611**	**(9.5)**	**549**	**(8.5)**

[1] Includes patients in 2015 (2014) residing in: Republic of Ireland - 2 (5); Overseas - 18 (17)

An indication of longer term outcomes for patients listed for a liver transplant is summarised in **Figure 8.2**. This shows the proportion of patients transplanted or still waiting six months, one year and two years after joining the transplant list. It also shows the proportion removed from the transplant list and those dying while on the transplant list (which includes those patients removed due to condition deteriorated). At one year post-registration, 68% of patients had received a liver transplant while 11% of patients had died whilst waiting or had been removed due to their condition deteriorating. 4% had been removed for other reasons such as the patient's condition improving, as a result of non-compliance or at the request of the patient or family.

Figure 8.2 **Post-registration outcome for 860 new elective liver only registrations made in the UK, 1 April 2012 - 31 March 2013**

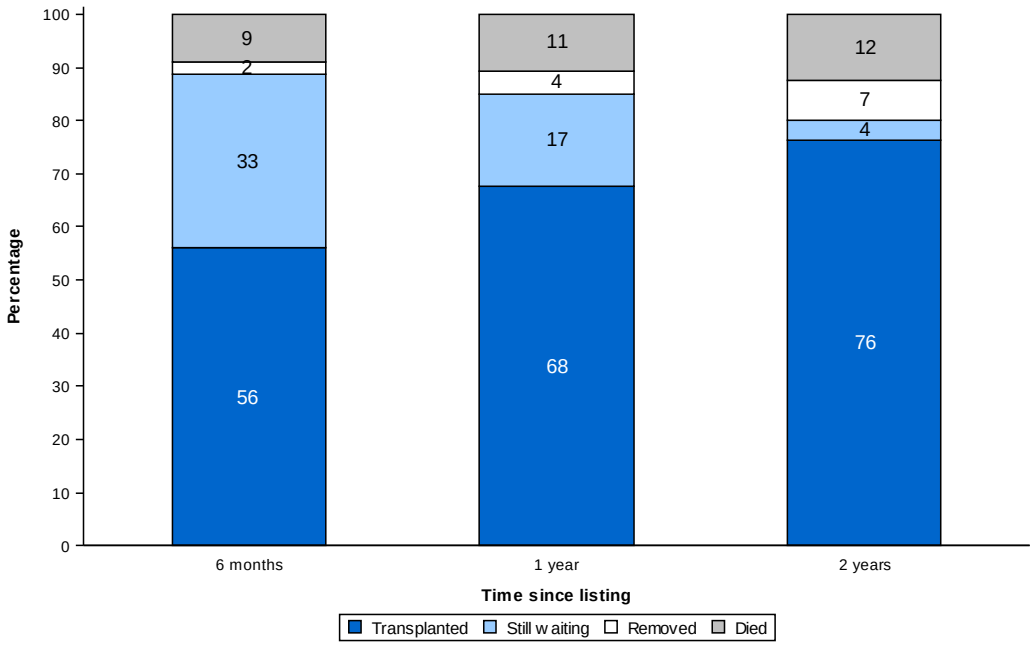


Table 8.4 and **Table 8.5** show the median waiting time to liver transplant for adult and paediatric elective registrations, separately, including a breakdown by blood group and ethnicity for adult elective registrations only. On average, adult patients wait 137 days for a transplant while paediatric patients wait an average of 74 days. Note that these waiting times are not adjusted for other relevant factors which may be influential and which may differ across blood or ethnic groups.

Table 8.4 **Median waiting time to liver transplant in the UK, for patients registered 1 April 2010 - 31 March 2013**

Blood group	Number of patients registered	Waiting time (days) Median	95% Confidence interval
Adult			
O	1145	222	200 - 244
A	951	82	73 - 91
B	287	153	111 - 195
AB	90	59	39 - 79
TOTAL	**2473**	**137**	**126 - 148**
Paediatric	**217**	**74**	**58 - 90**

Table 8.5 Median waiting time to liver transplant in the UK, for patients registered 1 April 2010 - 31 March 2013

Ethnicity	Number of patients registered	Waiting time (days)	
		Median	95% Confidence interval
Adult			
White	2183	135	124 - 146
Asian	178	150	101 - 199
Black	60	235	107 - 363
Other	52	108	77 - 139
TOTAL	**2473**	**137**	**126 - 148**
Paediatric	**217**	**74**	**58 - 90**

8.3 Donor and organ supply

Of the 1,282 organ donors, 924 (72%) donated their liver and 812 (88%) of these donated livers were used; see **Table 8.6**. Of livers retrieved from donors after brain death and donors after circulatory death, 93% and 74% were transplanted, respectively. One liver can be used in more than one transplant, see **Table 8.9**.

Table 8.6 Deceased liver donation and retrieval in the UK, 1 April 2014 - 31 March 2015, by allocation zone

Allocation zone	**Number of donors**						**Number of livers retrieved (used)**					
	Solid organ			Liver								
	DBD	DCD	**TOTAL**	DBD	DCD	**TOTAL**	DBD		DCD		**TOTAL**	
Birmingham	163	111	**274**	148	64	**212**	148	(140)	64	(53)	**212**	**(193)**
Cambridge	78	62	**140**	74	27	**101**	74	(68)	27	(19)	**101**	**(87)**
Edinburgh	106	52	**158**	94	22	**116**	94	(86)	22	(17)	**116**	**(103)**
King's College	191	107	**298**	169	55	**224**	169	(152)	55	(33)	**224**	**(185)**
Leeds	120	103	**223**	105	44	**149**	105	(101)	44	(36)	**149**	**(137)**
Newcastle	42	30	**72**	32	8	**40**	32	(31)	8	(6)	**40**	**(37)**
Royal Free	72	45	**117**	62	20	**82**	62	(57)	20	(13)	**82**	**(70)**
TOTAL	**772**	**510**	**1282**	**684**	**240**	**924**	**684**	**(635)**	**240**	**(177)**	**924**	**(812)**

The rates per million population (pmp) for liver donors are shown in **Table 8.7** by donor country/Strategic Health Authority of residence. No adjustments have been made for potential demographic differences in populations. The overall deceased liver donor rate was 14.4 pmp in 2014-2015 and varied across the Strategic Health Authorities from 11.9 pmp to 17.5 pmp.

Table 8.7 Liver donor rates in the UK, 1 April 2014 - 31 March 2015, by country/ Strategic Health Authority

Country/ Strategic Health Authority	Deceased donors (pmp)					
	DBD		DCD		**Total**	
North East	23	(8.8)	8	(3.1)	**31**	**(11.9)**
North West	67	(9.4)	19	(2.7)	**86**	**(12.1)**
Yorkshire and The Humber	45	(8.4)	22	(4.1)	**67**	**(12.5)**
North of England	**135**	**(9.0)**	**49**	**(3.3)**	**184**	**(12.2)**
East Midlands	45	(9.8)	21	(4.6)	**66**	**(14.3)**
West Midlands	50	(8.8)	19	(3.4)	**69**	**(12.2)**
East of England	65	(10.9)	27	(4.5)	**92**	**(15.5)**
Midlands and East	**160**	**(9.9)**	**67**	**(4.1)**	**227**	**(14.0)**
London	**91**	**(10.8)**	**31**	**(3.7)**	**122**	**(14.5)**
South East Coast	59	(13.0)	18	(4.0)	**77**	**(16.9)**
South Central	44	(10.4)	7	(1.6)	**51**	**(12.0)**
South West	69	(12.8)	25	(4.6)	**94**	**(17.5)**
South of England	**172**	**(12.1)**	**50**	**(3.5)**	**222**	**(15.7)**
England	**558**	**(10.4)**	**197**	**(3.7)**	**755**	**(14.0)**
Isle of Man	**4**	**(50.0)**	**0**	**(0.0)**	**4**	**(50.0)**
Channel Islands	**1**	**(6.3)**	**0**	**(0.0)**	**1**	**(6.3)**
Wales	**34**	**(11.0)**	**21**	**(6.8)**	**55**	**(17.9)**
Scotland	**61**	**(11.4)**	**16**	**(3.0)**	**77**	**(14.4)**
Northern Ireland	**26**	**(14.2)**	**6**	**(3.3)**	**32**	**(17.5)**
TOTAL[1]	**684**	**(10.6)**	**240**	**(3.7)**	**924**	**(14.4)**

[1] Includes 18 donors where the hospital postcode was used in place of an unknown donor postcode

8.4 Transplants

The number of liver transplants by recipient country/Strategic Health Authority of residence are shown in **Table 8.8**. No adjustments have been made for potential demographic differences in populations. The deceased donor transplant rate ranged from 9.4 to 14.8 pmp across the Strategic Health Authorities and overall was 12.8 pmp.

Table 8.8 Liver transplant rates per million population (pmp) in the UK, 1 April 2014 - 31 March 2015, by country/ Strategic Health Authority

Country/ Strategic Health Authority	Deceased transplants (pmp)						Living transplants (pmp)	
	DBD		DCD		Total			
North East	23	(8.8)	4	(1.5)	**27**	**(10.3)**	2	(0.8)
North West	82	(11.5)	17	(2.4)	**99**	**(13.9)**	6	(0.8)
Yorkshire and The Humber	36	(6.7)	14	(2.6)	**50**	**(9.4)**	6	(1.1)
North of England	**141**	**(9.4)**	**35**	**(2.3)**	**176**	**(11.7)**	**14**	**(0.9)**
East Midlands	37	(8.0)	11	(2.4)	**48**	**(10.4)**	4	(0.9)
West Midlands	62	(10.9)	22	(3.9)	**84**	**(14.8)**	0	(0.0)
East of England	53	(8.9)	26	(4.4)	**79**	**(13.3)**	1	(0.2)
Midlands and East	**152**	**(9.4)**	**59**	**(3.6)**	**211**	**(13.0)**	**5**	**(0.3)**
London	**90**	**(10.7)**	**21**	**(2.5)**	**111**	**(13.2)**	**2**	**(0.2)**
South East Coast	38	(8.4)	17	(3.7)	**55**	**(12.1)**	0	(0.0)
South Central	36	(8.5)	8	(1.9)	**44**	**(10.4)**	1	(0.2)
South West	55	(10.2)	12	(2.2)	**67**	**(12.5)**	0	(0.0)
South of England	**129**	**(9.1)**	**37**	**(2.6)**	**166**	**(11.7)**	**1**	**(0.1)**
England	**512**	**(9.5)**	**152**	**(2.8)**	**664**	**(12.3)**	**22**	**(0.4)**
Isle of Man	**2**	**(25.0)**	**0**	**(0.0)**	**2**	**(25.0)**	**0**	**(0.0)**
Channel Islands	**2**	**(12.5)**	**0**	**(0.0)**	**2**	**(12.5)**	**0**	**(0.0)**
Wales	**22**	**(7.1)**	**6**	**(1.9)**	**28**	**(9.1)**	**1**	**(0.3)**
Scotland	**87**	**(16.3)**	**16**	**(3.0)**	**103**	**(19.3)**	**2**	**(0.4)**
Northern Ireland	**23**	**(12.6)**	**2**	**(1.1)**	**25**	**(13.7)**	**1**	**(0.5)**
TOTAL[1]	**648**	**(10.1)**	**176**	**(2.7)**	**824**	**(12.8)**	**26[2]**	**(0.4)**

[1] Excludes 32 recipients who reside outside the UK (17 DBD, 1 DCD, 14 Living).
[2] Includes 2 domino donor transplants.

The number of whole, reduced and split liver transplants by urgency status of the transplant (elective, super-urgent) in 2014-2015 is shown in **Table 8.9**. 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 deceased donor liver transplants dropped by 4% in 2014-2015. There were 842 deceased donor liver transplants performed in 2014-2015: 10 reduced liver, 80 split liver, 752 whole liver, including 12 liver and kidney, and 1 liver and pancreas; and 90 deceased liver lobe, including 2 liver and kidney. Split liver transplants accounted for 89% of liver lobe transplant activity.

Table 8.9 Deceased liver transplants performed in the UK, 1 April 2013 - 31 March 2015

Transplant centre	2013 - 2014								2014 - 2015							
	Whole liver		Reduced liver		Split liver		TOTAL		Whole liver		Reduced liver		Split liver		TOTAL	
	E	SU	E	SU	E	SU	E	SU	E	SU	E	SU	E	SU	E	SU
Birmingham	148	24	2	1	31	6	**181**	**31**	164	23	1	1	25	1	**190**	**25**
Cambridge	63	11	0	0	3	0	**66**	**11**	72	9	0	0	5	1	**77**	**10**
Edinburgh	70	14	0	0	11	0	**81**	**14**	84	8	0	0	4	0	**88**	**8**
King's College	141	22	2	3	47	4	**190**	**29**	154	24	1	7	27	6	**182**	**37**
Leeds	99	13	1	0	19	1	**119**	**14**	88	10	0	0	5	0	**93**	**10**
Newcastle	37	10	0	0	1	0	**38**	**10**	28	5	0	0	2	0	**30**	**5**
Royal Free	78	12	0	0	6	0	**84**	**12**	70	13	0	0	4	0	**74**	**13**
TOTAL	**636**	**106**	**5**	**4**	**118**	**11**	**759**	**121**	**660**	**92**	**2**	**8**	**72**	**8**	**734**	**108**

E=Elective, SU=Super-urgent
Birmingham, King's College and Leeds transplant paediatric patients

The length of time that elapses between a liver being removed from the donor to its transplantation into the recipient is called the Cold Ischaemia Time (CIT). Generally, the shorter this time, the more likely the liver is to work immediately and the better the long-term outcome. In 2014-2015, the median CIT for a DBD donor whole liver only transplant was 8.6 hours (Inter-Quartile (IQ) range 7.0 – 10.7) and for a DCD donor whole liver only transplant was 7.7 hours (IQ range 6.8 – 8.8) and overall is 8.2 hours (IQ range 6.9 – 10.3).

At 31 March 2015 there were approximately 8,700 recipients with a functioning liver transplant (or multi-organ including the liver) being followed-up as reported to the UK Transplant Registry.

8.5 Demographic characteristics

The age group, sex, ethnicity and blood group of liver donors, transplant recipients and transplant list patients is shown in **Table 8.10**.

Table 8.10 Demographic characteristics of deceased liver donors and transplant recipients 1 April 2014 - 31 March 2015, and transplant list patients at 31 March in the UK

	Donors		Transplant recipients		Active transplant list patients	
	N	(%)	N	(%)	N	(%)
Age group (years)						
0 – 17	38	(4)	69	(8)	47	(8)
18 – 34	161	(17)	93	(11)	54	(9)
35 – 49	230	(25)	180	(21)	119	(19)
50 – 59	223	(24)	245	(29)	224	(37)
60 – 69	179	(19)	245	(29)	157	(26)
70+	93	(10)	10	(1)	10	(2)
mean (SD)	49	(17)	48	(17)	49	(17)
Sex						
Male	496	(54)	539	(64)	363	(59)
Female	428	(46)	303	(36)	248	(41)
Ethnicity						
White	858	(93)	723	(86)	512	(84)
Asian	25	(3)	65	(8)	60	(10)
Black	16	(2)	30	(4)	20	(3)
Chinese	2	(0)	13	(2)	4	(1)
Other	23	(2)	11	(1)	15	(2)
Blood group						
O	448	(48)	375	(45)	347	(57)
A	353	(38)	337	(40)	179	(29)
B	95	(10)	92	(11)	80	(13)
AB	28	(3)	38	(5)	5	(1)
Graft number						
First graft			758	(90)	565	(92)
Re-graft			84	(10)	46	(8)
TOTAL	**924**	**(100)**	**842**	**(100)**	**611**	**(100)**

Intestinal Activity

Key messages

- **A new Intestinal Allocation Scheme was introduced in July 2013**
- **24 patients were registered for an intestinal transplant during 2014-2015 (19 adults, 5 paediatric patients)**
- **The number of patients on the active intestinal transplant list at 31 March 2015 was 9**
- **24 intestinal transplants were carried out in 2014-2015 (26 in the previous year)**
- **On average, patients wait around 4 months for a transplant**

9.1 Overview

A new Intestinal Allocation Scheme was introduced in July 2013. Patients are prioritised according to a points system based on a range of clinical factors including donor-recipient age matching, loss of intravenous line access, liver failure, diagnosis of malignancy, in-hospital status, additional organs required, sensitisation and waiting time. A score is calculated for every potentially suitable patient on the national active transplant list and the intestine is allocated preferentially to the patient with the most points. This differs from the previous system in which donor intestines were allocated to patients purely on waiting time.

Over the last two years (between 1 April 2013 and 31 March 2015), the number of intestinal transplants has decreased with 24 transplants carried out in 2014-2015 compared to 26 in 2013-2014.

During 2014-2015, there were 24 registrations for an intestinal transplant. As at 31 March 2015, 9 (38%) registrations remained active/suspended, and 15 (63%) resulted in a transplant.

9.2 Transplant list

In 2014-2015, there were 24 registrations for an intestinal transplant. The outcome of these registrations for paediatric (aged <18 years) and adult patients, as at 31 March 2015, broken down by transplant centre can be found in **Table 9.1**.

Table 9.1 Outcome of intestinal registrations in the UK, 1 April 2014 and 31 March 2015

Transplant centre	Outcome of registrations as at 31 March 2015								
	Transplanted		Died		Removed		Active/Susp		TOTAL
	N	%	N	%	N	%	N	%	
Adult									
Cambridge	10	83	0	0	0	0	2	17	12
Oxford	3	43	0	0	0	0	4	57	7
TOTAL	**13**	**68**	**0**	**0**	**0**	**0**	**6**	**32**	**19**
Paediatric									
Birmingham	2	50	0	0	0	0	2	50	4
King's College	0	0	0	0	0	0	1	100	1
TOTAL	**2**	**40**	**0**	**0**	**0**	**0**	**3**	**60**	**5**

Table 9.2 shows the intestinal transplant list rate in the UK by Country/Strategic Health Authority of patient's residence. At 31 March 2015, the overall transplant list rate was 0.1 pmp and ranged from 0.1 to 0.5 pmp across the Strategic Health Authorities, although these numbers are very small so these are not meaningful differences.

Table 9.2 Active intestinal transplant list at 31 March, by country/ Strategic Health Authority of patient residence

Country/ Strategic Health Authority of residence	Intestinal transplant list (pmp) 2015		2014	
North East	0	(0.0)	1	(0.4)
North West	1	(0.1)	2	(0.3)
Yorkshire and The Humber	0	(0.0)	0	(0.0)
North of England	**1**	**(0.1)**	**3**	**(0.2)**
East Midlands	2	(0.4)	1	(0.2)
West Midlands	0	(0.0)	1	(0.2)
East of England	3	(0.5)	1	(0.2)
Midlands and East	**5**	**(0.3)**	**3**	**(0.2)**
London	**0**	**(0.0)**	**1**	**(0.1)**
South East Coast	1	(0.2)	1	(0.2)
South Central	0	(0.0)	3	(0.7)
South West	1	(0.2)	0	(0.0)
South of England	**2**	**(0.1)**	**4**	**(0.3)**
England	**8**	**(0.1)**	**11**	**(0.2)**
Isle of Man	**0**	**(0.0)**	**0**	**(0.0)**
Channel Islands	**0**	**(0.0)**	**0**	**(0.0)**
Wales	**0**	**(0.0)**	**1**	**(0.3)**
Scotland	**0**	**(0.0)**	**0**	**(0.0)**
Northern Ireland	**0**	**(0.0)**	**0**	**(0.0)**
TOTAL[1]	**9**	**(0.1)**	**13**	**(0.2)**

[1] Includes patients in 2015 (2014) residing Overseas 1 (1)

Table 9.3 shows median waiting time to elective intestinal transplant by registration type. On average, patients wait 126 days for a transplant.

Table 9.3 Median waiting time to intestinal transplant in the UK, for patients registered 1 April 2011 - 31 March 2014

Registration type	Number of patients registered	Waiting time (days) Median	95% Confidence interval
Bowel only[1]	20	39	0 – 89
Liver, bowel and pancreas[1]	41	268	100 – 436
Bowel and pancreas[1]	12	66	0 – 192
TOTAL	**73**	**126**	**38 – 214**

[1] May also include any of: stomach, spleen, abdominal wall, kidney

9.3 Donor and Organ Supply

The rates per million population (pmp) for intestinal donors are shown in **Table 9.4** by donor country/Strategic Health Authority of residence. The overall DBD intestinal donor rate was 0.3 pmp and ranged from 0.2 to 0.8 pmp across the Strategic Health Authorities. Of the 772 DBD solid organ donors, 21 (3%) donated their small bowel.

Table 9.4 Intestinal donation rates for deceased donors after brain death in the UK, 1 April 2014 - 31 March 2015, by country/ Strategic Health Authority

Country/ Strategic Health Authority of residence	Solid organ donors (pmp)		Intestinal donors (pmp)		% of solid organ donors	Organs used
North East	31	(11.9)	2	(0.8)	6.5	2
North West	73	(10.3)	5	(0.7)	6.8	5
Yorkshire and The Humber	53	(9.9)	0	(0.0)	-	-
North of England	**157**	**(10.4)**	**7**	**(0.5)**	**4.5**	**7**
East Midlands	49	(10.7)	2	(0.4)	4.1	2
West Midlands	55	(9.7)	2	(0.4)	3.6	2
East of England	75	(12.6)	2	(0.3)	2.7	2
Midlands and East	**179**	**(11.0)**	**6**	**(0.4)**	**3.4**	**6**
London	**104**	**(12.4)**	**3**	**(0.4)**	**2.9**	**3**
South East Coast	67	(14.7)	0	(0.0)	-	-
South Central	48	(11.3)	1	(0.2)	2.1	1
South West	74	(13.8)	2	(0.4)	2.7	2
South of England	**189**	**(13.3)**	**3**	**(0.2)**	**1.6**	**3**
England	**629**	**(11.7)**	**19**	**(0.4)**	**3.0**	**19**
Isle of Man	**5**	**(62.5)**	**0**	**(0.0)**	**-**	**-**
Channel Islands	**1**	**(6.3)**	**0**	**(0.0)**	**-**	**-**
Wales	**38**	**(12.3)**	**1**	**(0.3)**	**2.6**	**1**
Scotland	**65**	**(12.2)**	**1**	**(0.2)**	**1.5**	**1**
Northern Ireland	**34**	**(18.6)**	**0**	**(0.0)**	**-**	**-**
TOTAL[1]	**772**	**(12.0)**	**21**	**(0.3)**	**2.7**	**21**

[1] Includes 18 donors where the hospital postcode was used in place of an unknown donor postcode

9.4 Transplants

Table 9.5 shows intestinal transplant activity by transplant centre and transplant type for financial years 2013-2014 and 2014-2015. In 2014-2015, there were a total of 24 transplants, 15 adult and 9 paediatric transplants.

At 31 March 2015 there were approximately 100 recipients with a functioning intestinal transplant (or multi-organ including intestine) being followed-up as reported to the UK Transplant Registry.

Table 9.5 Intestinal transplants in the UK, by age group, centre and type, 1 April 2014 - 31 March 2015 (2013-2014)

Transplant centre	Transplant type									
	BO		LBP		MV		MMV		**TOTAL**	
Adult										
Cambridge	0	(5)	0	(1)	8	(9)	3	(1)	11	(16)
Oxford	3	(5)	0	(0)	0	(0)	1	(2)	4	(7)
TOTAL	**3**	**(10)**	**0**	**(1)**	**8**	**(9)**	**4**	**(3)**	**15**	**(23)**
Paediatric										
Birmingham	2	(1)	2	(1)	0	(1)	0	(0)	4	(3)
King's College	1	(0)	1	(0)	3	(0)	0	(0)	5	(0)
TOTAL	**3**	**(1)**	**3**	**(1)**	**3**	**(1)**	**0**	**(0)**	**9**	**(3)**

BO = Bowel only (may also include stomach/spleen/abdominal wall/kidney/colon)
LBP = Liver, bowel and pancreas
MV = Multivisceral – liver, bowel and pancreas plus stomach/spleen/abdominal wall/kidney/colon
MMV = Modified multivisceral – bowel and pancreas plus stomach/spleen/abdominal wall/kidney/colon

9.5 Demographic Characteristics

The age group, sex, ethnicity and blood group of intestinal donors, transplant recipients and transplant list patients is shown in **Table 9.6**.

Table 9.6 Demographic characteristics of deceased intestinal donors and transplant recipients 1 April 2014 - 31 March 2015, and transplant list patients at 31 March in the UK

	Donors		Transplant recipients		Active transplant list patients	
	N	(%)	N	(%)	N	(%)
Age group (years)						
0 – 17	7	(33)	9	(38)	4	(44)
18 – 34	9	(43)	7	(29)	0	(0)
35 – 49	4	(19)	3	(13)	3	(33)
50 – 59	1	(5)	4	(17)	2	(22)
60 – 69	0	(0)	1	(4)	0	(0)
70+	0	(0)	0	(0)	0	(0)
mean (SD)	23	(15)	28	(20)	28	(25)
Sex						
Male	10	(48)	13	(54)	3	(33)
Female	11	(52)	11	(46)	6	(67)
Ethnicity						
White	20	(95)	21	(88)	7	(78)
Asian	0	(0)	1	(4)	1	(11)
Black	0	(0)	1	(4)	0	(0)
Other	1	(5)	1	(4)	1	(11)
Blood group						
O	13	(62)	10	(42)	4	(44)
A	5	(24)	8	(33)	4	(44)
B	3	(14)	4	(17)	1	(11)
AB	0	(0)	2	(8)	0	(0)
Graft number						
First graft			20	(83)	8	(89)
Re-graft			4	(17)	1	(11)
TOTAL	**21**	**(100)**	**24[1]**	**(100)**	**9**	**(100)**

[1] Includes 3 overseas donors

Cornea Activity

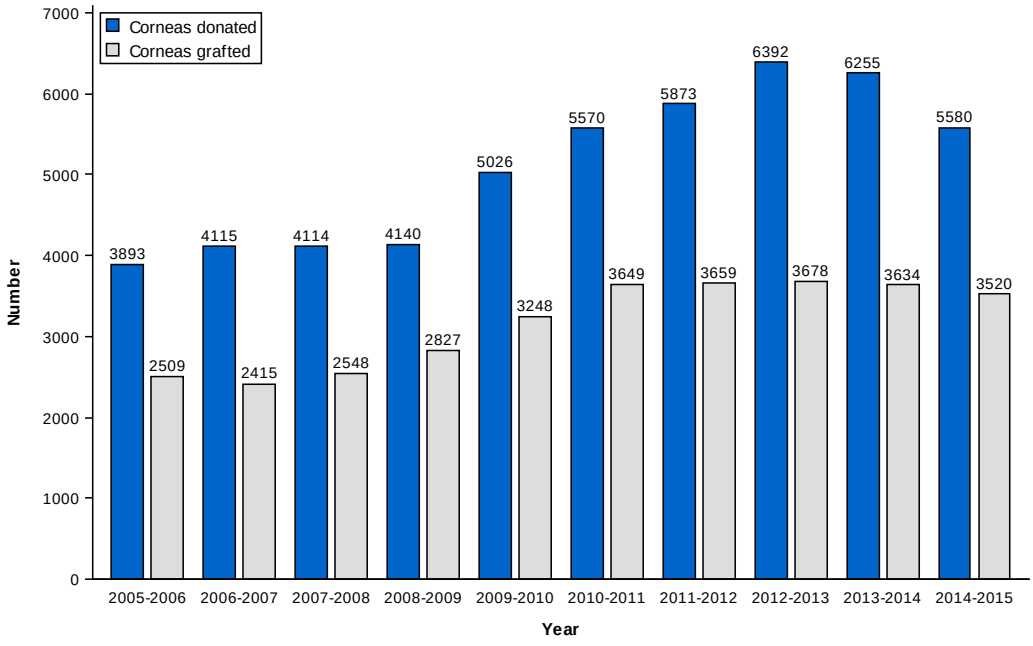
Key messages

- **5,017 corneas were supplied to the Corneal Transplant Service (CTS) eye banks**
- **The number of transplants has fallen to 3,575**
- **Corneas were retrieved from 31% of solid organ donors after brain death and 31% of solid organ donors after circulatory death**
- **15% of cornea only donors were 80 years of age or over**

10.1 Overview

The number of corneas donated in 2014-2015 was 5,580, representing a decrease of 11% on last year, as shown in **Figure 10.1**. The number of corneas transplanted decreased by 3% in 2014-2015. Additionally, 124 sclera were issued and used. **It should be noted that not all cornea donors and transplants in the UK are reported to the UK Transplant Registry and thus the data reported are not the full national data.**

Figure 10.1 Cornea programme in the UK, 1 April 2005 - 31 March 2015, Number of corneas donated and corneas grafted



In 2014-2015 there were 2,864 cornea donors, of whom 2,463 donated corneas only and 401 donated corneas and solid organs: see **Table 10.1**. Compared to 2013-2014, the number of cornea only donors decreased by 8%, and the number of cornea and solid organ donors decreased by 13%. In 2013-2014, corneas were retrieved from 31% of organ donors after brain death, the same percentage as in 2014-2015. Of the 510 organ donors after cardiac death in 2014-2015, 159 (31%) also donated corneas, lower than the rate in 2013-2014 (40%).

Table 10.1 also shows the number and rate per million population (pmp) of donors in 2014-2015 by country and English Strategic Health Authority (SHA), with figures for 2013-2014 in parentheses. No adjustments have been made for potential demographic differences in populations. England had the highest cornea donor rate of countries in the UK in 2014-2015 (47.2 pmp). In 2014-2015, the cornea donor rate increased in Northern Ireland but fell in other countries. Across the SHAs the cornea donor rate ranged from 15.2 pmp to 94.5 pmp, reflecting locations of the Eye Retrieval Scheme Trusts.

Table 10.1 Cornea donation rates per million population, pmp, in the UK, 1 April 2014 - 31 March 2015 (2013 - 2014), by country/ Strategic Health Authority

Country of residence/ Strategic Health Authority	Cornea only		Solid organ and cornea		**TOTAL**		**TOTAL pmp**	
North East	185	(179)	20	(30)	205	(209)	78.5	(80.1)
North West	643	(716)	28	(37)	671	(753)	94.5	(106.1)
Yorkshire and The Humber	60	(79)	35	(26)	95	(105)	17.8	(19.7)
North of England	**888**	**(974)**	**83**	**(93)**	**971**	**(1067)**	**64.5**	**(70.9)**
East Midlands	188	(219)	23	(23)	211	(242)	45.9	(52.6)
West Midlands	67	(78)	19	(25)	86	(103)	15.2	(18.2)
East of England	201	(192)	50	(50)	251	(242)	42.2	(40.7)
Midlands and East	**456**	**(489)**	**92**	**(98)**	**548**	**(587)**	**33.8**	**(36.2)**
London	**191**	**(120)**	**66**	**(77)**	**257**	**(197)**	**30.5**	**(23.4)**
South East Coast	65	(169)	33	(24)	98	(193)	21.5	(42.4)
South Central	190	(244)	29	(33)	219	(277)	51.5	(65.2)
South West	400	(430)	49	(56)	449	(486)	83.5	(90.3)
South of England	**655**	**(843)**	**111**	**(113)**	**766**	**(956)**	**54**	**(67.4)**
England	**2190**	**(2426)**	**352**	**(381)**	**2542**	**(2807)**	**47.2**	**(52.1)**
Isle of Man	**0**	**(0)**	**0**	**(0)**	**0**	**(0)**	**0**	**(0.0)**
Channel Islands	**0**	**(0)**	**0**	**(0)**	**0**	**(0)**	**0**	**(0.0)**
Wales	**67**	**(76)**	**14**	**(24)**	**81**	**(100)**	**26.3**	**(32.5)**
Scotland	**123**	**(140)**	**24**	**(42)**	**147**	**(182)**	**27.6**	**(34.1)**
Northern Ireland	**46**	**(40)**	**11**	**(13)**	**57**	**(53)**	**31.1**	**(29.0)**
TOTAL[1]	**2463**	**(2685)**	**401**	**(461)**	**2864**	**(3146)**	**44.5**	**(48.9)**

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

10.2 Donor and corneal tissue supply

In 2014-2015, 90% (87.6% in 2013-2014) of retrieved corneas reported to the UK Transplant Registry were supplied to the Corneal Transplant Service (CTS) Eye Banks in Bristol and Manchester. **Table 10.2** shows the number of corneas supplied to, and taken from, the CTS Eye Banks for those centres that supplied more than 25 corneas in 2014-2015. 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). Corneas that are not suiable for PK may be suitable for other types of corneal transplant. Centres with a negative balance have taken more corneas than they supplied to the CTS Eye Banks.

Of the 5,017 corneas supplied to the CTS Eye Banks, 3,476 (69%) were suitable for a PK. This was an increase compared with 2013-2014, when 66% of corneas supplied to the CTS Eye Banks were suitable for a PK.

Table 10.2 Corneas supplied to, and taken from, the CTS Eye Banks, 1 April 2014 - 31 March 2015

Centre	Corneas supplied	Suitable for PK (%)		Corneas taken	Balance
ERS Royal Devon	405	265	(65)	14	391
ERS Preston	373	244	(65)	9	364
ERS Norfolk	356	267	(75)	36	320
ERS Nottingham	338	239	(71)	149	189
ERS Merseyside	292	191	(65)	165	127
ERS Newcastle	284	201	(71)	53	231
ERS Bristol	272	183	(67)	111	161
ERS Southampton	248	183	(74)	81	167
ERS Glasgow	194	156	(80)	160	34
ERS Bolton	160	108	(68)	14	146
Manchester, Royal Eye Hospital	110	79	(72)	145	-35
Belfast, Royal Victoria Hospital	94	70	(74)	44	50
Middlesbrough, James Cook University Hospital	94	66	(70)	14	80
Lancaster, Royal Lancaster Hospital	94	65	(69)	0	94
Leeds Alliance	76	58	(76)	0	76
Cardiff, University of Wales Hospital	50	28	(56)	11	39
Blackburn, Royal Infirmary	48	36	(75)	0	48
Barnstaple, North Devon District Hospital	46	33	(72)	0	46
Oxford, John Radcliffe Hospital	32	22	(69)	25	7
Plymouth, Royal Eye Infirmary	32	25	(78)	36	-4
Reading, Royal Berkshire Hospital	28	20	(71)	44	-16
Coventry & Warwickshire Hospital	28	13	(46)	27	1
Edinburgh, Royal Infirmary	28	26	(93)	0	28
Cambridge, Addenbrookes Hospital	26	25	(96)	62	-36
Eye retrieval scheme centres	**2922**	**2037**	**(70)**	**792**	**2130**
Centres supplying more than 25 corneas	**786**	**566**	**(72)**	**408**	**378**
All other centres	**1309**	**873**	**(67)**	**2067**	**-758**
TOTAL	**5017**	**3476**	**(69)**	**3267**	**1750**

PK - Penetrating keratoplasty

10.3 CTS Eye Bank activity

The activity levels for the Bristol and Manchester Eye Banks are shown in **Table 10.3**. The numbers of corneas received by the CTS Eye Banks decreased in 2014-2015 by 8%, and the number of corneas issued decreased by 3%. In 2014-2015, 5,017 corneas were received into the CTS Eye Banks, of which 3485 (69%) were subsequently issued for grafting. The remaining corneas were unsuitable for transplantation.

Table 10.3 Corneas received into the Bristol and Manchester Eye Banks, 1 April 2014 - 31 March 2015 (2013-2014), by year

	Total received		Number issued[1]		% issued		Difference between number received and issued	
Bristol	2335	(2325)	1568	(1504)	67	(65)	767	(821)
Manchester	2682	(3115)	1917	(2091)	71	(67)	765	(1024)
Total	**5017**	**(5440)**	**3485**	**(3595)**	**69**	**(66)**	**1532**	**(1845)**

[1] Number issued of those received in each year

The outcome of corneas received into the CTS Eye Banks is given in **Table 10.4**. Of the corneas supplied to the Eye Banks in 2014-2015, 64% were issued and used and 5% were issued but not used. Of the corneas supplied to the Eye Banks, 10% were unsuitable because of medication contraindications, 16% were unsuitable due to tissue quality and 3% were discarded because of bacterial or fungal contamination. 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.

Table 10.4 Outcome of corneas received into the Bristol and Manchester Eye Banks, 1 April 2014 - 31 March 2015 (2013 - 2014), by year

Outcome of cornea	Bristol				Manchester				TOTAL			
	N		%		N		%		N		%	
Used												
Penetrating keratoplasty	1405	(1362)	60	(59)	1776	(1920)	66	(62)	3181	(3282)	63	(60)
Lamellar keratoplasty	28	(24)	1	(1)	6	(9)	<1	(<1)	34	(33)	1	(1)
Other/ not reported	1	(3)	<1	(<1)	0	(4)	0	(<1)	1	(7)	<1	(<1)
Total used	**1434**	**(1389)**	**61**	**(60)**	**1782**	**(1933)**	**66**	**(62)**	**3216**	**(3322)**	**64**	**(61)**
Not used												
Issued, not used	134	(115)	6	(5)	135	(158)	5	(5)	269	(273)	5	(5)
Unsuitable - tissue quality	388	(417)	17	(18)	418	(367)	16	(12)	806	(784)	16	(14)
Medical reason - virology	58	(75)	2	(3)	52	(90)	2	(3)	110	(165)	2	(3)
Medical reason - other	195	(199)	8	(9)	199	(219)	7	(7)	394	(418)	8	(8)
Contaminated	75	(62)	3	(3)	77	(133)	3	(4)	152	(195)	3	(4)
Outdated	36	(64)	2	(3)	3	(201)	<1	(6)	39	(265)	1	(5)
Other/not reported	15	(4)	1	(<1)	16	(14)	1	(<1)	31	(18)	1	(<1)
Total not used	**901**	**(936)**			**900**	**(1182)**			**1801**	**(2118)**		
TOTAL	**2335**	**(2325)**			**2682**	**(3115)**			**5017**	**(5440)**		

10.4 Transplants

Corneal transplant activity by country of residence and Strategic Health Authority in England for the years 2013-2014 and 2014-2015 is detailed in **Table 10.5** for corneas supplied through the CTS Eye Banks and others that have been reported to the UK Transplant Registry by Moorfields and East Grinstead Eye Banks. No adjustments have been made for potential demographic differences in populations. The overall transplant rate was 57.5 pmp in 2013-2014; this decreased slightly to 55.6 pmp in 2014-2015. The transplant rates increased in Wales, but decreased in other countries. England had the second highest transplant rate in the UK: 57.6 pmp. This ranged from 49.8 pmp to 70.2 pmp across the SHAs.

Table 10.5 Cornea transplants performed per million population (pmp) in the UK, 1 April 2013 - 31 March 2015, by country/ Strategic Health Authority

	Number of transplants (pmp)			
Country of residence/ Strategic Health Authority	2013-2014		2014-2015	
North East	142	(54.4)	130	(49.8)
North West	493	(69.4)	426	(60)
Yorkshire and The Humber	330	(61.8)	375	(70.2)
North of England	**965**	**(64.1)**	**931**	**(61.9)**
East Midlands	242	(52.6)	260	(56.5)
West Midlands	304	(53.6)	375	(66.1)
East of England	332	(55.8)	325	(54.6)
Midlands and East	**878**	**(54.1)**	**960**	**(59.2)**
London	**550**	**(65.3)**	**439**	**(52.1)**
South East Coast	340	(74.7)	252	(55.4)
South Central	208	(48.9)	238	(56)
South West	265	(49.3)	282	(52.4)
South of England	**813**	**(57.3)**	**772**	**(54.4)**
England	**3206**	**(59.5)**	**3102**	**(57.6)**
Isle of Man	**7**	**(87.5)**	**7**	**(87.5)**
Channel Islands	**2**	**(12.5)**	**3**	**(18.8)**
Wales	**128**	**(41.6)**	**129**	**(41.9)**
Scotland	**259**	**(48.6)**	**251**	**(47.1)**
Northern Ireland	**72**	**(39.3)**	**63**	**(34.4)**
TOTAL[1]	**3700**	**(57.5)**	**3575**	**(55.6)**

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

10.5 Demographic characteristics

The age group, sex and ethnicity of cornea donors and transplant recipients are shown in **Table 10.6**.

Table 10.6 Demographic characteristics of deceased cornea donors and transplant recipients 1 April 2014 - 31 March 2015, in the UK

	Cornea only donors		Solid organ and cornea donors		Transplant recipients	
	N	(%)	N	(%)	N	(%)
Age group (years)						
0 - 17	8	(0)	5	(1)	47	(1)
18 - 34	56	(2)	23	(6)	517	(14)
35 - 49	142	(6)	85	(21)	443	(12)
50 - 59	315	(13)	106	(26)	351	(10)
60 - 69	688	(28)	121	(30)	627	(18)
70-79	893	(36)	59	(15)	868	(24)
80+	361	(15)	2	(0)	722	(20)
mean (SD)	68	(13)	56	(14)	61	(21)
Sex						
Male	1546	(63)	217	(54)	1918	(54)
Female	911	(37)	184	(46)	1657	(46)
Not reported	6	(0)				
Ethnicity						
White	1393	(57)	322	(80)	2924	(82)
Asian	15	(1)	9	(2)	306	(9)
Black	0	(0)	1	(0)	129	(4)
Chinese	1	(0)	2	(0)	16	(0)
Other	0	(0)	4	(1)	15	(0)
Not reported	1054	(43)	63	(16)	185	(5)
TOTAL	**2463**	**(100)**	**401**	**(100)**	**3575**	**(100)**

Survival Rates Following Transplantation

This chapter shows graft survival rates over time for kidney, pancreas and cornea transplants, and patient survival estimates for kidney, pancreas, cardiothoracic, liver and intestinal transplants, performed in the UK. Separate estimates are presented for adult and paediatric patients (using organ specific age definitions) and for transplants from donors after brain death and donors after circulatory death.

In all cases, the Kaplan-Meier estimate of the survivor function was used to provide the survival rate and groups (years) 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. Both analyses consider only first transplants.

11.1 Kidney graft and patient survival

11.1.1 Adult kidney recipients - donor after brain death (DBD)

Figure 11.1 shows long-term graft survival in adult (≥18 years) recipients for first kidney only transplant from donors after brain death. **Table 11.1** 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 time periods shown, p<0.01 in each case. **Table 11.2** 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 time periods shown, p<0.05 in each case.

Figure 11.1 Long-term graft survival after first adult kidney only transplant from donors after brain death, 1 January 2001 – 31 December 2013

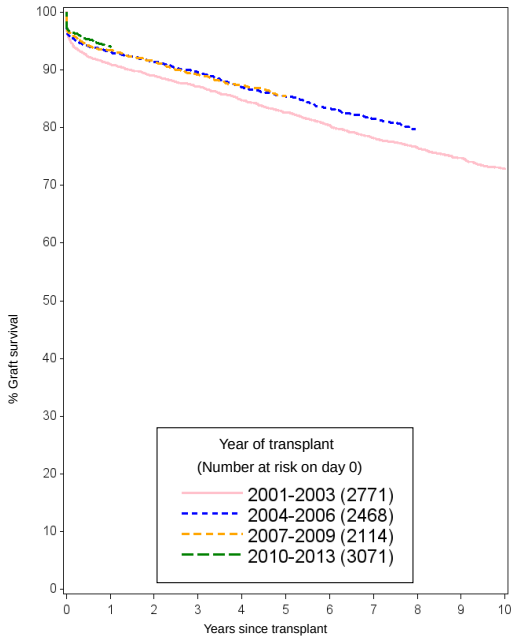


Table 11.1 Graft survival after first adult kidney only transplant from a DBD

Year of transplant	No. at risk on day 0	% Graft survival (95% confidence interval) One year		Two year		Five year		Ten year	
2001-2003	2771	91	(90-92)	89	(88-90)	83	(81-84)	73	(71-75)
2004-2006	2468	93	(92-94)	91	(90-92)	85	(84-87)		
2007-2009	2114	93	(92-94)	91	(90-93)	85	(84-87)		
2010-2013	3071	94	(93-95)						

Table 11.2 Patient survival after first adult kidney only transplant from a DBD

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Five year		Ten year	
2001-2003	2773	95	(94-96)	93	(92-94)	88	(86-89)	75	(73-76)
2004-2006	2471	97	(96-97)	95	(94-96)	90	(88-91)		
2007-2009	2114	96	(95-97)	95	(93-95)	89	(88-91)		
2010-2013	3073	96	(96-97)						

11.1.2 Adult kidney recipients - donor after circulatory death (DCD)

Long-term graft survival in adult recipients for kidney transplants from donors after circulatory death is shown in **Figure 11.2**. **Table 11.3** 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 time periods shown, p<0.04. One year graft and patient survival are comparable for DBD and DCD donor transplants in the most recent time periods. **Table 11.4** shows the patient survival estimates and confidence intervals for each time period analysed. There were no statistically significant changes in patient survival over time (p>0.4).

Figure 11.2 Long-term graft survival after first adult kidney only transplant from donors after circulatory death, 1 January 2001 – 31 December 2013

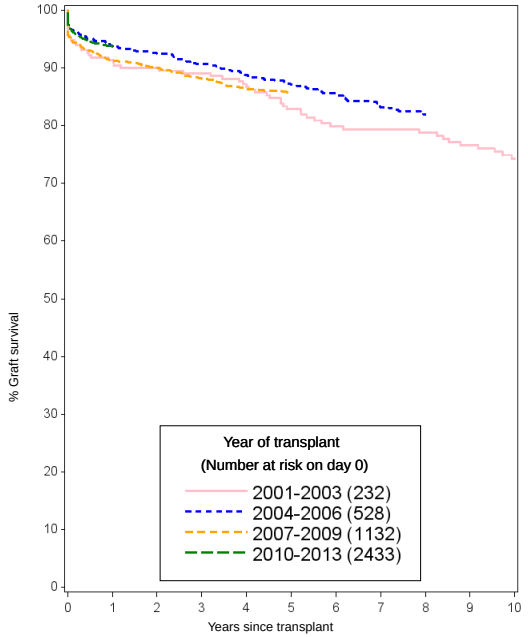


Table 11.3 Graft survival after first adult kidney only transplant from a DCD

Year of transplant	No. at risk on day 0	% Graft survival (95% confidence interval) One year		Two year		Five year		Ten year	
2001-2003	232	91	(87-94)	90	(85-93)	83	(77-87)	74	(68-80)
2004-2006	528	94	(91-96)	92	(90-94)	87	(84-90)		
2007-2009	1132	91	(89-93)	90	(88-92)	86	(84-88)		
2010-2013	2433	94	(93-95)						

Table 11.4 Patient survival after first adult kidney only transplant from a DCD

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Five year		Ten year	
2001-2003	232	96	(92-98)	94	(90-96)	87	(81-90)	71	(64-77)
2004-2006	529	95	(93-96)	93	(91-95)	86	(83-89)		
2007-2009	1132	96	(94-97)	94	(93-95)	88	(86-90)		
2010-2013	2432	96	(95-96)						

11.1.3 Adult kidney recipients - living donor

Long-term graft survival in adult recipients for living donor kidney transplants in the UK is shown in **Figure 11.3**. **Table 11.5** shows graft survival estimates and confidence intervals for each time period analysed. There has been a significant improvement in one year survival over the time periods shown, p<0.01. **Table 11.6** shows the patient survival estimates and confidence intervals for one, two, five and ten years post transplant. There were no statistically significant changes in patient survival over time (p>0.2).

Figure 11.3 Long-term graft survival after first adult living donor kidney only transplant in the UK, 1 January 2001 – 31 December 2013

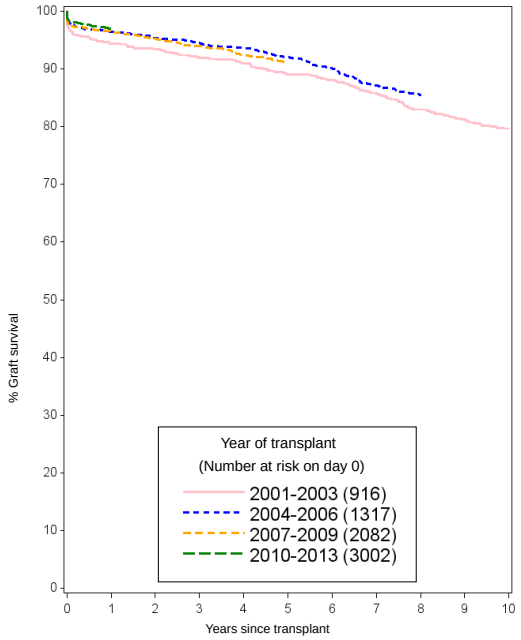


Table 11.5 Graft survival after first adult living donor kidney transplant

Year of transplant	No. at risk on day 0	% Graft survival (95% confidence interval) One year		Two year		Five year		Ten year	
2001-2003	916	94	(93-96)	93	(92-95)	89	(87-91)	80	(77-82)
2004-2006	1317	96	(95-97)	95	(94-96)	92	(90-93)		
2007-2009	2082	96	(95-97)	95	(94-96)	91	(90-92)		
2010-2013	3002	97	(96-98)						

Table 11.6 Patient survival after first adult living donor kidney transplant

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Five year		Ten year	
2001-2003	916	98	(97-99)	97	(96-98)	95	(94-97)	89	(87-91)
2004-2006	1316	99	(98-99)	98	(97-99)	96	(95-97)		
2007-2009	2082	99	(98-99)	98	(97-99)	95	(94-96)		
2010-2013	3001	99	(98-99)						

11.1.4 Paediatric kidney recipients - donor after brain death (DBD)

Figure 11.4 shows long-term graft survival in paediatric (<18 years) recipients for first kidney only transplants from donors after brain death. Graft survival estimates and confidence intervals are shown for each time period analysed in **Table 11.7**. There have been improvements in one year survival over the period analysed (p<0.05). **Table 11.8** shows the patient survival estimates and confidence intervals for one, two, five and ten years post-transplant. There were no statistically significant changes in patient survival over time (p>0.2).

Figure 11.4 Long-term graft survival after first paediatric kidney only transplant from donors after brain death, 1 January 2001 – 31 December 2013

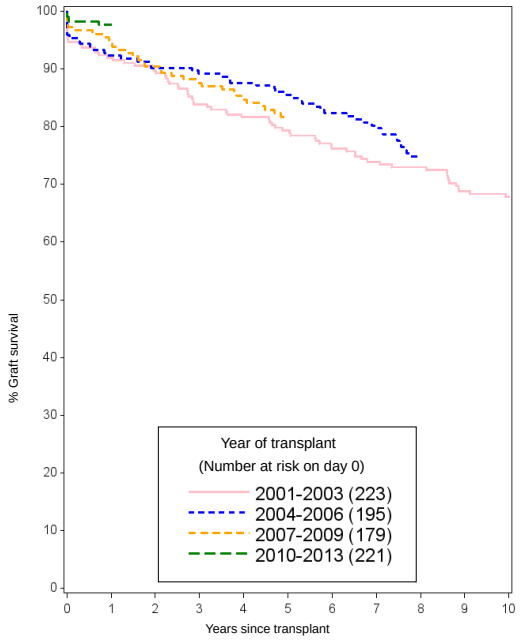


Table 11.7 Graft survival after first paediatric kidney only transplant from a DBD

Year of transplant	No. at risk on day 0	% Graft survival (95% confidence interval) One year		Two year		Five year		Ten year	
2001-2003	223	92	(87-95)	90	(85-93)	79	(73-84)	68	(61-74)
2004-2006	195	92	(88-95)	90	(85-94)	86	(80-90)		
2007-2009	179	94	(90-97)	90	(85-94)	82	(75-87)		
2010-2013	221	98	(95-99)						

Table 11.8 Patient survival after first paediatric kidney only transplant from a DBD

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Five year		Ten year	
2001-2003	224	100	(-)	100	(-)	99	(96-100)	96	(93-98)
2004-2006	196	99	(96-100)	99	(96-100)	99	(96-100)		
2007-2009	179	99	(96-100)	99	(96-100)	98	(95-99)		
2010-2013	221	100	(97-100)						

11.1.5 Paediatric kidney recipients - living donor

Long-term graft survival in paediatric recipients for living donor kidney transplants in the UK is shown in **Figure 11.5**. **Table 11.9** shows graft survival estimates and confidence intervals for each time period analysed. There were no statistically significant differences in graft survival over time (p>0.2). . **Table 11.10** shows the patient survival estimates and confidence intervals for one, two, five and ten years post-transplant. There was some evidence of significant differences in patient survival over time (p>0.06). There were insufficient paediatric recipients of first kidney only transplants from donors after circulatory death to permit reliable analysis.

Figure 11.5 Long-term graft survival after first paediatric living donor kidney only transplant in the UK, 1 January 2001 – 31 December 2013

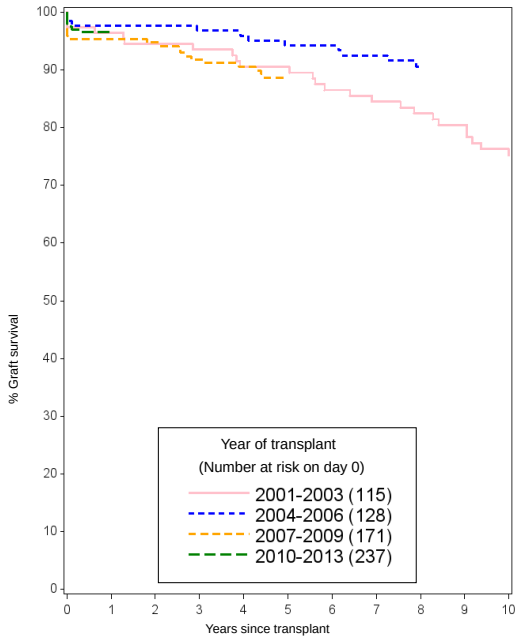


Table 11.9 Graft survival after first paediatric living donor kidney transplant

Year of transplant	No. at risk on day 0	% Graft survival (95% confidence interval) One year		Two year		Five year		Ten year	
2001-2003	115	96	(91-99)	94	(88-97)	91	(83-95)	75	(65-83)
2004-2006	128	98	(93-99)	98	(93-99)	94	(88-97)		
2007-2009	171	95	(91-98)	95	(90-97)	89	(83-93)		
2010-2013	237	97	(93-98)						

Table 11.10 Patient survival after first paediatric living donor kidney transplant

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Five year		Ten year	
2001-2003	115	96	(91-99)	96	(91-99)	95	(89-98)	92	(85-96)
2004-2006	128	100	(-)	100	(-)	100	(-)		
2007-2009	171	99	(95-100)	99	(95-100)	97	(93-99)		
2010-2013	237	99	(97-100)						

11.2 Pancreas graft and patient survival

11.2.1 Simultaneous kidney/pancreas transplants - donor after brain death (DBD)

National pancreas follow-up data are only available for transplants performed since 1 January 2001. There are insufficient data available to analyse long-term survival. **Figure 11.6** shows pancreas graft survival in recipients receiving their first simultaneous kidney/pancreas (SPK) transplant performed from donors after brain death, 2004 – 2006, 2007 - 2009 and 2010 - 2013. Graft and patient survival estimates and confidence intervals are shown at one year, two years and five years in **Table 11.11** and **Table 11.12** respectively. Results relate to adults only as there are no paediatric pancreas transplant recipients.

Figure 11.6 **Pancreas graft survival after first SPK transplant from donors after brain death, 1 January 2004 – 31 December 2013**

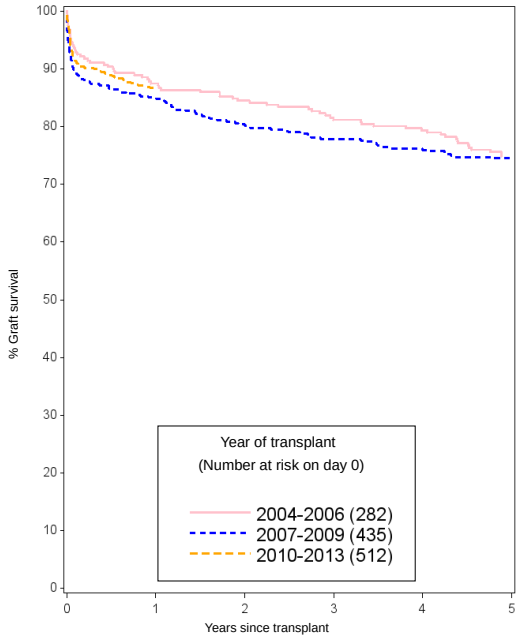


Table 11.11 **Graft survival after first SPK transplant from a DBD**

Year of transplant	No. at risk on day 0	% Graft survival (95% confidence interval) One year		Two year		Five year	
2004-2006	282	87	(83-91)	85	(80-88)	75	(69-80)
2007-2009	435	85	(81-88)	80	(76-84)	74	(70-78)
2010-2013	512	86	(83-89)				

Table 11.12 **Patient survival after first SPK transplant from a DBD**

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Five year	
2004-2006	284	94	(91-96)	92	(88-95)	88	(83-91)
2007-2009	436	96	(94-98)	94	(92-96)	90	(86-92)
2010-2013	514	96	(94-98)				

11.2.2 Simultaneous kidney/pancreas transplants - donor after circulatory death (DCD)

The majority of simultaneous kidney/pancreas (SPK) transplants from a DCD have been performed since 1 January 2007, so there are insufficient data available to analyse long-term survival. **Figure 11.7** shows pancreas graft survival in recipients receiving their first SPK transplant performed from donors after circulatory death, 2007-2009 and 2010 - 2013. Graft and patient survival estimates and confidence intervals are shown at one, two and three years in **Table 11.13** and **Table 11.14** respectively. Results are for adult patients only.

Figure 11.7 Pancreas graft survival after first SPK transplant from donors after circulatory death, 1 January 2007 – 31 December 2013

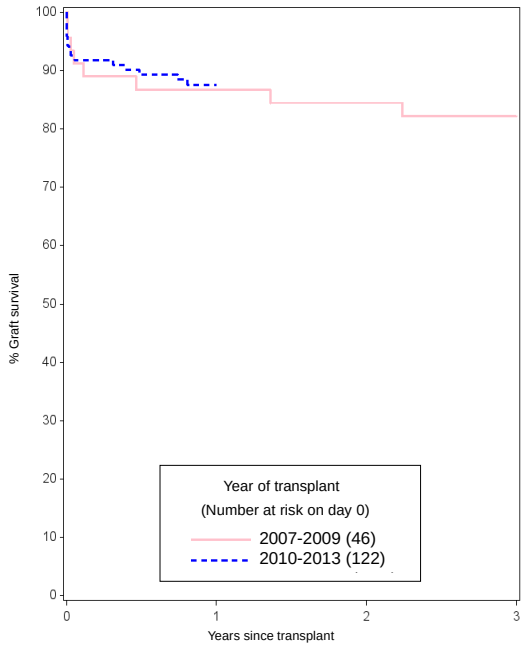


Table 11.13 Graft survival after first SPK transplant from a DCD

Year of transplant	No. at risk on day 0	% Graft survival (95% confidence interval) One year		Two year		Three year	
2007-2009	46	87	(73-94)	84	(70-92)	82	(67-91)
2010-2013	122	88	(80-92)				

Table 11.14 Patient survival after first SPK transplant from a DCD

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Three year	
2007-2009	47	96	(83-99)	93	(80-98)	93	(80-98)
2010-2013	122	98	(93-100)				

11.2.3 Pancreas only transplants - donor after brain death (DBD)

Figure 11.8 shows pancreas graft survival in recipients receiving their first pancreas only transplant performed from donors after brain death, 2004 - 2006, 2007 - 2009 and 2010 – 2013. Graft and patient survival estimates and confidence intervals are shown at one year, two years and five years in **Table 11.15** and **Table 11.16** respectively. Results are for adult patients only.

Figure 11.8 Pancreas graft survival after pancreas only transplant from donors after brain death, 1 January 2004 – 31 December 2013

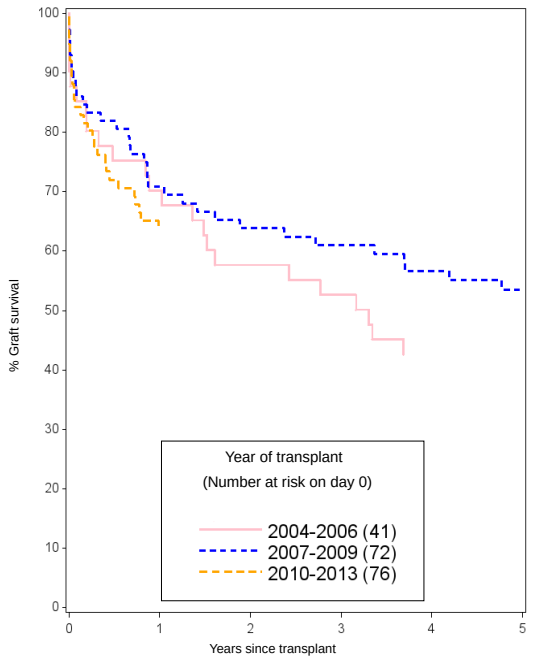


Table 11.15 Graft survival after first pancreas only transplant from a DBD

Year of transplant	No. at risk on day 0	% Graft survival (95% confidence interval) One year		Two year		Five year	
2004-2006	41	70	(53-82)	58	(41-71)	43	(27-57)
2007-2009	72	71	(59-80)	64	(52-74)	54	(41-64)
2010-2013	76	64	(52-73)				

Table 11.16 Patient survival after first pancreas only transplant from a DBD

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Five year	
2004-2006	42	98	(84-100)	95	(81-99)	95	(81-99)
2007-2009	73	94	(85-98)	93	(83-97)	85	(73-92)
2010-2013	76	97	(87-99)				

11.2.4 Pancreas only transplants - donor after circulatory death (DCD)

Figure 11.9 shows pancreas graft survival in recipients receiving their first pancreas only transplant performed from donors after brain death, 2007-2009 and 2010 - 2013. Graft and patient survival estimates and confidence intervals are shown at one, two and three years in **Table 11.17** and **Table 11.18** respectively. Results are for adult patients only.

Figure 11.9 Pancreas graft survival after pancreas only transplant from donors after circulatory death, 1 January 2007 – 31 December 2013

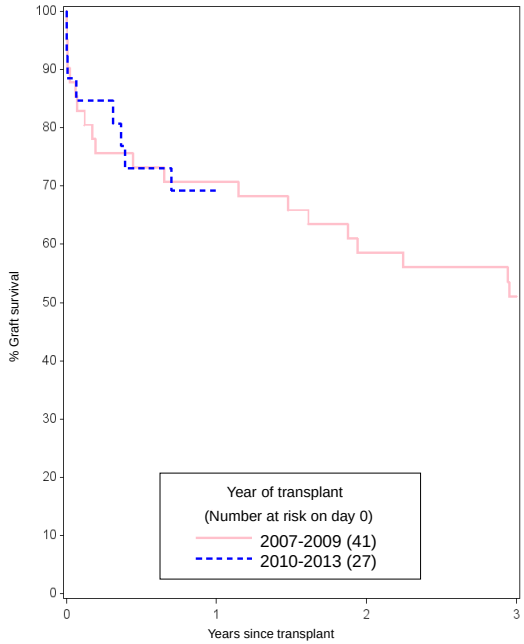


Table 11.17 Graft survival after first pancreas only transplant from a DCD

Year of transplant	No. at risk on day 0	% Graft survival (95% confidence interval) One year		Two year		Three year	
2007-2009	41	71	(54-82)	59	(42-72)	51	(35-65)
2010-2013	27	69	(48-83)				

Table 11.18 Patient survival after first pancreas only transplant from a DCD

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Three year	
2007-2009	41	97	(83-100)	97	(83-100)	94	(79-99)
2010-2013	27	96	(74-99)				

11.3 Cardiothoracic patient survival

11.3.1 Adult heart recipients

Long-term patient survival for adult (>=16 years) recipients after first heart only transplants is shown in **Figure 11.10**. Domino and deceased donor (DBD only) transplants are included as well as urgent patients. **Table 11.19** 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 over time (p>0.6).

Figure 11.10 Long-term patient survival after first adult heart only transplant in the UK, 1 January 2001 – 31 December 2013

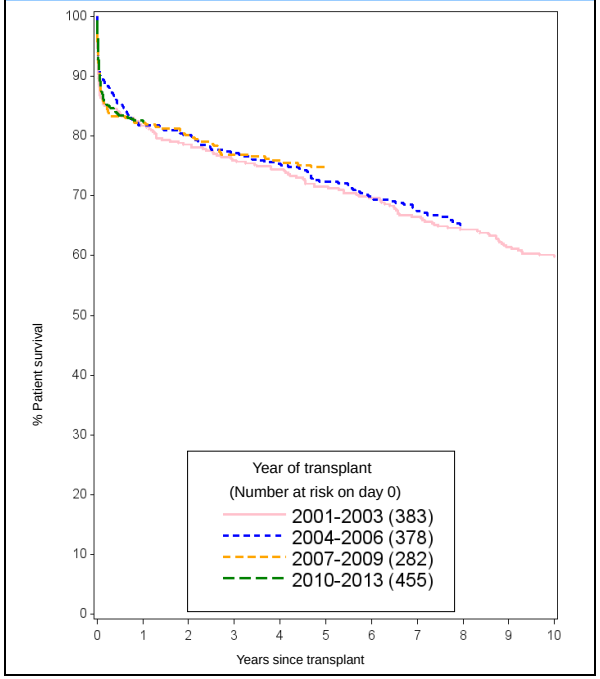


Table 11.19 Patient survival after first adult heart only transplant

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Five year		Ten year	
2001-2003	383	82	(77-85)	79	(74-82)	71	(67-76)	60	(55-65)
2004-2006	378	82	(77-85)	80	(76-84)	72	(68-77)		
2007-2009	282	82	(77-86)	80	(75-84)	75	(69-79)		
2010-2013	455	82	(79-86)						

11.3.2 Adult heart/lung block recipients

Patient survival for adult recipients after first heart/lung block transplants is shown in **Figure 11.11**. Patient survival estimates and confidence intervals for each time period analysed are shown in **Table 11.20**. There have been improvements in five year survival over the period analysed ($p<0.05$).

Figure 11.11 Long-term patient survival after first adult heart/lung block transplant in the UK, 1 January 2001 – 31 December 2013

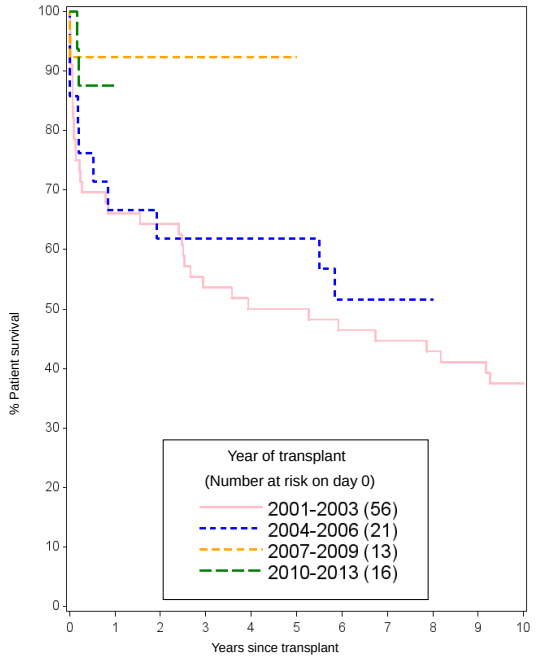


Table 11.20 Patient survival after first adult heart/lung block transplant

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Five year		Ten year	
2001-2003	56	66	(52-77)	64	(50-75)	50	(36-62)	37	(25-50)
2004-2006	21	67	(43-83)	62	(38-79)	62	(38-79)		
2007-2009	13	92	(57-99)	92	(57-99)	92	(57-99)		
2010-2013	16	88	(59-97)						

11.3.3 Adult lung recipients - donors after brain death (DBD)

Patient survival for adult recipients after first lung only transplant from donors after brain death is shown in **Figure 11.12**, with survival estimates and confidence intervals shown in **Table 11.21**. There were no statistically significant differences in patient survival over time (p>0.1).

Figure 11.12 Long-term patient survival after first adult lung only transplant from donors after brain death, 1 January 2001 – 31 December 2013

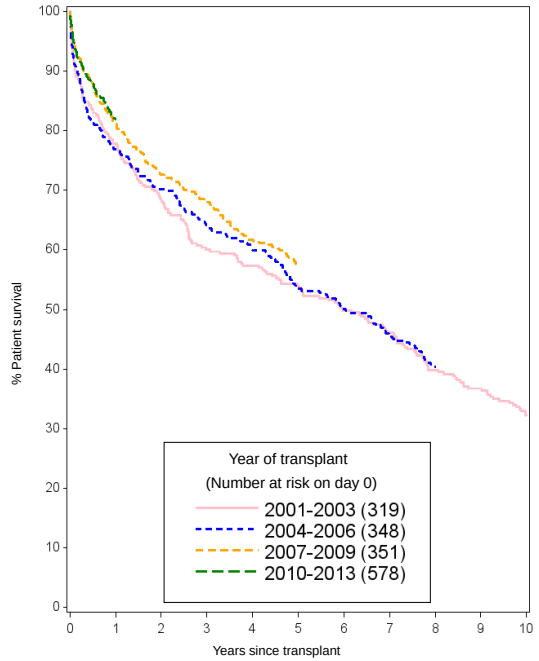


Table 11.21 Patient survival after first adult lung only transplant from a DBD

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Five year		Ten year	
2001-2003	319	78	(73-82)	68	(63-73)	54	(48-59)	32	(27-38)
2004-2006	348	77	(72-81)	70	(65-75)	53	(48-59)		
2007-2009	351	81	(77-85)	73	(68-77)	58	(52-63)		
2010-2013	578	82	(79-85)						

11.3.4 Adult lung recipients - donors after circulatory death (DCD)

The majority of lung transplants from a DCD have been performed since 1 January 2007, so there is insufficient data available to analyse long-term patient survival. Patient survival for adult recipients after first lung only transplant from donors after circulatory death is shown in **Figure 11.13**, with survival estimates and confidence intervals shown in **Table 11.22**.

Figure 11.13 Patient survival after first adult lung only transplant from donors after circulatory death, 1 January 2010 – 31 December 2013

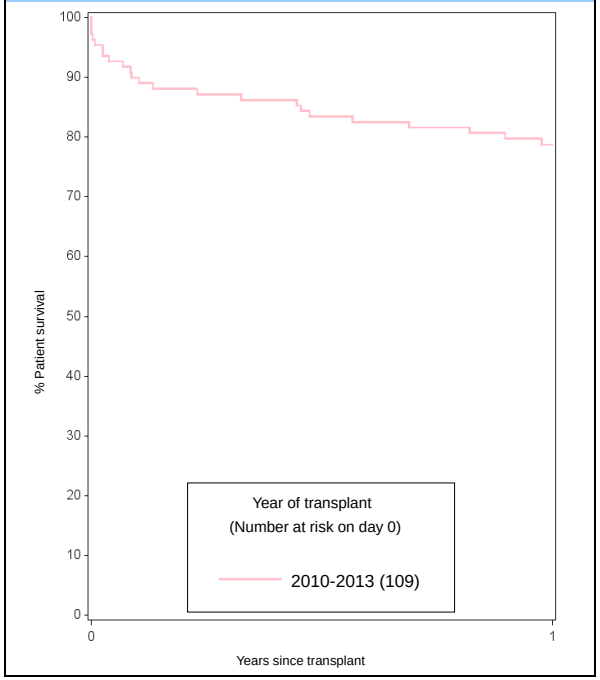


Table 11.22 Patient survival after first adult lung only transplant from a DCD

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year	
2010-2013	109	79	(70-85)

11.3.5 Paediatric heart recipients

Long-term patient survival for paediatric recipients after first heart only transplant is shown in **Figure 11.14**. Domino and deceased donor transplants (DBD donors only) are included as well as transplants for urgent patients. **Table 11.23** shows the patient survival estimates and confidence intervals for one, two, five and ten years post-transplant. There is no evidence of an improvement in one, two or five year survival over the time period analysed, p>0.5. The number of paediatric lung and heart/lung transplant recipients was too small for analysis.

Figure 11.14 Long-term patient survival after first paediatric heart only transplant in the UK, 1 January 2001 – 31 December 2013

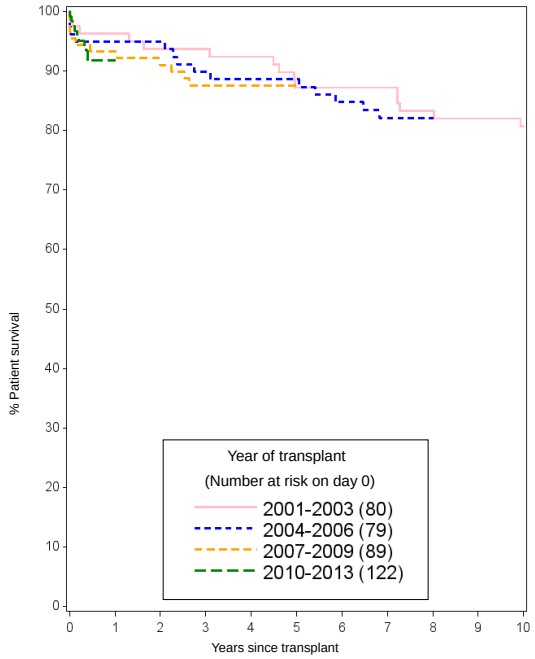


Table 11.23 Patient survival after first paediatric heart only transplant

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Five year		Ten year	
2001-2003	80	96	(89-99)	94	(85-97)	87	(77-93)	81	(70-88)
2004-2006	79	95	(87-98)	95	(87-98)	89	(79-94)		
2007-2009	89	93	(86-97)	91	(83-95)	88	(79-93)		
2010-2013	122	92	(85-95)						

11.4 Liver patient survival

11.4.1 Adult recipients - donor after brain death (DBD)

Long-term patient survival for adult (>=17 years) recipients after first elective liver only transplants from donors after brain death is shown in **Figure 11.15**. **Table 11.24** shows patient survival estimates at one, two, five and ten years post-transplant. There have been significant improvements in one, two and five year patient survival over the time periods analysed, p<0.002 in each case.

Figure 11.15 Long-term patient survival after first elective adult liver only transplant from donors after brain death, 1 January 2001 – 31 December 2013

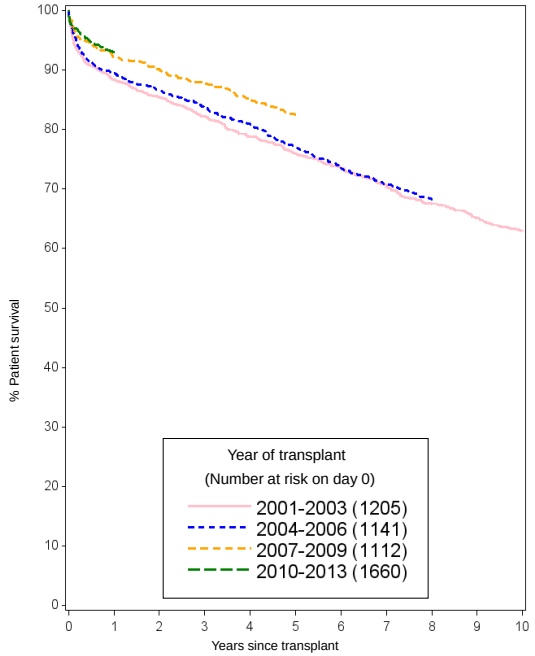


Table 11.24 Patient survival after first elective adult liver only transplant from a DBD

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Five year		Ten year	
2001-2003	1205	88	(86-90)	85	(83-87)	76	(73-78)	63	(60-66)
2004-2006	1141	90	(88-91)	87	(84-88)	77	(74-79)		
2007-2009	1112	92	(90-94)	90	(88-92)	82	(80-85)		
2010-2013	1660	93	(92-94)						

11.4.2 Adult recipients - donor after circulatory death (DCD)

Patient survival for adult (>=17 years) recipients after first elective liver only transplants from donors after circulatory death is shown in **Figure 11.16**. Between 1 January 2002 and 31 December 2005 there were only 34 of these liver transplants, so it is not possible to estimate long term patient survival. **Table 11.25** shows patient survival estimates at one, two and three years post transplant.

Figure 11.16 Liver patient survival after first elective adult liver only transplant from donors after circulatory death, 1 January 2007 – 31 December 2013

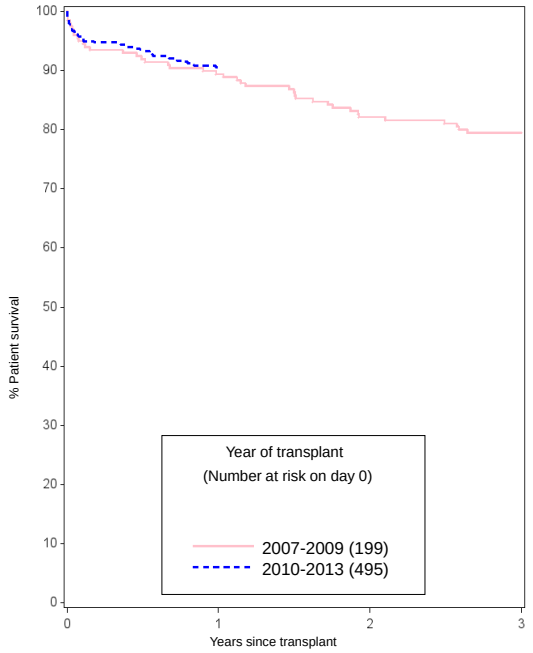


Table 11.25 Patient survival after first elective adult liver only transplant from a DCD

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Three year	
2007-2009	199	89	(84-93)	82	(76-87)	79	(73-84)
2010-2013	495	91	(88-93)				

11.4.3 Paediatric recipients - donor after brain death (DBD)

Figure 11.17 and **Table 11.26** show long-term patient survival estimates for first elective liver only transplants from donors after brain death in paediatric (<17 years) recipients. There have been no statistically significant improvements in one, two or five year patient survival over the time period analysed (p>0.4). The number of paediatric transplants from donors after circulatory death was too small to estimate meaningful patient survival.

Figure 11.17 **Long-term patient survival after first elective paediatric liver only transplant from donors after brain death, 1 January 2001 – 31 December 2013**

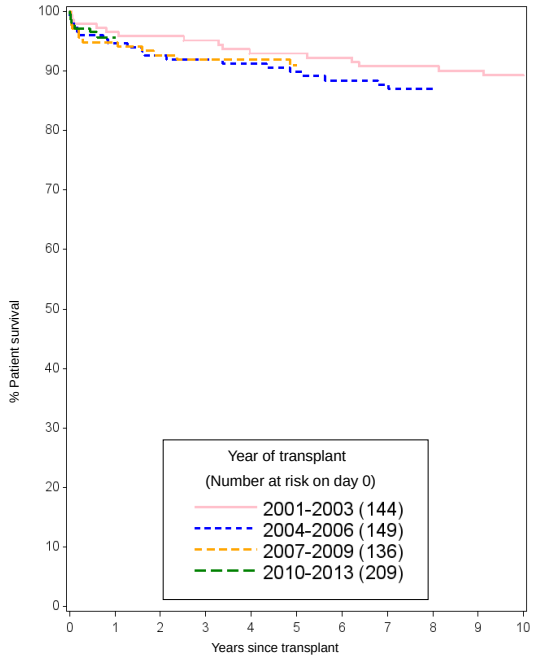


Table 11.26 **Patient survival after first elective paediatric liver only transplant from a DBD**

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Five year		Ten year	
2001-2003	144	97	(92-99)	96	(91-98)	93	(87-96)	89	(83-93)
2004-2006	149	95	(90-97)	93	(87-96)	90	(84-94)		
2007-2009	136	95	(90-98)	93	(87-96)	91	(85-95)		
2010-2013	209	96	(92-98)						

11.5 Intestinal patient survival

The majority of intestinal transplants have been performed since 1 January 2006, so there are insufficient data available to analyse long-term patient survival. **Figure 11.18** and **Table 11.27** show one, two and three years patient survival estimates for recipients receiving their first intestinal transplant, 2006-2009 and 2010-2013, by recipient age group (adults aged ≥ 18 years).

Figure 11.18 Patient survival after first intestinal graft in the UK, 1 January 2006 – 31 December 2013

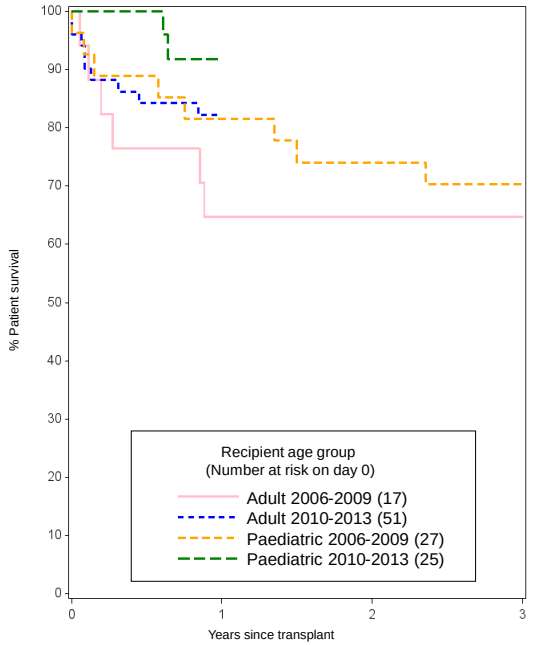


Table 11.27 Patient survival after first intestinal transplant in the UK, 1 January 2006 - 31 December 2013

Year of transplant	No. at risk on day 0	% Patient survival (95% confidence interval) One year		Two year		Three year	
Adult							
2006-2009	17	65	(38-82)	65	(38-82)	65	(38-82)
2010-2013	51	82	(69-90)				
Paediatric							
2006-2009	27	81	(61-92)	74	(53-87)	70	(49-84)
2010-2013	25	92	(71-98)				

11.6 Cornea graft survival

Good quality cornea follow-up data were only available for transplants performed since 1 April 1999. There are insufficient data available to analyse long-term survival effects. **Figure 11.19** shows graft survival estimates for first penetrating keratoplasty (PK) for grafts 2004 - 2006, 2007 - 2009 and 2010 - 2013. Graft survival estimates and confidence intervals are shown by transplant year at one, two and five years in **Table 11.28.**

Figure 11.19 Cornea graft survival after first PKP graft in the UK, 1 January 2004 – 31 December 2013

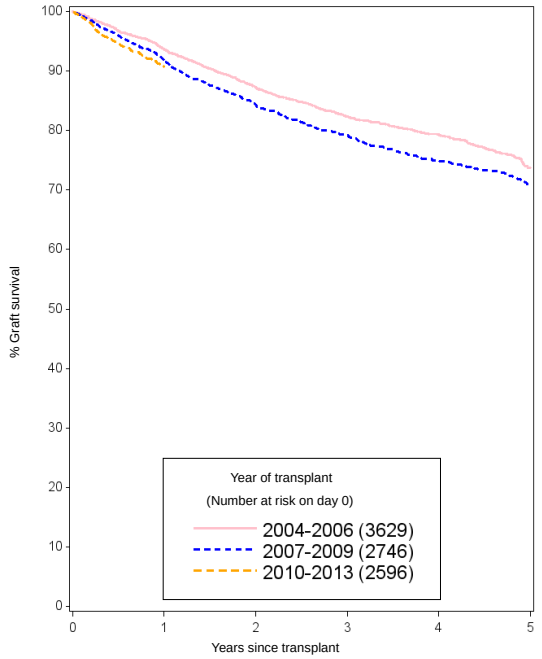


Table 11.28 Cornea graft survival after first PK in the UK

Year of transplant	No. at risk on day 0	% Graft survival (95% confidence interval) One year		Two year		Five year	
2004-2006	3629	94	(93-94)	87	(86-88)	74	(72-75)
2007-2009	2746	92	(91-93)	84	(83-86)	71	(69-73)
2010-2013	2596	91	(90-92)				

NHS Organ Donor Register

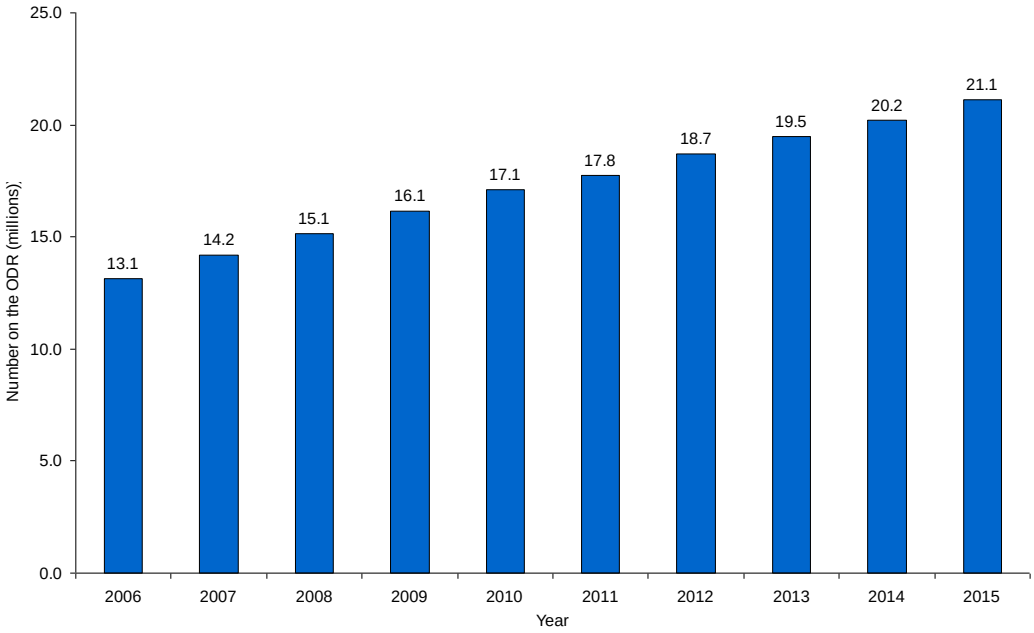
Key messages

- **21.1 million people on the ODR at March 2015 (33% of the population)**
- **43% of the 1,282 deceased organ donors last year were on the ODR**
- **54% of 960,084 registrations last year were through the Driver and Vehicle Licensing Agency (DVLA)**

By the end of March 2015 the NHS Organ Donor Register (ODR) held just under 21.1 million registrations. A summary of the number of registrations at the end of each financial year from 31 March 2006 to 31 March 2015 is shown **Figure 12.1**. During the year data on the register were continually reviewed and validated with people known to have died, withdrawn from the list and duplicate registrations resolved.

Of the 1,282 deceased organ donors in 2014-2015, 43% were registered on the ODR compared with 41% of organ donors in 2013-2014. Similarly, 49% of cornea-only donors in 2014-2015 were registered on the ODR compared with 43% in 2013-2014.

Figure 12.1 Number on the NHS Organ Donor Register at 31 March



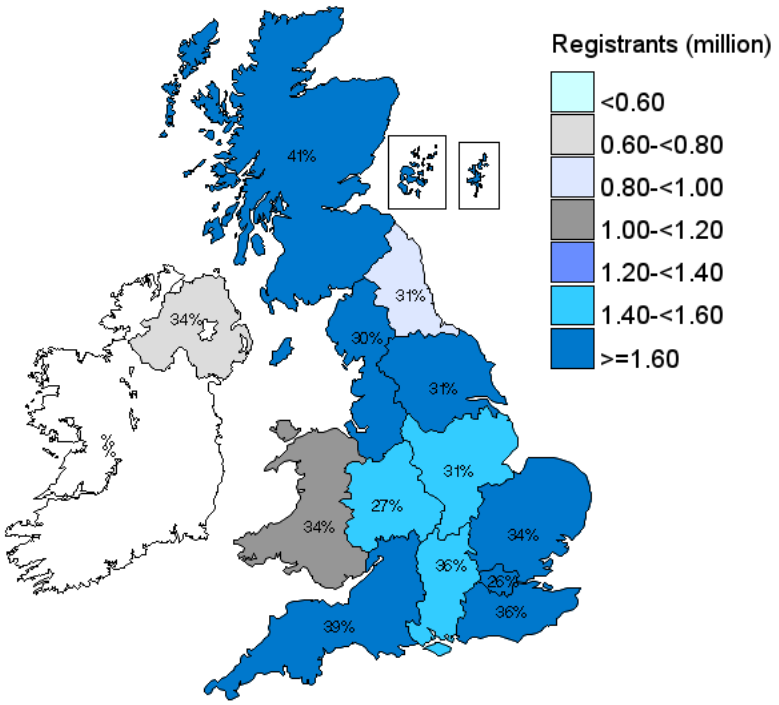
Those registered on the ODR come from all parts of the UK. **Table 12.1** shows the percentage of the population registered in each country/Strategic Health Authority at 31 March 2015, and the number of registrants. This information is also illustrated in **Figure 12.2**. No adjustment has been made for any differences in demographics of the populations.

Table 12.1 Registrations on the NHS Organ Donor Register by 31 March 2015, by country/ Strategic Health Authority

Country/ Strategic Health Authority	Registrants		
	N	pmp	Proportion registered
North East	817,342	313,158	31%
North West	2,155,257	303,557	30%
Yorkshire and The Humber	1,652,954	309,542	31%
North of England	**4,625,553**	**307,346**	**31%**
East Midlands	1,432,187	311,345	31%
West Midlands	1,527,816	269,456	27%
East of England	2,040,481	342,938	34%
Midlands and East	**5,000,484**	**308,291**	**31%**
London	**2,228,762**	**264,699**	**26%**
South East Coast	1,660,152	364,869	36%
South Central	1,533,500	360,824	36%
South West	2,119,353	393,932	39%
South of England	**5,313,005**	**374,683**	**37%**
England	**17,167,804**	**318,690**	**32%**
Isle of Man	**11,984**	**149,800**	**15%**
Channel Islands	**16,326**	**102,038**	**10%**
Wales	**1,046,459**	**339,759**	**34%**
Scotland	**2,167,004**	**406,567**	**41%**
Northern Ireland	**618,543**	**338,002**	**34%**
TOTAL[1]	**21,097,353**	**327,853**	**33%**

[1] Includes 69,233 registrants where the postcode was unknown

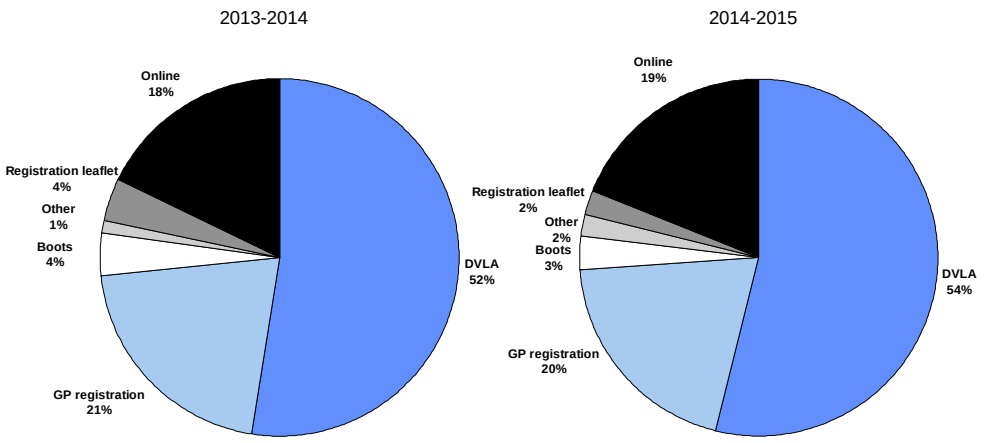
Figure 12.2 Proportion of population registered on the NHS Organ Donor Register by 31 March 2015, by Strategic Health Authority



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 the Family Health Services Authorities); with driving licence applications and reminders (via the Driver and Vehicle Licensing Agency (DVLA)); from the Passport Agency when applying for a new passport; when applying for a Boots Advantage Card; online registrations via the Organ Donation and Transplantation (ODT) website (www.odt.nhs.uk) and by telephone.

The source of applications for registration on the ODR is illustrated in **Figure 12.3**. This figure shows that 20% of registrations in 2014-2015 arrived by means of registering through a GP, 54% from driving licence applications and reminders through the DVLA and 19% online through the ODT website.

Figure 12.3 Source of applications for registration on the NHS Organ Donor Register, 1 April 2013 - 31 March 2015



At the end of March 2015, 88% of registrants, 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 (89%) did not wish to donate their corneas. Of the restricted registrations, only 7% (less than 1% of the total register) did not wish to donate their kidneys. Willingness to donate, by organ type, is shown in **Table 12.2**.

Table 12.2 Preparedness of those registered on the NHS Organ Donor Register at 31 March 2015 to donate different organs[1]

Registrants prepared to donate all organs 88%

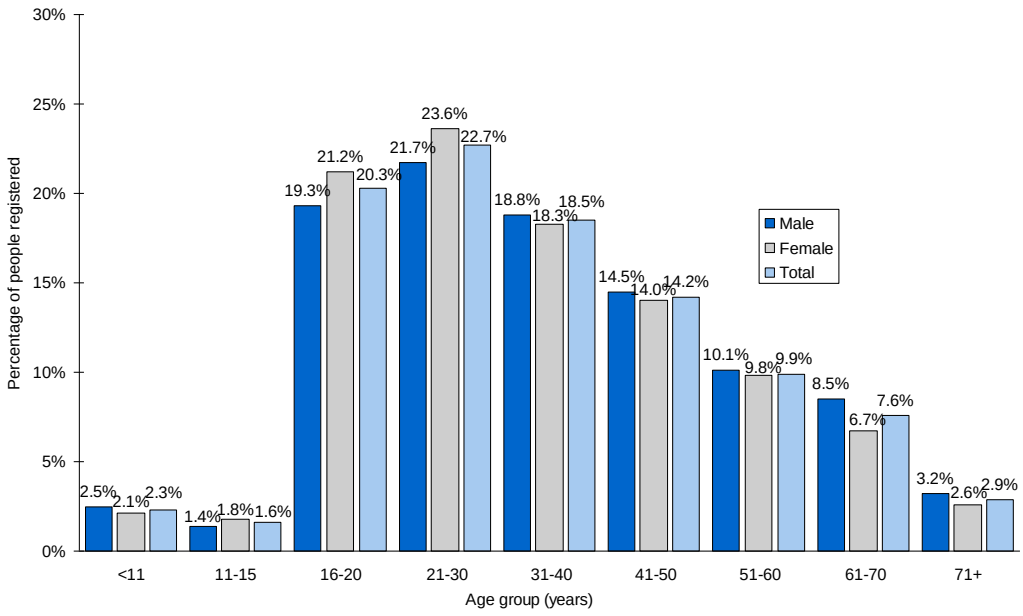
Of those not prepared to donate all organs ('restricted donors'):

Not prepared to donate:	% of 'Restricted donors'	% of all registrants
Kidney	7	0.8
Pancreas	22	2.7
Heart	23	2.8
Lungs	21	2.5
Liver	13	1.5
Corneas	89	10.7

[1] This information was not available for approximately 5% of the total register

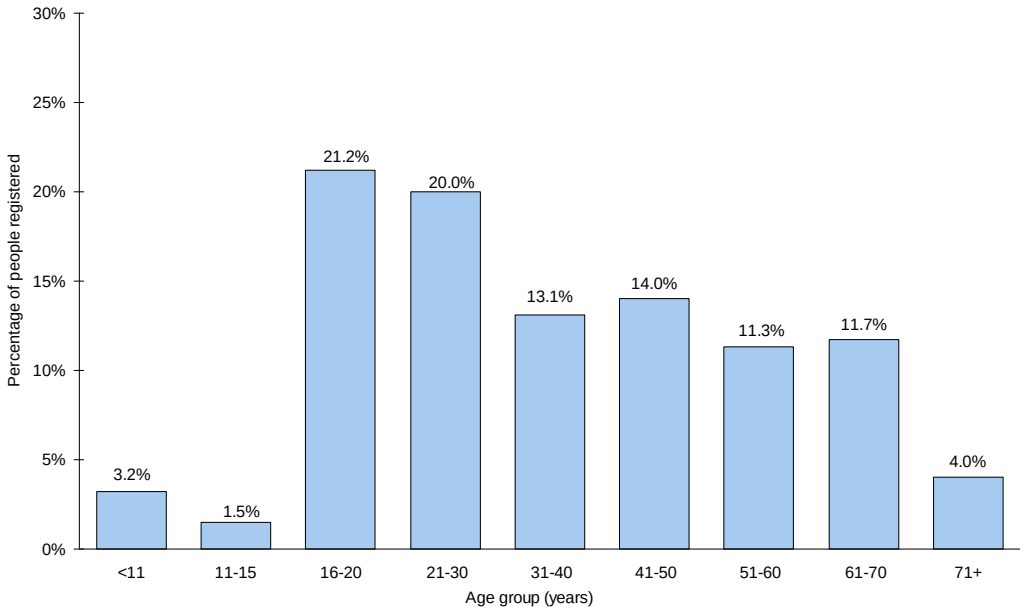
People of all ages are eligible for organ donor registration: the distribution of age by sex at time of registration is shown in **Figure 12.4**. The highest proportion of registrations (21.7% of males and 23.6% of females) are in the 21-30 years age group. The lowest proportions are in the under 11 and 11-15 age groups. Of all people registered on the NHS Organ Donor Register, 46% are male and 53% are female (<1% unknown).

Figure 12.4 Age and gender of people registered on the NHS Organ Donor Register by 31 March 2015



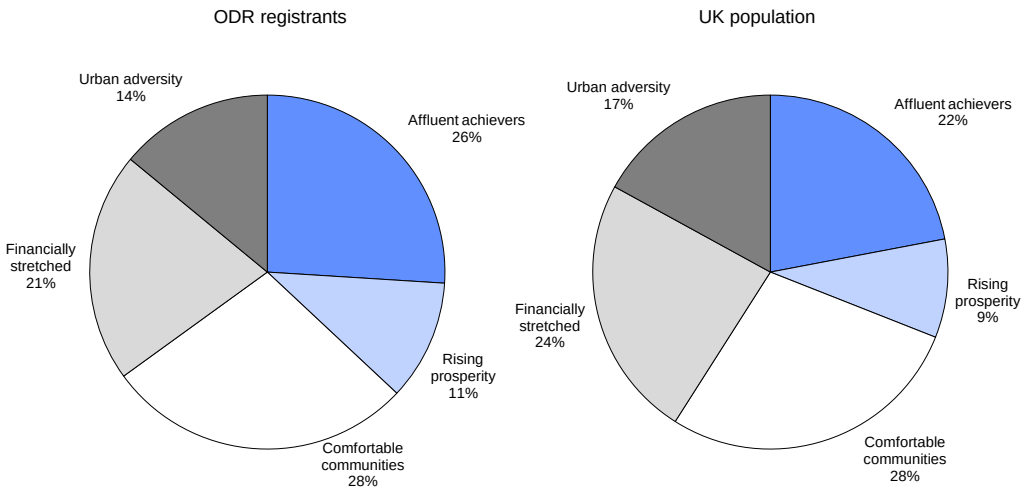
Additionally, the distribution of age of people registering on the ODR during the latest financial year, 2014-2015, is shown in **Figure 12.5**. The highest proportion of registrations in this year were in the 16-20 years age group. Of the registrants in 2014-2015, 49% were male and 51% were female.

Figure 12.5 Age of people registered on the NHS Organ Donor Register between 1 April 2014 and 31 March 2015



The breakdown of registrants on the ODR during 2014-2015 by socio-economic group (using the ACORN[1] classification, based on postcode) is shown in **Figure 12.6**, where it is compared with the general UK population. Though having basically similar distributions, there were proportionately more 'affluent achievers' and less 'urban adversity' on the ODR than in the general population.

Figure 12.6 Registrants on the NHS Organ Donor Register, 1 April 2014 - 31 March 2015, and the general population, by socio-economic group



[1] ACORN data supplied by CACI Ltd.

National Potential Donor Audit

Key messages

- **There were 36,145 audited deaths reported through the Potential Donor Audit in the financial year to 31 March 2015, including 1273 (99%) of the 1282 deceased organ donors**
- **Improvements have been observed in the overall referral rate of potential donors (from 76% to 80%) and the proportion of approaches involving a Specialist Nurse - Organ Donation (from 76% to 78%).**
- **A decrease in the overall consent/authorisation rate has been observed since last year (from 59% to 58%). A significant difference in the consent/authorisation rates for white patients and patients from ethnic minority groups is still apparent (61% and 37%, respectively)**
- **The consent/authorisation rate is 88% when a patient's wish is known at the time of potential donation, but 120 families overruled their loved one's known wish to be an organ donor**

13.1 Introduction

In this chapter, summary data from the National Potential Donor Audit (PDA) are shown for 1 April 2014 to 31 March 2015 and data from the previous three financial years are also provided for comparison purposes. The data comprise all audited patient deaths in UK Intensive Care Units (ICUs) and emergency departments, excluding wards and patients over 80 years of age, in the time period. The data are based on information received by 11 May 2015.**The number of solid organ donors reported in this chapter will differ from that shown in the rest of the report, due to the national PDA excluding specific patients.**

13.2 Definitions

All data shown in this chapter use the following definitions.

Eligible donors after brain death (DBD) are defined as patients for whom death was confirmed following neurological tests and who had no absolute medical contraindications to solid organ donation.

Eligible donors after circulatory death (DCD) are defined as patients who had treatment withdrawn and death was anticipated within four hours, with no absolute medical contraindications to solid organ donation.

Absolute medical contraindications to organ donation are listed here: http://www.odt.nhs.uk/pdf/contraindications_to_organ_donation.pdf

Imminent death anticipated patients who are not confirmed dead using neurological criteria, receiving assisted ventilation, a clinical decision to withdraw treatment has been made and death is anticipated within four hours.

Neurological death suspected patients who meet all of the following criteria: apnoea, coma from known aetiology and unresponsive, ventilated, fixed pupils. Excluding those for whom cardiac arrest occurred despite resuscitation, brain stem reflexes returned, and neonates less than 2 months post term.

The neurological death testing rate is the percentage of patients for whom neurological death was suspected who were tested.

The referral rate is the percentage of patients for whom neurological death was suspected, or imminent death was anticipated, that were discussed with the Specialist Nurse - Organ Donation (SN-OD).

The approach rate is the percentage of eligible donor families approached for consent to/authorisation for donation.

The proportion of approaches involving a SN-OD is the percentage of eligible donor families approached where a SN-OD was involved.

The consent/authorisation rate is the percentage of eligible donor families approached about donation that consented to/authorised donation.

13.3 Breakdown of audited deaths in ICUs and emergency departments

In the 12-month period there were a total of 36,145 audited patient deaths in the UK. **Figures 13.1** and **13.2** show a detailed breakdown from the number of audited patient deaths to the number of solid organ donors for potential DBD and DCD donors, respectively. In total, 5,636 patients meeting the PDA criteria died in circumstances that would enable donation.

Table 13.1 shows the key percentages calculated from the flow chart information. Consent/authorisation rates have also been provided for cases where the SN-OD was/was not involved in the approach to the family and/or whether the patient's wish to be a donor was known at the time of potential donation. **Figure 13.3** uses the flow chart information to illustrate the stages where opportunities are lost pre-donation.

Figure 13.1 Donation after brain death

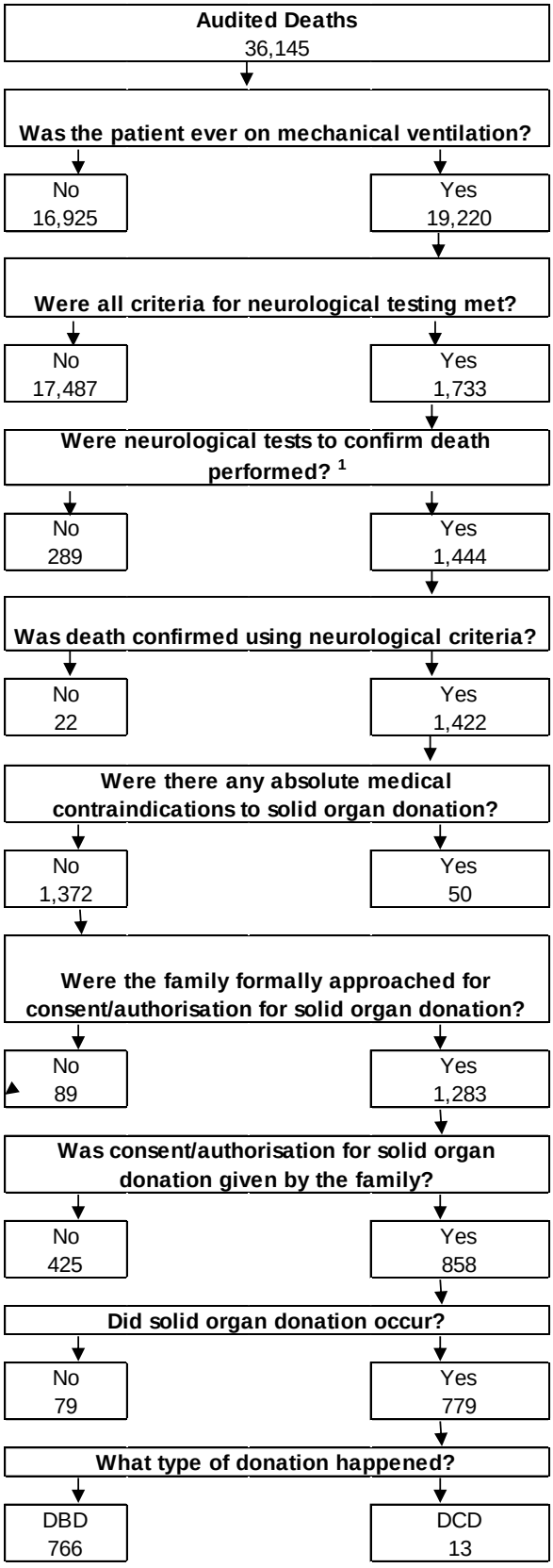
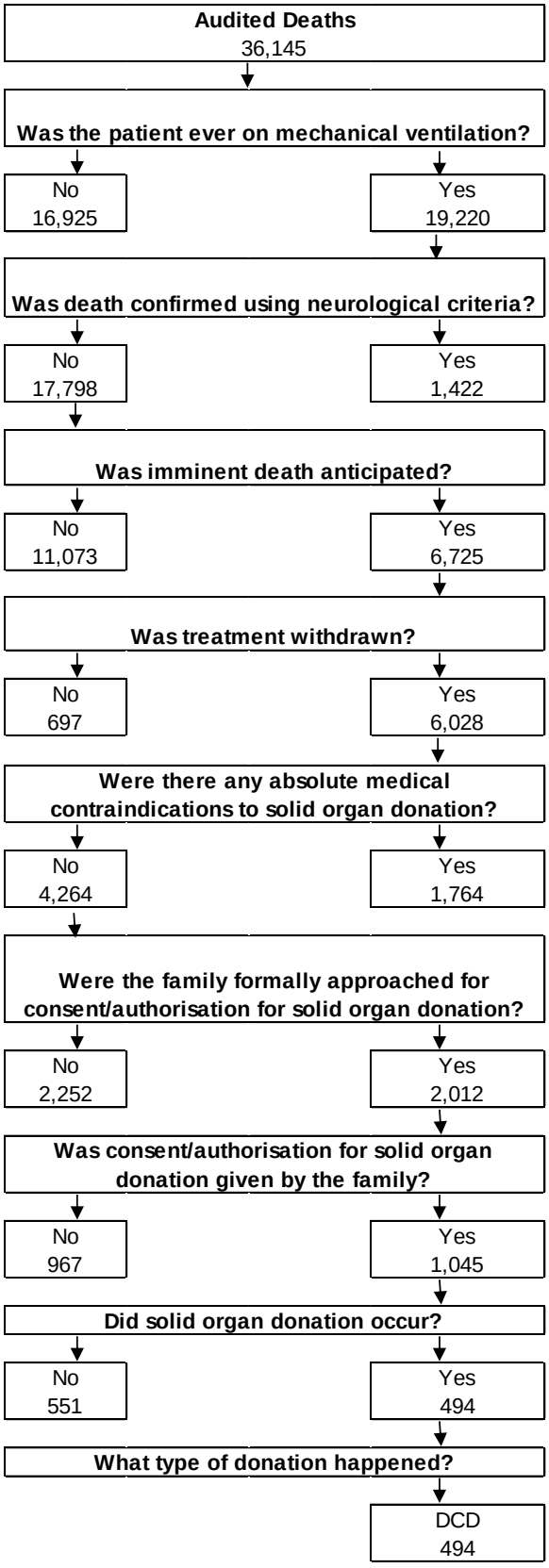


Figure 13.2 Donation after circulatory death



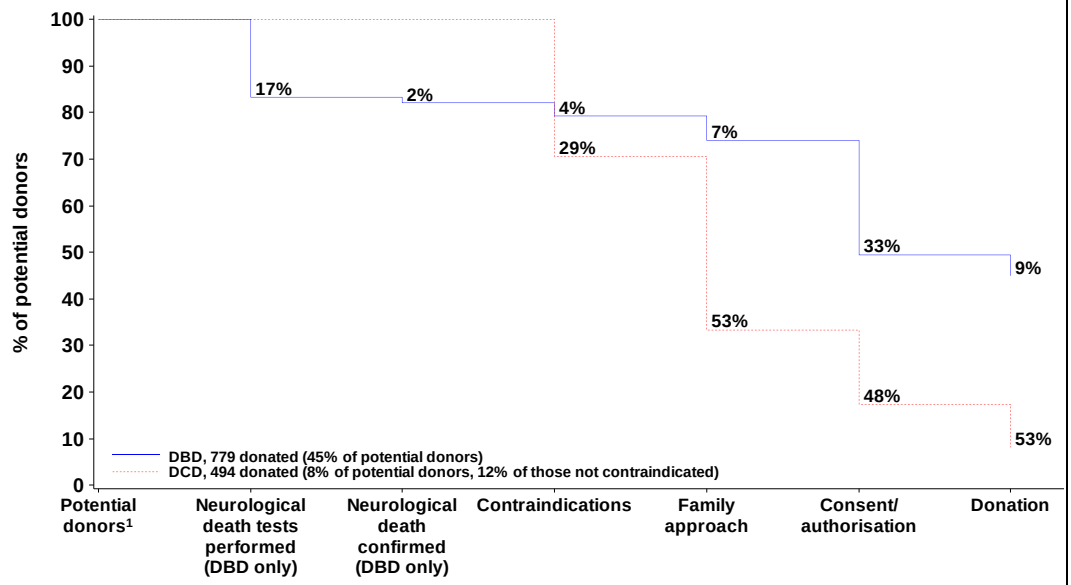
[1] Patients for whom tests were not performed due to; cardiac arrest despite resuscitation occurred, brainstem reflexes returned, or neonates - less than 2 months post term are excluded from the calculation of the neurological death testing rate

Table 13.1 Summary of key percentages, 1 April 2014 to 31 March 2015

	DBD	DCD	ALL
Neurological death testing rate	83.3%		
Referral rate	96.3%	76.3%	80.4%
Approach rate	93.5%	47.2%	58.5%
Proportion of approaches involving a SN-OD	86.7%	72.4%	77.9%
Consent/authorisation rate	66.9%	51.9%	57.8%
- when SN-OD not involved in approach	49.1%	26.8%	32.0%
- when SN-OD involved in approach	69.6%	61.5%	65.0%
- when patient had not expressed a wish to donate or the patient's ODR status was not known at the time of potential donation	52.5%	38.2%	43.4%
- when patient on ODR and status known at time of potential donation	92.0%	84.4%	87.7%
- when patient's wish (by any method) is known at time of potential donation*	92.8%	85.2%	88.5%
- when SN-OD involved in approach and patient known to be on ODR at time of potential donation	94.4%	88.2%	91.0%

* 120 families overruled their loved one's known wish to be an organ donor

Figure 13.3 Stages at which potential organ donors lose the opportunity to become actual donors, 1 April 2014 to 31 March 2015



1 Potential DBD donor - A patient who meets all four criteria for neurological death testing excluding those for which cardiac arrest occurred despite resuscitation, brain stem reflexes returned, and neonates less than 2 months post term
Potential DCD donor - A patient who had treatment withdrawn and death was anticipated within four hours

13.4 Eligible donors

The number of eligible donors (as defined earlier) and rates per million population (pmp) are shown in **Table 13.2**, by country/Strategic Health Authority (SHA). The number of actual donors pmp can be found in Table 3.2 of Chapter 3. Eligible DBD ranged from 13.9 pmp in East Midlands SHA to 35.0 pmp in London SHA. Eligible DCD ranged from 53.8 pmp in South East Coast SHA to 107.3 pmp in North East SHA. Across the countries, there was a range of 64.7 eligible donors pmp in Scotland to 106.8 eligible donors pmp in Wales. Overall, there were 1,372 eligible DBD (21.3 pmp) and 4,264 eligible DCD (66.3 pmp) in the UK, resulting in a total of 87.6 eligible donors per million population. **Tables 13.3** and **13.4** show more detailed information by country/SHA for DBD and DCD data, respectively.

Table 13.2 Eligible donor rates per million population (pmp), in the UK, 1 April 2014 to 31 March 2015, by country/ Strategic Health Authority

	Eligible DBD		Eligible DCD		**TOTAL**	
Country/ Strategic Health Authority of donation	N	(pmp)	N	(pmp)	**N**	**(pmp)**
North East	81	(31.0)	280	(107.3)	**361**	**(138.3)**
North West	138	(19.4)	606	(85.4)	**744**	**(104.8)**
Yorkshire and the Humber	95	(17.8)	299	(56.0)	**394**	**(73.8)**
North of England	**314**	**(20.9)**	**1185**	**(78.7)**	**1499**	**(99.6)**
East Midlands	64	(13.9)	251	(54.6)	**315**	**(68.5)**
West Midlands	114	(20.1)	444	(78.3)	**558**	**(98.4)**
East of England	103	(17.3)	419	(70.4)	**522**	**(87.7)**
Midlands and East	**281**	**(17.3)**	**1114**	**(68.7)**	**1395**	**(86.0)**
London	**295**	**(35.0)**	**509**	**(60.5)**	**804**	**(95.5)**
South East Coast	71	(15.6)	245	(53.8)	**316**	**(69.5)**
South Central	76	(17.9)	240	(56.5)	**316**	**(74.4)**
South West	110	(20.4)	308	(57.2)	**418**	**(77.7)**
South of England	**257**	**(18.1)**	**793**	**(55.9)**	**1050**	**(74.0)**
England	**1147**	**(21.3)**	**3601**	**(66.8)**	**4748**	**(88.1)**
Isle of Man	**6**	**(75.0)**	**4**	**(50.0)**	**10**	**(125.0)**
Channel Islands	**2**	**(12.5)**	**7**	**(43.8)**	**9**	**(56.3)**
Wales	**49**	**(15.9)**	**280**	**(90.9)**	**329**	**(106.8)**
Scotland	**108**	**(20.3)**	**237**	**(44.5)**	**345**	**(64.7)**
Northern Ireland	**60**	**(32.8)**	**135**	**(73.8)**	**195**	**(106.6)**
TOTAL	**1372**	**(21.3)**	**4264**	**(66.3)**	**5636**	**(87.6)**

Table 13.3 DBD key metrics from the Potential Donor Audit, 1 April 2014 to 31 March 2015, by country/ Strategic Health Authority

Country/ Strategic Health Authority of donation	Number of patients where neurological death was suspected	Neurological death testing rate (%)	DBD referral rate (%)	Number of eligible DBD donors	Number of eligible DBD donors whose family were approached	DBD approach rate (%)	Percentage of DBD approaches that involved a SN-OD (%)	DBD consent/ authorisation rate (%)
North East	90	94.4	100.0	81	74	91.4	93.2	67.6
North West	172	86.6	96.5	138	129	93.5	93.0	62.0
Yorkshire and the Humber	119	84.0	98.3	95	88	92.6	93.2	68.2
North of England	**381**	**87.7**	**97.9**	**314**	**291**	**92.7**	**93.1**	**65.3**
East Midlands	90	74.4	96.7	64	60	93.8	78.3	66.7
West Midlands	156	77.6	96.2	114	105	92.1	70.5	68.6
East of England	132	81.8	92.4	103	97	94.2	85.6	69.1
Midlands and East	**378**	**78.3**	**95.0**	**281**	**262**	**93.2**	**77.9**	**68.3**
London	**353**	**88.7**	**97.7**	**295**	**274**	**92.9**	**93.8**	**58.8**
South East Coast	93	79.6	96.8	71	70	98.6	98.6	72.9
South Central	108	74.1	97.2	76	71	93.4	91.5	69.0
South West	136	83.8	99.3	110	101	91.8	82.2	80.2
South of England	**337**	**79.5**	**97.9**	**257**	**242**	**94.2**	**89.7**	**74.8**
England	**1449**	**83.6**	**97.1**	**1147**	**1069**	**93.2**	**88.8**	**66.5**
Isle of Man	**6**	**100.0**	**100.0**	**6**	**6**	**100.0**	**0.0**	**83.3**
Channel Islands	**3**	**66.7**	**66.7**	**2**	**2**	**100.0**	**0.0**	**50.0**
Wales	**70**	**72.9**	**92.9**	**49**	**47**	**95.9**	**93.6**	**70.2**
Scotland	**131**	**85.5**	**91.6**	**108**	**102**	**94.4**	**63.7**	**68.6**
Northern Ireland	**74**	**83.8**	**93.2**	**60**	**57**	**95.0**	**84.2**	**66.7**
TOTAL	**1733**	**83.3**	**96.3**	**1372**	**1283**	**93.5**	**86.7**	**66.9**

Table 13.4 DCD key metrics from the Potential Donor Audit, 1 April 2014 to 31 March 2015, by country/ Strategic Health Authority

Country/ Strategic Health Authority of donation	Number of patients for whom imminent death was anticipated	DCD referral rate (%)	Number of eligible DCD donors	Number of eligible DCD donors whose family were approached	DCD approach rate (%)	Percentage of DCD approaches that involved a SN-OD (%)	DCD consent/ authorisation rate (%)
North East	436	90.8	280	124	44.3	71.0	56.5
North West	900	74.3	606	211	34.8	83.4	54.5
Yorkshire and the Humber	600	82.7	299	135	45.2	80.7	48.9
North of England	**1936**	**80.6**	**1185**	**470**	**39.7**	**79.4**	**53.4**
East Midlands	431	67.1	251	125	49.8	66.4	56.8
West Midlands	671	68.0	444	194	43.7	55.2	44.3
East of England	569	83.5	419	236	56.3	76.7	56.4
Midlands and East	**1671**	**73.0**	**1114**	**555**	**49.8**	**66.8**	**52.3**
London	**847**	**80.4**	**509**	**244**	**47.9**	**87.7**	**54.1**
South East Coast	403	71.5	245	119	48.6	84.9	65.5
South Central	427	65.3	240	110	45.8	72.7	42.7
South West	501	78.0	308	179	58.1	63.1	55.3
South of England	**1331**	**72.0**	**793**	**408**	**51.5**	**72.1**	**54.9**
England	**5785**	**76.4**	**3601**	**1677**	**46.6**	**74.7**	**53.5**
Isle of Man	**10**	**50.0**	**4**	**0**	**0.0**	**-**	**-**
Channel Islands	**7**	**71.4**	**7**	**3**	**42.9**	**33.3**	**33.3**
Wales	**370**	**77.0**	**280**	**124**	**44.3**	**72.6**	**40.3**
Scotland	**310**	**72.3**	**237**	**143**	**60.3**	**45.5**	**43.4**
Northern Ireland	**243**	**77.8**	**135**	**65**	**48.1**	**73.8**	**53.8**
TOTAL	**6725**	**76.3**	**4264**	**2012**	**47.2**	**72.4**	**51.9**

Tables 13.5 and **13.6** show more detailed information on the key metrics by Organ Donation Services Team (ODST) for DBD and DCD data, respectively. Specialist Nurses for Organ Donation (SN-ODs) work within an ODST, which covers an area of the UK. As seen in **Table 13.5**, the neurological death testing rate was highest for the Northern team, the DBD referral rate was highest for the Northern team, the DBD approach rate was highest for the South Wales team and the proportion of DBD approaches involving a SN-OD was highest for the South East team. **Table 13.6** indicates that for DCD patients, the highest referral rate was for the Northern team, the highest approach rate was for the South West team and the proportion of DCD approaches involving a SN-OD was highest for the London team. No account has been taken of the demographics of the populations within the teams which may impact on the rates presented.

Table 13.5 DBD key metrics from the Potential Donor Audit, 1 April 2014 to 31 March 2015, by Organ Donation Services Team (ODST)

ODST	Number of patients where neurological death was suspected	Neurological death testing rate (%)	DBD referral rate (%)	Number of eligible DBD donors	Number of eligible DBD donors whose family were approached	DBD approach rate (%)	Percentage of DBD approaches that involved a SN-OD (%)	DBD consent/ authorisation rate (%)
Eastern	139	82.0	92.8	109	103	94.5	86.4	69.9
London	274	89.4	97.1	230	212	92.2	92.9	54.7
Midlands	215	78.1	96.3	159	148	93.1	70.3	65.5
North West	181	86.7	96.7	145	135	93.1	95.6	63.0
Northern	98	94.9	100.0	89	82	92.1	89.0	67.1
Northern Ireland	74	83.8	93.2	60	57	95.0	84.2	66.7
Scotland	131	85.5	91.6	108	102	94.4	63.7	68.6
South Central	124	74.2	97.6	87	80	92.0	90.0	72.5
South East	187	83.4	97.9	150	146	97.3	97.3	71.9
South Wales	62	67.7	91.9	41	40	97.6	92.5	72.5
South West	111	82.9	99.1	89	81	91.0	80.2	80.2
Yorkshire	137	81.0	97.8	105	97	92.4	93.8	70.1
TOTAL	**1733**	**83.3**	**96.3**	**1372**	**1283**	**93.5**	**86.7**	**66.9**

Table 13.6	DCD key metrics from the Potential Donor Audit, 1 April 2014 to 31 March 2015, by Organ Donation Services Team (ODST)						
ODST	Number of patients for whom imminent death was anticipated	DCD referral rate (%)	Number of eligible DCD donors	Number of eligible DCD donors whose family were approached	DCD approach rate (%)	Percentage of DCD approaches that involved a SN-OD (%)	DCD consent/ authorisation rate (%)
Eastern	595	82.2	431	238	55.2	76.5	56.3
London	692	82.2	430	200	46.5	86.5	51.5
Midlands	946	68.2	615	293	47.6	56.7	47.8
North West	940	74.7	643	208	32.3	86.1	53.4
Northern	502	87.5	321	141	43.9	66.0	55.3
Northern Ireland	243	77.8	135	65	48.1	73.8	53.8
Scotland	310	72.3	237	143	60.3	45.5	43.4
South Central	504	68.1	289	133	46.0	75.2	45.1
South East	594	72.9	344	171	49.7	86.5	63.7
South Wales	284	78.9	215	115	53.5	74.8	43.5
South West	420	76.4	257	156	60.7	59.6	55.8
Yorkshire	695	79.1	347	149	42.9	82.6	51.0
TOTAL	**6725**	**76.3**	**4264**	**2012**	**47.2**	**72.4**	**51.9**

Table 13.7 shows key metrics separately for patients meeting the PDA criteria who were referred in an ICU or an emergency department (irrespective of where the patient died), for DBD and DCD, respectively. Note that the total number of patients in this table and the associated rates do not match the other tables throughout this chapter as **Table 13.7** is based on the subset of patients who were referred to the ODST.

Table 13.8 shows key metrics separately for adult and paediatric patients, for DBD and DCD, respectively. Note that of the 101 paediatric patients for whom neurological death was suspected, tests were not performed on 40 patients.

Table 13.7 DBD and DCD key metrics from the Potential Donor Audit, 1 April 2014 to 31 March 2015, by unit where patient referred from, for patients who met the PDA criteria and were referred

Eligible donor type	Unit where patient was referred from	Number of patients who were referred[1]	Neurological death testing rate (%)	Number of eligible donors	Number of eligible donors whose family were approached	Approach rate (%)	Percentage of approaches involving a SN-OD (%)	Consent/ authorisation rate (%)	Number of actual donors[2]
DBD	Critical care	1488	86.8	1223	1141	93.3	86.9	65.0	671
	Emergency dept.	181	77.3	139	138	99.3	87.7	84.1	108
	TOTAL	**1669**	**85.7**	**1362**	**1279**	**93.9**	**86.9**	**67.1**	**779**
DCD	Critical care	4740		3129	1689	54.0	76.0	54.1	430
	Emergency dept.	388		330	248	75.2	69.8	53.2	64
	TOTAL	**5128**		**3459**	**1937**	**56.0**	**75.2**	**53.9**	**494**

[1] DBD referral criteria: patients where neurological death was suspected; DCD referral criteria: patients for whom imminent death was anticipated
[2] Actual donors resulting from eligible DBD donors includes 12 DCD donors referred from critical care and 1 DCD donor referred from emergency departments

Table 13.8 DBD and DCD key metrics from the Potential Donor Audit, 1 April 2014 to 31 March 2015, by age group

Eligible donor type	Age group	Number of patients who met referral criteria[1]	Neurological death testing rate (%)	Referral rate (%)	Number of eligible donors	Number of eligible donors whose family were approached	Approach rate (%)	Percentage of approaches involving a SN-OD (%)	Consent/ authorisation rate (%)	Number of actual donors[2]
DBD	Adult (>=18)	1632	84.1	96.7	1303	1225	94.0	86.9	67.0	747
	Paediatric (<18)	101	70.3	90.1	69	58	84.1	82.8	63.8	32
	TOTAL	**1733**	**83.3**	**96.3**	**1372**	**1283**	**93.5**	**86.7**	**66.9**	**779**
DCD	Adult (>=18)	6480		77.0	4095	1935	47.3	72.9	52.7	480
	Paediatric (<18)	245		55.5	169	77	45.6	59.7	32.5	14
	TOTAL	**6725**		**76.3**	**4264**	**2012**	**47.2**	**72.4**	**51.9**	**494**

[1] DBD referral criteria: patients where neurological death was suspected; DCD referral criteria: patients for whom imminent death was anticipated
[2] Actual donors resulting from eligible DBD donors includes 1 DCD donor under 18 years of age and 12 DCD donors aged 18 years and over

13.5 Consent/ authorisation rates

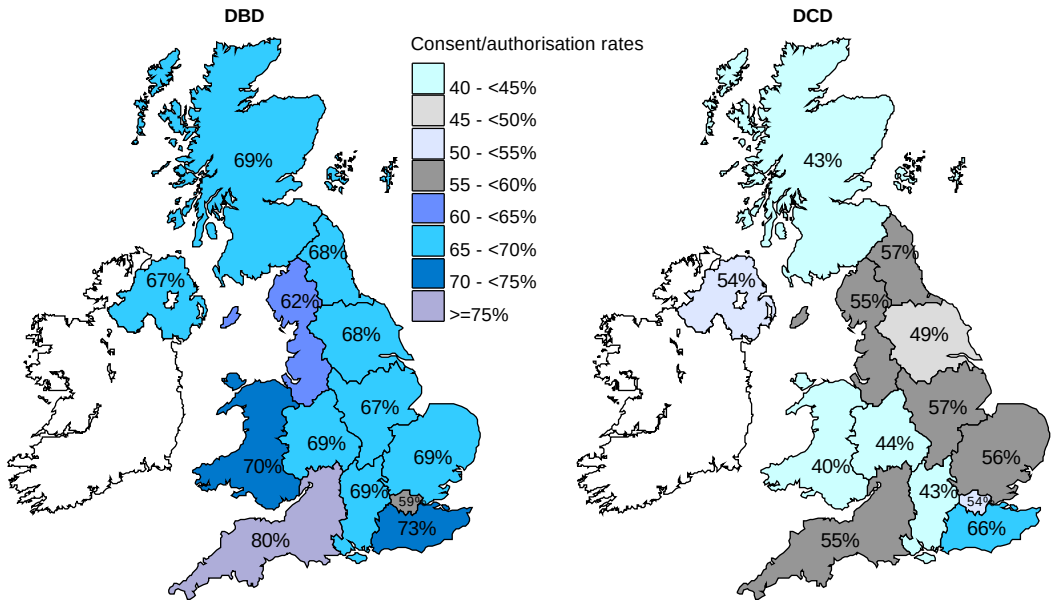
The overall DBD consent/authorisation rate was 66.9% and the 95% confidence limits for this percentage are 64.3% - 69.5%. For DCD, the overall rate was 51.9% and the 95% confidence limits are 49.7% - 54.1%.

Consent/authorisation rates by country/Strategic Health Authority are illustrated in **Figure 13.4** and by Organ Donation Services Team in **Figure 13.5** for both DBD and DCD. Caution should be applied when interpreting these consent/authorisation rates as no adjustment has been made for the mix of patients in terms of age, sex and ethnicity.

Across the countries and SHAs, the DBD consent/authorisation rates range from 58.8% in London to 80.2% in South West. DCD consent/authorisation rates range from 40.3% in Wales to 65.5% in South East Coast.

The overall consent/authorisation rates (combining DBD and DCD) for England, Wales, Scotland and Northern Ireland were 58.6%, 48.5%, 53.9% and 59.8%, respectively.

Figure 13.4 Consent/authorization rates by English SHA/country



Across the Organ Donation Services Teams, the DBD consent/authorisation rates range from 54.7% in the London team to 80.2% in the South West team. DCD consent/authorisation rates range from 43.4% in the Scotland team to 63.7% in the South East team.

Figure 13.5 Consent/authorization rates by Organ Donation Services Team

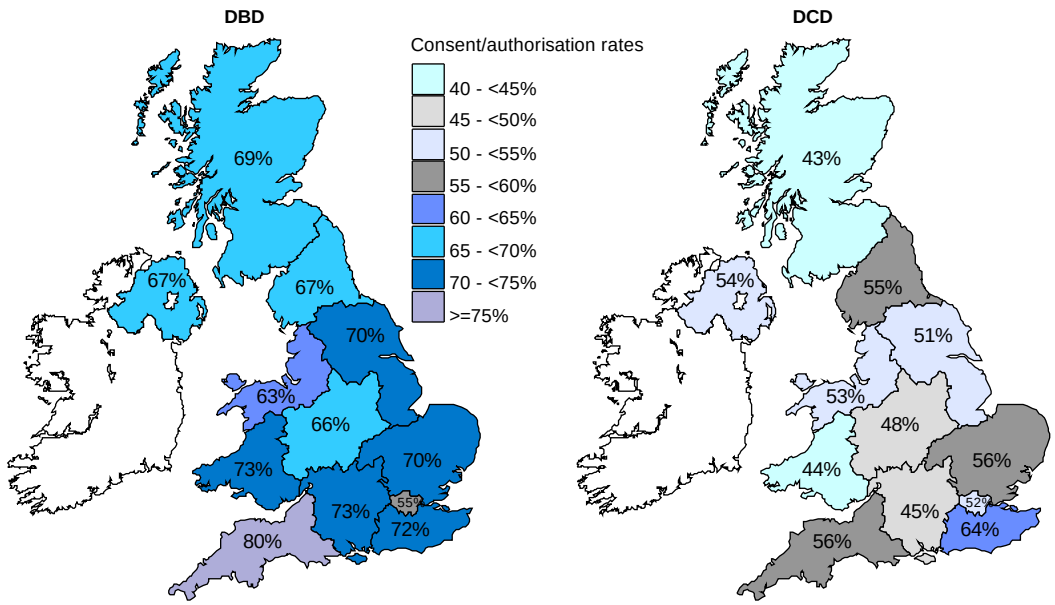


Table 13.9 shows the consent/authorisation rate separately for white patients and patients from ethnic minority groups. The DBD consent/authorisation rates for white patients and patients from ethnic minority groups were 70% and 39%, respectively. A smaller, but still significant, difference was observed for DCD consent/authorisation rates: 55% and 33%, respectively. Note that there were an additional 29 DBD and 90 DCD families approached where the ethnicity was not known or not reported.

The Northern, Scotland, South Wales and South West teams each accounted for less than 3% of families from ethnic minority groups approached for a decision about organ donation, whereas London accounted for 42%. Most teams had a very small proportion, therefore accounting for some of the variation observed in overall consent/authorisation rates between teams. Note that consent/authorisation rates have not been provided where the number of families approached is less than ten.

Table 13.9 DBD and DCD consent/authorisation rates from the Potential Donor Audit, 1 April 2014 to 31 March 2015, by Organ Donation Services Team (ODST) and ethnicity

	White eligible donors					Eligible donors from ethnic minority groups					All
ODST	Number of eligible DBD donors whose family were approached	DBD consent/ authorisation rate (%)	Number of eligible DCD donors whose family were approached	DCD consent/ authorisation rate (%)	Overall consent/ authorisation rate (%)	Number of eligible DBD donors whose family were approached	DBD consent/ authorisation rate (%)	Number of eligible DCD donors whose family were approached	DCD consent/ authorisation rate (%)	Overall consent/ authorisation rate (%)	Overall consent/ authorisation rate (%) [1]
Eastern	93	73.1	220	59.1	**63.3**	10	40.0	10	30.0	**35.0**	**60.4**
London	138	63.8	147	54.4	**58.9**	72	36.1	44	45.5	**39.7**	**53.2**
Midlands	127	69.3	256	52.7	**58.2**	18	38.9	24	20.8	**28.6**	**53.7**
North West	121	64.5	188	56.4	**59.5**	13	46.2	7	-	**35.0**	**57.1**
Northern	78	67.9	128	58.6	**62.1**	2	-	4	-	**-**	**59.6**
Northern Ireland	56	67.9	65	53.8	**60.3**	1	-	0	-	**-**	**59.8**
Scotland	98	68.4	131	45.0	**55.0**	2	-	5	-	**-**	**53.9**
South Central	75	76.0	117	49.6	**59.9**	3	-	9	-	**8.3**	**55.4**
South East	121	75.2	159	64.8	**69.3**	22	54.5	10	50.0	**53.1**	**67.5**
South Wales	38	71.1	106	44.3	**51.4**	0	-	3	-	**-**	**51.0**
South West	69	81.2	140	59.3	**66.5**	3	-	3	-	**-**	**64.1**
Yorkshire	85	74.1	143	52.4	**60.5**	9	-	3	-	**25.0**	**58.5**
TOTAL	**1099**	**70.4**	**1800**	**54.8**	**60.7**	**155**	**39.4**	**122**	**32.8**	**36.5**	**57.8**

[1] Includes 119 families approached where the ethnicity was not known or not reported

13.6 Specialist Nurse - Organ Donation (SN-OD) involvement

Table 13.10 shows the proportion of family approaches that involved a SN-OD, for DBD and DCD separately, and overall. Nationally, 87% of DBD and 72% of DCD family approaches involved a SN-OD, but there is wide variation between teams. **Table 13.11** shows the effect on the consent/authorisation rate when a SN-OD is involved or not involved in the approach to a family for a decision about organ donation. Evidence shows that the family is more likely to consent to/authorise donation when a trained SN-OD is involved in the approach and this is particularly apparent for eligible DCD donors. Again, there is wide variation between teams.

Caution should be applied when interpreting these rates as no account has been taken of approaches initiated by the family, ODR status or ethnicity.

Table 13.10 Percentage of family approaches involving a Specialist Nurse - Organ Donation (SN-OD) from the Potential Donor Audit, 1 April 2014 to 31 March 2015, by Organ Donation Services Team (ODST)

	DBD			DCD			All
ODST	Number of eligible DBD donors whose family were approached	Number of eligible DBD donors where SN-OD involved in approach	Percentage of DBD approaches that involved a SN-OD (%)	Number of eligible DCD donors whose family were approached	Number of eligible DCD donors where SN-OD involved in approach	Percentage of DCD approaches that involved a SN-OD (%)	Overall percentage of DBD/DCD approaches that involved a SN-OD (%)
Eastern	103	89	86.4	238	182	76.5	**79.5**
London	212	197	92.9	200	173	86.5	**89.8**
Midlands	148	104	70.3	293	166	56.7	**61.2**
North West	135	129	95.6	208	179	86.1	**89.8**
Northern	82	73	89.0	141	93	66.0	**74.4**
Northern Ireland	57	48	84.2	65	48	73.8	**78.7**
Scotland	102	65	63.7	143	65	45.5	**53.1**
South Central	80	72	90.0	133	100	75.2	**80.8**
South East	146	142	97.3	171	148	86.5	**91.5**
South Wales	40	37	92.5	115	86	74.8	**79.4**
South West	81	65	80.2	156	93	59.6	**66.7**
Yorkshire	97	91	93.8	149	123	82.6	**87.0**
TOTAL	**1283**	**1112**	**86.7**	**2012**	**1456**	**72.4**	**77.9**

Table 13.11 DBD and DCD consent/authorisation rates with/without SN-OD involvement from the Potential Donor Audit, 1 April 2014 to 31 March 2015, by Organ Donation Services Team (ODST)

	SN-OD involved in approach					SN-OD not involved in approach					All
ODST	Number of eligible DBD donors whose family were approached	DBD consent/ authorisation rate (%)	Number of eligible DCD donors whose family were approached	DCD consent/ authorisation rate (%)	Overall consent/ authorisation rate (%)	Number of eligible DBD donors whose family were approached	DBD consent/ authorisation rate (%)	Number of eligible DCD donors whose family were approached	DCD consent/ authorisation rate (%)	Overall consent/ authorisation rate (%)	Overall consent/ authorisation rate (%)
Eastern	89	74.2	182	66.5	**69.0**	14	42.9	56	23.2	**27.1**	**60.4**
London	197	56.9	173	56.6	**56.8**	15	26.7	27	18.5	**21.4**	**53.2**
Midlands	104	67.3	166	56.0	**60.4**	44	61.4	127	37.0	**43.3**	**53.7**
North West	129	65.1	179	57.5	**60.7**	6	16.7	29	27.6	**25.7**	**57.1**
Northern	73	67.1	93	68.8	**68.1**	9	66.7	48	29.2	**35.1**	**59.6**
Northern Ireland	48	75.0	48	70.8	**72.9**	9	22.2	17	5.9	**11.5**	**59.8**
Scotland	65	80.0	65	70.8	**75.4**	37	48.6	78	20.5	**29.6**	**53.9**
South Central	72	72.2	100	56.0	**62.8**	8	75.0	33	12.1	**24.4**	**55.4**
South East	142	73.9	148	68.2	**71.0**	4	0.0	23	34.8	**29.6**	**67.5**
South Wales	37	73.0	86	50.0	**56.9**	3	66.7	29	24.1	**28.1**	**51.0**
South West	65	81.5	93	67.7	**73.4**	16	75.0	63	38.1	**45.6**	**64.1**
Yorkshire	91	74.7	123	60.2	**66.4**	6	0.0	26	7.7	**6.3**	**58.5**
TOTAL	**1112**	**69.6**	**1456**	**61.5**	**65.0**	**171**	**49.1**	**556**	**26.8**	**32.0**	**57.8**

13.7 Comparison with previous years

Table 13.12 and **Figure 13.6** show the key metrics from the PDA for the last four financial years. Changes were made to the PDA on 1 April 2013 so caution should be applied when comparing time periods. Although the key metrics differ slightly when the data is subset based on the old PDA inclusion criteria the direction of change (increase/decrease), and therefore the key messages, are the same.

Table 13.12 DBD and DCD key metrics from the Potential Donor Audit, by financial year

Eligible donor type	Financial year	Number of patients who met referral criteria [1]	Neurological death testing rate (%)	Referral rate (%)	Number of eligible donors	Number of eligible donors whose family were approached	Approach rate (%)	Proportion of family approaches involving a SN-OD (%)	Number of families who consented to/ authorised donation	Consent/ authorisation rate (%)	Number of actual donors [2]
DBD	**2011-2012**	1585	77.8	92.4	1169	1090	93.2	71.1	694	63.7	636
	2012-2013	1572	80.7	92.4	1189	1100	92.5	78.9	744	67.6	676
	2013-2014	1717	82.9	95.4	1351	1258	93.1	84.4	857	68.1	788
	2014-2015[3]	1733	83.3	96.3	1372	1283	93.5	86.7	858	66.9	779
DCD	**2011-2012**	6906		52.6	2935	1599	54.5	57.9	794	49.7	390
	2012-2013	6962		62.5	3114	1818	58.4	66.8	932	51.3	449
	2013-2014	7201		70.9	4153	1993	48.0	71.4	1073	53.8	522
	2014-2015[3]	6725		76.3	4264	2012	47.2	72.4	1045	51.9	494
TOTAL	**2011-2012**	8491		60.0	4104	2689	65.5	63.3	1488	55.3	1026
	2012-2013	8534		68.0	4303	2918	67.8	71.4	1676	57.4	1125
	2013-2014	8918		75.7	5504	3251	59.1	76.4	1930	59.4	1310
	2014-2015[3]	8458		80.4	5636	3295	58.5	77.9	1903	57.8	1273

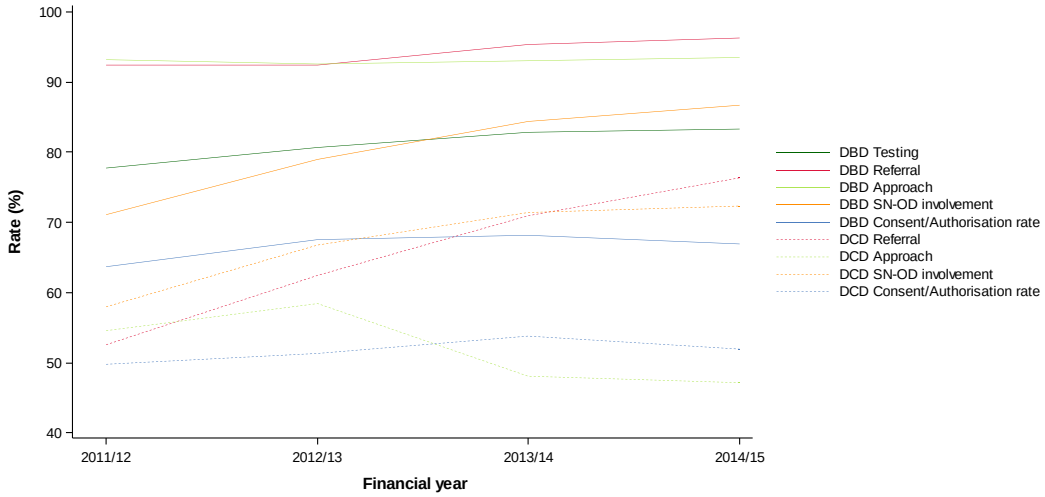
[1] DBD referral criteria: patients where neurological death was suspected (excluding those for which cardiac arrest occurred despite resuscitation, brain stem reflexes returned, and neonates less than 2 months post term; DCD referral criteria: patients for whom imminent death was anticipated

[2] Actual donors resulting from eligible DBD donors includes 11 DCD donors in 2011-2012, 18 DCD donors in 2012-2013, 15 DCD donors in 2013-2014 and 13 DCD donors in 2014-2015

[3] Changes were made to the PDA on 1 April 2013 so caution should be applied when comparing time periods. The main changes involved the introduction of cardiothoracic ICUs to the audit, increasing the upper age limit from 75 to 80 years, bringing absolute medical contraindications in line with current practice and changing the imminent death definition to be clear that death was anticipated within four hours.

An increase has been observed in the neurological death testing rate, but 17% of patients who met the criteria were not tested in 2014-2015. Details, such as the reasons for not testing, can be found in the accompanying PDA Annual Report available at http://www.odt.nhs.uk/odt/potential-donor-audit/. Increases have been observed in the rates of referral to the SN-ODs, especially for DCD. The DBD approach rate has remained static at 93%, but a decrease has been observed in the DCD approach rate. Increases have also been observed in the proportion of approaches involving a SN-OD for both DBD and DCD.

Figure 13.6 **DBD and DCD key metrics from the Potential Donor Audit**



Changes were made to the PDA in April 2013 to include auditing of cardiothoracic ICUs and patients aged 80 years and below, bring absolute medical contraindications in line with current practice, and to change the imminent death definition to be clear that death was anticipated within four hours. At the end of 2014/15 the calculation of neurological death testing rate was changed to remove certain cases for all historic data therefore values here will appear different to previous reports.

Appendices

Appendix I provides details of the 1282 deceased solid organ donors reported in 2014-2015. Details are given for each donating hospital and the hospitals have been grouped by former 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.

The number of donors by donor country/ former Strategic Health Authority of residence is given for donors after brain death in **Appendix IIA** and donors after circulatory death in **Appendix IIB**.

The populations used for country/ former Strategic Health Authority per million population are given in **Appendix III** these populations are mid-2013 estimates based on ONS 2012 Census figures.

Appendix IV shows the import and export of organs to and from the UK in the last three financial years. **Appendix IVA** shows the number and type of transplants in the UK into non-UK residents. **Appendix IVB** and **Appendix IVC** show the number and type of transplants resulting from the import to and export from the UK, respectively. When organs are donated from deceased donors and cannot be used in that country, the organs are offered for use in other countries. This is usually because there is no suitable recipient because of blood group or size. The current EU Directive ensures that all organs that are imported into the UK are evaluated to the same high standards as in the UK. The UK has special arrangements with the Republic of Ireland so that some patients from Ireland will come to the UK for the transplant procedure where units in the UK have particular expertise. For those with fulminant hepatic failure, the UK and Ireland will also share livers. International sharing of organs represents a very small proportion of the UK transplant activity and is set up to ensure that all donated organs are used whenever appropriate.

Appendix I Deceased solid organ donors and donated organs in the UK, 1 April 2014 - 31 March 2015 (2013-2014), by donating hospital

Donating hospital	DBD		DCD		All donors		Multi-organ donors		Kidney	Heart	Lung	Liver	Pancreas	Bowel
East Midlands														
Boston, Pilgrim Hospital	2	(2)	0	(0)	2	(2)	2	(2)	4	1	0	2	2	0
Chesterfield, Chesterfield Royal Hospital	4	(3)	2	(2)	6	(5)	5	(4)	11	0	0	5	1	0
Derby, Royal Derby Hospital	2	(1)	1	(2)	3	(3)	3	(1)	6	0	3	3	2	0
Kettering, Kettering General Hospital	5	(7)	0	(1)	5	(8)	5	(8)	10	1	4	5	2	0
Leicester, Glenfield General Hospital	0	(3)	3	(5)	3	(8)	1	(4)	6	0	0	1	1	0
Leicester, Leicester Royal Infirmary	9	(1)	3	(2)	12	(3)	9	(3)	24	4	4	9	5	1
Lincoln, Lincoln County Hospital	2	(6)	5	(3)	7	(9)	3	(8)	14	1	0	3	0	0
Northampton, Northampton General Hospital	1	(1)	1	(5)	2	(6)	2	(4)	4	0	0	2	1	0
Nottingham, Nottingham City Hospital	1	(0)	1	(2)	2	(2)	1	(0)	2	0	0	2	0	0
Nottingham, Nottingham University Hospital	8	(15)	16	(18)	24	(33)	15	(22)	48	1	7	15	5	0
Sutton-In-Ashfield, King's Mill Hospital	3	(1)	3	(1)	6	(2)	4	(1)	10	0	0	5	0	0
Total	**37**	**(40)**	**35**	**(41)**	**72**	**(81)**	**50**	**(57)**	**139**	**8**	**18**	**52**	**19**	**1**
East of England														
Basildon, Basildon Hospital	1	(7)	4	(3)	5	(10)	2	(5)	10	0	2	2	0	0
Bedford, Bedford Hospital	1	(1)	2	(1)	3	(2)	1	(0)	6	0	0	1	0	0
Bury St Edmunds, West Suffolk Hospital	4	(1)	1	(2)	5	(3)	3	(1)	8	1	2	4	1	0
Cambridge, Addenbrooke's Hospital	19	(17)	21	(19)	40	(36)	32	(27)	75	7	12	32	20	2
Chelmsford, Broomfield Hospital	7	(1)	2	(1)	9	(2)	6	(1)	18	1	4	5	3	0
Colchester, Colchester General Hospital	3	(3)	0	(2)	3	(5)	3	(3)	6	0	2	3	2	0
Great Yarmouth, James Paget Hospital	3	(0)	3	(1)	6	(1)	4	(0)	12	2	2	4	3	0
Harlow, Princess Alexandra Hospital	1	(0)	1	(2)	2	(2)	0	(1)	4	0	0	0	0	0
Huntingdon, Hinchingbrooke Hospital	1	(1)	1	(3)	2	(4)	1	(2)	2	1	0	2	1	0
Ipswich, Ipswich Hospital	1	(4)	3	(2)	4	(6)	3	(6)	8	1	0	3	1	1
Kings Lynn, The Queen Elizabeth Hospital	3	(2)	0	(6)	3	(8)	2	(6)	6	0	0	2	0	0
Luton, Luton And Dunstable Hospital	1	(4)	3	(3)	4	(7)	1	(3)	8	1	2	1	1	0
Norwich, Norfolk And Norwich University Hospital	8	(7)	16	(6)	24	(13)	9	(9)	43	3	1	10	5	0
Papworth, Papworth Hospital	1	(0)	2	(1)	3	(1)	2	(0)	5	0	2	1	1	0
Peterborough, Peterborough City Hospital	2	(2)	1	(1)	3	(3)	3	(1)	6	0	2	3	3	0
Stevenage, Lister Hospital	1	(5)	5	(3)	6	(8)	2	(6)	12	0	0	2	1	0
Watford, Watford General Hospital	5	(4)	2	(2)	7	(6)	4	(4)	14	1	0	4	1	0
Westcliff On Sea, Southend Hospital	3	(1)	2	(1)	5	(2)	4	(1)	10	1	2	2	2	0
Total	**65**	**(60)**	**69**	**(59)**	**134**	**(119)**	**82**	**(76)**	**253**	**19**	**33**	**81**	**45**	**3**
London														
Barnet, Barnet General Hospital	2	(0)	2	(0)	4	(0)	2	(0)	6	0	2	3	0	0

Donating hospital	DBD		DCD		All donors		Multi-organ donors		Kidney	Heart	Lung	Liver	Pancreas	Bowel
Carshalton, St Helier Hospital	0	(2)	0	(0)	0	(2)	0	(2)	0	0	0	0	0	0
Chelsea, Chelsea And Westminster Hospital	0	(1)	0	(0)	0	(1)	0	(1)	0	0	0	0	0	0
Croydon, Mayday University Hospital	2	(0)	1	(1)	3	(1)	3	(1)	6	1	2	3	2	0
Enfield, Chase Farm Hospital	0	(1)	0	(0)	0	(1)	0	(1)	0	0	0	0	0	0
Epsom General Hospital	1	(1)	0	(0)	1	(1)	0	(1)	0	0	0	1	0	0
Evelina Childrens Hospital	1	(0)	0	(0)	1	(0)	1	(0)	2	1	0	1	1	0
Harefield, Harefield Hospital	2	(1)	1	(4)	3	(5)	2	(4)	4	0	0	3	0	0
Harrow, Northwick Park Hospital	5	(2)	0	(3)	5	(5)	5	(3)	10	0	2	5	2	0
Isleworth, West Middlesex University Hospital	1	(3)	0	(0)	1	(3)	1	(2)	2	0	0	1	0	0
Kingston, Kingston Hospital	1	(0)	1	(1)	2	(1)	1	(1)	4	0	2	1	1	0
London, Central Middlesex Hospital	1	(0)	0	(1)	1	(1)	1	(0)	2	0	2	1	0	0
London, Charing Cross Hospital	11	(6)	4	(1)	15	(7)	14	(3)	30	5	4	13	7	1
London, Cromwell Hospital	0	(1)	0	(0)	0	(1)	0	(1)	0	0	0	0	0	0
London, Great Ormond Street Hospital For Children	1	(2)	1	(1)	2	(3)	2	(3)	4	1	2	2	2	1
London, Hammersmith Hospital	4	(0)	1	(3)	5	(3)	2	(2)	6	0	0	4	1	0
London, Heart Hospital	1	(0)	0	(0)	1	(0)	0	(0)	0	0	0	1	0	0
London, Homerton Hospital	0	(1)	0	(1)	0	(2)	0	(1)	0	0	0	0	0	0
London, King's College Hospital	12	(22)	11	(14)	23	(36)	16	(27)	44	2	4	15	8	1
London, National Hospital For Neurology And Neurosurgery	4	(11)	1	(2)	5	(13)	4	(8)	10	2	1	4	2	0
London, Newham General Hospital	1	(1)	0	(0)	1	(1)	1	(1)	2	1	2	1	0	0
London, North Middlesex Hospital	0	(4)	3	(2)	3	(6)	3	(5)	5	0	0	3	0	0
London, Queen Elizabeth Hospital	1	(1)	1	(0)	2	(1)	2	(1)	4	0	0	2	1	0
London, Royal Brompton Hospital	1	(2)	2	(1)	3	(3)	1	(1)	4	0	2	2	1	0
London, Royal Free Hospital	0	(1)	3	(1)	3	(2)	2	(2)	4	0	0	3	0	0
London, St George's Hospital	33	(23)	10	(4)	43	(27)	35	(22)	79	5	24	34	17	0
London, St Mary's Hospital	4	(7)	4	(1)	8	(8)	7	(5)	14	2	2	6	6	0
London, St Thomas' Hospital	3	(3)	3	(4)	6	(7)	5	(4)	12	2	0	4	2	0
London, The London Chest Hospital	3	(2)	1	(7)	4	(9)	2	(5)	8	0	0	2	1	0
London, The Royal London Hospital (Whitechapel)	16	(29)	6	(7)	22	(36)	16	(30)	38	2	4	19	13	0
London, The Whittington Hospital	0	(1)	1	(1)	1	(2)	0	(0)	2	0	0	0	0	0
London, University College Hospital	5	(1)	0	(1)	5	(2)	4	(0)	8	1	4	3	2	0
London, University Hospital Lewisham	1	(0)	0	(2)	1	(2)	1	(0)	2	0	0	1	0	0
London, Whipps Cross Hospital	1	(0)	1	(0)	2	(0)	0	(0)	4	0	0	0	0	0
Orpington, Princess Royal University Hospital	7	(1)	1	(3)	8	(4)	5	(2)	12	0	6	7	1	0
Romford, Queens Hospital	9	(10)	3	(5)	12	(15)	10	(9)	24	5	10	9	6	0
Southall, Ealing Hospital	2	(0)	1	(1)	3	(1)	2	(1)	4	0	0	3	2	0
Uxbridge, Hillingdon Hospital	2	(3)	0	(0)	2	(3)	2	(2)	4	1	2	1	0	0
Total	**138**	**(143)**	**63**	**(72)**	**201**	**(215)**	**152**	**(151)**	**360**	**31**	**77**	**158**	**78**	**3**

Donating hospital	DBD		DCD		All donors		Multi-organ donors		Kidney	Heart	Lung	Liver	Pancreas	Bowel
North East														
Ashington, Wansbeck Hospital	1	(1)	0	(3)	1	(4)	1	(2)	1	0	0	1	0	0
Darlington, Darlington Memorial Hospital	1	(1)	1	(1)	2	(2)	1	(1)	4	1	2	1	1	0
Durham, University Hospital Of North Durham	2	(5)	2	(1)	4	(6)	3	(3)	8	0	0	3	2	0
Gateshead, Queen Elizabeth Hospital	0	(2)	1	(0)	1	(2)	0	(2)	2	0	0	0	0	0
Middlesbrough, The James Cook University Hospital	13	(15)	7	(6)	20	(21)	13	(17)	37	4	4	11	5	1
Newcastle, Freeman Hospital	2	(0)	2	(1)	4	(1)	1	(0)	6	0	2	1	1	1
Newcastle, Royal Victoria Infirmary	17	(17)	14	(16)	31	(33)	19	(25)	56	7	14	17	15	1
North Shields, North Tyneside General Hospital	0	(1)	2	(0)	2	(1)	0	(0)	4	0	0	0	0	0
Northallerton, Friarage Hospital	2	(1)	0	(0)	2	(1)	2	(1)	4	0	0	2	0	0
South Shields, South Tyneside District General Hospital	1	(1)	0	(2)	1	(3)	1	(3)	2	1	0	1	0	0
Stockton-On-Tees, University Hospital Of North Tees	2	(7)	1	(1)	3	(8)	1	(6)	6	0	2	0	0	0
Sunderland, Sunderland Royal Hospital	1	(0)	1	(9)	2	(9)	2	(3)	4	0	2	2	1	0
Total	**42**	**(51)**	**31**	**(40)**	**73**	**(91)**	**44**	**(63)**	**134**	**13**	**26**	**39**	**25**	**3**
North West														
Ashton-Under-Lyne, Tameside General Hospital	2	(2)	0	(1)	2	(3)	2	(1)	4	1	0	2	1	0
Barrow-In-Furness, Furness General Hospital	2	(1)	0	(0)	2	(1)	2	(1)	4	1	2	2	1	0
Blackburn, Royal Blackburn Hospital	4	(1)	3	(3)	7	(4)	6	(2)	14	0	0	6	1	0
Blackpool, Blackpool Victoria Hospital	2	(5)	1	(2)	3	(7)	1	(5)	6	0	0	1	0	0
Bolton, Royal Bolton Hospital	1	(1)	0	(0)	1	(1)	1	(1)	2	0	0	1	0	0
Bury, Fairfield General Hospital	0	(1)	0	(1)	0	(2)	0	(1)	0	0	0	0	0	0
Carlisle, Cumberland Infirmary	4	(1)	2	(0)	6	(1)	4	(1)	12	1	2	3	3	0
Chester, Countess Of Chester Hospital	2	(5)	1	(0)	3	(5)	2	(5)	6	1	2	2	1	1
Crewe, Leighton Hospital	1	(4)	2	(3)	3	(7)	3	(5)	4	0	4	3	1	0
Lancaster, Royal Lancaster Infirmary	2	(0)	1	(2)	3	(2)	2	(1)	6	1	2	2	2	0
Liverpool, Alder Hey Children's Hospital	2	(0)	0	(0)	2	(0)	2	(0)	4	1	4	2	2	1
Liverpool, Liverpool Heart And Chest Hospital	1	(1)	0	(0)	1	(1)	1	(1)	2	0	0	1	0	0
Liverpool, Royal Liverpool University Hospital	1	(5)	0	(1)	1	(6)	1	(5)	2	1	0	1	1	0
Liverpool, University Hospital Aintree	1	(3)	1	(2)	2	(5)	2	(3)	4	0	0	2	1	0
Liverpool, Walton Centre For Neurology And Neurosurgery	14	(13)	7	(5)	21	(18)	15	(15)	41	5	4	15	9	0
Macclesfield, Macclesfield District General Hospital	0	(1)	0	(0)	0	(1)	0	(1)	0	0	0	0	0	0
Manchester, Manchester Royal Infirmary	2	(6)	2	(1)	4	(7)	2	(3)	6	0	0	3	1	0
Manchester, North Manchester General Hospital	1	(0)	2	(1)	3	(1)	0	(0)	6	0	0	0	0	0
Manchester, Royal Manchester Children's Hospital	0	(1)	0	(1)	0	(2)	0	(1)	0	0	0	0	0	0

Donating hospital	DBD		DCD		All donors		Multi-organ donors		Kidney	Heart	Lung	Liver	Pancreas	Bowel
Manchester, Trafford General Hospital	0	(1)	0	(0)	0	(1)	0	(1)	0	0	0	0	0	0
Manchester, Wythenshawe Hospital	5	(5)	4	(1)	9	(6)	4	(5)	14	2	2	6	2	0
Oldham, Royal Oldham Hospital (Rochdale Road)	1	(0)	0	(0)	1	(0)	1	(0)	2	0	0	1	0	0
Prescot, Whiston Hospital	0	(1)	2	(1)	2	(2)	2	(1)	4	0	0	2	1	0
Preston, Royal Preston Hospital	7	(11)	5	(3)	12	(14)	8	(8)	23	1	4	5	6	1
Salford, Salford Royal	10	(4)	8	(5)	18	(9)	13	(6)	34	5	15	14	9	0
Southport, Southport District General Hospital	1	(3)	1	(0)	2	(3)	1	(2)	4	0	0	1	1	0
Stockport, Stepping Hill Hospital	1	(2)	1	(0)	2	(2)	1	(2)	4	0	0	1	1	0
Warrington, Warrington Hospital	4	(1)	0	(3)	4	(4)	4	(2)	8	0	1	4	3	1
Whitehaven, West Cumberland Hospital	1	(1)	1	(0)	2	(1)	1	(1)	4	0	0	1	1	0
Wigan, Royal Albert Edward Infirmary	0	(1)	1	(4)	1	(5)	0	(3)	2	0	0	0	0	0
Wirral, Arrowe Park Hospital	1	(5)	3	(4)	4	(9)	3	(5)	8	0	2	3	3	0
Total	**73**	**(86)**	**48**	**(44)**	**121**	**(130)**	**84**	**(88)**	**230**	**20**	**44**	**84**	**51**	**4**
South Central														
Aylesbury, Stoke Mandeville Hospital	0	(3)	1	(0)	1	(3)	1	(3)	2	0	2	0	0	0
Banbury, Horton General Hospital	0	(0)	1	(0)	1	(0)	0	(0)	2	0	0	0	0	0
Basingstoke, North Hampshire Hospital	4	(2)	1	(1)	5	(3)	2	(3)	6	0	0	3	2	0
Milton Keynes, Milton Keynes General Hospital	0	(0)	3	(2)	3	(2)	1	(1)	6	0	0	1	1	0
Newport, St Mary's Hospital	1	(1)	2	(4)	3	(5)	3	(2)	6	0	0	3	1	0
Oxford, Churchill Hospital	1	(0)	0	(0)	1	(0)	1	(0)	2	0	2	0	0	0
Oxford, John Radcliffe Hospital	16	(13)	4	(8)	20	(21)	19	(17)	36	3	4	19	12	0
Portsmouth, Queen Alexandra Hospital	3	(4)	2	(6)	5	(10)	4	(6)	10	0	2	4	2	0
Reading, Royal Berkshire Hospital	2	(4)	2	(1)	4	(5)	3	(5)	8	0	2	3	1	0
Slough, Wexham Park Hospital	7	(4)	0	(0)	7	(4)	6	(3)	10	0	2	7	2	0
Southampton, Southampton University Hospitals	11	(18)	5	(7)	16	(25)	11	(22)	28	2	8	12	6	0
Winchester, Royal Hampshire County Hospital	1	(2)	0	(0)	1	(2)	1	(2)	2	0	2	1	1	1
Wycombe, Wycombe General Hospital	1	(1)	0	(2)	1	(3)	1	(2)	2	0	2	1	1	0
Total	**47**	**(52)**	**21**	**(31)**	**68**	**(83)**	**53**	**(66)**	**120**	**5**	**26**	**54**	**29**	**1**
South East Coast														
Ashford, William Harvey Hospital	3	(3)	1	(2)	4	(5)	3	(3)	6	1	0	4	1	0
Brighton, Royal Sussex County Hospital	7	(8)	3	(4)	10	(12)	7	(10)	14	0	2	8	3	0
Camberley, Frimley Park Hospital	3	(8)	5	(0)	8	(8)	4	(6)	16	0	0	4	1	0
Canterbury, Kent And Canterbury Hospital	2	(0)	2	(1)	4	(1)	1	(1)	6	0	0	2	0	0
Chertsey, St Peter's Hospital	3	(1)	1	(2)	4	(3)	3	(0)	8	2	0	3	2	0
Chichester, St Richard's Hospital	1	(2)	2	(2)	3	(4)	1	(3)	6	0	0	1	0	0
Dartford, Darent Valley Hospital	2	(0)	3	(2)	5	(2)	2	(1)	10	0	0	2	1	0
Eastbourne, Eastbourne District General Hospital	3	(0)	1	(1)	4	(1)	2	(1)	6	0	0	3	0	0

Donating hospital	DBD		DCD		All donors		Multi-organ donors		Kidney	Heart	Lung	Liver	Pancreas	Bowel
Gillingham, Medway Hospital	6	(5)	6	(2)	12	(7)	7	(6)	22	0	2	7	3	0
Guildford, Royal Surrey County Hospital	2	(2)	1	(1)	3	(3)	3	(1)	6	0	0	3	1	0
Hastings, Conquest Hospital	2	(2)	0	(0)	2	(2)	2	(2)	4	1	2	2	2	0
Haywards Heath, Hurstwood Park Hospital	1	(1)	4	(2)	5	(3)	3	(1)	9	0	3	3	3	0
Maidstone, Maidstone District General Hospital	0	(2)	0	(0)	0	(2)	0	(2)	0	0	0	0	0	0
Margate, Queen Elizabeth The Queen Mother Hospital	1	(0)	2	(1)	3	(1)	1	(0)	6	0	2	1	0	0
Redhill, East Surrey Hospital	3	(5)	1	(2)	4	(7)	3	(6)	8	0	0	3	0	0
Tunbridge Wells, Tunbridge Wells Hospital	4	(1)	0	(1)	4	(2)	4	(1)	8	0	2	3	4	0
Worthing, Worthing Hospital	3	(0)	3	(7)	6	(7)	3	(2)	10	0	2	4	1	0
Total	**46**	**(40)**	**35**	**(30)**	**81**	**(70)**	**49**	**(46)**	**145**	**4**	**15**	**53**	**22**	**0**
South West														
Barnstaple, North Devon District Hospital	0	(1)	0	(1)	0	(2)	0	(1)	0	0	0	0	0	0
Bath, Royal United Hospital	1	(4)	3	(3)	4	(7)	2	(4)	8	0	0	2	1	1
Bournemouth, Royal Bournemouth General Hospital	4	(2)	3	(3)	7	(5)	7	(5)	14	1	0	7	1	0
Bristol, Bristol Royal Hospital For Children	0	(1)	0	(2)	0	(3)	0	(2)	0	0	0	0	0	0
Bristol, Bristol Royal Infirmary	5	(3)	6	(3)	11	(6)	7	(4)	22	2	2	6	2	0
Bristol, Frenchay Hospital	1	(12)	1	(10)	2	(22)	2	(14)	4	0	4	2	0	0
Bristol, Southmead Hospital	11	(0)	5	(0)	16	(0)	14	(0)	32	2	10	14	9	1
Cheltenham, Cheltenham General Hospital	2	(0)	1	(3)	3	(3)	2	(1)	6	1	2	2	1	0
Dorchester, Dorset County Hospital	1	(3)	2	(7)	3	(10)	3	(4)	6	1	0	2	2	0
Exeter, Royal Devon And Exeter Hospital (Wonford)	8	(4)	2	(1)	10	(5)	9	(4)	20	2	8	9	6	0
Gloucester, Gloucestershire Royal Hospital	5	(3)	1	(2)	6	(5)	3	(2)	8	1	0	4	1	0
Plymouth, Derriford Hospital	11	(12)	6	(8)	17	(20)	14	(17)	30	3	8	15	10	0
Poole, Poole General Hospital	3	(3)	2	(3)	5	(6)	5	(3)	10	0	0	5	0	0
Salisbury, Salisbury District Hospital	2	(2)	0	(1)	2	(3)	1	(2)	2	0	0	2	0	0
Swindon, Great Western Hospital	6	(2)	3	(5)	9	(7)	8	(4)	18	1	2	7	3	0
Taunton, Taunton And Somerset Hospital (Musgrove Park)	3	(2)	4	(3)	7	(5)	5	(4)	12	2	2	5	5	0
Torquay, Torbay Hospital	3	(4)	3	(0)	6	(4)	3	(3)	12	1	0	3	2	0
Truro, Royal Cornwall Hospital (Treliske)	5	(3)	4	(2)	9	(5)	6	(3)	18	0	2	6	2	0
Weston-Super-Mare, Weston General Hospital	2	(1)	0	(3)	2	(4)	2	(3)	4	0	0	2	1	0
Yeovil, Yeovil District Hospital	0	(1)	1	(2)	1	(3)	1	(1)	2	0	0	1	1	0
Total	**73**	**(63)**	**47**	**(62)**	**120**	**(125)**	**94**	**(81)**	**228**	**17**	**40**	**94**	**47**	**2**
West Midlands														
Birmingham, Birmingham Children's Hospital	2	(0)	0	(0)	2	(0)	2	(0)	4	0	0	2	2	0
Birmingham, Birmingham Heartlands Hospital	3	(5)	2	(0)	5	(5)	5	(5)	10	1	1	5	2	0

Donating hospital	DBD		DCD		All donors		Multi-organ donors		Kidney	Heart	Lung	Liver	Pancreas	Bowel
Birmingham, City Hospital	1	(0)	4	(0)	5	(0)	3	(0)	10	0	0	3	2	0
Birmingham, Queen Elizabeth Hospital Birmingham	11	(13)	4	(10)	15	(23)	14	(17)	30	5	2	14	5	1
Burton-On-Trent, Queen's Hospital	0	(4)	1	(0)	1	(4)	1	(4)	2	0	0	1	1	0
Coventry, University Hospital	7	(8)	8	(7)	15	(15)	10	(11)	28	1	2	8	4	0
Dudley, Russells Hall Hospital	0	(3)	3	(1)	3	(4)	1	(3)	4	0	0	2	1	0
Hereford, The County Hospital	1	(0)	4	(1)	5	(1)	3	(1)	8	0	2	4	1	0
Nuneaton, George Eliot Hospital	1	(1)	2	(1)	3	(2)	2	(1)	6	0	0	2	1	0
Redditch, The Alexandra Hospital	3	(0)	0	(1)	3	(1)	3	(0)	4	2	4	3	2	0
Shrewsbury, Royal Shrewsbury Hospital	4	(0)	0	(1)	4	(1)	3	(1)	8	0	0	3	1	0
Stafford, Stafford Hospital	0	(1)	0	(1)	0	(2)	0	(1)	0	0	0	0	0	0
Stoke-On-Trent, University Hospital North Staffordshire	13	(14)	3	(8)	16	(22)	14	(17)	30	3	8	15	9	1
Sutton Coldfield, Good Hope District General Hosp.	2	(2)	3	(2)	5	(4)	2	(2)	10	1	0	2	0	0
Telford, The Princess Royal Hospital	2	(1)	0	(2)	2	(3)	1	(1)	2	1	0	2	1	0
Walsall, Manor Hospital	0	(4)	3	(0)	3	(4)	1	(4)	4	0	0	2	0	0
Warwick, Warwick Hospital	2	(1)	0	(1)	2	(2)	2	(1)	4	1	0	2	2	0
West Bromwich, Sandwell General Hospital	1	(3)	1	(0)	2	(3)	1	(3)	4	0	0	1	0	0
Wolverhampton, New Cross Hospital	1	(5)	1	(2)	2	(7)	1	(4)	4	0	2	1	0	0
Worcester, Worcestershire Royal Hospital	8	(1)	1	(4)	9	(5)	9	(3)	18	1	5	7	4	0
Total	**62**	**(66)**	**40**	**(42)**	**102**	**(108)**	**78**	**(79)**	**190**	**16**	**26**	**79**	**38**	**2**
Yorkshire and the Humber														
Barnsley, Barnsley District General Hospital	2	(1)	5	(1)	7	(2)	3	(1)	14	1	0	3	2	0
Bradford, Bradford Royal Infirmary	2	(1)	1	(2)	3	(3)	2	(1)	6	0	0	2	0	0
Cottingham, Castle Hill Hospital	1	(1)	0	(0)	1	(1)	1	(1)	2	0	0	1	0	0
Dewsbury, Dewsbury And District Hospital	0	(1)	0	(2)	0	(3)	0	(2)	0	0	0	0	0	0
Doncaster, Doncaster Royal Infirmary	7	(4)	0	(0)	7	(4)	6	(4)	13	1	2	5	2	0
Grimsby, Diana Princess Of Wales Hospital	0	(0)	0	(4)	0	(4)	0	(1)	0	0	0	0	0	0
Halifax, Calderdale Royal Hospital	2	(4)	1	(1)	3	(5)	2	(4)	6	0	2	2	0	0
Huddersfield, Huddersfield Royal Infirmary	0	(3)	5	(1)	5	(4)	3	(3)	10	0	0	3	1	0
Hull, Hull Royal Infirmary	3	(1)	7	(3)	10	(4)	7	(1)	18	0	4	8	3	0
Keighley, Airedale General Hospital	0	(0)	1	(0)	1	(0)	1	(0)	2	0	0	1	1	0
Leeds, Leeds General Infirmary	12	(11)	14	(10)	26	(21)	17	(13)	50	4	5	16	9	0
Leeds, St James's University Hospital	0	(1)	3	(2)	3	(3)	2	(2)	6	0	0	2	0	0
Rotherham, Rotherham District General Hospital	1	(1)	1	(1)	2	(2)	2	(1)	4	0	0	2	0	0
Scarborough, Scarborough General Hospital	2	(2)	1	(1)	3	(3)	2	(2)	6	0	2	1	0	0
Scunthorpe, Scunthorpe General Hospital	1	(0)	0	(0)	1	(0)	1	(0)	2	1	2	1	1	0
Sheffield, Northern General Hospital	7	(5)	1	(2)	8	(7)	7	(4)	14	2	4	8	3	0
Sheffield, Royal Hallamshire Hospital	7	(6)	3	(1)	10	(7)	9	(6)	20	3	4	8	3	0

Donating hospital	DBD		DCD		All donors		Multi-organ donors		Kidney	Heart	Lung	Liver	Pancreas	Bowel
Sheffield, Sheffield Children's Hospital	1	(2)	1	(0)	2	(2)	1	(2)	4	0	0	0	1	0
Wakefield, Pinderfields General Hospital	3	(0)	0	(5)	3	(5)	2	(2)	6	0	4	2	1	0
Worksop, Bassetlaw District General Hospital	1	(0)	0	(0)	1	(0)	0	(0)	2	0	0	0	0	0
York, York District Hospital	2	(5)	1	(2)	3	(7)	2	(6)	6	1	0	1	0	0
Total	**54**	**(49)**	**45**	**(38)**	**99**	**(87)**	**70**	**(56)**	**191**	**13**	**29**	**66**	**27**	**0**
Channel Islands														
Guernsey, Princess Elizabeth Hospital	0	(0)	0	(1)	0	(1)	0	(1)	0	0	0	0	0	0
St Helier, Jersey General Hospital	1	(0)	0	(0)	1	(0)	1	(0)	2	0	0	1	0	0
Total	**1**	**(0)**	**0**	**(1)**	**1**	**(1)**	**1**	**(1)**	**2**	**0**	**0**	**1**	**0**	**0**
Isle of Man														
Douglas, Nobles I-O-M Hospital	4	(4)	0	(0)	4	(4)	3	(2)	8	1	0	3	1	0
Total	**4**	**(4)**	**0**	**(0)**	**4**	**(4)**	**3**	**(2)**	**8**	**1**	**0**	**3**	**1**	**0**
England	**642**	**(654)**	**434**	**(460)**	**1076**	**(1114)**	**760**	**(766)**	**2000**	**147**	**334**	**764**	**382**	**19**
Northern Ireland														
Belfast, Antrim Hospital	0	(0)	1	(0)	1	(0)	0	(0)	2	0	0	0	0	0
Belfast, Belfast City Hospital	0	(2)	1	(2)	1	(4)	0	(1)	2	0	0	0	0	0
Belfast, Mater Infirmorum Hospital	1	(2)	0	(1)	1	(3)	1	(1)	2	0	0	1	0	0
Belfast, Royal Belfast Hospital For Sick Children	2	(1)	1	(0)	3	(1)	3	(1)	6	2	2	3	2	0
Belfast, Royal Victoria Hospital	14	(11)	5	(6)	19	(17)	16	(14)	38	1	6	15	7	0
Belfast, The Ulster Hospital	2	(2)	2	(1)	4	(3)	3	(2)	8	0	0	3	1	0
Coleraine, Causeway Hospital	0	(1)	0	(0)	0	(1)	0	(1)	0	0	0	0	0	0
Enniskillen, South West Acute Hospital	3	(2)	1	(0)	4	(2)	2	(1)	7	0	0	2	2	0
Londonderry, Altnagelvin Area Hospital	6	(8)	1	(2)	7	(10)	6	(8)	14	1	3	5	3	0
Portadown, Craigavon Area Hospital	6	(3)	2	(2)	8	(5)	5	(4)	16	1	5	4	2	0
Total	**34**	**(32)**	**14**	**(14)**	**48**	**(46)**	**36**	**(33)**	**95**	**5**	**16**	**33**	**17**	**0**
Scotland														
Aberdeen, Aberdeen Royal Infirmary	8	(6)	7	(8)	15	(14)	11	(7)	28	2	6	12	4	0
Airdrie, Monklands District General Hospital	3	(0)	0	(0)	3	(0)	3	(0)	6	2	2	3	2	0
Ayr, The Ayr Hospital	1	(1)	0	(1)	1	(2)	1	(1)	2	0	0	1	1	0
Dumfries, Dumfries And Galloway Royal Infirmary	2	(1)	1	(1)	3	(2)	3	(1)	6	0	2	2	1	0
Dundee, Ninewells Hospital	1	(4)	4	(4)	5	(8)	2	(5)	10	0	0	2	2	0
East Kilbride, Hairmyres Hospital	3	(0)	0	(1)	3	(1)	2	(0)	4	1	0	3	2	0
Edinburgh, Royal Infirmary Of Edinburgh	3	(1)	3	(5)	6	(6)	4	(3)	12	1	2	4	1	0

Donating hospital	DBD		DCD		All donors		Multi-organ donors		Kidney	Heart	Lung	Liver	Pancreas	Bowel
Edinburgh, Western General Hospital	6	(15)	10	(7)	16	(22)	11	(18)	31	4	6	10	4	0
Glasgow, Golden Jubilee National Hospital	1	(0)	0	(1)	1	(1)	1	(1)	2	0	0	1	1	0
Glasgow, Royal Hospital For Sick Children	1	(0)	1	(0)	2	(0)	2	(0)	4	1	2	2	1	1
Glasgow, Southern General Hospital	6	(11)	3	(5)	9	(16)	9	(11)	18	1	4	8	5	0
Glasgow, Western Infirmary	2	(2)	0	(3)	2	(5)	2	(3)	4	0	0	2	1	0
Greenock, Inverclyde Royal Hospital	0	(1)	0	(0)	0	(1)	0	(1)	0	0	0	0	0	0
Glasgow, Golden Jubilee National Hospital	5	(4)	0	(2)	5	(6)	5	(5)	9	1	0	5	3	0
Inverness, Raigmore Hospital	3	(1)	1	(0)	4	(1)	4	(0)	8	1	0	4	3	0
Kilmarnock, Crosshouse Hospital	1	(0)	1	(0)	2	(0)	2	(0)	4	1	0	2	1	0
Kirkcaldy, Victoria Hospital	4	(4)	2	(1)	6	(5)	3	(4)	10	1	2	4	1	0
Larbert, Forth Valley Royal Hospital	3	(1)	0	(2)	3	(3)	2	(2)	4	1	0	3	0	0
Livingston, St John's Hospital	2	(4)	0	(0)	2	(4)	2	(3)	4	0	0	2	0	0
Melrose, Borders General Hospital	3	(0)	0	(0)	3	(0)	3	(0)	6	1	1	3	3	0
Paisley, Royal Alexandra Hospital	4	(4)	0	(1)	4	(5)	4	(5)	8	0	0	3	2	0
Perth, Perth Royal Infirmary	0	(1)	0	(1)	0	(2)	0	(1)	0	0	0	0	0	0
Wishaw, Wishaw General Hospital	2	(1)	1	(1)	3	(2)	3	(1)	6	0	2	2	2	0
Total	**64**	**(62)**	**34**	**(44)**	**98**	**(106)**	**79**	**(72)**	**186**	**18**	**29**	**78**	**40**	**1**
Wales														
Abergavenny, Nevill Hall Hospital	2	(2)	1	(2)	3	(4)	3	(3)	6	0	0	3	1	0
Aberystwyth, Bronglais Hospital	0	(4)	0	(1)	0	(5)	0	(4)	0	0	0	0	0	0
Bangor, Ysbyty Gwynedd District General Hospital	4	(3)	2	(2)	6	(5)	4	(4)	12	0	2	4	3	1
Bodelwyddan, Glan Clwyd District General Hospital	1	(4)	0	(0)	1	(4)	1	(4)	2	0	0	1	0	0
Bridgend, Princess Of Wales Hospital	0	(4)	2	(2)	2	(6)	1	(4)	2	0	2	2	1	0
Cardiff, University Of Wales Hospital	9	(9)	11	(6)	20	(15)	15	(12)	36	2	0	17	10	0
Carmarthen, Glangwili General Hospital	2	(0)	2	(0)	4	(0)	4	(0)	8	0	0	4	2	0
Haverford West, Withybush General Hospital	0	(1)	1	(0)	1	(1)	0	(1)	0	0	0	1	0	0
Llanelli, Prince Philips Hospital	2	(0)	0	(0)	2	(0)	2	(0)	2	1	0	2	2	0
Merthyr Tydfil, Prince Charles Hospital	1	(0)	1	(0)	2	(0)	2	(0)	4	0	0	2	2	0
Newport, Royal Gwent Hospital	2	(1)	5	(1)	7	(2)	3	(1)	12	0	2	3	0	0
Pontypridd, Royal Glamorgan Hospital	5	(0)	0	(1)	5	(1)	3	(0)	8	0	3	3	0	0
Swansea, Morriston Hospital	4	(4)	2	(6)	6	(10)	6	(5)	12	2	3	6	2	0
Wrexham, Maelor General Hospital	0	(0)	1	(1)	1	(1)	1	(0)	2	0	0	1	1	0
Total	**32**	**(32)**	**28**	**(22)**	**60**	**(54)**	**45**	**(38)**	**106**	**5**	**12**	**49**	**24**	**1**

Appendix IIA Numbers of donors after brain death and organs retrieved in the UK, 1 April 2014 - 31 March 2015, by country/ Strategic Health Authority

	Donors				Organs					
Country/ Strategic Health Authority	**All donors**	**pmp**	**Multi-organ donors**	**pmp**	**Kidney**	**Heart**	**Lung**	**Liver**	**Pancreas**	**Bowel**
North East	31	11.9	26	10.0	56	12	18	23	17	2
North West	73	10.3	65	9.2	136	18	32	67	40	5
Yorkshire and The Humber	53	9.9	45	8.4	99	15	11	45	16	0
East Midlands	49	10.7	44	9.6	93	10	17	45	17	2
West Midlands	55	9.7	51	9.0	102	14	20	50	24	2
East of England	75	12.6	66	11.1	145	21	33	65	35	2
London	104	12.4	87	10.3	189	24	44	91	51	3
South East Coast	67	14.7	52	11.4	112	6	24	59	25	0
South Central	48	11.3	42	9.9	83	5	18	44	23	1
South West	74	13.8	68	12.6	138	18	41	69	40	2
England	**629**	**11.7**	**546**	**10.1**	**1153**	**143**	**258**	**558**	**288**	**19**
Isle of Man	**5**	**62.5**	**4**	**50.0**	**10**	**2**	**0**	**4**	**2**	**0**
Channel Islands	**1**	**6.3**	**1**	**6.3**	**2**	**0**	**0**	**1**	**0**	**0**
Wales	**38**	**12.3**	**33**	**10.7**	**70**	**6**	**7**	**34**	**18**	**1**
Scotland	**65**	**12.2**	**60**	**11.3**	**122**	**19**	**25**	**61**	**34**	**1**
Northern Ireland	**34**	**18.6**	**29**	**15.8**	**68**	**4**	**14**	**26**	**12**	**0**
TOTAL	**772**	**12.0**	**673**	**10.5**	**1425**	**174**	**304**	**684**	**354**	**21**

Appendix IIB Numbers of donors after circulatory death and organs retrieved in the UK, 1 April 2014 - 31 March 2015, by country/ Strategic Health Authority

	Donors				Organs					
Country/ Strategic Health Authority	**All donors**	**pmp**	**Multi-organ donors**	**pmp**	**Kidney**	**Heart**	**Lung**	**Liver**	**Pancreas**	**Bowel**
North East	30	11.5	11	4.2	58	0	4	8	7	0
North West	48	6.8	20	2.8	93	0	16	19	10	0
Yorkshire and The Humber	47	8.8	26	4.9	92	0	12	22	10	0
East Midlands	41	8.9	21	4.6	80	0	7	21	11	0
West Midlands	33	5.8	16	2.8	60	0	4	19	5	0
East of England	75	12.6	26	4.4	139	1	11	27	15	0
London	48	5.7	31	3.7	85	0	6	31	11	0
South East Coast	43	9.5	20	4.4	83	0	7	18	8	0
South Central	19	4.5	10	2.4	38	0	4	7	3	0
South West	47	8.7	23	4.3	86	0	4	25	10	0
England	**431**	**8.0**	**204**	**3.8**	**814**	**1**	**75**	**197**	**90**	**0**
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	**33**	**10.7**	**18**	**5.8**	**57**	**0**	**4**	**21**	**8**	**0**
Scotland	**32**	**6.0**	**19**	**3.6**	**64**	**0**	**6**	**16**	**7**	**0**
Northern Ireland	**14**	**7.7**	**6**	**3.3**	**27**	**0**	**2**	**6**	**4**	**0**
TOTAL	**510**	**7.9**	**247**	**3.8**	**962**	**1**	**87**	**240**	**109**	**0**

Appendix III	Populations for SHA's, 2014-2015 Mid-2013 estimates based on ONS 2012 Census figures
SHA	**Population (millions)**
North East	2.61
North West	7.10
Yorkshire and The Humber	5.34
East Midlands	4.60
West Midlands	5.67
East of England	5.95
London	8.42
South East Coast[1]	4.55
South Central[1]	4.25
South West	5.38
England	**53.87**
Isle of Man	**0.08**
Channel Islands	**0.16**
Wales	**3.08**
Scotland	**5.33**
Northern Ireland	**1.83**
TOTAL	**64.35**

[1] Population obtained by proportionally dividing population of South East (8.79 million) based on previous data.

Appendix IVA **UK solid organ transplants from deceased UK donors[1] to non-UK residents, 1 April 2012 to 31 March 2015**

Transplant type by year

Year	Transplant type	Residency of recipient ROI	Other EU	Non-EU	Total
2012/13	Heart	1	0	0	1
	Liver	7	8	4	19
	Double lung	4	0	0	4
	Partial lung	1	0	0	1
	Total	**13**	**8**	**4**	**25**
2013/14	Heart	3	0	0	3
	Liver	5	15	5	25
	Double lung	1	0	0	1
	Total	**9**	**15**	**5**	**29**
2014/15	Kidney	1	0	0	1
	Heart	1	0	0	1
	Liver	4	12	2	18
	Double lung	1	0	0	1
	Bowel only	0	0	1	1
	Mulitvisceral	0	1	0	1
	Total	**7**	**13**	**3**	**23**

[1] based on country of donor hospital

Appendix IVB **UK solid organ transplants from deceased non-UK donors[1] to UK residents, 1 April 2012 to 31 March 2015**

Transplant type by year

Year	Transplant type	Country of donation ROI	Other EU	Non-EU	Total
2012/13	Heart	1	5	0	6
	Liver	21	2	0	23
	Liver, bowel & pancreas	0	1	0	1
	Total	**22**	**8**	**0**	**30**
2013/14	Kidney	2	1	0	3
	Heart	7	3	0	10
	Liver	4	4	0	8
	Double lung	1	1	0	2
	Bowel only	0	1	0	1
	Total	**14**	**10**	**0**	**24**
2014/15	Kidney	0	1	0	1
	Heart	3	8	0	11
	Liver	2	3	0	5
	Double lung	1	1	0	2
	Bowel only	0	2	0	2
	Multivisceral	1	0	0	1
	Total	**7**	**15**	**0**	**22**

[1] based on country of donor hospital

Appendix IVC **Non-UK solid organ transplants from deceased UK donors[1] to non-UK hospitals, 1 April 2012 to 31 March 2015**

Transplant type by year

Year	Transplant type	Country of transplant ROI	Other EU	Non-EU	Total
2012/13	Heart	0	3	0	3
	Liver	7	0	0	7
	Double lung	0	9	0	9
	Total	**7**	**12**	**0**	**19**
2013/14	Kidney	0	2	0	2
	Heart	0	2	0	2
	Liver	7	2	0	9
	Double lung	0	6	0	6
	Total	**7**	**12**	**0**	**19**
2014/15	Heart	0	2	0	2
	Liver	2	0	0	2
	Double lung	0	5	0	5
	Total	**2**	**7**	**0**	**9**

[1] based on country of donor hospital

NHS Blood and Transplant

NHS Blood and Transplant (NHSBT) saves and improves lives by providing a safe and reliable supply of blood components, organs, stem cells, tissues and related services to the NHS, and other UK health services.

For more information

Visit nhsbt.nhs.uk
Email enquiries@nhsbt.nhs.uk
Call 0300 123 23 23