

Organ Donation Activity

Key messages

- There has been a 4% increase in deceased donors (to 1,413) and a 3% fall in living organ donors (to 1,043) compared with last year
- There has been an increase in donors after brain death of 6% to 829 and an increase of 1% in donors after circulatory death to 584, compared with last year
- Donors after brain death provide, on average, one more organ for transplantation than donors after circulatory 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 4% increase in the number of deceased organ donors in 2016-2017 (1,413), twenty seven short of the target of 1,440 donors set for the year. There was an increase in donors after brain death (DBD) of 6% and a more modest increase of 1% in donors after circulatory death (DCD).

The 1,413 deceased organ donors gave 4,741 organs compared with 1,364 donors and 4,660 organs in 2015-2016. This represents a 2% increase in organs donated. **Table 3.1** shows deceased organ donors according to the organs they donated.

Nearly all deceased donors (95%) gave a kidney and of these the majority (77%) also donated at least one other organ. Only 12% of donors after brain death were single organ donors, with equal proportions being liver only and kidney only donors. By contrast, 48% of donors after circulatory death were single organ donors, the majority (94%) of these donating just their kidneys.

Although the vast majority of living organ donors donated a kidney, 34 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 2016 - 31 March 2017, by organ types donated				
	DBD	DCD	Living donor	TOTAL
Kidney only	49	261	1009	1319
Kidney & thoracic	16	5	-	21
Kidney & liver	285	168	-	453
Kidney & pancreas	10	22	-	32
Kidney, thoracic & liver	65	16	-	81
Kidney, thoracic & pancreas	4	2	-	6
Kidney, liver & pancreas	161	70	-	231
Kidney, liver & bowel	1	-	-	1
Kidney, liver, pancreas & bowel	5	-	-	5
Kidney, thoracic, liver & pancreas	165	23	-	188
Kidney, thoracic, liver, pancreas & bowel	8	-	-	8
Thoracic only	3	-	-	3
Thoracic & liver	3	-	-	3
Thoracic, liver & pancreas	1	-	-	1
Liver only	47	17	34	98
Liver & pancreas	6	-	-	6
TOTAL	829	584	1043	2456

Bowel may include abdominal wall/colon/stomach/spleen

3.2 Organ donors

Organ donor rates per million population (pmp) for 2016-2017 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 donation rates per million population (pmp), in the UK, 1 April 2016 - 31 March 2017, by country/ Strategic Health Authority of donor residence¹								
Country of donation/ Strategic Health Authority	DBD		DCD		TOTAL		Living	
	N	(pmp)	N	(pmp)	N	(pmp)	N	(pmp)
North East	53	(20.2)	22	(8.4)	75	(28.6)	52	(19.8)
North West	90	(12.6)	72	(10.0)	162	(22.6)	116	(16.2)
Yorkshire and The Humber	59	(10.9)	45	(8.3)	104	(19.3)	67	(12.4)
North of England	202	(13.3)	139	(9.2)	341	(22.5)	235	(15.5)
East Midlands	39	(8.3)	35	(7.5)	74	(15.8)	50	(10.7)
West Midlands	72	(12.5)	49	(8.5)	121	(21.0)	98	(17.0)
East of England	74	(12.2)	76	(12.5)	150	(24.7)	78	(12.8)
Midlands and East	185	(11.2)	160	(9.7)	345	(20.9)	226	(13.7)
London	96	(11.1)	50	(5.8)	146	(16.8)	168	(19.4)
South East Coast	73	(15.8)	53	(11.4)	126	(27.2)	58	(12.5)
South Central	51	(11.8)	38	(8.8)	89	(20.6)	73	(16.9)
South West	67	(12.2)	43	(7.9)	110	(20.1)	69	(12.6)
South of England	191	(13.2)	134	(9.3)	325	(22.5)	200	(13.9)
England	674	(12.3)	483	(8.8)	1157	(21.1)	829	(15.1)
Isle of Man	2	(25.0)	2	(25.0)	4	(50.0)	0	(0.0)
Channel Islands	4	(25.0)	1	(6.3)	5	(31.3)	1	(6.3)
Wales	39	(12.6)	29	(9.4)	68	(21.9)	46	(14.8)
Scotland	79	(14.7)	58	(10.8)	137	(25.5)	89	(16.6)
Northern Ireland	31	(16.8)	11	(5.9)	42	(22.7)	78	(42.2)
TOTAL	829	(12.7)	584	(8.9)	1413	(21.6)	1043	(16.0)

¹ Includes 113 donors (16 deceased, 97 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 12.7 DBD donors pmp for the UK as a whole, but across the former English Strategic Health Authorities (SHA) this ranged between 8.3 and 20.2 pmp. Across the four countries of the UK, Northern Ireland had the highest rate of 16.8 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 8.9 pmp, ranging from 5.9 to 10.8 pmp across countries of the UK and from 5.8 to 12.5 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 2016 - 31 March 2017, by country/ Strategic Health Authority of hospital of donor death			
Country of donation/ Strategic Health Authority	DBD N	DCD N	TOTAL N
North East	52	27	79
North West	96	73	169
Yorkshire and The Humber	62	43	105
North of England	210	143	353
East Midlands	31	31	62
West Midlands	66	51	117
East of England	56	74	130
Midlands and East	153	156	309
London	140	69	209
South East Coast	57	48	105
South Central	52	33	85
South West	63	45	108
South of England	172	126	298
England	675	494	1169
Isle of Man	2	1	3
Channel Islands	3	2	5
Wales	40	21	61
Scotland	77	56	133
Northern Ireland	32	10	42
TOTAL	829	584	1413

Table 3.4 Deceased organ donors in the UK, 1 April 2016 - 31 March 2017 by Organ Donation Services Team			
Team	DBD N	DCD N	TOTAL N
Eastern	57	74	131
London	111	50	161
Midlands	85	72	157
North West	106	75	181
Northern	55	31	86
Northern Ireland	32	10	42
Scotland	77	56	133
South Central	67	42	109
South East	89	69	158
South Wales	32	17	49
South West	51	40	91
Yorkshire	67	48	115
TOTAL	829	584	1413

The mean number of organs retrieved per donor in 2016-2017 is given by country in **Table 3.5**. Overall, an average of 3.8 organs were donated per DBD donor and 2.8 per DCD donor. For DBD donors, the rate ranged from 3.4 organs per donor in Wales to 4.2 in Northern Ireland.

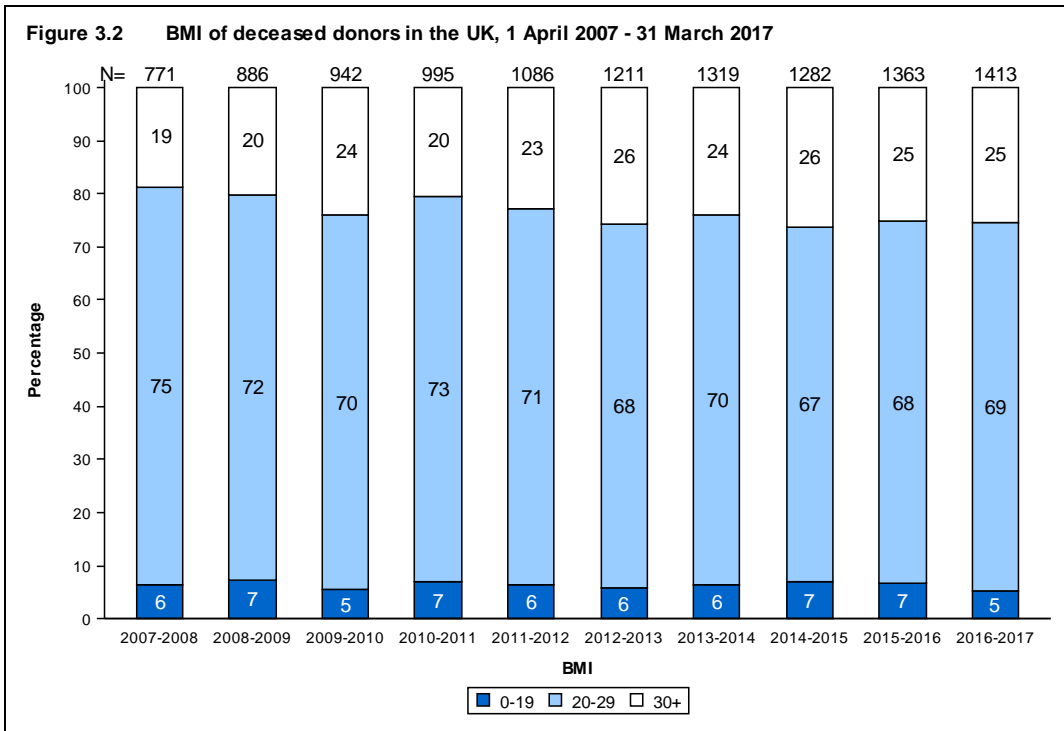
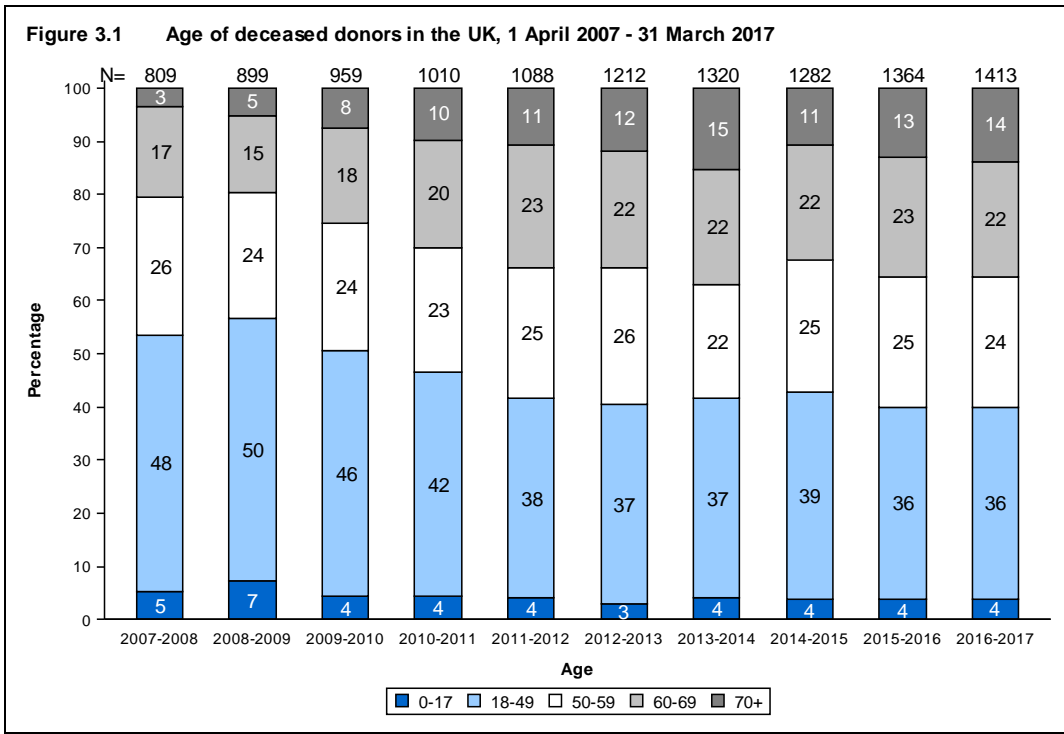
Table 3.5 Organs retrieved per donor, in the UK, 1 April 2016 - 31 March 2017, by country of donor residence									
Country	Adult			Paediatric			All		
	DBD	DCD	TOTAL	DBD	DCD	TOTAL	DBD	DCD	TOTAL
England	3.7	2.8	3.3	4.8	2.9	4.2	3.8	2.8	3.4
Wales	3.4	2.7	3.1	4.0	-	4.0	3.4	2.7	3.1
Scotland	3.6	2.4	3.1	5.0	2.3	3.7	3.6	2.4	3.1
Northern Ireland	4.1	2.6	3.7	4.5	-	4.5	4.2	2.6	3.8
TOTAL	3.7	2.8	3.3	4.8	2.8	4.2	3.8	2.8	3.3

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 2016-2017, 36% of deceased donors were aged 60 years or more compared with 21% in 2007-2008 (**Figure 3.1**). In particular the proportion of donors aged at least 70 years has increased from 3% to 14% over the same time period. The proportion of clinically obese donors (Body Mass Index (BMI) of 30 or higher) has increased from 19% to 25% in deceased donors in the last 10 years (**Figure 3.2**). In addition, the proportion of all deceased donors after a trauma death has decreased from 14% to 3% over the same time period. All of these changes may have an adverse impact on the quality and utilisation 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 2016 - 31 March 2017							
		DBD		DCD		TOTAL	
		N	%	N	%	N	%
Age	0-17	38	5	17	3	55	4
	18-49	343	41	166	28	509	36
	50-59	187	23	158	27	345	24
	60-69	151	18	157	27	308	22
	70+	110	13	86	15	196	14
	Mean (SD)	50	17	54	16	51	17
BMI	0-19	42	5	32	5	74	5
	20-29	584	70	395	68	979	69
	30+	203	24	157	27	360	25
	Mean (SD)	27	6	27	7	27	6
Cause of death	Intracranial	712	86	473	81	1185	84
	Trauma	29	3	15	3	44	3
	Other	88	11	96	16	184	13
Ethnicity	White	758	92	550	95	1308	94
	Asian	17	2	12	2	29	2
	Black	17	2	5	1	22	2
	Other	28	3	11	2	39	3
	Unknown	9		6		15	
Blood group	O	381	46	278	48	659	47
	A	354	43	237	41	591	42
	B	74	9	52	9	126	9
	AB	20	2	17	3	37	3
Donor gender	Male	450	54	357	61	807	57
	Female	379	46	227	39	606	43
TOTAL		829	100	584	100	1413	100



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.