

# Organ Donation Activity

## Key messages

- There has been a 25% fall in deceased donors (to 1,180) and a 56% fall in living organ donors (to 444) compared with last year
- There has been a decrease in donors after brain death of 19% to 766 and a decrease of 35% in donors after circulatory death to 414, compared with last year
- Donors after brain death provide, on average, one more organ for transplantation than donors after circulatory death
- As a result of the COVID-19 pandemic, donor characteristics changed over the last year following a decade long trend towards older and more obese donors

### 3.1 Summary of activity

There was a 25% fall in the number of deceased organ donors in 2020-2021 (1,180). There was a fall in donors after brain death (DBD) of 19% and a fall of 35% in donors after circulatory death (DCD).

The 1,180 deceased organ donors gave 3,654 organs compared with 1,580 donors and 5,088 organs in 2019-2020. This represents a 28% decrease 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 (76%) also donated at least one other organ. Only 16% of donors after brain death were single organ donors, with similar proportions being liver only and kidney only donors. By contrast, 52% of donors after circulatory death were single organ donors, the majority (96%) of these donating just their kidneys.

Although the vast majority of living organ donors donated a kidney, 22 donated part of their liver. All living donations are approved by the Human Tissue Authority.

<b>Table 3.1 Solid organ donors in the UK, 1 April 2020 - 31 March 2021, by organ types donated</b>				
	DBD	DCD	Living donor	TOTAL
Kidney only	62	206	422	690
Kidney & thoracic	10	12	-	22
Kidney & liver	366	119	-	485
Kidney & pancreas	1	7	-	8
Kidney, thoracic & liver	104	16	-	120
Kidney, thoracic & pancreas	3	7	-	10
Kidney, liver & pancreas	85	25	-	110
Kidney, liver, pancreas & bowel	2	-	-	2
Kidney, thoracic, liver & pancreas	57	13	-	70
Kidney, thoracic, liver & bowel	2	-	-	2
Kidney, thoracic, liver, pancreas & bowel	9	-	-	9
Thoracic only	2	-	-	2
Thoracic & liver	4	1	-	5
Thoracic, liver, pancreas & bowel	1	-	-	1
Liver only	57	8	22	87
Liver & pancreas	1	-	-	1
<b>TOTAL</b>	<b>766</b>	<b>414</b>	<b>444</b>	<b>1624</b>

Bowel may include abdominal wall/colon/stomach/spleen

## 3.2 Organ donors

Organ donor rates per million population (pmp) for 2020-2021 are given by country and NHS region according to where the donor lived in **Table 3.2**, while the numbers 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.

<b>Table 3.2 Organ donation rates per million population (pmp), in the UK, 1 April 2020 - 31 March 2021, by country/ NHS region of donor residence</b>								
<b>Country/ NHS region of residence</b>	<b>DBD</b>		<b>DCD</b>		<b>TOTAL</b>		<b>Living</b>	
	<b>N</b>	<b>(pmp)</b>	<b>N</b>	<b>(pmp)</b>	<b>N</b>	<b>(pmp)</b>	<b>N</b>	<b>(pmp)</b>
North East and Yorkshire	101	(11.7)	57	(6.6)	158	(18.4)	35	(4.1)
North West	77	(10.9)	45	(6.4)	122	(17.3)	37	(5.2)
Midlands	91	(8.6)	68	(6.4)	159	(15.0)	50	(4.7)
East of England	70	(10.7)	53	(8.1)	123	(18.8)	20	(3.1)
London	80	(8.9)	37	(4.1)	117	(13.1)	41	(4.6)
South East	120	(13.5)	51	(5.7)	171	(19.2)	38	(4.3)
South West	80	(14.2)	37	(6.6)	117	(20.8)	37	(6.6)
<b>England</b>	<b>619</b>	<b>(11.0)</b>	<b>348</b>	<b>(6.2)</b>	<b>967</b>	<b>(17.2)</b>	<b>258</b>	<b>(4.6)</b>
<b>Isle of Man</b>	<b>0</b>	<b>(0.0)</b>	<b>0</b>	<b>(0.0)</b>	<b>0</b>	<b>(0.0)</b>	<b>0</b>	<b>(0.0)</b>
<b>Channel Islands</b>	<b>1</b>	<b>(5.9)</b>	<b>0</b>	<b>(0.0)</b>	<b>1</b>	<b>(5.9)</b>	<b>0</b>	<b>(0.0)</b>
<b>Wales</b>	<b>38</b>	<b>(12.1)</b>	<b>14</b>	<b>(4.4)</b>	<b>52</b>	<b>(16.5)</b>	<b>13</b>	<b>(4.1)</b>
<b>Scotland</b>	<b>62</b>	<b>(11.4)</b>	<b>30</b>	<b>(5.5)</b>	<b>92</b>	<b>(16.8)</b>	<b>46</b>	<b>(8.5)</b>
<b>Northern Ireland</b>	<b>33</b>	<b>(17.5)</b>	<b>15</b>	<b>(7.9)</b>	<b>48</b>	<b>(25.4)</b>	<b>10</b>	<b>(5.3)</b>
<b>TOTAL<sup>1</sup></b>	<b>766</b>	<b>(11.4)</b>	<b>414</b>	<b>(6.2)</b>	<b>1180</b>	<b>(17.6)</b>	<b>440</b>	<b>(6.5)</b>

<sup>1</sup> Includes 133 donors with an unknown UK postcode and excludes 4 living donors resident outside the UK

**Table 3.2** shows variation in the number of DBD and DCD donors pmp across the UK. There were 11.4 DBD donors pmp for the UK as a whole, but across NHS regions this ranged between 8.6 and 14.2 pmp. Across the four countries of the UK, Northern Ireland had the highest rate of 17.5 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 6.2 pmp, and Northern Ireland had the highest rate of 7.9 pmp across countries of the UK, and across NHS regions it ranged from 4.1 to 8.1 pmp. No adjustment has been made for any differences in demographics of the populations across countries or NHS regions.

<b>Table 3.3 Deceased organ donors in the UK, 1 April 2020 - 31 March 2021, by country/ NHS region of hospital of donor death</b>			
<b>Country of donation/ NHS region</b>	<b>DBD N</b>	<b>DCD N</b>	<b>TOTAL N</b>
North East and Yorkshire	103	64	167
North West	82	44	126
Midlands	85	65	150
East of England	61	49	110
London	115	45	160
South East	102	54	156
South West	81	34	115
<b>England</b>	<b>629</b>	<b>355</b>	<b>984</b>
<b>Isle of Man</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Channel Islands</b>	<b>1</b>	<b>0</b>	<b>1</b>
<b>Wales</b>	<b>36</b>	<b>13</b>	<b>49</b>
<b>Scotland</b>	<b>64</b>	<b>31</b>	<b>95</b>
<b>Northern Ireland</b>	<b>36</b>	<b>15</b>	<b>51</b>
<b>TOTAL</b>	<b>766</b>	<b>414</b>	<b>1180</b>

<b>Table 3.4 Deceased organ donors in the UK, 1 April 2020 - 31 March 2021 by Organ Donation Services Team</b>			
<b>Team</b>	<b>DBD N</b>	<b>DCD N</b>	<b>TOTAL N</b>
Eastern	67	53	120
London	76	35	111
Midlands	79	58	137
North West	97	48	145
Northern	51	23	74
Northern Ireland	36	15	51
Scotland	64	31	95
South Central	65	29	94
South East	84	37	121
South Wales	23	10	33
South West	70	31	101
Yorkshire	54	44	98
<b>TOTAL</b>	<b>766</b>	<b>414</b>	<b>1180</b>

The mean number of organs retrieved per donor in 2020-2021 is given by country in **Table 3.5**. Overall, an average of 3.3 organs were donated per DBD donor and 2.7 per DCD donor. These rates ranged from 3.3 (DBD) and 2.6 (DCD) organs per donor in England and Scotland, respectively, to 3.6 (DBD) and 3.1 (DCD) in Scotland and Wales, respectively.

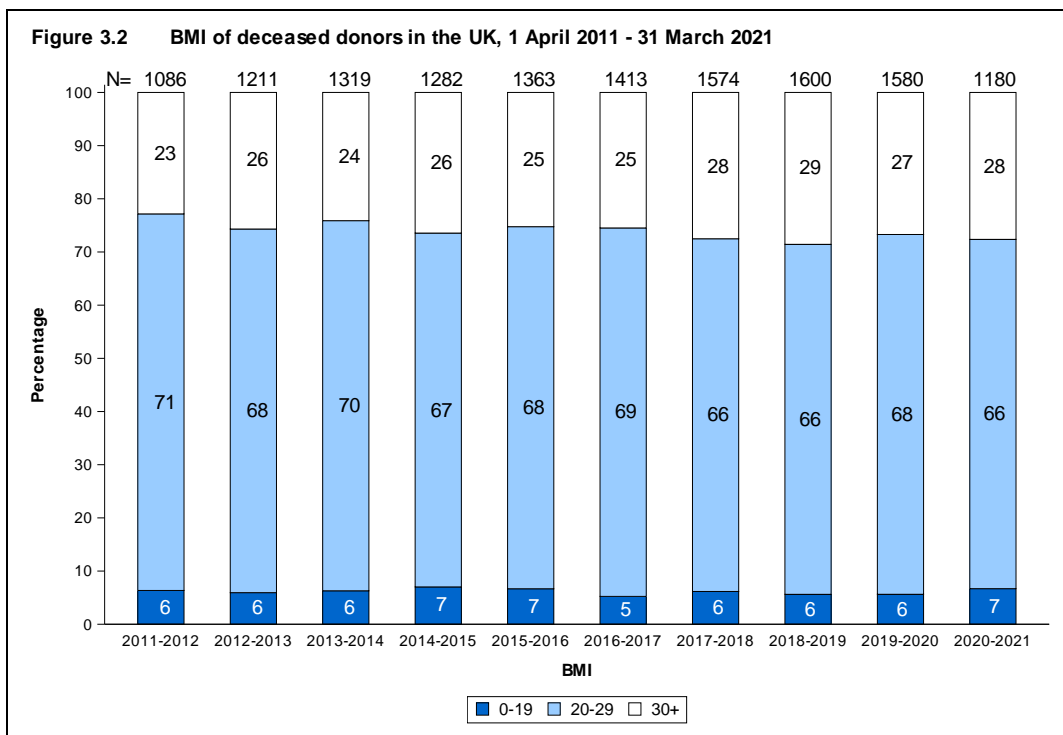
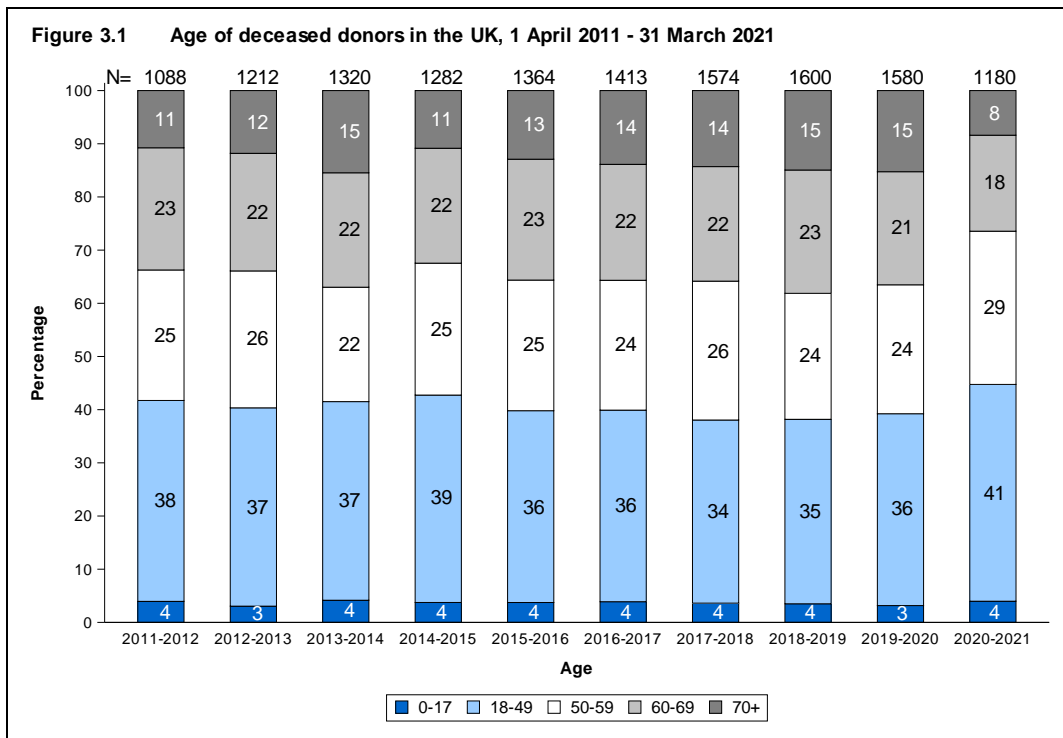
<b>Table 3.5 Organs retrieved per donor, in the UK, 1 April 2020 - 31 March 2021, by country of donor residence</b>									
<b>Country</b>	<b>Adult</b>			<b>Paediatric</b>			<b>All</b>		
	<b>DBD</b>	<b>DCD</b>	<b>TOTAL</b>	<b>DBD</b>	<b>DCD</b>	<b>TOTAL</b>	<b>DBD</b>	<b>DCD</b>	<b>TOTAL</b>
England	3.2	2.6	<b>3.0</b>	4.5	3.2	<b>3.9</b>	3.3	2.7	<b>3.1</b>
Wales	3.3	2.8	<b>3.2</b>	6.0	7.0	<b>6.5</b>	3.4	3.1	<b>3.3</b>
Scotland	3.5	2.6	<b>3.2</b>	5.0	4.0	<b>4.5</b>	3.6	2.6	<b>3.3</b>
Northern Ireland	3.4	2.8	<b>3.2</b>	4.0	-	<b>4.0</b>	3.5	2.8	<b>3.3</b>
TOTAL <sup>1</sup>	3.3	2.6	<b>3.1</b>	4.6	3.3	<b>3.9</b>	3.3	2.7	<b>3.1</b>

### 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 2020-2021, the decade long trend towards older donors has reversed, as a result of the pandemic: 26% of deceased donors were aged 60 years or more compared with 34% in 2011-2012 (**Figure 3.1**). Emergency donor age restrictions implemented at the start of the COVID-19 pandemic will have contributed to the smaller proportion of older donors in 2020-2021. The proportion of clinically obese donors (Body Mass Index (BMI) of 30 or higher) has increased from 23% to 28% 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 6% to 3% over the same time period. Trends towards older and more obese deceased donors and those with non-trauma related deaths may all 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 7% of donors are from the Black, Asian, Mixed and minority ethnic (BAME) community. By contrast, the BAME community are estimated to represent 14% of the UK population.

<b>Table 3.6 Demographic characteristics of organ donors in the UK 1 April 2020 - 31 March 2021</b>							
		DBD		DCD		TOTAL	
		N	%	N	%	N	%
Age	0-17	23	3	24	6	47	4
	18-49	325	42	156	38	481	41
	50-59	217	28	123	30	340	29
	60-69	125	16	88	21	213	18
	70+	76	10	23	6	99	8
	Mean (SD)	49	16	49	16	49	16
BMI	0-19	47	6	32	8	79	7
	20-29	511	67	264	64	775	66
	30+	208	27	118	29	326	28
	Mean (SD)	27	6	27	6	27	6
Cause of death	Intracranial	679	89	347	84	1026	87
	Trauma	15	2	17	4	32	3
	Other	72	9	50	12	122	10
Ethnicity	White	680	92	380	94	1060	93
	Asian	23	3	9	2	32	3
	Black	16	2	2	0	18	2
	Other	22	3	12	3	34	3
	Unknown	25	-	11	-	36	-
Blood group	O	343	45	199	48	542	46
	A	316	41	168	41	484	41
	B	89	12	38	9	127	11
	AB	17	2	9	2	26	2
	Unknown	1	-	0	-	0	-
Donor gender	Male	384	50	275	66	659	56
	Female	382	50	139	34	521	44
<b>TOTAL</b>		<b>766</b>	<b>100</b>	<b>414</b>	<b>100</b>	<b>1180</b>	<b>100</b>



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.