

# The National Organ Retrieval Service and Usage of Organs

## Key messages

- National Organ Retrieval Service teams attended 842 possible DBD donors and 913 possible DCD donors; 98% of these DBD donors and 64% of these DCD donors attended proceeded to donation
- Overall, 52% of organs offered from those donors that did proceed were transplanted, but individually, these rates were 85% for kidneys, 63% for livers, 30% for pancreases, 30% for hearts, 16% for lungs and 7% for bowels
- The number of deceased donors per million of population was 21.6, however 5% of actual donors resulted in no organ transplants compared to 6% in the previous year

## 4.1 The National Organ Retrieval Service (NORS)

As of 4 April 2016 there have been 7 abdominal and 3 cardiothoracic NORS teams available at any given time to retrieve organs from deceased donors in the UK for transplantation. This represents a change in the service which was implemented as a result of a review of the National Organ Retrieval Service, which recommended the reduction in the number of cardiothoracic teams from 6 to 3. Occasionally an off duty team will be called out when all 3 cardiothoracic on-call teams are out attending a donor. The first on-call NORS team is the closest available team to the donor, whereas before this was previously based on designated areas of the UK.

If a team is first on-call for a particular donor hospital, they are required to attend possible 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 is called in to retrieve and so on. In three 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 in fact 10 abdominal teams in total.

The number of possible DBD and DCD donors that were attended by each of the teams in 2016-2017 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 possible 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 result in unsuitability of organs for transplantation. A small number of possible 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        |                    |                | No.<br>attended | DCD        |                    |                | No.<br>attended |
|-----------------------------------|------------|--------------------|----------------|-----------------|------------|--------------------|----------------|-----------------|
|                                   | Actual     | Non-<br>proceeding | % non-<br>proc |                 | Actual     | Non-<br>proceeding | % non-<br>proc |                 |
| <b>Abdominal</b>                  |            |                    |                |                 |            |                    |                |                 |
| Birmingham <sup>1</sup>           | 103        | 0                  | 0              | <b>103</b>      | 62         | 39                 | 39             | <b>101</b>      |
| Cambridge                         | 94         | 1                  | 1              | <b>95</b>       | 90         | 40                 | 31             | <b>130</b>      |
| Cardiff <sup>1</sup>              | 25         | 0                  | 0              | <b>25</b>       | 27         | 13                 | 33             | <b>40</b>       |
| Edinburgh                         | 82         | 1                  | 1              | <b>83</b>       | 57         | 21                 | 27             | <b>78</b>       |
| King's                            | 152        | 6                  | 4              | <b>158</b>      | 98         | 66                 | 40             | <b>164</b>      |
| Leeds <sup>2</sup>                | 67         | 2                  | 3              | <b>69</b>       | 49         | 22                 | 31             | <b>71</b>       |
| Manchester <sup>2</sup>           | 62         | 2                  | 3              | <b>64</b>       | 64         | 37                 | 37             | <b>101</b>      |
| Newcastle                         | 101        | 3                  | 3              | <b>104</b>      | 60         | 36                 | 38             | <b>96</b>       |
| Oxford <sup>3</sup>               | 79         | 0                  | 0              | <b>79</b>       | 48         | 31                 | 39             | <b>79</b>       |
| Royal Free <sup>3</sup>           | 61         | 0                  | 0              | <b>61</b>       | 29         | 22                 | 43             | <b>51</b>       |
| <b>Abdominal total</b>            | <b>826</b> | <b>15</b>          | <b>2</b>       | <b>841</b>      | <b>584</b> | <b>327</b>         | <b>36</b>      | <b>911</b>      |
| <b>Cardiothoracic<sup>4</sup></b> |            |                    |                |                 |            |                    |                |                 |
| Birmingham                        | 49         | 27                 | 36             | <b>76</b>       | 6          | 21                 | 78             | <b>27</b>       |
| Glasgow                           | 22         | 14                 | 39             | <b>36</b>       | 3          | 8                  | 73             | <b>11</b>       |
| Harefield                         | 57         | 36                 | 39             | <b>93</b>       | 8          | 21                 | 72             | <b>29</b>       |
| Manchester                        | 47         | 17                 | 27             | <b>64</b>       | 5          | 15                 | 75             | <b>20</b>       |
| Newcastle                         | 33         | 22                 | 40             | <b>55</b>       | 4          | 6                  | 60             | <b>10</b>       |
| Papworth                          | 57         | 30                 | 34             | <b>87</b>       | 19         | 25                 | 57             | <b>44</b>       |
| <b>Cardiothoracic total</b>       | <b>265</b> | <b>146</b>         | <b>36</b>      | <b>411</b>      | <b>45</b>  | <b>96</b>          | <b>68</b>      | <b>141</b>      |
| <b>Total donors attended</b>      | <b>829</b> | <b>13</b>          | <b>2</b>       | <b>842</b>      | <b>584</b> | <b>329</b>         | <b>36</b>      | <b>913</b>      |

<sup>1,2,3,4</sup> Share on-call responsibilities

## 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**. On occasion a 'consented' donor may not have organs offered because the donor's condition deteriorates or it is discovered the donor is unsuitable for organ donation. 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 2016-2017, 5% of actual donors resulted in no organ transplants compared with 6% in the previous year.

| <b>Table 4.2 Consented, offered, actual and utilised deceased donors in the UK, 1 April 2016 - 31 March 2017</b> |                  |        |                  |        |                    |        |
|--|------------------|--------|------------------|--------|--------------------|--------|
|  | <b>DBD (pmp)</b> |        | <b>DCD (pmp)</b> |        | <b>Total (pmp)</b> |        |
| Consented donors <sup>1</sup>  | 923              | (14.1) | 1159             | (17.7) | 2082               | (31.9) |
| Offered donors <sup>2</sup>  | 890              | (13.6) | 1025             | (15.7) | 1915               | (29.3) |
| <i>Kidneys offered</i>   | 1715             |        | 1974             |        | 3689               |        |
| <i>Livers offered</i>  | 859              |        | 952              |        | 1811               |        |
| <i>Pancreases offered</i>  | 600              |        | 335              |        | 935                |        |
| <i>Bowels offered</i>  | 247              |        | 0                |        | 247                |        |
| <i>Hearts offered</i>  | 541              |        | 76               |        | 617                |        |
| <i>Lungs offered</i>   | 1108             |        | 690              |        | 1798               |        |
| Actual donors  | 829              | (12.7) | 584              | (8.9)  | 1413               | (21.6) |
| Utilised donors <sup>3</sup>   | 809              | (12.4) | 537              | (8.2)  | 1346               | (20.6) |

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

There were 1,413 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 829 DBD and 584 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. There are no nationally agreed age criteria for kidney and liver donation.

**Table 4.3 Donation and transplantation of organs from 1413 deceased donors in the UK, 1 April 2016 – 31 March 2017**

| Organ                               | Organs meeting initial suitability criteria and offered for transplantation | Organs retrieved for transplantation |              | Organs transplanted |                |              | Organs used for research (from actual organ donors) |
|-------------------------------------|---|--------------------------------------|--------------|---------------------|----------------|--------------|---|
|                                     |   | N                                    | % of offered | N                   | % of retrieved | % of offered |   |
| <b>DBD donor organs</b>             |   |                                      |              |                     |                |              |   |
| Kidney                              | 1656  | 1529                                 | 92           | 1414                | 92             | 85           | 66  |
| Liver                               | 814   | 747                                  | 92           | 674                 | 90             | 83           | 52  |
| Pancreas <sup>1</sup>               | 505   | 349                                  | 69           | 172                 | 49             | 34           | 133   |
| Bowel <sup>2,3</sup>                | 196   | 13                                   | 7            | 13                  | 100            | 7            | 0   |
| Heart <sup>4</sup>                  | 589   | 182                                  | 31           | 175                 | 96             | 30           | 2   |
| Lung <sup>5</sup>                   | 1224  | 280                                  | 23           | 266                 | 95             | 22           | 7   |
| <b>Total</b>                        | <b>4984</b>   | <b>3100</b>                          | <b>62</b>    | <b>2714</b>         | <b>88</b>      | <b>54</b>    | <b>260</b>  |
| <b>DCD donor organs<sup>6</sup></b> |   |                                      |              |                     |                |              |   |
| Kidney                              | 1166  | 1129                                 | 97           | 976                 | 86             | 84           | 97  |
| Liver                               | 575   | 294                                  | 51           | 208                 | 71             | 36           | 58  |
| Pancreas <sup>1</sup>               | 220   | 114                                  | 52           | 49                  | 43             | 22           | 46  |
| Lung <sup>5,6</sup>                 | 754   | 64                                   | 8            | 54                  | 84             | 7            | 4   |
| <b>Total</b>                        | <b>2715</b>   | <b>1601</b>                          | <b>59</b>    | <b>1287</b>         | <b>80</b>      | <b>47</b>    | <b>205</b>  |
| <b>Deceased donor organs</b>        |   |                                      |              |                     |                |              |   |
| Kidney                              | 2822  | 2658                                 | 94           | 2390                | 90             | 85           | 163   |
| Liver                               | 1389  | 1041                                 | 75           | 882                 | 85             | 63           | 110   |
| Pancreas <sup>1</sup>               | 725   | 463                                  | 64           | 221                 | 48             | 30           | 179   |
| Bowel <sup>2,3</sup>                | 196   | 13                                   | 7            | 13                  | 100            | 7            | 0   |
| Heart <sup>4</sup>                  | 589   | 182                                  | 31           | 175                 | 96             | 30           | 2   |
| Lung <sup>5</sup>                   | 1978  | 344                                  | 17           | 320                 | 93             | 16           | 11  |
| <b>Total</b>                        | <b>7699</b>   | <b>4701</b>                          | <b>61</b>    | <b>4001</b>         | <b>85</b>      | <b>52</b>    | <b>465</b>  |

<sup>1</sup> Excludes donors aged > 60 years

<sup>2</sup> Excludes 1 bowel transplant from an overseas donor

<sup>3</sup> Excludes donors aged >= 56 years or weighing >= 80kg

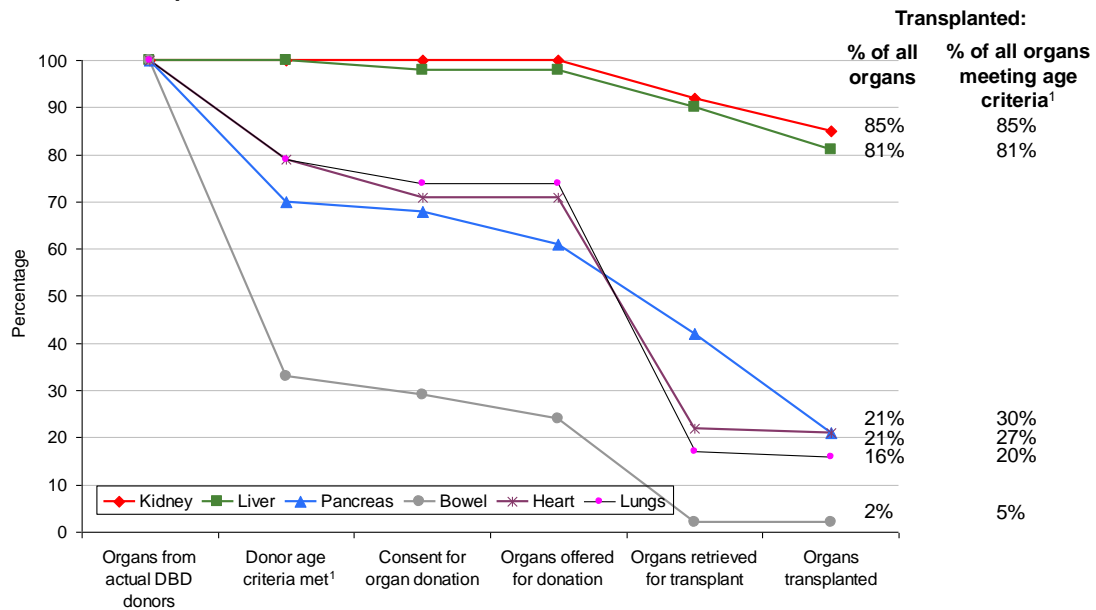
<sup>4</sup> Excludes donors aged > 65 years or died due to myocardial infarction

<sup>5</sup> Excludes donors aged > 65 years

<sup>6</sup> Excludes DCD hearts because this is not part of the national service, see cardiothoracic section for DCD heart detail

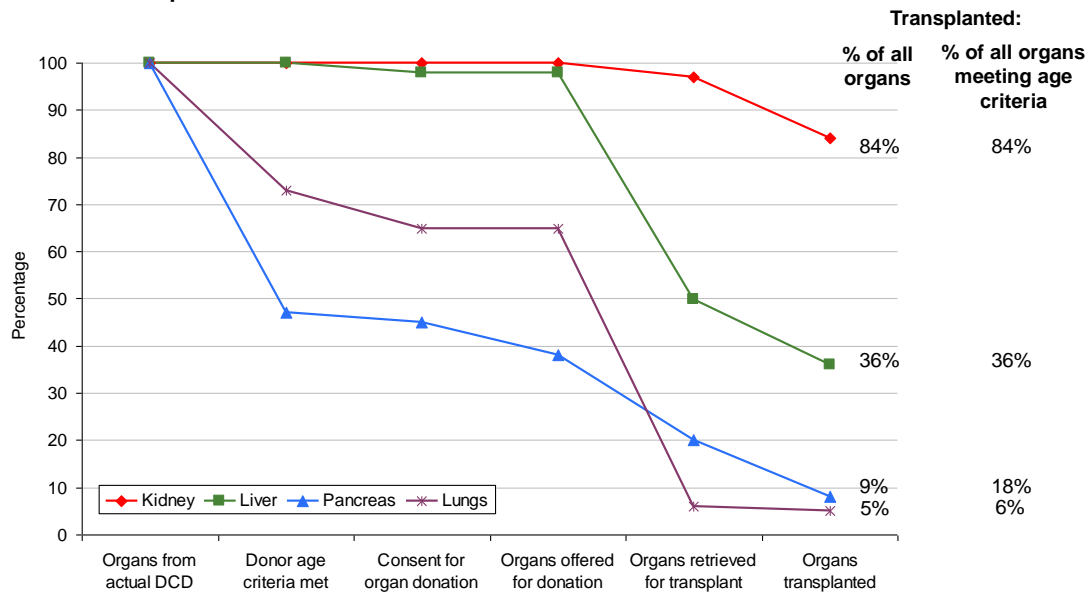
Figures 4.1 and 4.2 show line graphs of the pathway for all donor organs through to transplantation. The charts start at 100% for each organ, representing all organs from the 829 DBD and 584 DCD donors. The proportion of these organs where any national donor age criteria are met is then shown, followed by the proportion with consent (authorisation in Scotland), the proportion offered, the proportion retrieved and finally the proportion transplanted. For example, Figure 4.2 shows that 84% of the kidneys from the 584 DCD donors were transplanted, an increase from 81% in the previous year. 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 2016 – 31 March 2017**



<sup>1</sup> 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 2016 – 31 March 2017**



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.

The percentage of organs retrieved that were not transplanted are shown in **Figure 4.3**, **Figure 4.4**, **Figure 4.5**, **Figure 4.6** and **Figure 4.7** for kidneys, livers, pancreases, hearts and lungs respectively. The rates are shown over the last decade. Some organs are found not to be suitable for transplantation after they have been retrieved and this 'non-utilisation rate' is generally increasing over time for each organ, reflecting the ageing donor population. The majority of organs retrieved but found not to be suitable for transplantation are instead used for research (with appropriate consent).

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 2016-2017 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 2016 – 31 March 2017**

|  | Kidney           | Liver           | Pancreas         | Bowel           |
|--|------------------|-----------------|------------------|-----------------|
| <b>All DBD organ donors</b>  | <b>829</b>       | <b>829</b>      | <b>829</b>       | <b>829</b>      |
| Donors from whom organs not offered for donation                           | 1                | 15              | 324              | 633             |
| <b>Reasons for organs not being offered</b>                                |                  |                 |                  |                 |
| Family permission refused  | 1                | 9               | 10               | 34              |
| Permission refused by coroner  | 0                | 6               | 6                | 5               |
| Donor unsuitable – age   | 0                | 0               | 246              | 0               |
| Donor unsuitable – past history  | 0                | 0               | 42               | 8               |
| Donor age >=56 or donor weight >=80kg                                      | 0                | 0               | 0                | 553             |
| Other  | 0                | 0               | 20               | 33              |
| <b>TOTAL DONORS WITH ORGANS NOT OFFERED</b>                                | <b>1</b>         | <b>15</b>       | <b>324</b>       | <b>633</b>      |
| <b>Organs offered for donation</b>   | <b>1656</b>      | <b>814</b>      | <b>505</b>       | <b>196</b>      |
| <b>Organs not retrieved (% of organs offered for donation)</b>             | <b>127 (8)</b>   | <b>67 (8)</b>   | <b>156 (31)</b>  | <b>183 (93)</b> |
| <b>Reasons for non-retrieval</b>   |                  |                 |                  |                 |
| <i>Donor</i>   |                  |                 |                  |                 |
| Donor unsuitable – medical   | 10               | 4               | 14               | 1               |
| Donor unsuitable – non-medical   | 1                | 1               | 16               | 128             |
| Donor age  | 12               | 1               | 5                | 5               |
| <i>Organ</i>   |                  |                 |                  |                 |
| Organ unsuitable – clinical  | 74               | 37              | 91               | 29              |
| Poor function  | 17               | 5               | 12               | 1               |
| <i>Other</i>   |                  |                 |                  |                 |
| Other  | 13               | 19              | 18               | 19              |
| <b>TOTAL ORGANS OFFERED, NOT RETRIEVED</b>                                 | <b>127</b>       | <b>67</b>       | <b>156</b>       | <b>183</b>      |
| <b>Organs retrieved (% of organs offered for donation)</b>                 | <b>1529 (92)</b> | <b>747 (92)</b> | <b>349 (69)</b>  | <b>13 (7)</b>   |
| Organs transplanted in the UK  | 1414             | 668             | 172              | 13 <sup>2</sup> |
| Organs transplanted overseas   | 0                | 6 <sup>1</sup>  | 0                | 0               |
| Organs not transplanted  | 115              | 73              | 177              | 0               |
| <b>Reasons for organ not being transplanted</b>                            |                  |                 |                  |                 |
| <i>Donor</i>   |                  |                 |                  |                 |
| Donor unsuitable – medical   | 28               | 3               | 10               | 0               |
| Donor unsuitable – non-medical   | 0                | 0               | 2                | 0               |
| Donor age  | 0                | 0               | 0                | 0               |
| <i>Organ</i>   |                  |                 |                  |                 |
| Organ unsuitable – clinical  | 26               | 21              | 83               | 0               |
| Poor function  | 0                | 1               | 0                | 0               |
| <i>Other</i>   |                  |                 |                  |                 |
| Other  | 61               | 48              | 82               | 0               |
| <b>TOTAL ORGANS RETRIEVED, NOT TRANSPLANTED (Number used for research)</b> | <b>115 (66)</b>  | <b>73 (52)</b>  | <b>177 (133)</b> | <b>0 (0)</b>    |

<sup>1</sup> Transplanted into super-urgent patients in the Republic of Ireland

<sup>2</sup> Excludes 1 bowel transplant from an overseas donor



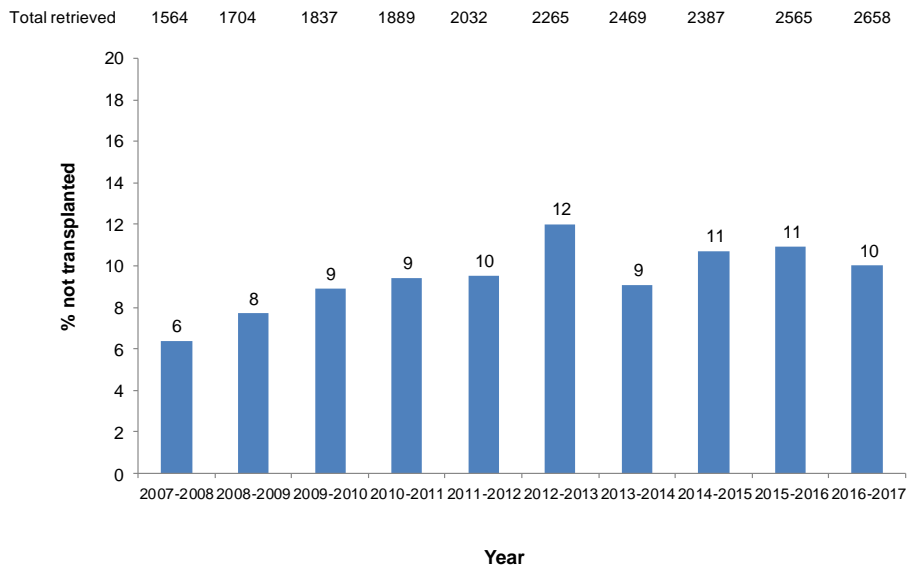
**Table 4.5 Reasons for non-retrieval and non-use of abdominal organs from DCD donors in the UK, 1 April 2016 – 31 March 2017**

|  | Kidney           | Liver           | Pancreas        |
|--|------------------|-----------------|-----------------|
| <b>All DCD organ donors</b>  | <b>584</b>       | <b>584</b>      | <b>584</b>      |
| Donors from whom organs not offered for donation                               | 1                | 9               | 364             |
| <b>Reasons for organs not being offered</b>                                    |                  |                 |                 |
| Family permission refused  | 1                | 4               | 10              |
| Permission refused by coroner  | 0                | 5               | 1               |
| Donor unsuitable – age   | 0                | 0               | 310             |
| Donor unsuitable – past history  | 0                | 0               | 22              |
| Other  | 0                | 0               | 21              |
| <b>TOTAL DONORS WITH ORGANS NOT OFFERED</b>                                    | <b>1</b>         | <b>9</b>        | <b>364</b>      |
| <b>Organs offered for donation</b>   | <b>1166</b>      | <b>575</b>      | <b>220</b>      |
| <b>Organs not retrieved (% of organs offered for donation)</b>                 | <b>37 (3)</b>    | <b>281 (49)</b> | <b>106 (48)</b> |
| <b>Reasons for non-retrieval</b>   |                  |                 |                 |
| <i>Donor</i>   |                  |                 |                 |
| Donor unsuitable – medical   | 3                | 0               | 1               |
| Donor unsuitable – non-medical   | 1                | 11              | 14              |
| Donor age  | 2                | 56              | 11              |
| <i>Organ</i>   |                  |                 |                 |
| Organ unsuitable – clinical  | 22               | 92              | 51              |
| Poor function  | 3                | 25              | 4               |
| <i>Other</i>   |                  |                 |                 |
| Other  | 6                | 97              | 25              |
| <b>TOTAL ORGANS OFFERED, NOT RETRIEVED</b>                                     | <b>37</b>        | <b>281</b>      | <b>106</b>      |
| <b>Organs retrieved (% of organs offered for donation)</b>                     | <b>1129 (97)</b> | <b>294 (51)</b> | <b>114 (52)</b> |
| Organs transplanted in the UK  | 976              | 208             | 49              |
| Organs transplanted overseas   | 0                | 0               | 0               |
| Organs not transplanted  | 153              | 86              | 65              |
| <b>Reasons for organ not being transplanted</b>                                |                  |                 |                 |
| <i>Donor</i>   |                  |                 |                 |
| Donor unsuitable – medical   | 39               | 6               | 4               |
| Donor unsuitable – non-medical   | 0                | 0               | 1               |
| Donor age  | 0                | 0               | 1               |
| <i>Organ</i>   |                  |                 |                 |
| Organ unsuitable – clinical  | 21               | 25              | 26              |
| Poor function  | 0                | 0               | 0               |
| <i>Other</i>   |                  |                 |                 |
| Other  | 93               | 55              | 33              |
| <b>TOTAL ORGANS RETRIEVED, NOT TRANSPLANTED<br/>(Number used for research)</b> | <b>153 (97)</b>  | <b>86 (58)</b>  | <b>65 (46)</b>  |

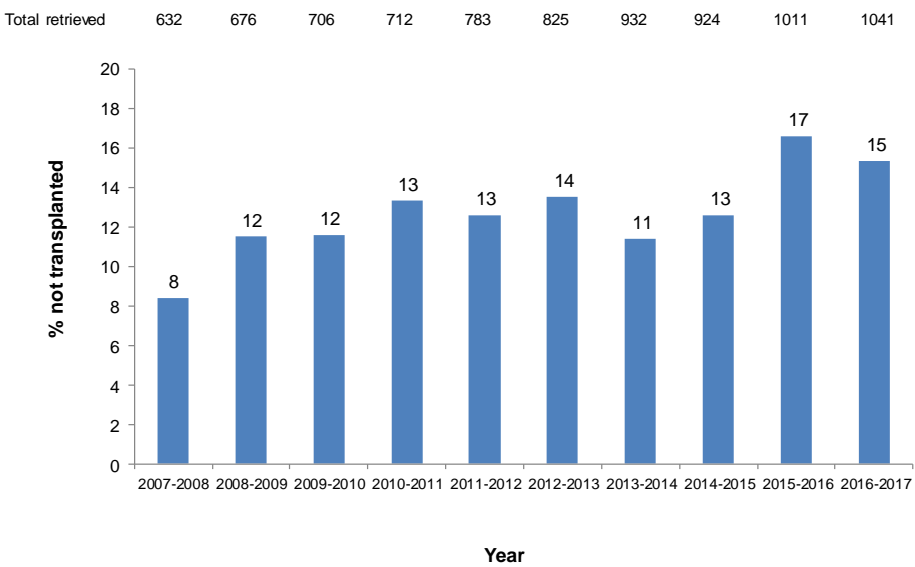
**Table 4.6 Reasons for non-retrieval and non-use of cardiothoracic organs from organ donors in the UK, 1 April 2016 – 31 March 2017**

|  | Heart (DBD)     | Lung (DBD)      | Lung (DCD)      |
|--|-----------------|-----------------|-----------------|
| <b>All organ donors</b>  | <b>829</b>      | <b>829</b>      | <b>584</b>      |
| Donors from whom organs not offered for donation                               | 240             | 217             | 207             |
| <b>Reasons for organs not being offered</b>                                    |                 |                 |                 |
| Family permission refused  | 38              | 25              | 28              |
| Permission refused by coroner  | 24              | 22              | 18              |
| Donor age >65 years  | 170             | 170             | 159             |
| Donor cause of death cardiac arrest or myocardial infarction                   | 8               | 0               | 0               |
| Other  | 0               | 0               | 2               |
| <b>TOTAL DONORS WITH ORGANS NOT OFFERED</b>                                    | <b>240</b>      | <b>217</b>      | <b>207</b>      |
| <b>Organs offered for donation</b>   | <b>589</b>      | <b>1224</b>     | <b>754</b>      |
| <b>Organs not retrieved (% of organs offered for donation)</b>                 | <b>407 (69)</b> | <b>944 (77)</b> | <b>690 (92)</b> |
| <b>Reasons for non-retrieval</b>   |                 |                 |                 |
| <i>Donor</i>   |                 |                 |                 |
| Donor unsuitable – medical   | 16              | 31              | 22              |
| Donor unsuitable – non-medical   | 61              | 66              | 22              |
| Donor age  | 37              | 24              | 50              |
| <i>Organ</i>   |                 |                 |                 |
| Organ unsuitable – clinical  | 102             | 255             | 258             |
| Poor function  | 163             | 469             | 276             |
| <i>Other</i>   |                 |                 |                 |
| Other  | 28              | 99              | 62              |
| <b>TOTAL ORGANS OFFERED, NOT RETRIEVED</b>                                     | <b>407</b>      | <b>944</b>      | <b>690</b>      |
| <b>Organs retrieved (% of organs offered for donation)</b>                     | <b>182 (31)</b> | <b>280 (23)</b> | <b>64 (8)</b>   |
| Organs transplanted in the UK  | 173             | 262             | 54              |
| Organs transplanted overseas   | 2               | 4               | 0               |
| Organs not transplanted  | 7               | 14              | 10              |
| <b>Reasons for organ not being transplanted</b>                                |                 |                 |                 |
| <i>Donor</i>   |                 |                 |                 |
| Donor unsuitable – medical   | 0               | 0               | 0               |
| Donor unsuitable – non-medical   | 0               | 0               | 0               |
| <i>Organ</i>   |                 |                 |                 |
| Organ unsuitable – clinical  | 0               | 0               | 0               |
| Poor function  | 3               | 2               | 0               |
| <i>Other</i>   |                 |                 |                 |
| Other  | 4               | 12              | 8               |
| <b>TOTAL ORGANS RETRIEVED, NOT TRANSPLANTED<br/>(Number used for research)</b> | <b>7 (2)</b>    | <b>14 (7)</b>   | <b>10 (4)</b>   |

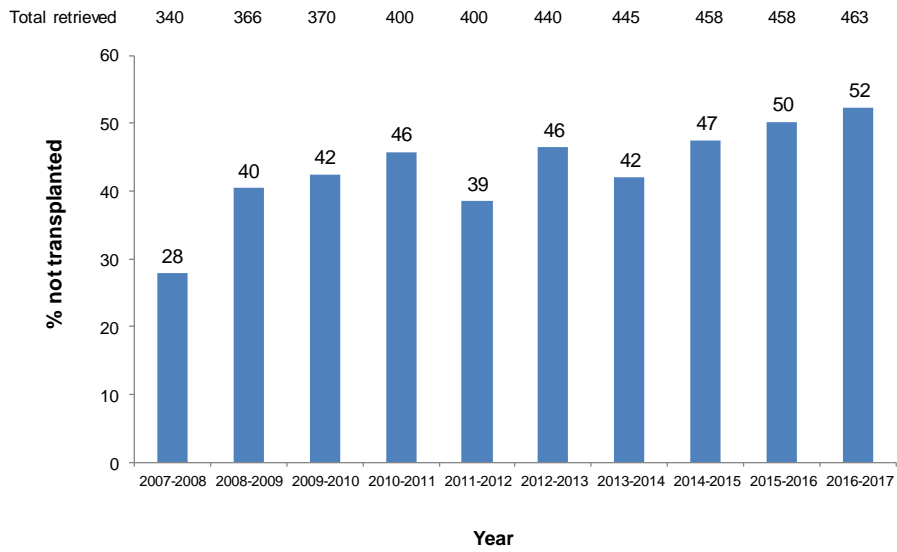
**Figure 4.3 Percentage of kidneys retrieved that are not transplanted from deceased organ donors in the UK, 1 April 2007 – 31 March 2017**



**Figure 4.4 Percentage of livers retrieved that are not transplanted from deceased organ donors in the UK, 1 April 2007 – 31 March 2017**

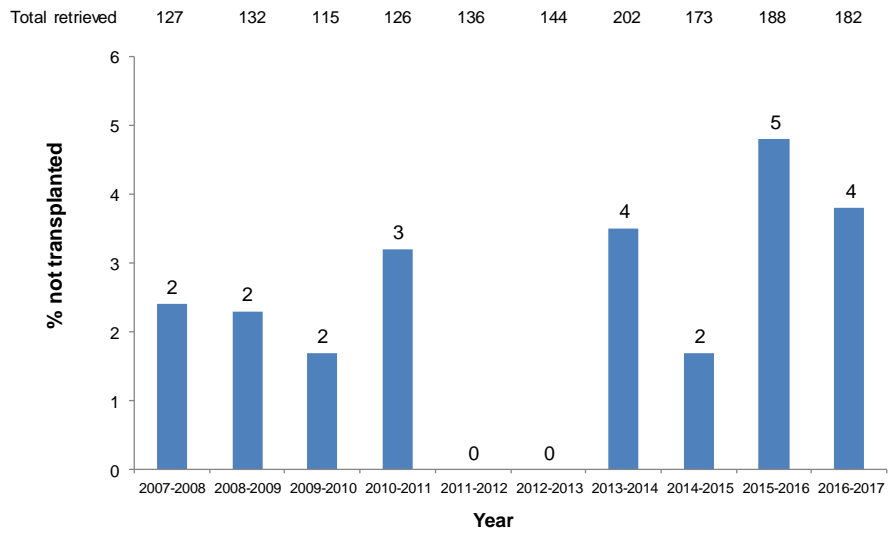


**Figure 4.5 Percentage of pancreases<sup>1</sup> retrieved that are not transplanted from deceased organ donors in the UK, 1 April 2007 – 31 March 2017**



<sup>1</sup> Excludes donors aged > 60 years

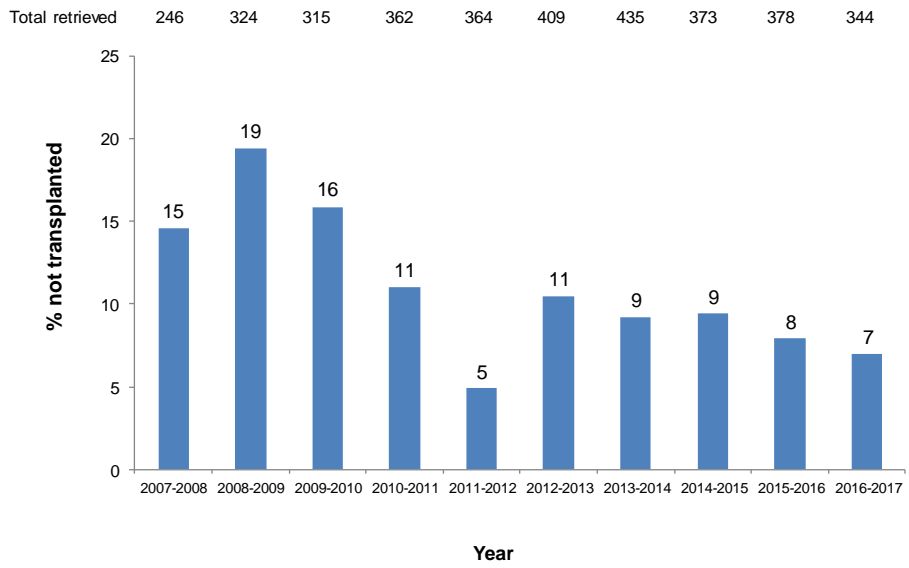
**Figure 4.6 Percentage of hearts<sup>1</sup> retrieved that are not transplanted from deceased organ donors<sup>2</sup> in the UK, 1 April 2007 – 31 March 2017**



<sup>1</sup> Excludes donors aged > 65 years or died due to myocardial infarction

<sup>2</sup> Excludes DCD hearts

**Figure 4.7 Percentage of lungs<sup>1</sup> retrieved that are not transplanted from deceased organ donors in the UK, 1 April 2007 – 31 March 2017**



<sup>1</sup> Excludes donors aged > 65 years