

**NHS BLOOD AND TRANSPLANT
ORGAN AND TISSUE DONATION AND TRANSPLANTATION DIRECTORATE**

HCV positive donors

BACKGROUND

- 1 Since March 2019 solid organ transplant programs in Scotland and Wales have been able to seek approval to apply for funding for HCV treatments for transplant recipients of HCV positive organs, thereby allowing transplant of HCV positive organs to negative recipients. From October 2019, this was also in place for programs in England and Northern Ireland.
- 2 Each UK transplant centre must apply for this funding and meet the preconditions before being entered into the program. A list of approved centres is in the Appendix.
- 3 This paper provides a summary of HCV positive donors offered in the UK since the introduction of the program.

DATA

- 4 Donors identified as HCV positive or had an indeterminate result on the UKTR and had organs offered for transplant between 1 March 2019 and 31 March 2024, were investigated. Some of these donors may have been offered as HCV positive or indeterminate and subsequently found to be HCV RNA negative.

RESULTS

- 5 There were 143 patients identified as HCV positive or had an indeterminate result, who had at least one solid organ offered for donation. Of those 143, 73 (51.1%) became solid organ donors, having at least one solid organ retrieved with the intention to transplant.
- 6 **Table 1** shows the number of each organ offered from these 143 donors and the outcome. Overall, 670 organs were offered, 233 (35%) were accepted, 166 were retrieved and 131 organs (79% of those retrieved) were transplanted. This resulted in 127 transplants as two were simultaneous pancreas and kidney transplants, two kidneys were transplanted as one double kidney and one was a double lung transplant.
- 7 **Table 2** shows the reasons given for not retrieving or retrieving and not transplanting the organs. The main reason given for kidneys was “donor unsuitable – virology” but for livers was “donor unsuitable – past history”. The majority of organs were not retrieved and only 29 kidneys, five livers, one pancreas and one lung pair were accepted and retrieved but subsequently not transplanted.

- 8 The 127 transplants came from 65 donors, 25 (39%) were confirmed as HCV RNA positive and 40 (61%) were negative shown in **Table 3**. The 25 donors confirmed as HCV RNA positive resulted in 32 kidney and nine liver transplants.
- 9 Of the 32 kidney transplants from HCV RNA positive donors, 18 were performed in Cardiff, three in Oxford, four at Royal Free, three in Edinburgh, two in Belfast, one at Liverpool and one at Plymouth. All recipients were HCV negative pre-transplant. Follow-up is currently available for 30 of the 32 recipients: two grafts failed (one within 30 days) and 28 are known to be functioning: nine at less than one year, five between 1 and 2 years and fourteen at over two years post-transplant.
- 10 The nine liver transplants from HCV RNA positive donors, were performed at Birmingham (1), Royal Free (2), Edinburgh (4) and Cambridge (2). Two recipients were HCV RNA positive pre-transplant, two were HCV RNA negative (antibody positive) and five were HCV antibody negative. Of the two HCV RNA positive recipients, one transplant failed and the recipient died and one was known to be functioning at greater than three years post-transplant. The HCV RNA negative (antibody positive) recipient's graft was functioning at less than one year post-transplant. Of the HCV antibody negative recipients' grafts, two had no follow-up and four were functioning: one at less than one year; two at greater than one year and one at greater than two years post-transplant.

Organ	Organs Offered	Accepted	% of offered	Retrieved	% of accepted	Transplanted	% of retrieved
Kidney	275	154	56.0	121	78.6	92	76.0
Liver	123	53	43.1	37	69.8	32	86.5
Pancreas	100	11	11.0	3	27.3	2	66.7
Heart	52	7	13.5	3	42.9	3	100.0
Lung	104	8	7.7	2	25.0	2	100.0
Small bowel	16	0	0.0	0	.	0	.
Total	670	233	34.8	166	71.2	131	78.9

Table 2 Primary reason recorded for organ not retrieved or retrieved and not used when offered from 143 HCV antibody positive or indeterminate result donors, 1 March 2019 to 31 March 2024

Primary overall reason recorded	Kidneys		Livers		Pancreases		Small bowels		Hearts		Lungs ¹	
	N	%	N	%	N	%	N	%	N	%	N	%
Donor unsuitable - virology	70	38.3	20	22.0	42	42.9	10	62.5	32	65.3	23	45.1
Donor unsuitable - past history	43	23.5	39	42.9	33	33.7	2	12.5	5	10.2	8	15.7
No suitable recipients	20	10.9	12	13.2	10	10.2	2	12.5	6	12.2	10	19.6
Other, please specify	20	10.9	8	8.8	2	2.0	.	.	.	.	.	.
Anatomical anomaly, please specify	5	2.7	.	.	1	1.0	.	.	.	.	.	.
Poor perfusion	5	2.7	.	.	.	.	.	.	.	.	.	.
Family permission refused	4	2.2	1	1.1	.	.	.	.	.	.	.	.
Prolonged time to asystole	4	2.2	.	.	.	.	.	.	.	.	.	.
Organ damaged	3	1.6	.	.	.	.	.	.	.	.	.	.
Permission refused by coroner	2	1.1	2	2.2	.	.	.	.	.	.	.	.
Poor function	2	1.1	.	.	.	.	.	.	2	4.1	2	3.9
Infection	2	1.1	.	.	.	.	.	.	.	.	.	.
Donor unsuitable - Medication	1	0.5	.	.	.	.	.	.	.	.	.	.
Ischaemia time too long - cold	1	0.5	.	.	.	.	.	.	.	.	.	.
Recipient refused	1	0.5	.	.	.	.	.	.	.	.	.	.
Donor unsuitable - age	.	.	2	2.2	2	2.0	.	.	.	.	.	.
Donor unsuitable - size	.	.	.	.	5	5.1	1	6.3	1	2.0	2	3.9
No time	.	.	.	.	.	.	.	.	1	2.0	.	.
Centre already transplanting	.	.	.	.	.	.	.	.	.	.	1	2.0
Centre criteria not achieved	.	.	.	.	.	.	.	.	.	.	1	2.0
Ischaemia time too long - warm	.	.	1	1.1	.	.	.	.	.	.	.	.
No response to fast track/group offer	.	.	1	1.1	2	2.0	1	6.3	2	4.1	3	5.9
Used for research after declined by centres	.	.	2	2.2	.	.	.	.	.	.	.	.
Steatosis (Fatty organ) - organ unsuitable	.	.	2	2.2	1	1.0	.	.	.	.	.	.
Donor unsuitable - medical reason	.	.	.	.	.	.	.	.	.	.	1	2.0
Fibrosis	.	.	1	1.1	.	.	.	.	.	.	.	.
Total	183	100.0	91	100.0	98	100.0	16	100.0	49	100.0	51	100.0

¹ One reason per pair of lungs

Table 3 Transplants performed by donor HCV RNA status, 1 March 2019 to 31 March 2024

Donor HCV RNA status	Organs transplanted					Total transplants	Donors
	Kidney	Liver	Pancreas	Heart	Lung		
Negative	60 ¹	23	2 ¹	3	2 ²	86	40
Positive	32	9	0	0	0	41	25
Total	92¹	32	2¹	3	2²	127	65

¹ Two SPK transplants and 1 double kidney

² One double lung transplant

Appendix

List of approved centres as at January 2023

Cardiac	Liver	Kidney	Pancreas	SPK	IFALD
Birmingham Papworth	Birmingham Edinburgh Royal Free Newcastle Leeds Cambridge Kings	Belfast Edinburgh Cardiff Leeds Royal Free Oxford Cambridge Newcastle Liverpool		Edinburgh Cardiff Oxford Cambridge Newcastle	