

**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 30 September 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 160 patients identified as HCV positive or had an indeterminate result, who had at least one solid organ offered for donation. Of those 160, 86 (53.8%) 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 160 donors and the outcome. Overall, 759 organs were offered, 285 (38%) were accepted, 203 were retrieved and 166 organs (82% of those retrieved) were transplanted. This resulted in 160 transplants as three were simultaneous pancreas and kidney transplants, two kidneys were transplanted as one double kidney and two were double lung transplants.
- 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 30 kidneys, six livers and one pancreas were accepted and retrieved but subsequently not transplanted.

- 8 The 160 transplants came from 78 donors, 29 (37%) were confirmed as HCV RNA positive and 49 (63%) were negative shown in **Table 3**. The 29 donors confirmed as HCV RNA positive resulted in 38 kidney, ten liver and one double lung transplants.
- 9 Of the 38 kidney transplants from HCV RNA positive donors, 19 were performed in Cardiff, four in Oxford, eight 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 31 of the 38 recipients: two grafts failed (one within 30 days) and 29 are known to be functioning: seven at less than one year, six between 1 and 2 years and sixteen at over two years post-transplant.
- 10 The ten liver transplants from HCV RNA positive donors, were performed at Birmingham (2), Royal Free (2), Edinburgh (4) and Cambridge (2). Two recipients were HCV RNA positive pre-transplant, two were HCV RNA negative (antibody positive) and six 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 four 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, one had no follow-up and five were functioning: two 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	309	184	59.5	145	78.8	115	79.3
Liver	137	64	46.7	45	70.3	39	86.7
Pancreas	112	13	11.6	4	30.8	3	75.0
Heart	62	12	19.4	5	41.7	5	100.0
Lung	120	12	10.0	4	33.3	4	100.0
Small bowel	19	0	0.0	0	.	0	.
Total	759	285	37.5	203	71.2	166	81.8

Table 2 Primary reason recorded for organ not retrieved or retrieved and not used when offered from 160 HCV antibody positive or indeterminate result donors, 1 March 2019 to 30 September 2024

Primary overall reason recorded	Kidneys		Livers		Pancreases		Small bowels		Hearts		Lungs ¹	
	N	%	N	%	N	%	N	%	N	%	N	%
Donor unsuitable - virology	70	36.1	21	21.4	45	41.3	12	63.2	34	59.6	25	43.1
Donor unsuitable - past history	46	23.7	44	44.9	40	36.7	2	10.5	8	14.0	12	20.7
No suitable recipients	22	11.3	12	12.2	10	9.2	3	15.8	6	10.5	10	17.2
Prolonged time to asystole	8	4.1	.	.	.	.	.	.	.	.	.	.
Anatomical anomaly, please specify	5	2.6	.	.	1	0.9	.	.	.	.	.	.
Poor perfusion	5	2.6	.	.	.	.	.	.	.	.	.	.
Family permission refused	4	2.1	1	1.0	.	.	.	.	1	1.8	.	.
Organ damaged	3	1.5	.	.	.	.	.	.	.	.	.	.
Permission refused by coroner	2	1.0	2	2.0	.	.	.	.	.	.	.	.
Poor function	2	1.0	.	.	.	.	.	.	2	3.5	2	3.4
Infection	2	1.0	.	.	.	.	.	.	.	.	.	.
Donor unsuitable - Medication	1	0.5	.	.	.	.	.	.	.	.	.	.
Ischaemia time too long - cold	1	0.5	.	.	.	.	.	.	.	.	.	.
Recipient refused	1	0.5	.	.	.	.	.	.	.	.	.	.
Donor unsuitable - age	.	.	2	2.0	2	1.8	.	.	1	1.8	.	.
Donor unsuitable - size	.	.	.	.	5	4.6	1	5.3	2	3.5	2	3.4
No time	.	.	.	.	.	.	.	.	1	1.8	.	.
Centre already transplanting	.	.	.	.	.	.	.	.	.	.	1	1.7
Centre criteria not achieved	.	.	.	.	.	.	.	.	.	.	1	1.7
Ischaemia time too long - warm	.	.	1	1.0	.	.	.	.	.	.	.	.
No response to fast track/group offer	.	.	1	1.0	2	1.8	1	5.3	2	3.5	3	5.2
Used for research after declined by centres	.	.	2	2.0	.	.	.	.	.	.	.	.
Steatosis (Fatty organ) - organ unsuitable	.	.	2	2.0	2	1.8	.	.	.	.	.	.
Donor unsuitable - medical reason	.	.	.	.	.	.	.	.	.	.	1	1.7
Fibrosis	.	.	2	2.0	.	.	.	.	.	.	.	.
Poor function - initial assessment	.	.	.	.	.	.	.	.	.	.	1	1.7
Other, please specify	20	10.3	8	8.2	2	1.8	.	.	.	.	.	.
Other, please specify - organ unsuitable	1	0.5	.	.	.	.	.	.	.	.	.	.
Other, please specify - research/disposed of	1	0.5	.	.	.	.	.	.	.	.	.	.
Total	194	100.0	98	100.0	109	100.0	19	100.0	57	100.0	58	100.0

¹ One reason per pair of lungs

Table 3 Transplants performed by donor HCV RNA status, 1 March 2019 to 30 September 2024

Donor HCV RNA status	Organs transplanted					Total transplants	Donors
	Kidney	Liver	Pancreas	Heart	Lung		
Negative	77 ¹	29	3 ¹	5	2 ²	111	40
Positive	38	10	0	0	2 ²	49	25
Total	115¹	39	3¹	3	4²	160	65

¹ Three 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	