



Blood and Transplant

**WEEKLY REPORT ON SARS-CoV-2 POSITIVE
PATIENTS IN TRANSPLANTATION**

**REPORT FOR
1 MARCH 2020 – 10 MARCH 2021**

PUBLISHED 12 MARCH 2021



This report has been produced by Statistics and Clinical Studies, NHS Blood and Transplant.

All figures quoted in this report are as reported to NHS Blood and Transplant by 10 March 2021.

This report contains information on all patients registered with NHS Blood and Transplant active on the waiting list for an organ transplant or in follow-up after receiving an organ transplant that have tested positive for SARS-CoV-2.

The data collected are deliberately limited so as not to add significantly to the burden of work in transplant centres.

Information on the vital status of a patient has been supplemented from the NHS Digital Tracing Service for patients who reside in England and Wales. Only deaths reported within 28 days of a positive test result are included.

All English patients on the UK Transplant Registry on the waiting list and post-transplant have been linked with Public Health England to obtain whether a patient has tested positive for SARS-CoV-2. This data is updated on a weekly basis.

All Scottish patients on the UK Transplant Registry on the waiting list and post-transplant have been linked with Public Health Scotland to obtain whether a patient has tested positive for SARS-CoV-2. This data is updated on a monthly basis

Detailed breakdown by organ is possible for kidney, SPK, liver, heart and lung transplants only due to small numbers.

Further analysis is planned in future reports to include univariate and multi-variable analysis.

Caveats

Data are only reported for patients that have tested positive for SARS-CoV-2, patients that may have CoVID-19 but were not tested are not available for analysis. During the period in question, SARS-CoV-2 swab testing was in the main restricted to patients presenting to hospital and as such there is a selection bias towards symptomatic, sicker patients. Cause of death information is not available at this time and therefore recent deaths should not be assumed secondary to COVID-19.

Data linkage has only been possible so far for English and Scottish patients, we are working with other UK nations to get a data linkage in place as soon as possible.

Supplemented death data is only reported for English and Welsh patients and includes all causes of death. For other UK nations we are reliant on the return of centre reported follow-up information.

Acknowledgements

NHS Blood and Transplant would like to thank all those responsible for providing data to the NHSBT CoVID-19 Registry, without whom this report would not be possible.

We would also like to thank Richard Little at NHSBT who has largely contributed to obtaining the death information from the NHS Digital Tracing Service.

We would also like to thank Ines Ushiro-Lumb (NHSBT), Rommel Ramanan (Kidney Advisory Group Chair) and James Thomas (PHE) who have largely contributed to obtaining information on positive test results for SARS-CoV-2 from Public Health England.

We would also like to thank Hester Ward (National Services Scotland) and Alison Smith-Palmer (PHS) who have largely contributed to obtaining information on positive test results for SARS-CoV-2 from Public Health Scotland.

Publications

<https://onlinelibrary.wiley.com/doi/abs/10.1111/ajt.16247?af=R>

Executive Summary



Key Findings

- The number of deceased donor transplants fell from 80 transplants performed in one week at the beginning of March to just 8 at the end of March. Deceased donor transplants have started to recover, with 68 transplants performed in the week commencing 1 March 2021.
- 3,671 of the 57,951 (6.3%) recipients with a functioning graft are reported as testing positive for SARS-CoV-2. Of these, 16% (n=578) are reported as died as at 3 February 2021.
- The infection rate across England ranges from 3.7% in the South West to 10.2% in London in recipients with a functioning graft.
- 833 of the 9,242 (9.0%) patients on the active waiting list at 1 February 2020 and new registrations since 1 February 2020 are reported as testing positive for SARS-CoV-2. Of these, 8% (n=69) are reported as died as at 3 March 2021.
- The infection rate across England ranges from 3.8% in the South west to 17.6% in London for patients on the active waiting list.
- Of the 4,097 transplants performed so far in 2020 and 2021, 290 (7.1%) recipients have tested positive for SARS-CoV-2 with 36 (0.9%) reported as died.

Figure 1 shows the number of donors and transplants by week and donor type since Monday 6th January 2020.

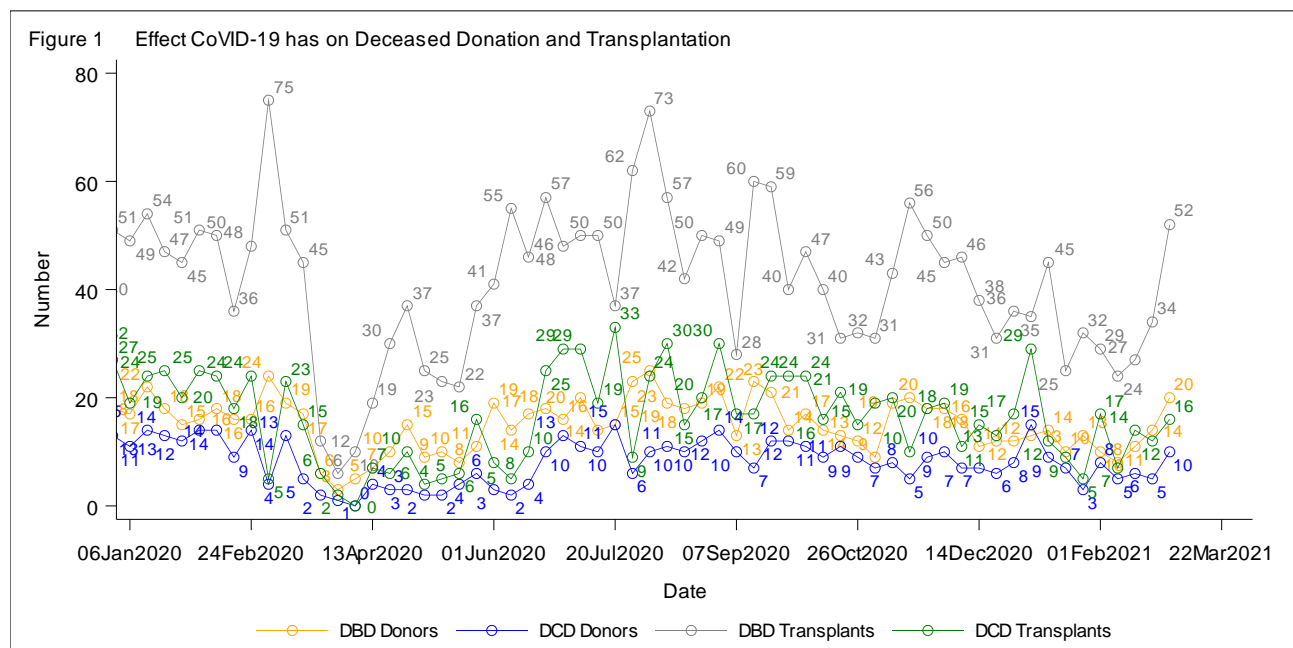


Figure 2 shows the cumulative incidence of SARS-CoV-2 positive patients and the cumulative deaths by week separately for transplanted recipients and active wait listed patients since Monday 3 February 2020.

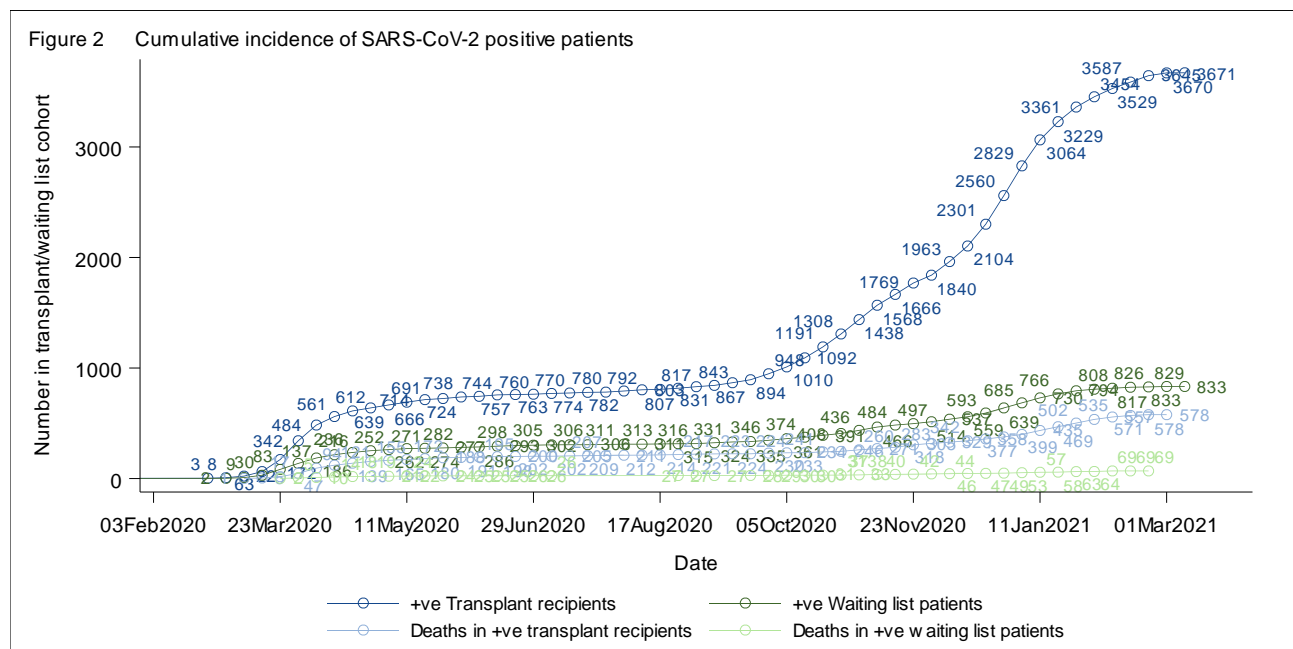


Figure 3 shows the incidence and deaths of SARS-CoV-2 positive patients by organ for transplanted recipients and active wait listed patients.

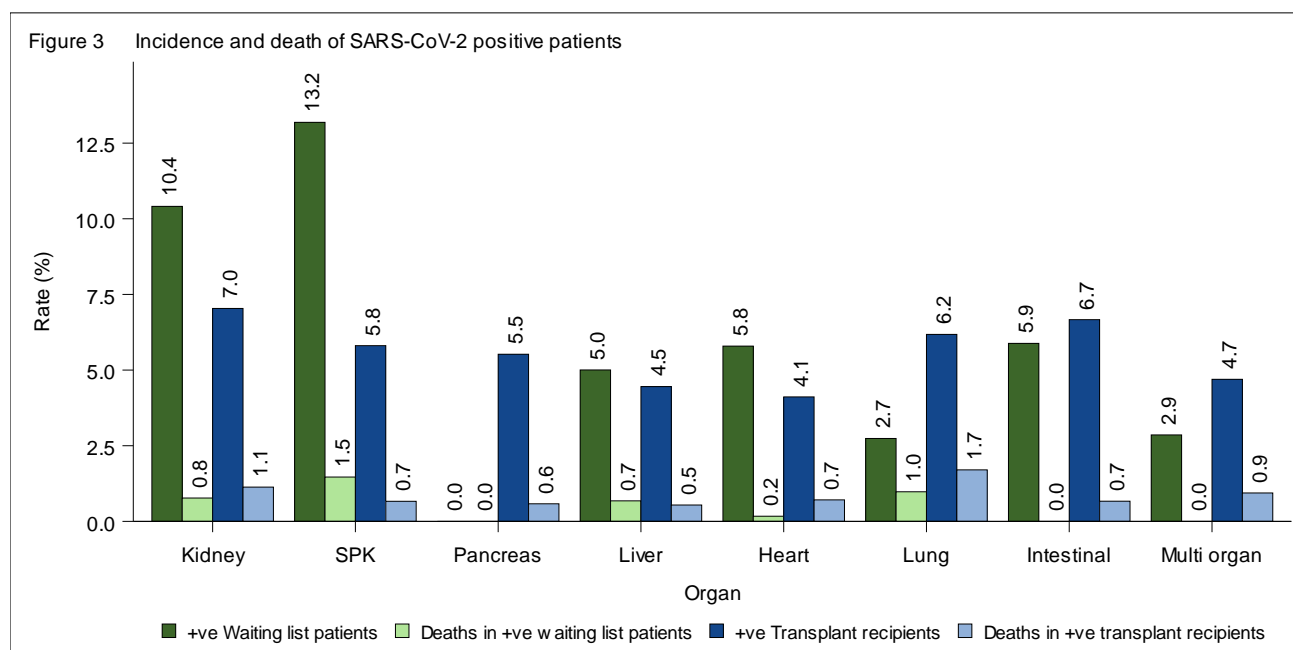


Table 1 shows the number of NHSBT CoVID-19 initial presentation forms returned and the number of NHSBT CoVID-19 follow-up forms returned for transplant recipients and wait listed patients by organ. Total cases include the number of positive SARS-CoV-2 patients in England that have been collected through the PHE data link. Please note that for patients residing in England and Wales the vital status of a patient is checked using the NHS Digital Tracing Service.

Table 1 Form return rates for Initial and Follow-up as at 24 February 2021						
	Transplant Recipients			Waiting list patients		
	Total +ve cases known to NHSBT ¹	Initial forms returned	Follow-up forms returned	Total +ve cases known to NHSBT ¹	Initial forms returned	Follow-up forms returned
Kidney	2771	758	390	667	102	42
SPK	101	36	16	32	6	2
Pancreas / Islet	19	5	1	0	0	0
Liver	476	55	23	56	7	5
Heart	108	46	17	32	10	2
Lung	95	63	6	14	5	2
Intestinal	8	1	0	1	0	0
Multi-organ	10	1	1	1	0	0
Total	3588	965	454	803	130	53
¹ Total positive cases include those reported by Public Heath England						

Table 2 shows the number of organ transplant recipients that were alive with a functioning graft at 1 February 2020 by type of organ transplant and NHS Region.

Table 2 Number of recipients with a functioning graft by transplant type and NHS Region, as at 1 February 2020 including transplants after 1 February 2020									
	Kidney	SPK	Pancreas	Liver	Heart	Lung	Intestinal	Multi organ	Total
North East and Yorkshire	5299	150	43	1395	435	230	19	24	7595
North West	4102	140	25	1077	267	157	19	21	5808
Midlands	5808	321	51	1686	434	247	23	33	8603
East of England	3727	232	16	1135	293	206	24	27	5662
London	6326	214	29	1627	290	151	20	42	8700
South East	4939	304	29	1264	327	234	16	29	7142
South West	3289	143	61	852	218	129	9	20	4721
Northern Ireland	1441	23	5	350	68	42	8	2	1939
Scotland	3454	176	58	1129	227	119	9	12	5184
Wales	1876	105	27	397	115	71	3	3	2597
TOTAL	40261	1808	344	10912	2674	1586	150	213	57951

Table 3 shows the number of organ transplant recipients that have tested positive for SARS-CoV-2 by type of organ transplant and NHS Region. In total, 3,671 organ transplant recipients have been reported to NHSBT as testing positive for SARS-CoV-2. Of these, 578 (16%) have died.

Table 3 Number of recipients testing positive for SARS-CoV-2 by transplant type and NHS Region, data up to 10 March 2021										
	Kidney	SPK	Pancreas	Liver	Heart	Lung	Intestinal	Multi organ	Total	Died
North East and Yorkshire	380	5	5	59	27	15	0	0	491	73
North West	384	12	1	80	14	23	1	2	517	96
Midlands	529	20	2	91	26	18	2	2	690	88
East of England	255	12	1	42	5	8	1	1	325	70
London	704	23	4	122	16	14	4	2	889	133
South East	326	26	1	64	13	9	0	2	441	61
South West	132	4	4	24	7	3	1	1	176	32
Northern Ireland	9	0	0	0	0	0	0	0	9	2
Scotland	40	1	1	3	0	2	1	0	48	10
Wales	74	2	0	1	2	6	0	0	85	13
TOTAL	2833	105	19	486	110	98	10	10	3671	578

Table 4 shows the number of recipients on the active waiting list at 1 February 2020 by type of organ transplant and NHS Region.

Table 4 Number of patients on the active waiting list by organ awaited and NHS Region, as at 1 February 2020 including new registrations since 1 February 2020									
	Kidney	SPK	Pancreas	Liver	Heart	Lung	Intestinal	Multi organ	Total
North East and Yorkshire	872	38	8	137	116	82	3	7	1263
North West	775	30	3	134	50	56	2	4	1054
Midlands	1099	49	6	191	99	93	3	4	1544
East of England	506	23	1	115	54	38	2	4	743
London	1258	33	1	148	68	55	3	6	1572
South East	583	29	4	136	68	56	3	7	886
South West	441	12	2	95	39	42	1	2	634
Northern Ireland	228	2	0	43	27	26	0	0	326
Scotland	604	40	6	125	48	40	0	1	864
Wales	243	17	0	55	18	23	0	0	356
	6609	273	31	1179	587	511	17	35	9242

Table 5 shows the number of active wait listed patients that have tested positive for SARS-CoV-2 by type or organ awaited and NHS Region. In total, 833 patients have been reported to NHSBT as testing positive for SARS-CoV-2. Of these, 69 (8%) have died.

Table 5 Number of patients testing positive for SARS-CoV-2 by organ awaited and NHS Region, data up to 10 March 2021									
	Kidney	SPK	Liver	Heart	Lung	Intestinal	Multi-organ	Total	Died
North East and Yorkshire	68	3	9	6	3	0	0	89	6
North West	102	2	8	9	1	0	0	122	11
Midlands	111	8	12	7	3	0	1	142	17
East of England	65	6	4	2	1	1	0	79	2
London	247	11	11	4	3	0	0	276	24
South East	65	3	12	3	2	0	0	85	6
South West	18	2	2	2	0	0	0	24	2
Scotland	7	1	1	0	1	0	0	10	0
Wales	5	0	0	1	0	0	0	6	1
TOTAL	688	36	59	34	14	1	1	833	69

Table 6 shows the demographic characteristics of organ transplant recipients. The information reported are those with a functioning transplant at 1 February 2020, those testing positive for SARS-CoV-2 and of those testing positive, the number that have died.

Table 6 Demographic characteristics of transplant patients testing positive for SARS-CoV-2, data up to 10 March 2021									
Factor	Level	Functioning graft		SARS-CoV-2 +ve cases			SARS-CoV-2 +ve deaths		
		N	%	N	%	% of functioning graft	N	% of cases	% of functioning graft
Sex	Male	35102	60.6	2237	60.9	6.4	373	16.7	1.1
	Female	22821	39.4	1434	39.1	6.3	205	14.3	0.9
	Unknown	28	0.0	-	-	-	-	-	-
Blood Group	O	24994	43.1	1399	38.1	5.6	215	15.4	0.9
	A	23289	40.2	1507	41.1	6.5	240	15.9	1.0
	B	7131	12.3	574	15.6	8.0	87	15.2	1.2
	AB	2517	4.3	191	5.2	7.6	36	18.8	1.4
Ethnicity	White	44598	77.0	2277	62.0	5.1	348	15.3	0.8
	Asian	5977	10.3	803	21.9	13.4	128	15.9	2.1
	Black	2826	4.9	312	8.5	11.0	61	19.6	2.2
	Other	1454	2.5	121	3.3	8.3	14	11.6	1.0
	Unknown	3096	5.3	158	4.3	5.1	27	17.1	0.9
Age group	0-17	2150	3.7	78	2.1	3.6	-	-	-
	18-29	3649	6.3	271	7.4	7.4	3	1.1	0.1
	30-39	5907	10.2	394	10.7	6.7	16	4.1	0.3
	40-49	9114	15.7	605	16.5	6.6	41	6.8	0.4
	50-59	14764	25.5	979	26.7	6.6	130	13.3	0.9
	60-69	13980	24.1	867	23.6	6.2	198	22.8	1.4
	>70	8381	14.5	475	12.9	5.7	190	40.0	2.3
Organ	Kidney	40261	69.5	2833	77.2	7.0	456	16.1	1.1
	SPK	1808	3.1	105	2.9	5.8	12	11.4	0.7
	Pancreas	344	0.6	19	0.5	5.5	2	10.5	0.6
	Liver	10912	18.8	486	13.2	4.5	59	12.1	0.5
	Heart	2674	4.6	110	3.0	4.1	19	17.3	0.7
	Lung	1586	2.7	98	2.7	6.2	27	27.6	1.7
	Intestinal	150	0.3	10	0.3	6.7	1	10.0	0.7
	Multi organ	213	0.4	10	0.3	4.7	2	20.0	0.9
NHS Region	North East and Yorks	7595	13.1	491	13.4	6.5	73	14.9	1.0
	North West	5808	10.0	517	14.1	8.9	96	18.6	1.7
	Midlands	8603	14.8	690	18.8	8.0	88	12.8	1.0
	East of England	5662	9.8	325	8.9	5.7	70	21.5	1.2
	London	8700	15.0	889	24.2	10.2	133	15.0	1.5
	South East	7142	12.3	441	12.0	6.2	61	13.8	0.9
	South West	4721	8.1	176	4.8	3.7	32	18.2	0.7
	Northern Ireland	1939	3.3	9	0.2	0.5	2	22.2	0.1
	Scotland	5184	8.9	48	1.3	0.9	10	20.8	0.2
	Wales	2597	4.5	85	2.3	3.3	13	15.3	0.5

Table 6 **Demographic characteristics of transplant patients testing positive for SARS-CoV-2, data up to 10 March 2021**

Factor	Level	Functioning graft		SARS-CoV-2 +ve cases			SARS-CoV-2 +ve deaths		
		N	%	N	%	% of functioning graft	N	% of cases	% of functioning graft
Year of transplant	<=2015	36674	63.3	2192	59.7	6.0	380	17.3	1.0
	2016	3841	6.6	230	6.3	6.0	37	16.1	1.0
	2017	4167	7.2	284	7.7	6.8	37	13.0	0.9
	2018	4522	7.8	304	8.3	6.7	42	13.8	0.9
	2019	4650	8.0	371	10.1	8.0	46	12.4	1.0
	2020	3602	6.2	286	7.8	7.9	36	12.6	1.0
	2021	495	0.9	4	0.1	0.8	-	-	-
Time from transplant	0-3 months	-	-	138	3.8	-	24	17.4	-
	3-6 months	-	-	100	2.7	-	16	16.0	-
	6-12 months	-	-	132	3.6	-	15	11.4	-
	12+ months	-	-	3301	89.9	-	523	15.8	-

Table 7 shows the demographic characteristics of patients waiting for an organ transplant. The information reported are those active on the waiting list at 1 February 2020, those testing positive for SARS-CoV-2 and of those testing positive, the number that have died.

Table 7 Demographic characteristics of active patients on the waiting list testing positive for SARS-CoV-2, data up to 10 March 2021									
Factor	Level	Active on waiting list		SARS-CoV-2 +ve cases			SARS-CoV-2 +ve deaths		
		N	%	N	%	% of waiting list	N	% of cases	% of waiting list
Sex	Male	5570	60.3	502	60.3	9.0	45	9.0	0.8
	Female	3660	39.6	331	39.7	9.0	24	7.3	0.7
	Unknown	12	0.1	-	-	-	-	-	-
Blood Group	O	4716	51.0	401	48.1	8.5	36	9.0	0.8
	A	2765	29.9	209	25.1	7.6	16	7.7	0.6
	B	1484	16.1	197	23.6	13.3	17	8.6	1.1
	AB	277	3.0	26	3.1	9.4	-	-	-
Ethnicity	White	6521	70.6	382	45.9	5.9	31	8.1	0.5
	Asian	1417	15.3	261	31.3	18.4	23	8.8	1.6
	Black	798	8.6	132	15.8	16.5	10	7.6	1.3
	Other	347	3.8	41	4.9	11.8	2	4.9	0.6
	Unknown	159	1.7	17	2.0	10.7	3	17.6	1.9
Age group	0-17	425	4.6	28	3.4	6.6	1	3.6	0.2
	18-29	644	7.0	45	5.4	7.0	2	4.4	0.3
	30-39	1158	12.5	110	13.2	9.5	4	3.6	0.3
	40-49	1696	18.4	173	20.8	10.2	11	6.4	0.6
	50-59	2644	28.6	240	28.8	9.1	16	6.7	0.6
	60-69	2097	22.7	186	22.3	8.9	30	16.1	1.4
	>70	578	6.3	51	6.1	8.8	5	9.8	0.9
Organ	Kidney	6609	71.5	688	82.6	10.4	51	7.4	0.8
	SPK	273	3.0	36	4.3	13.2	4	11.1	1.5
	Pancreas	31	0.3	-	-	-	-	-	-
	Liver	1179	12.8	59	7.1	5.0	8	13.6	0.7
	Heart	587	6.4	34	4.1	5.8	1	2.9	0.2
	Lung	511	5.5	14	1.7	2.7	5	35.7	1.0
	Intestinal	17	0.2	1	0.1	5.9	-	-	-
	Multi organ	35	0.4	1	0.1	2.9	-	-	-
NHS Region	North East and Yorks	1263	13.7	89	10.7	7.0	6	6.7	0.5
	North West	1054	11.4	122	14.6	11.6	11	9.0	1.0
	Midlands	1544	16.7	142	17.0	9.2	17	12.0	1.1
	East of England	743	8.0	79	9.5	10.6	2	2.5	0.3
	London	1572	17.0	276	33.1	17.6	24	8.7	1.5
	South East	886	9.6	85	10.2	9.6	6	7.1	0.7
	South West	634	6.9	24	2.9	3.8	2	8.3	0.3
	Northern Ireland	326	3.5	-	-	-	-	-	-
	Scotland	864	9.3	10	1.2	1.2	-	-	-
	Wales	356	3.9	6	0.7	1.7	1	16.7	0.3

Kidney



Table 8 shows the demographic characteristics of kidney only transplant recipients. The information reported are those with a functioning transplant at 1 February 2020, those testing positive for SARS-CoV-2 and of those testing positive, the number that have died.

Table 8 Demographic characteristics of kidney transplant patients testing positive for SARS-CoV-2, data up to 10 March 2021									
Factor	Level	Functioning graft		SARS-CoV-2 +ve cases			SARS-CoV-2 +ve deaths		
		N	%	N	%	% of functioning graft	N	% of cases	% of functioning graft
Sex	Male	24686	61.3	1742	61.5	7.1	292	16.8	1.2
	Female	15550	38.6	1091	38.5	7.0	164	15.0	1.1
	Unknown	25	0.1	-	-	-	-	-	-
Blood Group	O	17474	43.4	1086	38.3	6.2	171	15.7	1.0
	A	15897	39.5	1155	40.8	7.3	187	16.2	1.2
	B	5105	12.7	442	15.6	8.7	72	16.3	1.4
	AB	1768	4.4	150	5.3	8.5	26	17.3	1.5
Ethnicity	White	29627	73.6	1653	58.3	5.6	255	15.4	0.9
	Asian	4633	11.5	668	23.6	14.4	109	16.3	2.4
	Black	2314	5.7	267	9.4	11.5	55	20.6	2.4
	Other	1112	2.8	105	3.7	9.4	11	10.5	1.0
	Unknown	2575	6.4	140	4.9	5.4	26	18.6	1.0
Age group	0-17	902	2.2	44	1.6	4.9	-	-	-
	18-29	2330	5.8	185	6.5	7.9	3	1.6	0.1
	30-39	4231	10.5	312	11.0	7.4	10	3.2	0.2
	40-49	6687	16.6	481	17.0	7.2	34	7.1	0.5
	50-59	10662	26.5	769	27.2	7.2	103	13.4	1.0
	60-69	9354	23.2	662	23.4	7.1	150	22.7	1.6
	>70	6095	15.1	379	13.4	6.2	156	41.2	2.6
Organ	Kidney	40261	100.0	2833	100.0	7.0	456	16.1	1.1
NHS Region	North East and Yorks	5299	13.2	380	13.4	7.2	55	14.5	1.0
	North West	4102	10.2	384	13.6	9.4	68	17.7	1.7
	Midlands	5808	14.4	529	18.7	9.1	66	12.5	1.1
	East of England	3727	9.3	255	9.0	6.8	59	23.1	1.6
	London	6326	15.7	704	24.8	11.1	113	16.1	1.8
	South East	4939	12.3	326	11.5	6.6	47	14.4	1.0
	South West	3289	8.2	132	4.7	4.0	26	19.7	0.8
	Northern Ireland	1441	3.6	9	0.3	0.6	2	22.2	0.1
	Scotland	3454	8.6	40	1.4	1.2	9	22.5	0.3
	Wales	1876	4.7	74	2.6	3.9	11	14.9	0.6
Year of transplant	<=2015	25457	63.2	1691	59.7	6.6	290	17.1	1.1
	2016	2675	6.6	178	6.3	6.7	29	16.3	1.1
	2017	2911	7.2	221	7.8	7.6	29	13.1	1.0
	2018	3146	7.8	234	8.3	7.4	37	15.8	1.2
	2019	3311	8.2	281	9.9	8.5	39	13.9	1.2
	2020	2440	6.1	225	7.9	9.2	32	14.2	1.3
	2021	321	0.8	3	0.1	0.9	-	-	-

Table 8 **Demographic characteristics of kidney transplant patients testing positive for SARS-CoV-2, data up to 10 March 2021**

Factor	Level	Functioning graft		SARS-CoV-2 +ve cases			SARS-CoV-2 +ve deaths		
		N	%	N	%	% of functioning graft	N	% of cases	% of functioning graft
Time from transplant	0-3 months	-	-	108	3.8	-	22	20.4	-
	3-6 months	-	-	77	2.7	-	14	18.2	-
	6-12 months	-	-	104	3.7	-	12	11.5	-
	12+ months	-	-	2544	89.8	-	408	16.0	-

Table 9 shows the demographic characteristics of patients waiting for a kidney transplant. The information reported are those active on the waiting list at 1 February 2020, those testing positive for SARS-CoV-2 and of those testing positive, the number that have died.

Table 9 Demographic characteristics of active kidney patients on the waiting list testing positive for SARS-CoV-2, data up to 10 March 2021									
Factor	Level	Active on waiting list		SARS-CoV-2 +ve cases			SARS-CoV-2 +ve deaths		
		N	%	N	%	% of waiting list	N	% of cases	% of waiting list
Sex	Male	4010	60.7	415	60.3	10.3	35	8.4	0.9
	Female	2588	39.2	273	39.7	10.5	16	5.9	0.6
	Unknown	11	0.2	-	-	-	-	-	-
Blood Group	O	3449	52.2	337	49.0	9.8	26	7.7	0.8
	A	1797	27.2	164	23.8	9.1	11	6.7	0.6
	B	1178	17.8	166	24.1	14.1	14	8.4	1.2
	AB	185	2.8	21	3.1	11.4	-	-	-
Ethnicity	White	4303	65.1	281	40.8	6.5	19	6.8	0.4
	Asian	1192	18.0	236	34.3	19.8	20	8.5	1.7
	Black	703	10.6	121	17.6	17.2	8	6.6	1.1
	Other	299	4.5	35	5.1	11.7	2	5.7	0.7
	Unknown	112	1.7	15	2.2	13.4	2	13.3	1.8
Age group	0-17	187	2.8	15	2.2	8.0	-	-	-
	18-29	437	6.6	35	5.1	8.0	1	2.9	0.2
	30-39	801	12.1	78	11.3	9.7	2	2.6	0.2
	40-49	1231	18.6	140	20.3	11.4	5	3.6	0.4
	50-59	1867	28.2	200	29.1	10.7	10	5.0	0.5
	60-69	1537	23.3	171	24.9	11.1	28	16.4	1.8
	>70	549	8.3	49	7.1	8.9	5	10.2	0.9
Organ	Kidney	6609	100.0	688	100.0	10.4	51	7.4	0.8
NHS Region	North East and Yorks	872	13.2	68	9.9	7.8	4	5.9	0.5
	North West	775	11.7	102	14.8	13.2	9	8.8	1.2
	Midlands	1099	16.6	111	16.1	10.1	11	9.9	1.0
	East of England	506	7.7	65	9.4	12.8	2	3.1	0.4
	London	1258	19.0	247	35.9	19.6	18	7.3	1.4
	South East	583	8.8	65	9.4	11.1	5	7.7	0.9
	South West	441	6.7	18	2.6	4.1	1	5.6	0.2
	Northern Ireland	228	3.4	-	-	-	-	-	-
	Scotland	604	9.1	7	1.0	1.2	-	-	-
	Wales	243	3.7	5	0.7	2.1	1	20.0	0.4

SPK



Table 10 shows the demographic characteristics of SPK transplant recipients. The information reported are those with a functioning transplant at 1 February 2020, those testing positive for SARS-CoV-2 and of those testing positive, the number that have died.

Table 10 Demographic characteristics of SPK transplant patients testing positive for SARS-CoV-2, data up to 10 March 2021									
Factor	Level	Functioning graft		SARS-CoV-2 +ve cases			SARS-CoV-2 +ve deaths		
		N	%	N	%	% of functioning graft	N	% of cases	% of functioning graft
Sex	Male	1053	58.2	64	61.0	6.1	8	12.5	0.8
	Female	755	41.8	41	39.0	5.4	4	9.8	0.5
Blood Group	O	787	43.5	46	43.8	5.8	4	8.7	0.5
	A	747	41.3	36	34.3	4.8	4	11.1	0.5
	B	193	10.7	17	16.2	8.8	1	5.9	0.5
	AB	81	4.5	6	5.7	7.4	3	50.0	3.7
Ethnicity	White	1590	87.9	81	77.1	5.1	8	9.9	0.5
	Asian	101	5.6	12	11.4	11.9	3	25.0	3.0
	Black	78	4.3	10	9.5	12.8	1	10.0	1.3
	Other	21	1.2	-	-	-	-	-	-
	Unknown	18	1.0	2	1.9	11.1	-	-	-
Age group	0-17	-	-	-	-	-	-	-	-
	18-29	34	1.9	1	1.0	2.9	-	-	-
	30-39	299	16.5	12	11.4	4.0	1	8.3	0.3
	40-49	602	33.3	31	29.5	5.1	2	6.5	0.3
	50-59	645	35.7	46	43.8	7.1	7	15.2	1.1
	60-69	213	11.8	13	12.4	6.1	-	-	-
	>70	15	0.8	2	1.9	13.3	2	100.0	13.3
Organ	SPK	1808	100.0	105	100.0	5.8	12	11.4	0.7
NHS Region	North East and Yorks	150	8.3	5	4.8	3.3	-	-	-
	North West	140	7.7	12	11.4	8.6	3	25.0	2.1
	Midlands	321	17.8	20	19.0	6.2	1	5.0	0.3
	East of England	232	12.8	12	11.4	5.2	2	16.7	0.9
	London	214	11.8	23	21.9	10.7	4	17.4	1.9
	South East	304	16.8	26	24.8	8.6	2	7.7	0.7
	South West	143	7.9	4	3.8	2.8	-	-	-
	Northern Ireland	23	1.3	-	-	-	-	-	-
	Scotland	176	9.7	1	1.0	0.6	-	-	-
	Wales	105	5.8	2	1.9	1.9	-	-	-
Year of transplant	<=2015	1116	61.7	59	56.2	5.3	8	13.6	0.7
	2016	123	6.8	6	5.7	4.9	1	16.7	0.8
	2017	147	8.1	12	11.4	8.2	1	8.3	0.7
	2018	159	8.8	10	9.5	6.3	1	10.0	0.6
	2019	150	8.3	10	9.5	6.7	-	-	-
	2020	98	5.4	7	6.7	7.1	1	14.3	1.0
	2021	15	0.8	1	1.0	6.7	-	-	-

Table 10 **Demographic characteristics of SPK transplant patients testing positive for SARS-CoV-2, data up to 10 March 2021**

Factor	Level	Functioning graft		SARS-CoV-2 +ve cases			SARS-CoV-2 +ve deaths		
		N	%	N	%	% of functioning graft	N	% of cases	% of functioning graft
Time from transplant	0-3 months	-	-	4	3.8	-	-	-	-
	3-6 months	-	-	2	1.9	-	-	-	-
	6-12 months	-	-	4	3.8	-	1	25.0	-
	12+ months	-	-	95	90.5	-	11	11.6	-

Table 11 shows the demographic characteristics of patients waiting for an SPK transplant. The information reported are those active on the waiting list at 1 February 2020, those testing positive for SARS-CoV-2 and of those testing positive, the number that have died.

Table 11 Demographic characteristics of active SPK patients on the waiting list testing positive for SARS-CoV-2, data up to 10 March 2021									
Factor	Level	Active on waiting list		SARS-CoV-2 +ve cases			SARS-CoV-2 +ve deaths		
		N	%	N	%	% of waiting list	N	% of cases	% of waiting list
Sex	Male	153	56.0	19	52.8	12.4	2	10.5	1.3
	Female	120	44.0	17	47.2	14.2	2	11.8	1.7
Blood Group	O	127	46.5	18	50.0	14.2	4	22.2	3.1
	A	92	33.7	8	22.2	8.7	-	-	-
	B	44	16.1	9	25.0	20.5	-	-	-
	AB	10	3.7	1	2.8	10.0	-	-	-
Ethnicity	White	229	83.9	22	61.1	9.6	2	9.1	0.9
	Asian	24	8.8	6	16.7	25.0	1	16.7	4.2
	Black	12	4.4	4	11.1	33.3	-	-	-
	Other	7	2.6	3	8.3	42.9	-	-	-
	Unknown	1	0.4	1	2.8	100.0	1	100.0	100.0
Age group	0-17	1	0.4	1	2.8	100.0	-	-	-
	18-29	19	7.0	1	2.8	5.3	-	-	-
	30-39	97	35.5	13	36.1	13.4	1	7.7	1.0
	40-49	93	34.1	11	30.6	11.8	2	18.2	2.2
	50-59	59	21.6	10	27.8	16.9	1	10.0	1.7
	60-69	4	1.5	-	-	-	-	-	-
	>70	-	-	-	-	-	-	-	-
Organ	SPK	273	100.0	36	100.0	13.2	4	11.1	1.5
NHS Region	North East and Yorks	38	13.9	3	8.3	7.9	-	-	-
	North West	30	11.0	2	5.6	6.7	-	-	-
	Midlands	49	17.9	8	22.2	16.3	2	25.0	4.1
	East of England	23	8.4	6	16.7	26.1	-	-	-
	London	33	12.1	11	30.6	33.3	2	18.2	6.1
	South East	29	10.6	3	8.3	10.3	-	-	-
	South West	12	4.4	2	5.6	16.7	-	-	-
	Northern Ireland	2	0.7	-	-	-	-	-	-
	Scotland	40	14.7	1	2.8	2.5	-	-	-
	Wales	17	6.2	-	-	-	-	-	-

Liver



Table 12 shows the demographic characteristics of liver transplant recipients. The information reported are those with a functioning transplant at 1 February 2020, those testing positive for SARS-CoV-2 and of those testing positive, the number that have died.

Table 12 Demographic characteristics of liver transplant patients testing positive for SARS-CoV-2, data up to 10 March 2021									
Factor	Level	Functioning graft		SARS-CoV-2 +ve cases			SARS-CoV-2 +ve deaths		
		N	%	N	%	% of functioning graft	N	% of cases	% of functioning graft
Sex	Male	6308	57.8	272	56.0	4.3	34	12.5	0.5
	Female	4603	42.2	214	44.0	4.6	25	11.7	0.5
	Unknown	1	0.0	-	-	-	-	-	-
Blood Group	O	4718	43.2	183	37.7	3.9	24	13.1	0.5
	A	4422	40.5	198	40.7	4.5	25	12.6	0.6
	B	1311	12.0	80	16.5	6.1	6	7.5	0.5
	AB	461	4.2	25	5.1	5.4	4	16.0	0.9
Ethnicity	White	9098	83.4	347	71.4	3.8	43	12.4	0.5
	Asian	949	8.7	97	20.0	10.2	11	11.3	1.2
	Black	332	3.0	22	4.5	6.6	4	18.2	1.2
	Other	254	2.3	10	2.1	3.9	-	-	-
	Unknown	279	2.6	10	2.1	3.6	1	10.0	0.4
Age group	0-17	875	8.0	22	4.5	2.5	-	-	-
	18-29	813	7.5	62	12.8	7.6	-	-	-
	30-39	773	7.1	39	8.0	5.0	1	2.6	0.1
	40-49	1112	10.2	56	11.5	5.0	3	5.4	0.3
	50-59	2355	21.6	100	20.6	4.2	7	7.0	0.3
	60-69	3247	29.8	135	27.8	4.2	22	16.3	0.7
	>70	1731	15.9	71	14.6	4.1	26	36.6	1.5
Organ	Liver	10912	100.0	486	100.0	4.5	59	12.1	0.5
NHS Region	North East and Yorks	1395	12.8	59	12.1	4.2	13	22.0	0.9
	North West	1077	9.9	80	16.5	7.4	9	11.3	0.8
	Midlands	1686	15.5	91	18.7	5.4	10	11.0	0.6
	East of England	1135	10.4	42	8.6	3.7	3	7.1	0.3
	London	1627	14.9	122	25.1	7.5	12	9.8	0.7
	South East	1264	11.6	64	13.2	5.1	8	12.5	0.6
	South West	852	7.8	24	4.9	2.8	2	8.3	0.2
	Northern Ireland	350	3.2	-	-	-	-	-	-
	Scotland	1129	10.3	3	0.6	0.3	1	33.3	0.1
	Wales	397	3.6	1	0.2	0.3	1	100.0	0.3
Year of transplant	<=2015	6819	62.5	300	61.7	4.4	47	15.7	0.7
	2016	732	6.7	26	5.3	3.6	3	11.5	0.4
	2017	787	7.2	36	7.4	4.6	4	11.1	0.5
	2018	866	7.9	40	8.2	4.6	1	2.5	0.1
	2019	832	7.6	44	9.1	5.3	3	6.8	0.4
	2020	762	7.0	40	8.2	5.2	1	2.5	0.1
	2021	114	1.0	-	-	-	-	-	-

Table 12 **Demographic characteristics of liver transplant patients testing positive for SARS-CoV-2, data up to 10 March 2021**

Factor	Level	Functioning graft		SARS-CoV-2 +ve cases			SARS-CoV-2 +ve deaths		
		N	%	N	%	% of functioning graft	N	% of cases	% of functioning graft
Time from transplant	0-3 months	-	-	21	4.3	-	1	4.8	-
	3-6 months	-	-	14	2.9	-	1	7.1	-
	6-12 months	-	-	13	2.7	-	1	7.7	-
	12+ months	-	-	438	90.1	-	56	12.8	-

Table 13 shows the demographic characteristics of patients waiting for a liver transplant. The information reported are those active on the waiting list at 1 February 2020, those testing positive for SARS-CoV-2 and of those testing positive, the number that have died.

Table 13 Demographic characteristics of active liver patients on the waiting list testing positive for SARS-CoV-2, data up to 10 March 2021									
Factor	Level	Active on waiting list		SARS-CoV-2 +ve cases			SARS-CoV-2 +ve deaths		
		N	%	N	%	% of waiting list	N	% of cases	% of waiting list
Sex	Male	691	58.6	35	59.3	5.1	4	11.4	0.6
	Female	488	41.4	24	40.7	4.9	4	16.7	0.8
	Unknown	-	-	-	-	-	-	-	-
Blood Group	O	547	46.4	25	42.4	4.6	3	12.0	0.5
	A	446	37.8	19	32.2	4.3	3	15.8	0.7
	B	141	12.0	14	23.7	9.9	2	14.3	1.4
	AB	45	3.8	1	1.7	2.2	-	-	-
Ethnicity	White	976	82.8	41	69.5	4.2	6	14.6	0.6
	Asian	105	8.9	11	18.6	10.5	1	9.1	1.0
	Black	35	3.0	4	6.8	11.4	1	25.0	2.9
	Other	25	2.1	2	3.4	8.0	-	-	-
	Unknown	38	3.2	1	1.7	2.6	-	-	-
Age group	0-17	125	10.6	8	13.6	6.4	1	12.5	0.8
	18-29	96	8.1	6	10.2	6.3	1	16.7	1.0
	30-39	107	9.1	8	13.6	7.5	1	12.5	0.9
	40-49	200	17.0	12	20.3	6.0	3	25.0	1.5
	50-59	330	28.0	18	30.5	5.5	2	11.1	0.6
	60-69	300	25.4	5	8.5	1.7	-	-	-
	>70	21	1.8	2	3.4	9.5	-	-	-
Organ	Liver	1179	100.0	59	100.0	5.0	8	13.6	0.7
NHS Region	North East and Yorks	137	11.6	9	15.3	6.6	1	11.1	0.7
	North West	134	11.4	8	13.6	6.0	2	25.0	1.5
	Midlands	191	16.2	12	20.3	6.3	1	8.3	0.5
	East of England	115	9.8	4	6.8	3.5	-	-	-
	London	148	12.6	11	18.6	7.4	2	18.2	1.4
	South East	136	11.5	12	20.3	8.8	1	8.3	0.7
	South West	95	8.1	2	3.4	2.1	1	50.0	1.1
	Northern Ireland	43	3.6	-	-	-	-	-	-
	Scotland	125	10.6	1	1.7	0.8	-	-	-
	Wales	55	4.7	-	-	-	-	-	-

Heart



Table 14 shows the demographic characteristics of heart transplant recipients. The information reported are those with a functioning transplant at 1 February 2020, those testing positive for SARS-CoV-2 and of those testing positive, the number that have died.

Table 14 Demographic characteristics of heart transplant patients testing positive for SARS-CoV-2, data up to 10 March 2021									
Factor	Level	Functioning graft		SARS-CoV-2 +ve cases			SARS-CoV-2 +ve deaths		
		N	%	N	%	% of functioning graft	N	% of cases	% of functioning graft
Sex	Male	1849	69.1	79	71.8	4.3	16	20.3	0.9
	Female	824	30.8	31	28.2	3.8	3	9.7	0.4
	Unknown	1	0.0	-	-	-	-	-	-
Blood Group	O	1036	38.8	38	34.5	3.7	6	15.8	0.6
	A	1194	44.7	54	49.1	4.5	9	16.7	0.8
	B	325	12.2	13	11.8	4.0	3	23.1	0.9
	AB	117	4.4	5	4.5	4.3	1	20.0	0.9
Ethnicity	White	2158	80.7	80	72.7	3.7	14	17.5	0.6
	Asian	206	7.7	15	13.6	7.3	3	20.0	1.5
	Black	79	3.0	8	7.3	10.1	1	12.5	1.3
	Other	49	1.8	2	1.8	4.1	1	50.0	2.0
	Unknown	182	6.8	5	4.5	2.7	-	-	-
Age group	0-17	273	10.2	5	4.5	1.8	-	-	-
	18-29	300	11.2	13	11.8	4.3	-	-	-
	30-39	312	11.7	15	13.6	4.8	3	20.0	1.0
	40-49	332	12.4	15	13.6	4.5	-	-	-
	50-59	494	18.5	25	22.7	5.1	3	12.0	0.6
	60-69	554	20.7	19	17.3	3.4	8	42.1	1.4
	>70	409	15.3	18	16.4	4.4	5	27.8	1.2
Organ	Heart	2674	100.0	110	100.0	4.1	19	17.3	0.7
NHS Region	North East and Yorks	435	16.3	27	24.5	6.2	3	11.1	0.7
	North West	267	10.0	14	12.7	5.2	6	42.9	2.2
	Midlands	434	16.2	26	23.6	6.0	3	11.5	0.7
	East of England	293	11.0	5	4.5	1.7	2	40.0	0.7
	London	290	10.8	16	14.5	5.5	1	6.3	0.3
	South East	327	12.2	13	11.8	4.0	2	15.4	0.6
	South West	218	8.2	7	6.4	3.2	2	28.6	0.9
	Northern Ireland	68	2.5	-	-	-	-	-	-
	Scotland	227	8.5	-	-	-	-	-	-
	Wales	115	4.3	2	1.8	1.7	-	-	-
Year of transplant	<=2015	1881	70.3	67	60.9	3.6	12	17.9	0.6
	2016	161	6.0	9	8.2	5.6	1	11.1	0.6
	2017	145	5.4	8	7.3	5.5	3	37.5	2.1
	2018	144	5.4	8	7.3	5.6	-	-	-
	2019	153	5.7	13	11.8	8.5	1	7.7	0.7
	2020	167	6.2	5	4.5	3.0	2	40.0	1.2
	2021	23	0.9	-	-	-	-	-	-

Table 14 **Demographic characteristics of heart transplant patients testing positive for SARS-CoV-2, data up to 10 March 2021**

Factor	Level	Functioning graft		SARS-CoV-2 +ve cases			SARS-CoV-2 +ve deaths		
		N	%	N	%	% of functioning graft	N	% of cases	% of functioning graft
Time from transplant	0-3 months	-	-	1	0.9	-	1	100.0	-
	3-6 months	-	-	5	4.5	-	1	20.0	-
	6-12 months	-	-	5	4.5	-	-	-	-
	12+ months	-	-	99	90.0	-	17	17.2	-

Table 15 shows the demographic characteristics of patients waiting for a heart transplant. The information reported are those active on the waiting list at 1 February 2020, those testing positive for SARS-CoV-2 and of those testing positive, the number that have died.

Table 15 Demographic characteristics of active heart patients on the waiting list testing positive for SARS-CoV-2, data up to 10 March 2021									
Factor	Level	Active on waiting list		SARS-CoV-2 +ve cases			SARS-CoV-2 +ve deaths		
		N	%	N	%	% of waiting list	N	% of cases	% of waiting list
Sex	Male	420	71.6	25	73.5	6.0	-	-	-
	Female	167	28.4	9	26.5	5.4	-	-	-
	Unknown	-	-	-	-	-	-	-	-
Blood Group	O	277	47.2	13	38.2	4.7	-	-	-
	A	224	38.2	13	38.2	5.8	-	-	-
	B	61	10.4	5	14.7	8.2	-	-	-
	AB	25	4.3	3	8.8	12.0	-	-	-
Ethnicity	White	488	83.1	25	73.5	5.1	-	-	-
	Asian	59	10.1	7	20.6	11.9	-	-	-
	Black	25	4.3	2	5.9	8.0	-	-	-
	Other	8	1.4	-	-	-	-	-	-
	Unknown	7	1.2	-	-	-	-	-	-
Age group	0-17	86	14.7	2	5.9	2.3	-	-	-
	18-29	41	7.0	2	5.9	4.9	-	-	-
	30-39	74	12.6	7	20.6	9.5	-	-	-
	40-49	85	14.5	7	20.6	8.2	-	-	-
	50-59	187	31.9	9	26.5	4.8	-	-	-
	60-69	107	18.2	7	20.6	6.5	-	-	-
	>70	7	1.2	-	-	-	-	-	-
Organ	Heart	587	100.0	34	100.0	5.8	1	2.9	0.2
NHS Region	North East and Yorks	116	19.8	6	17.6	5.2	-	-	-
	North West	50	8.5	9	26.5	18.0	-	-	-
	Midlands	99	16.9	7	20.6	7.1	-	-	-
	East of England	54	9.2	2	5.9	3.7	-	-	-
	London	68	11.6	4	11.8	5.9	-	-	-
	South East	68	11.6	3	8.8	4.4	-	-	-
	South West	39	6.6	2	5.9	5.1	-	-	-
	Northern Ireland	27	4.6	-	-	-	-	-	-
	Scotland	48	8.2	-	-	-	-	-	-
	Wales	18	3.1	1	2.9	5.6	-	-	-

Lung



Table 16 shows the demographic characteristics of lung transplant recipients. The information reported are those with a functioning transplant at 1 February 2020, those testing positive for SARS-CoV-2 and of those testing positive, the number that have died.

Table 16 Demographic characteristics of lung transplant patients testing positive for SARS-CoV-2, data up to 10 March 2021									
Factor	Level	Functioning graft		SARS-CoV-2 +ve cases			SARS-CoV-2 +ve deaths		
		N	%	N	%	% of functioning graft	N	% of cases	% of functioning graft
Sex	Male	865	54.5	57	58.2	6.6	20	35.1	2.3
	Female	720	45.4	41	41.8	5.7	7	17.1	1.0
	Unknown	1	0.1	-	-	-	-	-	-
Blood Group	O	677	42.7	34	34.7	5.0	8	23.5	1.2
	A	719	45.3	46	46.9	6.4	14	30.4	1.9
	B	126	7.9	13	13.3	10.3	3	23.1	2.4
	AB	64	4.0	5	5.1	7.8	2	40.0	3.1
Ethnicity	White	1489	93.9	87	88.8	5.8	23	26.4	1.5
	Asian	40	2.5	6	6.1	15.0	2	33.3	5.0
	Black	12	0.8	2	2.0	16.7	-	-	-
	Other	11	0.7	3	3.1	27.3	2	66.7	18.2
	Unknown	34	2.1	-	-	-	-	-	-
Age group	0-17	32	2.0	3	3.1	9.4	-	-	-
	18-29	125	7.9	9	9.2	7.2	-	-	-
	30-39	222	14.0	14	14.3	6.3	1	7.1	0.5
	40-49	249	15.7	14	14.3	5.6	2	14.3	0.8
	50-59	394	24.8	30	30.6	7.6	9	30.0	2.3
	60-69	464	29.3	26	26.5	5.6	15	57.7	3.2
	>70	100	6.3	2	2.0	2.0	-	-	-
Organ	Lung	1586	100.0	98	100.0	6.2	27	27.6	1.7
NHS Region	North East and Yorks	230	14.5	15	15.3	6.5	1	6.7	0.4
	North West	157	9.9	23	23.5	14.6	10	43.5	6.4
	Midlands	247	15.6	18	18.4	7.3	5	27.8	2.0
	East of England	206	13.0	8	8.2	3.9	4	50.0	1.9
	London	151	9.5	14	14.3	9.3	3	21.4	2.0
	South East	234	14.8	9	9.2	3.8	2	22.2	0.9
	South West	129	8.1	3	3.1	2.3	1	33.3	0.8
	Northern Ireland	42	2.6	-	-	-	-	-	-
	Scotland	119	7.5	2	2.0	1.7	-	-	-
	Wales	71	4.5	6	6.1	8.5	1	16.7	1.4
Year of transplant	<=2015	954	60.2	51	52.0	5.3	19	37.3	2.0
	2016	97	6.1	9	9.2	9.3	3	33.3	3.1
	2017	134	8.4	5	5.1	3.7	-	-	-
	2018	145	9.1	8	8.2	5.5	2	25.0	1.4
	2019	139	8.8	18	18.4	12.9	3	16.7	2.2
	2020	97	6.1	7	7.1	7.2	-	-	-
	2021	20	1.3	-	-	-	-	-	-

Table 16 **Demographic characteristics of lung transplant patients testing positive for SARS-CoV-2, data up to 10 March 2021**

Factor	Level	Functioning graft		SARS-CoV-2 +ve cases			SARS-CoV-2 +ve deaths		
		N	%	N	%	% of functioning graft	N	% of cases	% of functioning graft
Time from transplant	0-3 months	-	-	4	4.1	-	-	-	-
	6-12 months	-	-	4	4.1	-	1	25.0	-
	12+ months	-	-	90	91.8	-	26	28.9	-

Table 17 shows the demographic characteristics of patients waiting for a lung transplant. The information reported are those active on the waiting list at 1 February 2020, those testing positive for SARS-CoV-2 and of those testing positive, the number that have died.

Table 17 Demographic characteristics of active lung patients on the waiting list testing positive for SARS-CoV-2, data up to 10 March 2021									
Factor	Level	Active on waiting list		SARS-CoV-2 +ve cases			SARS-CoV-2 +ve deaths		
		N	%	N	%	% of waiting list	N	% of cases	% of waiting list
Sex	Male	263	51.5	6	42.9	2.3	3	50.0	1.1
	Female	247	48.3	8	57.1	3.2	2	25.0	0.8
	Unknown	1	0.2	-	-	-	-	-	-
Blood Group	O	269	52.6	7	50.0	2.6	2	28.6	0.7
	A	185	36.2	4	28.6	2.2	2	50.0	1.1
	B	47	9.2	3	21.4	6.4	1	33.3	2.1
	AB	10	2.0	-	-	-	-	-	-
Ethnicity	White	456	89.2	12	85.7	2.6	3	25.0	0.7
	Asian	29	5.7	1	7.1	3.4	1	100.0	3.4
	Black	20	3.9	1	7.1	5.0	1	100.0	5.0
	Other	5	1.0	-	-	-	-	-	-
	Unknown	1	0.2	-	-	-	-	-	-
Age group	0-17	17	3.3	1	7.1	5.9	-	-	-
	18-29	45	8.8	1	7.1	2.2	-	-	-
	30-39	65	12.7	4	28.6	6.2	-	-	-
	40-49	68	13.3	3	21.4	4.4	1	33.3	1.5
	50-59	173	33.9	3	21.4	1.7	2	66.7	1.2
	60-69	142	27.8	2	14.3	1.4	2	100.0	1.4
	>70	1	0.2	-	-	-	-	-	-
Organ	Lung	511	100.0	14	100.0	2.7	5	35.7	1.0
NHS Region	North East and Yorks	82	16.0	3	21.4	3.7	1	33.3	1.2
	North West	56	11.0	1	7.1	1.8	-	-	-
	Midlands	93	18.2	3	21.4	3.2	2	66.7	2.2
	East of England	38	7.4	1	7.1	2.6	-	-	-
	London	55	10.8	3	21.4	5.5	2	66.7	3.6
	South East	56	11.0	2	14.3	3.6	-	-	-
	South West	42	8.2	-	-	-	-	-	-
	Northern Ireland	26	5.1	-	-	-	-	-	-
	Scotland	40	7.8	1	7.1	2.5	-	-	-
	Wales	23	4.5	-	-	-	-	-	-

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