



Blood and Transplant

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

**REPORT FOR
1 MARCH 2020 – 11 NOVEMBER 2020**

PUBLISHED 13 NOVEMBER 2020



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 11 November 2020.

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. A breakdown of waiting list characteristics is not possible for heart and lung patients 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 since been steadily increasing, although there was a further drop last week with 48 performed in the week commencing 2 November 2020.
- 1,417 of the 57,192 (2.5%) recipients with a functioning graft are reported as testing positive for SARS-CoV-2. Of these, 18% (n=261) are reported as died as at 11 November 2020.
- The infection rate across England ranges from 1.3% in the South West to 4.4% in North West in recipients with a functioning graft.
- 391 of the 8716 (4.5%) 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=33) are reported as died as at 11 November 2020.
- The infection rate across England ranges from 1.1% in the South west to 8.8% in London for patients on the active waiting list.
- Of the 3,026 transplants performed so far in 2020, 86 (2.8%) recipients have tested positive for SARS-CoV-2 with 12 (0.4%) reported as died.

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

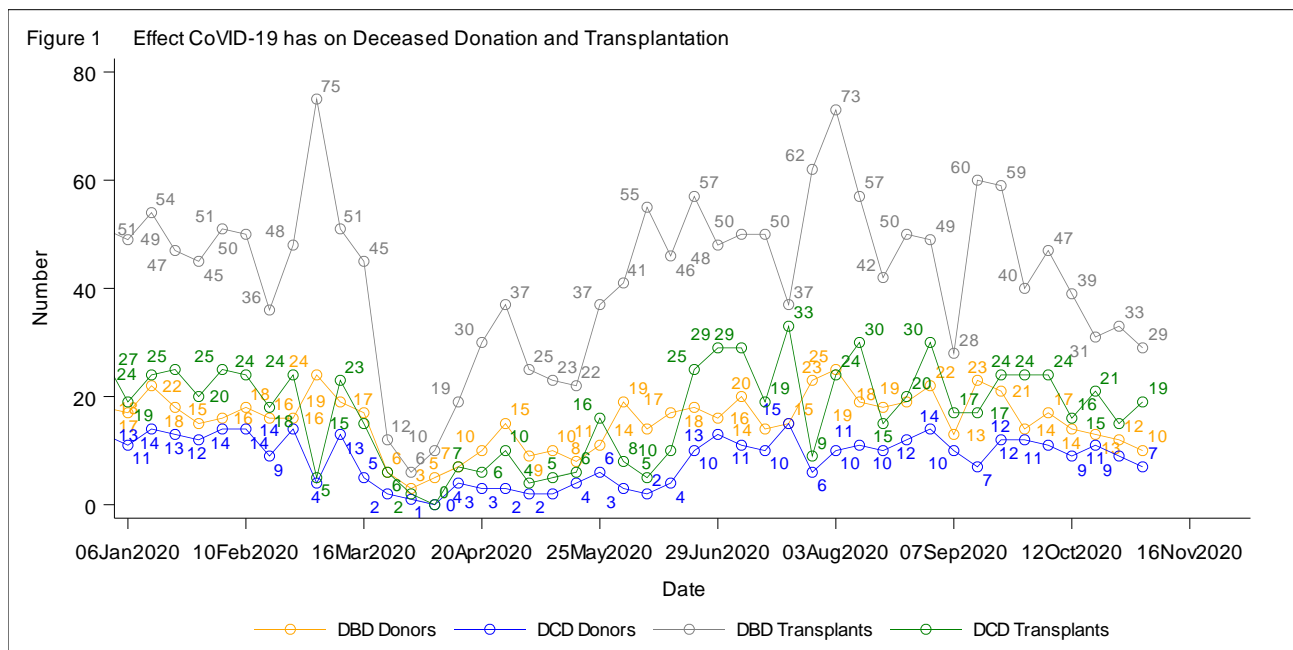


Figure 2 shows the cumulative incidence of SARS-CoV-2 positive patients and the cumulative deaths by week separately for transplanted recipients and active wait listed patients since Monday 3rd February 2020.

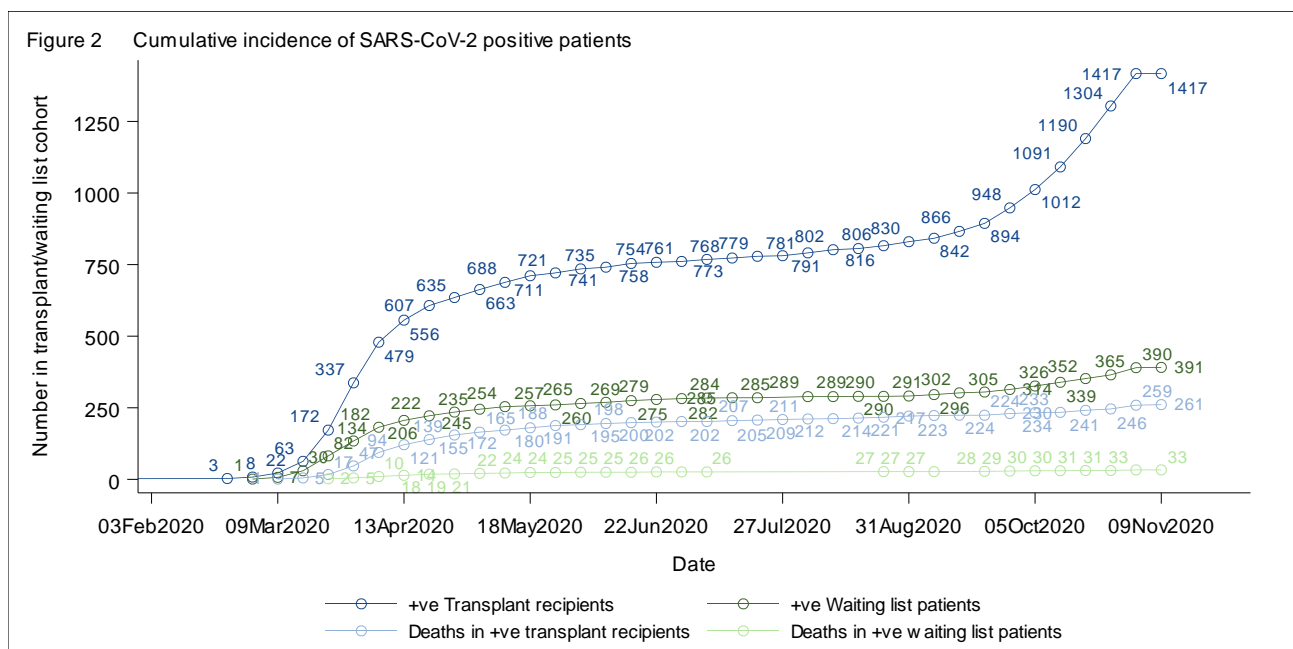


Figure 3 shows the incidence and deaths of SARS-CoV-2 positive patients by organ for transplanted recipients and active wait listed patients.

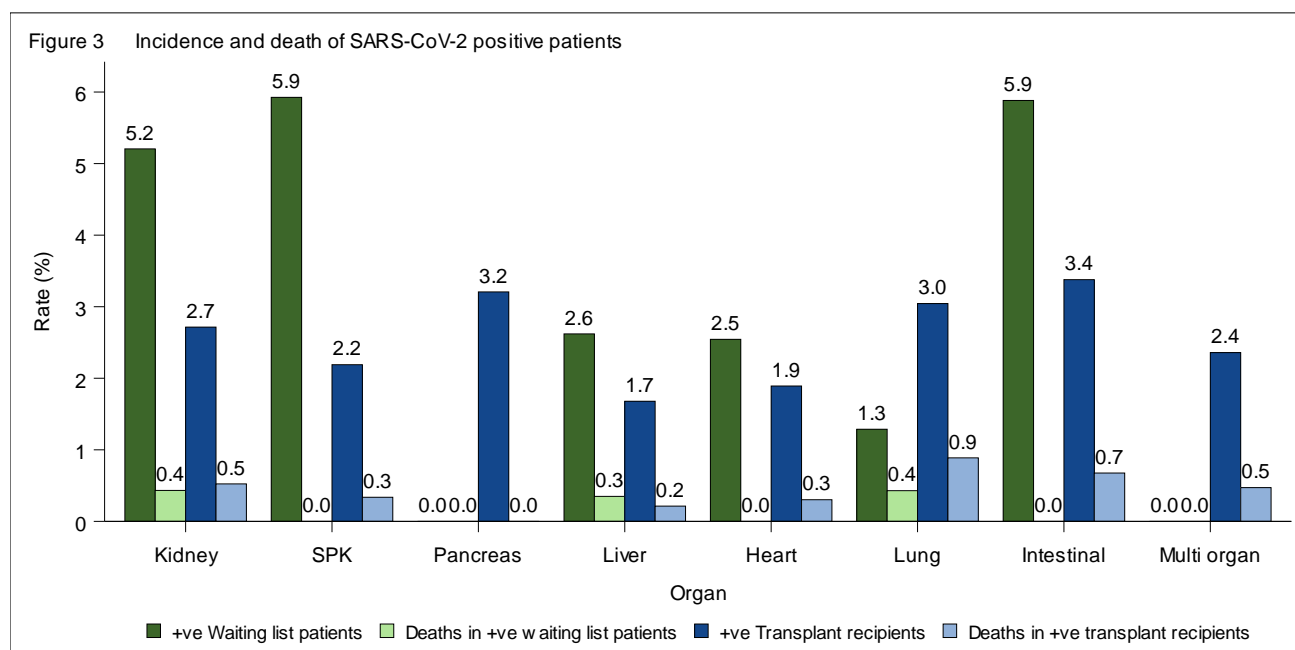


Table 1 shows the number of NHSBT CoVID-19 initial presentation forms returned and the number of NHSBT CoVID-19 follow-up forms returned for transplant recipients and wait listed patients by organ. Total cases include the number of positive SARS-CoV-2 patients in England that have been collected through 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.

	Form return rates for Initial and Follow-up as at 11 November 2020					
	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	1078	406	183	325	78	28
SPK	39	18	10	16	4	1
Pancreas / Islet	11	2	1	0	0	0
Liver	181	39	22	30	6	5
Heart	50	27	13	13	1	0
Lung	48	31	6	6	2	1
Intestinal	5	1	0	1	0	0
Multi-organ	5	1	0	0	0	0
Total	1417	524	235	391	91	35

¹ Total positive cases include those reported by Public Health 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	5215	146	42	1379	430	230	19	24	7485
North West	4010	138	25	1059	263	154	19	21	5689
Midlands	5740	318	51	1659	432	249	23	33	8505
East of England	3671	228	16	1123	290	202	23	27	5580
London	6261	212	29	1610	289	146	20	42	8609
South East	4893	300	28	1247	318	231	16	28	7061
South West	3242	143	62	846	220	127	9	20	4669
Northern Ireland	1435	23	5	340	67	44	8	2	1924
Scotland	3382	170	58	1122	221	124	8	12	5097
Wales	1857	103	27	397	113	70	3	3	2573
TOTAL	39706	1781	343	10782	2643	1577	148	212	57192

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, 1,417 organ transplant recipients have been reported to NHSBT as testing positive for SARS-CoV-2. Of these, 261 (18%) have died.

Table 3 Number of recipients testing positive for SARS-CoV-2 by transplant type and NHS Region, data up to 11 November 2020											
	Kidney	SPK	Pancreas	Liver	Heart	Lung	Intestinal	Multi organ	Total	Died	
North East and Yorkshire	180	4	3	35	16	11	0	0	249	31	
North West	182	6	1	40	6	15	1	1	252	48	
Midlands	181	6	1	32	8	8	1	1	238	36	
East of England	91	3	0	11	1	3	1	1	111	26	
London	252	10	3	33	7	4	1	0	310	68	
South East	86	7	0	20	6	3	0	1	123	22	
South West	45	2	2	6	4	0	0	1	60	13	
Northern Ireland	9	0	0	0	0	0	0	0	9	2	
Scotland	34	1	1	3	0	2	1	0	42	10	
Wales	18	0	0	1	2	2	0	0	23	5	
TOTAL	1078	39	11	181	50	48	5	5	1417	261	

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	787	26	7	131	103	74	3	7	1138
North West	690	23	2	132	44	49	2	4	946
Midlands	1005	52	6	186	86	87	3	4	1429
East of England	467	22	1	107	45	30	2	4	678
London	1338	38	1	140	62	54	3	6	1642
South East	555	41	4	132	56	54	3	7	852
South West	442	17	2	93	37	35	1	2	629
Northern Ireland	191	2	0	46	21	26	0	0	286
Scotland	547	33	6	116	41	37	0	1	781
Wales	221	16	0	62	16	20	0	0	335
TOTAL	6243	270	29	1145	511	466	17	35	8716

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, 391 patients have been reported to NHSBT as testing positive for SARS-CoV-2. Of these, 33 (8%) have died.

Table 5 Number of patients testing positive for SARS-CoV-2 by organ awaited and NHS Region, data up to 14 October 2020								
	Kidney	SPK	Liver	Heart	Lung	Intestinal	Total	Died
North East and Yorkshire	34	1	6	2	0	0	43	3
North West	38	1	4	6	0	0	49	3
Midlands	50	4	6	2	3	0	65	6
East of England	31	2	1	0	1	1	36	1
London	131	5	6	2	1	0	145	15
South East	24	2	6	0	1	0	33	4
South West	6	0	0	1	0	0	7	0
Scotland	7	1	1	0	0	0	9	0
Wales	4	0	0	0	0	0	4	1
TOTAL	325	16	30	13	6	1	391	33

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 11 November 2020									
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	34645	60.6	863	60.9	2.5	163	18.9	0.5
	Female	22519	39.4	554	39.1	2.5	98	17.7	0.4
	Unknown	28	0.0	-	-	-	-	-	-
Blood Group	O	24652	43.1	536	37.8	2.2	88	16.4	0.4
	A	22991	40.2	579	40.9	2.5	109	18.8	0.5
	B	7038	12.3	229	16.2	3.3	47	20.5	0.7
	AB	2491	4.4	73	5.2	2.9	17	23.3	0.7
Ethnicity	White	44035	77.0	886	62.5	2.0	154	17.4	0.3
	Asian	5857	10.2	311	21.9	5.3	61	19.6	1.0
	Black	2761	4.8	130	9.2	4.7	31	23.8	1.1
	Other	1425	2.5	34	2.4	2.4	7	20.6	0.5
	Unknown	3114	5.4	56	4.0	1.8	8	14.3	0.3
Age group	0-17	2085	3.6	21	1.5	1.0	-	-	-
	18-29	3559	6.2	91	6.4	2.6	-	-	-
	30-39	5799	10.1	138	9.8	2.4	1	0.7	0.0
	40-49	8992	15.7	220	15.5	2.4	22	10.0	0.2
	50-59	14515	25.4	374	26.4	2.6	53	14.2	0.4
	60-69	13848	24.2	360	25.4	2.6	101	28.1	0.7
	>70	8390	14.7	211	14.9	2.5	84	39.8	1.0
Organ	Kidney	39706	69.4	1078	76.1	2.7	208	19.3	0.5
	SPK	1781	3.1	39	2.8	2.2	6	15.4	0.3
	Pancreas	343	0.6	11	0.8	3.2	-	-	-
	Liver	10782	18.9	181	12.8	1.7	23	12.7	0.2
	Heart	2643	4.6	50	3.5	1.9	8	16.0	0.3
	Lung	1577	2.8	48	3.4	3.0	14	29.2	0.9
	Intestinal	148	0.3	5	0.4	3.4	1	20.0	0.7
	Multi organ	212	0.4	5	0.4	2.4	1	20.0	0.5
NHS Region	North East and Yorks	7485	13.1	249	17.6	3.3	31	12.4	0.4
	North West	5689	9.9	252	17.8	4.4	48	19.0	0.8
	Midlands	8505	14.9	238	16.8	2.8	36	15.1	0.4
	East of England	5580	9.8	111	7.8	2.0	26	23.4	0.5
	London	8609	15.1	310	21.9	3.6	68	21.9	0.8
	South East	7061	12.3	123	8.7	1.7	22	17.9	0.3
	South West	4669	8.2	60	4.2	1.3	13	21.7	0.3
	Northern Ireland	1924	3.4	9	0.6	0.5	2	22.2	0.1
	Scotland	5097	8.9	42	3.0	0.8	10	23.8	0.2
	Wales	2573	4.5	23	1.6	0.9	5	21.7	0.2

Table 6 Demographic characteristics of transplant patients testing positive for SARS-CoV-2, data up to 11 November 2020

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	36924	64.6	860	60.7	2.3	163	19.0	0.4
	2016	3855	6.7	107	7.6	2.8	21	19.6	0.5
	2017	4182	7.3	92	6.5	2.2	15	16.3	0.4
	2018	4545	7.9	115	8.1	2.5	25	21.7	0.6
	2019	4660	8.1	157	11.1	3.4	25	15.9	0.5
	2020	3026	5.3	86	6.1	2.8	12	14.0	0.4
Time from transplant	0-3 months	-	-	59	4.2	-	11	18.6	-
	3-6 months	-	-	45	3.2	-	11	24.4	-
	6-12 months	-	-	69	4.9	-	8	11.6	-
	12+ months	-	-	1244	87.8	-	231	18.6	-

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 11 November 2020									
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	5242	60.1	243	62.1	4.6	23	9.5	0.4
	Female	3461	39.7	148	37.9	4.3	10	6.8	0.3
	Unknown	13	0.1	-	-	-	-	-	-
Blood Group	O	4502	51.7	187	47.8	4.2	16	8.6	0.4
	A	2525	29.0	99	25.3	3.9	11	11.1	0.4
	B	1426	16.4	91	23.3	6.4	6	6.6	0.4
	AB	263	3.0	14	3.6	5.3	-	-	-
Ethnicity	White	6047	69.4	163	41.7	2.7	11	6.7	0.2
	Asian	1388	15.9	122	31.2	8.8	11	9.0	0.8
	Black	770	8.8	72	18.4	9.4	7	9.7	0.9
	Other	345	4.0	26	6.6	7.5	2	7.7	0.6
	Unknown	166	1.9	8	2.0	4.8	2	25.0	1.2
Age group	0-17	344	3.9	7	1.8	2.0	1	14.3	0.3
	18-29	614	7.0	17	4.3	2.8	2	11.8	0.3
	30-39	1099	12.6	44	11.3	4.0	1	2.3	0.1
	40-49	1614	18.5	78	19.9	4.8	5	6.4	0.3
	50-59	2515	28.9	123	31.5	4.9	7	5.7	0.3
	60-69	2000	22.9	102	26.1	5.1	15	14.7	0.8
	>70	530	6.1	20	5.1	3.8	2	10.0	0.4
Organ	Kidney	6243	71.6	325	83.1	5.2	27	8.3	0.4
	SPK	270	3.1	16	4.1	5.9	-	-	-
	Pancreas	29	0.3	-	-	-	-	-	-
	Liver	1145	13.1	30	7.7	2.6	4	13.3	0.3
	Heart	511	5.9	13	3.3	2.5	-	-	-
	Lung	466	5.3	6	1.5	1.3	2	33.3	0.4
	Intestinal	17	0.2	1	0.3	5.9	-	-	-
	Multi organ	35	0.4	-	-	-	-	-	-
NHS Region	North East and Yorks	1138	13.1	43	11.0	3.8	3	7.0	0.3
	North West	946	10.9	49	12.5	5.2	3	6.1	0.3
	Midlands	1429	16.4	65	16.6	4.5	6	9.2	0.4
	East of England	678	7.8	36	9.2	5.3	1	2.8	0.1
	London	1642	18.8	145	37.1	8.8	15	10.3	0.9
	South East	852	9.8	33	8.4	3.9	4	12.1	0.5
	South West	629	7.2	7	1.8	1.1	-	-	-
	Northern Ireland	286	3.3	-	-	-	-	-	-
	Scotland	781	9.0	9	2.3	1.2	-	-	-
	Wales	335	3.8	4	1.0	1.2	1	25.0	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 11 November 2020									
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	24352	61.3	653	60.6	2.7	128	19.6	0.5
	Female	15329	38.6	425	39.4	2.8	80	18.8	0.5
	Unknown	25	0.1	-	-	-	-	-	-
Blood Group	O	17220	43.4	414	38.4	2.4	70	16.9	0.4
	A	15684	39.5	426	39.5	2.7	86	20.2	0.5
	B	5036	12.7	183	17.0	3.6	40	21.9	0.8
	AB	1749	4.4	55	5.1	3.1	12	21.8	0.7
Ethnicity	White	29233	73.6	627	58.2	2.1	113	18.0	0.4
	Asian	4540	11.4	260	24.1	5.7	53	20.4	1.2
	Black	2265	5.7	112	10.4	4.9	30	26.8	1.3
	Other	1083	2.7	29	2.7	2.7	4	13.8	0.4
	Unknown	2585	6.5	50	4.6	1.9	8	16.0	0.3
Age group	0-17	869	2.2	10	0.9	1.2	-	-	-
	18-29	2259	5.7	62	5.8	2.7	-	-	-
	30-39	4157	10.5	109	10.1	2.6	1	0.9	0.0
	40-49	6599	16.6	176	16.3	2.7	18	10.2	0.3
	50-59	10503	26.5	297	27.6	2.8	41	13.8	0.4
	60-69	9237	23.3	257	23.9	2.8	79	30.7	0.9
	>70	6082	15.3	166	15.4	2.7	69	41.6	1.1
Organ	Kidney	39706	100.0	1078	100.0	2.7	208	19.3	0.5
NHS Region	North East and Yorks	5215	13.1	180	16.7	3.5	22	12.2	0.4
	North West	4010	10.1	182	16.9	4.5	34	18.7	0.8
	Midlands	5740	14.5	181	16.8	3.2	25	13.8	0.4
	East of England	3671	9.2	91	8.4	2.5	22	24.2	0.6
	London	6261	15.8	252	23.4	4.0	61	24.2	1.0
	South East	4893	12.3	86	8.0	1.8	17	19.8	0.3
	South West	3242	8.2	45	4.2	1.4	12	26.7	0.4
	Northern Ireland	1435	3.6	9	0.8	0.6	2	22.2	0.1
	Scotland	3382	8.5	34	3.2	1.0	9	26.5	0.3
	Wales	1857	4.7	18	1.7	1.0	4	22.2	0.2
Year of transplant	<=2015	25606	64.5	653	60.6	2.6	126	19.3	0.5
	2016	2682	6.8	81	7.5	3.0	16	19.8	0.6
	2017	2919	7.4	69	6.4	2.4	12	17.4	0.4
	2018	3157	8.0	90	8.3	2.9	20	22.2	0.6
	2019	3317	8.4	118	10.9	3.6	22	18.6	0.7
	2020	2025	5.1	67	6.2	3.3	12	17.9	0.6

Table 8 Demographic characteristics of kidney transplant patients testing positive for SARS-CoV-2, data up to 11 November 2020

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	-	-	46	4.3	-	11	23.9	-
	3-6 months	-	-	36	3.3	-	10	27.8	-
	6-12 months	-	-	52	4.8	-	6	11.5	-
	12+ months	-	-	944	87.6	-	181	19.2	-

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 11 November 2020									
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	3763	60.3	200	61.5	5.3	20	10.0	0.5
	Female	2468	39.5	125	38.5	5.1	7	5.6	0.3
	Unknown	12	0.2	-	-	-	-	-	-
Blood Group	O	3303	52.9	154	47.4	4.7	14	9.1	0.4
	A	1625	26.0	80	24.6	4.9	8	10.0	0.5
	B	1134	18.2	78	24.0	6.9	5	6.4	0.4
	AB	181	2.9	13	4.0	7.2	-	-	-
Ethnicity	White	3981	63.8	124	38.2	3.1	7	5.6	0.2
	Asian	1170	18.7	109	33.5	9.3	11	10.1	0.9
	Black	677	10.8	64	19.7	9.5	5	7.8	0.7
	Other	296	4.7	22	6.8	7.4	2	9.1	0.7
	Unknown	119	1.9	6	1.8	5.0	2	33.3	1.7
Age group	0-17	161	2.6	1	0.3	0.6	-	-	-
	18-29	410	6.6	11	3.4	2.7	1	9.1	0.2
	30-39	755	12.1	30	9.2	4.0	1	3.3	0.1
	40-49	1165	18.7	64	19.7	5.5	3	4.7	0.3
	50-59	1774	28.4	103	31.7	5.8	6	5.8	0.3
	60-69	1471	23.6	96	29.5	6.5	14	14.6	1.0
	>70	507	8.1	20	6.2	3.9	2	10.0	0.4
Organ	Kidney	6243	100.0	325	100.0	5.2	27	8.3	0.4
NHS Region	North East and Yorks	787	12.6	34	10.5	4.3	2	5.9	0.3
	North West	690	11.1	38	11.7	5.5	3	7.9	0.4
	Midlands	1005	16.1	50	15.4	5.0	4	8.0	0.4
	East of England	467	7.5	31	9.5	6.6	1	3.2	0.2
	London	1338	21.4	131	40.3	9.8	13	9.9	1.0
	South East	555	8.9	24	7.4	4.3	3	12.5	0.5
	South West	442	7.1	6	1.8	1.4	-	-	-
	Northern Ireland	191	3.1	-	-	-	-	-	-
	Scotland	547	8.8	7	2.2	1.3	-	-	-
	Wales	221	3.5	4	1.2	1.8	1	25.0	0.5

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 11 November 2020									
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	1035	58.1	24	61.5	2.3	4	16.7	0.4
	Female	746	41.9	15	38.5	2.0	2	13.3	0.3
Blood Group	O	776	43.6	18	46.2	2.3	2	11.1	0.3
	A	736	41.3	10	25.6	1.4	-	-	-
	B	190	10.7	7	17.9	3.7	1	14.3	0.5
	AB	79	4.4	4	10.3	5.1	3	75.0	3.8
Ethnicity	White	1565	87.9	26	66.7	1.7	4	15.4	0.3
	Asian	101	5.7	7	17.9	6.9	2	28.6	2.0
	Black	76	4.3	6	15.4	7.9	-	-	-
	Other	21	1.2	-	-	-	-	-	-
	Unknown	18	1.0	-	-	-	-	-	-
Age group	0-17	-	-	-	-	-	-	-	-
	18-29	33	1.9	-	-	-	-	-	-
	30-39	289	16.2	6	15.4	2.1	-	-	-
	40-49	598	33.6	12	30.8	2.0	2	16.7	0.3
	50-59	634	35.6	13	33.3	2.1	2	15.4	0.3
	60-69	212	11.9	6	15.4	2.8	-	-	-
	>70	15	0.8	2	5.1	13.3	2	100.0	13.3
Organ	SPK	1781	100.0	39	100.0	2.2	6	15.4	0.3
NHS Region	North East and Yorks	146	8.2	4	10.3	2.7	-	-	-
	North West	138	7.7	6	15.4	4.3	2	33.3	1.4
	Midlands	318	17.9	6	15.4	1.9	-	-	-
	East of England	228	12.8	3	7.7	1.3	1	33.3	0.4
	London	212	11.9	10	25.6	4.7	2	20.0	0.9
	South East	300	16.8	7	17.9	2.3	1	14.3	0.3
	South West	143	8.0	2	5.1	1.4	-	-	-
	Northern Ireland	23	1.3	-	-	-	-	-	-
	Scotland	170	9.5	1	2.6	0.6	-	-	-
	Wales	103	5.8	-	-	-	-	-	-
Year of transplant	<=2015	1119	62.8	22	56.4	2.0	4	18.2	0.4
	2016	122	6.9	3	7.7	2.5	1	33.3	0.8
	2017	149	8.4	5	12.8	3.4	-	-	-
	2018	160	9.0	3	7.7	1.9	1	33.3	0.6
	2019	151	8.5	4	10.3	2.6	-	-	-
	2020	80	4.5	2	5.1	2.5	-	-	-

Table 10 Demographic characteristics of SPK transplant patients testing positive for SARS-CoV-2, data up to 11 November 2020

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	2.6	-	-	-	-
	3-6 months	-	-	1	2.6	-	-	-	-
	6-12 months	-	-	3	7.7	-	-	-	-
	12+ months	-	-	34	87.2	-	6	17.6	-

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 11 November 2020									
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	147	54.4	10	62.5	6.8	-	-	-
	Female	123	45.6	6	37.5	4.9	-	-	-
Blood Group	O	129	47.8	10	62.5	7.8	-	-	-
	A	92	34.1	3	18.8	3.3	-	-	-
	B	41	15.2	3	18.8	7.3	-	-	-
	AB	8	3.0	-	-	-	-	-	-
Ethnicity	White	221	81.9	8	50.0	3.6	-	-	-
	Asian	26	9.6	3	18.8	11.5	-	-	-
	Black	14	5.2	2	12.5	14.3	-	-	-
	Other	7	2.6	2	12.5	28.6	-	-	-
	Unknown	2	0.7	1	6.3	50.0	-	-	-
Age group	0-17	1	0.4	1	6.3	100.0	-	-	-
	18-29	26	9.6	2	12.5	7.7	-	-	-
	30-39	93	34.4	7	43.8	7.5	-	-	-
	40-49	90	33.3	2	12.5	2.2	-	-	-
	50-59	56	20.7	4	25.0	7.1	-	-	-
	60-69	4	1.5	-	-	-	-	-	-
	>70	-	-	-	-	-	-	-	-
Organ	SPK	270	100.0	16	100.0	5.9	-	-	-
NHS Region	North East and Yorks	26	9.6	1	6.3	3.8	-	-	-
	North West	23	8.5	1	6.3	4.3	-	-	-
	Midlands	52	19.3	4	25.0	7.7	-	-	-
	East of England	22	8.1	2	12.5	9.1	-	-	-
	London	38	14.1	5	31.3	13.2	-	-	-
	South East	41	15.2	2	12.5	4.9	-	-	-
	South West	17	6.3	-	-	-	-	-	-
	Northern Ireland	2	0.7	-	-	-	-	-	-
	Scotland	33	12.2	1	6.3	3.0	-	-	-
	Wales	16	5.9	-	-	-	-	-	-

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 11 November 2020									
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	6227	57.8	106	58.6	1.7	13	12.3	0.2
	Female	4554	42.2	75	41.4	1.6	10	13.3	0.2
	Unknown	1	0.0	-	-	-	-	-	-
Blood Group	O	4657	43.2	69	38.1	1.5	10	14.5	0.2
	A	4368	40.5	77	42.5	1.8	11	14.3	0.3
	B	1296	12.0	27	14.9	2.1	2	7.4	0.2
	AB	461	4.3	8	4.4	1.7	-	-	-
Ethnicity	White	8994	83.4	134	74.0	1.5	17	12.7	0.2
	Asian	929	8.6	36	19.9	3.9	5	13.9	0.5
	Black	323	3.0	6	3.3	1.9	1	16.7	0.3
	Other	254	2.4	2	1.1	0.8	-	-	-
	Unknown	282	2.6	3	1.7	1.1	-	-	-
Age group	0-17	852	7.9	7	3.9	0.8	-	-	-
	18-29	800	7.4	21	11.7	2.6	-	-	-
	30-39	762	7.1	9	5.0	1.2	-	-	-
	40-49	1086	10.1	15	8.3	1.4	2	13.3	0.2
	50-59	2303	21.4	37	20.6	1.6	4	10.8	0.2
	60-69	3230	30.0	61	33.9	1.9	8	13.1	0.2
	>70	1745	16.2	30	16.7	1.7	9	30.0	0.5
Organ	Liver	10782	100.0	181	100.0	1.7	23	12.7	0.2
NHS Region	North East and Yorks	1379	12.8	35	19.3	2.5	7	20.0	0.5
	North West	1059	9.8	40	22.1	3.8	3	7.5	0.3
	Midlands	1659	15.4	32	17.7	1.9	3	9.4	0.2
	East of England	1123	10.4	11	6.1	1.0	1	9.1	0.1
	London	1610	14.9	33	18.2	2.0	3	9.1	0.2
	South East	1247	11.6	20	11.0	1.6	4	20.0	0.3
	South West	846	7.8	6	3.3	0.7	-	-	-
	Northern Ireland	340	3.2	-	-	-	-	-	-
	Scotland	1122	10.4	3	1.7	0.3	1	33.3	0.1
	Wales	397	3.7	1	0.6	0.3	1	100.0	0.3
Year of transplant	<=2015	6886	63.9	117	64.6	1.7	16	13.7	0.2
	2016	736	6.8	12	6.6	1.6	2	16.7	0.3
	2017	791	7.3	12	6.6	1.5	2	16.7	0.3
	2018	874	8.1	13	7.2	1.5	1	7.7	0.1
	2019	835	7.7	16	8.8	1.9	2	12.5	0.2
	2020	660	6.1	11	6.1	1.7	-	-	-

Table 12 Demographic characteristics of liver transplant patients testing positive for SARS-CoV-2, data up to 11 November 2020

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	-	-	9	5.0	-	-	-	-
	3-6 months	-	-	4	2.2	-	1	25.0	-
	6-12 months	-	-	5	2.8	-	1	20.0	-
	12+ months	-	-	163	90.1	-	21	12.9	-

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 11 November 2020									
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	685	59.8	18	60.0	2.6	1	5.6	0.1
	Female	460	40.2	12	40.0	2.6	3	25.0	0.7
	Unknown	-	-	-	-	-	-	-	-
Blood Group	O	543	47.4	13	43.3	2.4	1	7.7	0.2
	A	423	36.9	11	36.7	2.6	2	18.2	0.5
	B	137	12.0	6	20.0	4.4	1	16.7	0.7
	AB	42	3.7	-	-	-	-	-	-
Ethnicity	White	945	82.5	21	70.0	2.2	3	14.3	0.3
	Asian	101	8.8	4	13.3	4.0	-	-	-
	Black	33	2.9	3	10.0	9.1	1	33.3	3.0
	Other	28	2.4	1	3.3	3.6	-	-	-
	Unknown	38	3.3	1	3.3	2.6	-	-	-
Age group	0-17	96	8.4	3	10.0	3.1	1	33.3	1.0
	18-29	91	7.9	3	10.0	3.3	1	33.3	1.1
	30-39	115	10.0	2	6.7	1.7	-	-	-
	40-49	200	17.5	7	23.3	3.5	1	14.3	0.5
	50-59	339	29.6	13	43.3	3.8	1	7.7	0.3
	60-69	289	25.2	2	6.7	0.7	-	-	-
	>70	15	1.3	-	-	-	-	-	-
Organ	Liver	1145	100.0	30	100.0	2.6	4	13.3	0.3
NHS Region	North East and Yorks	131	11.4	6	20.0	4.6	1	16.7	0.8
	North West	132	11.5	4	13.3	3.0	-	-	-
	Midlands	186	16.2	6	20.0	3.2	1	16.7	0.5
	East of England	107	9.3	1	3.3	0.9	-	-	-
	London	140	12.2	6	20.0	4.3	1	16.7	0.7
	South East	132	11.5	6	20.0	4.5	1	16.7	0.8
	South West	93	8.1	-	-	-	-	-	-
	Northern Ireland	46	4.0	-	-	-	-	-	-
	Scotland	116	10.1	1	3.3	0.9	-	-	-
	Wales	62	5.4	-	-	-	-	-	-

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 11 November 2020									
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	1835	69.4	38	76.0	2.1	7	18.4	0.4
	Female	807	30.5	12	24.0	1.5	1	8.3	0.1
	Unknown	1	0.0	-	-	-	-	-	-
Blood Group	O	1025	38.8	17	34.0	1.7	2	11.8	0.2
	A	1179	44.6	28	56.0	2.4	4	14.3	0.3
	B	323	12.2	4	8.0	1.2	2	50.0	0.6
	AB	114	4.3	1	2.0	0.9	-	-	-
Ethnicity	White	2129	80.6	38	76.0	1.8	6	15.8	0.3
	Asian	200	7.6	4	8.0	2.0	1	25.0	0.5
	Black	77	2.9	4	8.0	5.2	-	-	-
	Other	50	1.9	1	2.0	2.0	1	100.0	2.0
	Unknown	187	7.1	3	6.0	1.6	-	-	-
Age group	0-17	265	10.0	2	4.0	0.8	-	-	-
	18-29	295	11.2	4	8.0	1.4	-	-	-
	30-39	306	11.6	6	12.0	2.0	-	-	-
	40-49	331	12.5	9	18.0	2.7	-	-	-
	50-59	482	18.2	10	20.0	2.1	1	10.0	0.2
	60-69	551	20.8	8	16.0	1.5	3	37.5	0.5
	>70	413	15.6	11	22.0	2.7	4	36.4	1.0
Organ	Heart	2643	100.0	50	100.0	1.9	8	16.0	0.3
NHS Region	North East and Yorks	430	16.3	16	32.0	3.7	1	6.3	0.2
	North West	263	10.0	6	12.0	2.3	2	33.3	0.8
	Midlands	432	16.3	8	16.0	1.9	2	25.0	0.5
	East of England	290	11.0	1	2.0	0.3	1	100.0	0.3
	London	289	10.9	7	14.0	2.4	1	14.3	0.3
	South East	318	12.0	6	12.0	1.9	-	-	-
	South West	220	8.3	4	8.0	1.8	1	25.0	0.5
	Northern Ireland	67	2.5	-	-	-	-	-	-
	Scotland	221	8.4	-	-	-	-	-	-
	Wales	113	4.3	2	4.0	1.8	-	-	-
Year of transplant	<=2015	1895	71.7	30	60.0	1.6	7	23.3	0.4
	2016	162	6.1	4	8.0	2.5	-	-	-
	2017	144	5.4	3	6.0	2.1	1	33.3	0.7
	2018	145	5.5	3	6.0	2.1	-	-	-
	2019	154	5.8	9	18.0	5.8	-	-	-
	2020	143	5.4	1	2.0	0.7	-	-	-

Table 14 Demographic characteristics of heart transplant patients testing positive for SARS-CoV-2, data up to 11 November 2020

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	3-6 months	-	-	3	6.0	-	-	-	-
	6-12 months	-	-	4	8.0	-	-	-	-
	12+ months	-	-	43	86.0	-	8	18.6	-

Lung



Table 15 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 15 Demographic characteristics of lung transplant patients testing positive for SARS-CoV-2, data up to 11 November 2020									
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	857	54.3	28	58.3	3.3	11	39.3	1.3
	Female	719	45.6	20	41.7	2.8	3	15.0	0.4
	Unknown	1	0.1	-	-	-	-	-	-
Blood Group	O	676	42.9	12	25.0	1.8	3	25.0	0.4
	A	716	45.4	28	58.3	3.9	8	28.6	1.1
	B	123	7.8	3	6.3	2.4	1	33.3	0.8
	AB	62	3.9	5	10.4	8.1	2	40.0	3.2
Ethnicity	White	1484	94.1	44	91.7	3.0	12	27.3	0.8
	Asian	40	2.5	1	2.1	2.5	-	-	-
	Black	9	0.6	1	2.1	11.1	-	-	-
	Other	10	0.6	2	4.2	20.0	2	100.0	20.0
	Unknown	34	2.2	-	-	-	-	-	-
Age group	0-17	30	1.9	1	2.1	3.3	-	-	-
	18-29	126	8.0	4	8.3	3.2	-	-	-
	30-39	219	13.9	8	16.7	3.7	-	-	-
	40-49	246	15.6	4	8.3	1.6	-	-	-
	50-59	381	24.2	13	27.1	3.4	5	38.5	1.3
	60-69	470	29.8	17	35.4	3.6	9	52.9	1.9
	>70	105	6.7	1	2.1	1.0	-	-	-
Organ	Lung	1577	100.0	48	100.0	3.0	14	29.2	0.9
NHS Region	North East and Yorks	230	14.6	11	22.9	4.8	1	9.1	0.4
	North West	154	9.8	15	31.3	9.7	7	46.7	4.5
	Midlands	249	15.8	8	16.7	3.2	4	50.0	1.6
	East of England	202	12.8	3	6.3	1.5	1	33.3	0.5
	London	146	9.3	4	8.3	2.7	1	25.0	0.7
	South East	231	14.6	3	6.3	1.3	-	-	-
	South West	127	8.1	-	-	-	-	-	-
	Northern Ireland	44	2.8	-	-	-	-	-	-
	Scotland	124	7.9	2	4.2	1.6	-	-	-
	Wales	70	4.4	2	4.2	2.9	-	-	-
Year of transplant	<=2015	970	61.5	25	52.1	2.6	9	36.0	0.9
	2016	99	6.3	6	12.5	6.1	2	33.3	2.0
	2017	136	8.6	2	4.2	1.5	-	-	-
	2018	147	9.3	4	8.3	2.7	2	50.0	1.4
	2019	139	8.8	7	14.6	5.0	1	14.3	0.7
	2020	86	5.5	4	8.3	4.7	-	-	-

Table 15 Demographic characteristics of lung transplant patients testing positive for SARS-CoV-2, data up to 11 November 2020

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	-	-	3	6.3	-	-	-	-
	6-12 months	-	-	3	6.3	-	1	33.3	-
	12+ months	-	-	42	87.5	-	13	31.0	-

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