

NHS BLOOD AND TRANSPLANT
CARDIOTHORACIC ADVISORY GROUP - LUNG
REVIEW OF ALLOCATION ZONES

LAY SUMMARY

Allocation zones are used in the policy for offering donor lungs to prioritise local patients and keep travel distances for the donor lungs as short as possible. This means, for example, that if a donor lung becomes available in Bristol, it will first be offered to a patient in Birmingham, as this is the zonal transplant hospital, before being offered to patients at other transplant hospitals. This zonal rule applies to just the non-urgent allocation tier; super-urgent and urgent patients are prioritised nationally. Every year the zones are reviewed by comparing the number of lung donors in each zone with the number of patients registered for a transplant in each transplant hospital. If differences are found in the share of these numbers, then the zones may need to be adjusted. This report presents the latest donor numbers for each zone and the number of patients registered for a transplant at each transplant hospital.

BACKGROUND

- 1 In the non-urgent offering tier of the UK lung offering policy, priority is given to the zonal centre. This means that donor lungs that are declined for patients in the national super-urgent and urgent tiers may then be accepted by the local zonal centre. Each adult transplant centre is assigned an allocation zone which is proportional to the number of patient registrations they have made onto the transplant waiting list. Donors that arise within each centre's zone are offered preferentially to their non-urgent patients before being offered to other non-urgent patients nationally.
- 2 The size of each allocation zone is reviewed annually by CTAG, and adjustments are made to the zonal boundaries if required, to reflect the demand for transplantation at each centre. The lung allocation zones were last adjusted in July 2024. The current list of hospitals in each lung allocation zone can be found online at:
<https://www.odt.nhs.uk/transplantation/tools-policies-and-guidance/allocation-zones>
- 3 The time period for analysis covers the following 2 years for registrations and 3 years for donors:
 - Registrations: 1 February 2024 to 31 January 2026
 - Donors: 1 February 2023 to 31 January 2026
- 4 This report also covers activity data since 1 February 2023, for donors and transplants, including the number and utilisation of donors in each zone, and the number of zonal/imported transplants per centre.
- 5 Please see POL230: NHSBT Lung Allocation Policy (online here <https://www.odt.nhs.uk/transplantation/tools-policies-and-guidance/policies-and-guidance/>) for full details of how the allocation zones are used in the offering process.

DATA AND METHODS

- 6 Changes to the lung allocation zones are based on a statistically significant difference being observed between the percentage share of registrations and the percentage share of donors for any one centre/allocation zone (at the 5% significant level). It was agreed by CTAG in 2021 that the previously applied Bonferroni correction would be removed, in order to increase the sensitivity of the tests.

- 7 Registrations are defined as:

The total number of UK Group 1 lung registrations in the latest two year period at adult centres, but excluding a) any registrations made by Newcastle of patients aged < 16 years, and (b) any patients that were only ever registered as urgent or super-urgent (since these tiers do not have zonal priority).

Registrations that ended in a domino or live donor transplant, and multi-organ registrations are included, however registrations for a heart-lung transplant are not included as such patients are offered to in the heart offering sequence.

For patients registered more than once in the registration period, the following rules apply:

- If a patient was registered, removed then reregistered, only the first registration is included.
- If a patient was registered, transplanted then reregistered, both registrations are included.
- If a patient was active, suspended then reactivated, only the first activation is included.
- If a patient moved from the non-urgent list to the urgent or super-urgent list and then back to the non-urgent list (without transplantation in between) they will only be counted once.

- 8 Donors are defined as:

The total number of UK adult (≥ 16 years at time of death) lung donors after brain death or circulatory death over the latest three year period. Donors whose lung(s) were retrieved but not transplanted are excluded. Donors whose lungs were transplanted overseas are included. Paediatric donors who donated to adult patients are included, along with adult donors whose organs were transplanted into paediatric patients.

RESULTS

Comparison of registrations and donors

- 9 **Table 1** summarises the proportion of lung registrations made by each centre over the two year period and compares this with the number of lung donors that arose under each allocation zone over the three year period. This shows that the proportion of lung registrations and lung donors are reasonably balanced across centres and there is no evidence of a need to adjust the zonal boundaries as all p-values are greater than 0.05.

Table 1 Number of lung registrations (1 February 2024 – 31 January 2026) and donors (1 February 2023 – 31 January 2026), by registering centre/current allocation zone (since 24 July 2024)

Centre/zone	Lung registrations		Lung donors in current zone		p-value ¹
	N	%	N	%	
Birmingham	67	19	82	17	0.57
Harefield	60	17	97	21	0.19
Manchester	67	19	72	15	0.16
Newcastle	65	18	95	20	0.52
Papworth	96	27	127	27	0.95
UK	355	100	473	100	-

¹ Chi-squared test comparison of proportion of registrations with proportion of donors, please note that the p-value has not been adjusted for multiple comparisons

Commented [SR1]: Numbers sum to 472

Donor Activity

10 In the period from 1 February 2023 to 31 January 2026, there were 2,055 adult DBD donors who donated at least one organ in the UK. **Table 2** shows the breakdown of these donors by lung allocation zone, with the number of donors who had their lung(s) offered, accepted, retrieved, and transplanted. In total, 1,181 (57%) donors had at least one lung offered, 707 (60% of offered) donors had at least one lung accepted, 317 (45% of accepted) had at least one lung retrieved and 303 (96% of retrieved) had at least one transplanted. The utilisation rate (transplanted of offered) was 26% nationally.

Table 2 Adult DBD lung organ donation and retrieval rates in the UK by allocation zone, 1 February 2023 - 31 January 2026

Zone	Number of DBD donors	Offered (% of donors)		Accepted (% of offered)		Retrieved (% of accepted)		Transplanted (% of retrieved)	
		N		N		N		N	
Birmingham	351	169	(48)	117	(69)	50	(43)	47	(94)
Harefield	441	263	(60)	145	(55)	58	(40)	57	(98)
Manchester	287	141	(49)	93	(66)	43	(46)	42	(98)
Newcastle	511	318	(62)	181	(57)	82	(45)	77	(94)
Papworth	465	290	(62)	171	(59)	84	(49)	80	(95)
UK	2055	1181	(57)	707	(60)	317	(45)	303	(96)

11 **Table 3** shows similar information but for the 2,221 DCD donors in the period. The national DCD utilisation rate was 19%.

Table 3 Adult DCD lung organ donation and retrieval rates in the UK by allocation zone, 1 February 2023 - 31 January 2026										
Zone	Number of DCD donors	N	Offered (% of donors)	N	Accepted (% of offered)	N	Retrieved (% of accepted)	N	Transplanted (% of retrieved)	(% of offered)
Birmingham	419	139	(33)	66	(47)	33	(50)	31	(94)	(22)
Harefield	498	200	(40)	92	(46)	42	(46)	36	(86)	(18)
Manchester	286	87	(30)	53	(61)	27	(51)	23	(85)	(26)
Newcastle	504	209	(41)	98	(47)	34	(35)	27	(79)	(13)
Papworth	514	191	(37)	94	(49)	49	(52)	40	(82)	(21)
UK	2221	826	(37)	403	(49)	185	(46)	157	(85)	(19)

Transplant Activity

12 **Table 4** shows the number of adult lung transplants performed in the period using UK adult donors, by transplanting centre, broken down by whether the lungs were from a zonal donor or imported from outside the zone. Note that heart-lung block transplants are excluded from this table, as are paediatric recipients. Overall, 64% of transplants in the time period were performed using imported lungs, with Manchester having the highest proportion of imported lung transplants (70%) and Papworth having the lowest (56%).

Table 4 Adult lung transplants performed in the UK from UK adult deceased donors, by transplanting centre and zonal status of the donor, 1 February 2023 – 31 January 2026					
Centre	Transplants		Zonal (%)	Imported (%)	
	N	N		N	(%)
Birmingham	67	22	(33)	45	(67)
Harefield	89	30	(34)	59	(66)
Manchester	67	20	(30)	47	(70)
Newcastle	86	30	(35)	56	(65)
Papworth	119	52	(44)	67	(56)
UK	428	154	(36)	274	(64)

CONCLUSIONS

13 There were no significant differences observed in the percentage share of lung registrations and donors across centres/zones, therefore no changes will be made to zonal boundaries at present.

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