Update on Lung Continuous Distribution Policy

Sponsoring Committee: Board of Directors

Board Meeting: November 20, 2025

Purpose

The Organ Procurement and Transplantation Network (OPTN) Lung Transplantation Committee was charged with considering changes to lung allocation to promote policy compliance. This paper describes the Committee's deliberations.

Background

In October 2025, the Health Resources and Services Administration (HRSA) documented a rise in allocation out of OPTN sequence (AOOS) that correlates with the implementation of the lung Continuous Distribution policy in 2023, which may have been a confounding factor in the Committee's and OPTN Board of Directors' efforts to address and monitor inequities in access to transplant for blood type O candidates. AOOS occurs when OPTN members allocate organs outside of the match run, which ranks potential transplant recipients according to OPTN allocation policies. In response to the rise in AOOS, the Committee proposed a plan to further improve access to transplant for blood type O candidates, building on the September 2023 allocation change. Noting that AOOS may impede a policy change from having the intended impact, the OPTN Board determined that the Lung Transplantation Committee should consider changes to lung allocation with the intent of reducing logistical complexity and improving policy compliance prior to making changes related to blood type. The Lung Transplantation Committee reviewed several potential changes to lung allocation and provided a series of updates to the OPTN Board. The OPTN Board approved one of these options via emergency action on November 20, 2025, in accordance with the emergency actions pathway established in *OPTN Management and Membership Policy E.7*. The change is intended to reduce logistical complexity in lung allocation as defined by median travel distance and the number of unique transplant programs appearing at the top of the match, thereby reducing lung allocation out of OPTN sequence and improving policy compliance.

Summary of Changes

The Lung Composite Allocation Score (CAS) used to prioritize potential transplant recipients in lung allocation (Exhibit 1) will be updated to reduce median travel distance for lungs with the goal of reducing logistical complexity in lung allocation and improving policy compliance.

Exhibit 1. Previous Lung Composite Allocation Score

Attribute	Definition	% of Available Points
Waiting List Survival	Expected 1-year waiting list survival	25

Attribute	Definition	% of Available Points
Post-Transplant Outcomes	Expected 5-year post-transplant survival	**25**
Candidate Biology	Total of ABO, CPRA, and height points	**15**
ABO	Based on percentage of compatible donors by blood type	5
CPRA	Based on percentage of compatible donors by CPRA	5
Height	Based on percentage of compatible donors by height	5
Patient Access	Total of pediatric and prior living donor points	**25**
Pediatric	For candidates under 18 years old	20
Prior Living Donor	For candidates who donated any organ	5
Placement Efficiency	Total of travel and proximity efficiency points	**10**
Travel Efficiency	Based on impact of distance on costs of travel	5
Proximity Efficiency	Based on impact of distance on other efficiency (time, availability, etc.)	5

Note. Total Score = Waiting List Survival + Post-Transplant Outcomes + Candidate Biology + Patient Access + Placement Efficiency

Changes to the Lung CAS include:

- Increasing the weight on placement efficiency from 10% to 15% of the overall score.
- Reducing the weight on all other parts of the score proportionally, including points assigned to pediatric candidates less than 12 years old for waitlist survival and post-transplant outcomes.
- Replacing the existing travel efficiency and proximity efficiency rating scales with a single placement efficiency rating scale to assign points to potential transplant recipients based on the nautical mile distance between the donor hospital and the transplant hospital.

Lung CAS scores for all lung and heart-lung candidates on the waiting list will be updated to reflect the changes to the lung CAS (Exhibit 2). Approved exceptions will remain in effect based on the percentage of available points approved by the Lung Review Board, and the points assigned for each exception will be reduced proportionately to the adjusted goal weights.

Exhibit 2. Revised Lung Composite Allocation Score

Attribute	Definition	% of Available Points
Waiting List Survival	Expected 1-year waiting list survival	**23.61**
Post-Transplant Outcomes	Expected 5-year post-transplant survival	**23.61**
Candidate Biology	Total of ABO, CPRA, and height points	**14.17**
ABO	Based on percentage of compatible donors by blood type	4.72

Attribute	Definition	% of Available Points
CPRA	Based on percentage of compatible donors by CPRA	4.72
Height	Based on percentage of compatible donors by height	4.72
Patient Access	Total of pediatric and prior living donor points	**23.61**
Pediatric	For candidates under 18 years old	18.89
Prior Living Donor	For candidates who donated any organ	4.72
Placement Efficiency	Total of travel and proximity efficiency points	**15**

Note. Total Score = Waiting List Survival + Post-Transplant Outcomes + Candidate Biology + Patient Access + Placement Efficiency

Implementation

Transplant hospitals

No action is required by lung transplant programs to implement this change; however, they may consider operational changes in response to the anticipated reduction in median travel distance for lungs. Lung transplant programs are encouraged to report any unintended consequences of the policy change observed using the OPTN Contact Form as the policy's impact is monitored. Lung transplant programs may continue to submit exception requests for lung candidates or withdraw exceptions that are no longer needed according to OPTN *Policy 10.2 Lung Composite Score Exceptions.*

All candidate CAS attribute scores will decrease proportionally to reflect the increased weight on placement efficiency. Transplant programs may wish to download their "Waitlist Lung Composite Allocation Score: Points Report" found in the Reports section of Waitlist in advance of the release for candidate-specific, detailed score breakdowns to compare to post-implementation scores.

Organ procurement organizations (OPOs)

No action is required by OPOs to implement this change. OPOs must continue to offer lungs to potential transplant recipients in the order they appear on the lung match in accordance with OPTN *Policy 5.4.B: Order of Allocation*. OPOs may consider operational changes to adjust to the anticipated reduction in median travel distance for lungs.

Conclusion

The OPTN Board resolved to implement (as an emergency action) the option to modify lung allocation that replaces the existing travel efficiency and proximity efficiency rating scales with a single placement efficiency rating scale to assign points to potential transplant recipients based on the nautical mile distance between the donor hospital and the transplant hospital. This includes increasing the weight on placement efficiency to 15% of the score and reducing the weights on the other attributes of the score proportionally.

Post-Implementation Monitoring

Member Compliance

The OPTN Final Rule requires that policies "include appropriate procedures to promote and review compliance."[1] This proposal will not change the current routine monitoring of OPTN members. An OPTN contractor, on behalf of the OPTN, will continue to review deceased donor match runs that result in a transplanted organ to ensure that organs have been allocated according to OPTN Policy and will continue to investigate potential policy violations that are identified. Any data entered into OPTN computer systems may be reviewed by the OPTN, and members are required to provide documentation as requested.

Policy Evaluation

The OPTN Final Rule requires that allocation policies "be reviewed periodically and revised as appropriate." When evaluating the impact of the Lung CD Policy, data will be examined across a number of time periods (Exhibit 3) in order to provide a full picture of the various related policy changes. The metrics described below (Exhibit 4) are a sample of potential metrics of interest and the final list is subject to change. The selected metrics will be provided to the Committee monthly and detailed reports will be provided every three months, accounting for the OPTN data submission lag, as appropriate. Additional metrics or extended monitoring can be provided at the request of the Committee.

Exhibit 3. Time Periods for Analysis

Time Periods for Analysis	Dates Included
Pre-CD	9/2021 – 2/2023
CD – initial policy	3/2023 – 9/26/2023
CD – ABO correction	9/27/2023 – 8/4/2025
Increased AOOS awareness era	8/5/2025 – 5/6/2026
CD-AOOS correction	5/7/2026 – current

Exhibit 4. Potential Metrics of Interest

Metric of Interest	Subgroups*
Number of candidates ever waiting	Not applicable
Number of incident waitlist additions	Not applicable
Number of lung donors and lungs donated	Not applicable
Number and rate of lung non-use	Not applicable
Number of lung transplants	Not applicable

[1] 42 CFR §121.8(a)(7).

Metric of Interest	Subgroups*
Number of waitlist removals (death/too sick)	• Overall • Age group (adult, pediatrics) • Candidate ABO • Stature • Sensitization • OPTN Region • Diagnosis Group • Multiorgan type (lung only, heart-lung, other multi) • Medical Urgency Points • Post-Transplant Survival Points • CAS Subscore
Number (and fraction) of waitlist registrations with 1+ exception requests	Not applicable
Number of Lung CAS Exception Request forms submitted	Not applicable
Number of Lung CAS Exception Requests approved	Not applicable
Number of lung transplants	• Overall • Age group (adult, pediatrics) • Recipient ABO • Stature • Sensitization • OPTN Region • Diagnosis Group • Multiorgan type (lung only, heart-lung, other multi) • Medical Urgency Points • Post-Transplant Survival Points • CAS Subscore • Distance travelled (donor hospital – transplant center) • Center size (Number of transplants in 2025) quartile • Center isolation measure (Number of centers in 250 NM circle)

Metric of Interest	Subgroups*
Transplant rate	• Overall • Age group (adult, pediatrics) • Recipient ABO • Stature • Sensitization • OPTN Region • Diagnosis Group • Multiorgan type (lung only, heart-lung, other multi) • Medical Urgency Points • Post-Transplant Survival Points • CAS Subscore • Distance travelled (donor hospital – transplant center) • Center size (Number of transplants in 2025) quartile • Center isolation measure (Number of centers in 250 NM circle)
Number of centers in the first 10 candidates on match run	• Overall • OPTN region • Center size (Number of transplants in 2025) quartile • Center isolation measure (Number of centers in 250 NM circle) • Donor ABO • Donor age (peds/adult)
Number of centers in the first 25 candidates on match run	
Number of centers in the first 50 candidates on match run	
Median distance between donor hospital and transplant center for first 10, 25, and 50 patients on the match run	
Fraction that took place via AOOS	• Overall • OPTN Region • ABO • Stature • Sensitization • Diagnosis Group • Medical Urgency • Center size (Number of transplants in 2025) quartile

Metric of Interest	Subgroups*
	• Center isolation measure (Number of centers in 250 NM circle)

* All statistics will be reported for each time period and for each combination of time period and subgroup.

Policy Language

Due to the OPTN Board's emergency resolution to make the changes to the placement efficiency rating scales and attribute weights described above, potential new language is underlined (example) and language that would be removed is struck through (~~example~~). Heading numbers, table and figure captions, and cross-references affected by the numbering of these policies will be updated as necessary.

RESOLVED, that, pursuant to Policy E.7 of the OPTN Management and Membership Policies, the Board hereby determines that an emergency action is warranted and in the best interests of the OPTN and its members in order to increase the percentage of available points allocated to placement efficiency in all active OPTN allocation policies that include a placement efficiency attribute or analogous factor.

FURTHER RESOLVED, that, effective upon notice to the OPTN membership, each active OPTN policy that assigns a percentage of available points to placement efficiency (or any substantially equivalent concept) is hereby amended so that the percentage of available points allocated to placement efficiency an increase to fifteen percent (15%) of the approved rating scale, five percent (5%) being proportionally adjusted across the remaining attributes, superseding any lower or different percentage currently specified in such policies.

FURTHER RESOLVED, that this emergency amendment shall be submitted for public comment no later than six (6) months of the effective date and shall automatically expire twelve (12) months from its effective date unless permanently adopted, amended, or replaced by the Board following completion of public comment.

10.1.A.1. Waitlist Survival Points for Candidates at least 12 Years Old

For candidates at least 12 years old at the time of the match run lung waitlist survival points are awarded based on the candidate's waiting list survival probability, based on the following factors:

- Age at the time of the match run (fractional calendar years)
- Bilirubin (mg/dL) value with the most recent test date and time
- Body mass index (BMI) (kg/m2)
- Assisted ventilation
- Creatinine (serum) (mg/dL) with the most recent test date and time
- Diagnosis Group (A, B, C, or D), as defined in OPTN *Policy 10.1.F Lung Disease Diagnosis Groups*
- Whether the candidate has one of the following specific diagnoses within Diagnosis Group A:
  - Bronchiectasis

  - Sarcoidosis with pulmonary artery (PA) mean pressure of 30 mm Hg or less
  - Sarcoidosis with PA mean pressure missing
- Whether the candidate has one of the following specific diagnoses within Diagnosis Group D:
  - COVID-19: pulmonary fibrosis
  - Pulmonary fibrosis, other specify cause
  - Sarcoidosis with PA mean pressure greater than 30 mm Hg
- Functional Status
- Amount of supplemental oxygen required to maintain adequate oxygen saturation (88% or greater) at rest (L/min)
- PCO2 (mm Hg): current
- PCO2 increase of at least 15%
- PA systolic pressure (mm Hg) at rest, prior to any exercise
- Six-minute-walk distance (feet)

Lung waitlist survival points are awarded on a scale of 0-~~25~~23.61. OPTN *Policy 21.1.A: Waiting List Survival Formulas* details the calculation of lung waitlist survival points.

10.1.B.1 Post-Transplant Outcomes Points for Candidates at Least 12 Years Old

For candidates at least 12 years old at the time of the match run, lung post-transplant outcomes points are awarded based on the candidate's post-transplant survival probability, based on the following factors:

- Age at the time of the match run (fractional calendar years)
- Creatinine (serum) (mg/dL) with the most recent test date and time
- Cardiac index (L/min/m2) at rest, prior to any exercise
- Assisted ventilation
- Diagnosis Group (A, B, C, or D), as defined in OPTN *Policy 10.1.F: Lung Disease Diagnosis Groups*
- Whether the candidate has one of the following specific diagnoses within Diagnosis Group A:
  - Bronchiectasis
  - Lymphangioleiomyomatosis
  - Sarcoidosis with PA mean pressure of 30 mm Hg or less
  - Sarcoidosis with PA mean pressure missing
- Whether the candidate has one of the following specific diagnoses within Diagnosis Group D:
  - COVID-19: pulmonary fibrosis
  - Obliterative bronchiolitis (non-retransplant)
  - Constrictive bronchiolitis

  - Sarcoidosis with PA mean pressure greater than 30 mm Hg
  - Pulmonary fibrosis, other specify cause
- Functional Status
- Six-minute-walk-distance (feet)

Lung post-transplant outcomes points are awarded on a scale of 0-~~25~~23.61. OPTN *Policy 21.1.B: Post-Transplant Outcomes Formulas* details the calculation of lung post-transplant outcomes points.

10.1.C.1 Blood Type

Each lung candidate is assigned lung blood type points determined based on the proportion of donors the candidate could accept based on blood type compatibility, according to *Table 10-1: Points by Blood Type.* Candidates who are eligible to accept blood group incompatible donors according to OPTN *Policy 10.4.A Eligibility for Intended Blood Group Incompatible Offers for Deceased Donor Lungs* receive the same blood type points as other candidates in their blood group.

Table 10-1: Points by Blood Type

A candidate with a blood type of	Will receive this many lung blood type points
AB	0
A	~~0.3032~~0.29
B	~~2.2382~~2.11
O	~~5.0000~~4.72

10.1.C.2 CPRA

Each lung candidate is assigned lung CPRA points based on the proportion of donors the candidate could accept based on antigen acceptability. Lung CPRA points are awarded on a scale of 0-~~5~~4.72. OPTN *Policy 21.1.C.1: Lung CPRA Points* details the calculation of lung CPRA points.

10.1.C.3 Height

Each lung candidate is assigned lung height points based on the proportion of donors the candidate could accept based on height compatibility. Lung height points are awarded on a scale of 0-~~5~~4.72. OPTN *Policy 21.1.C.2: Lung Height Points* details the calculation of lung height points.

10.1.D.1 Pediatric Candidates

A candidate who was less than 18 years old at the time of registration on the lung waiting list will receive ~~20~~18.89 lung pediatric points.

10.1.D.2 Prior Living Donors

A candidate who is a prior living organ donor will receive ~~5~~4.72 lung living donor points.

A lung candidate will be classified as a prior living donor if the candidate donated for transplantation, within the United States or its territories, at least one organ and the candidate's physician reports all of the following information to the OPTN:

a. The name of the recipient or intended recipient of the donated organ or organ segment

b. The recipient's or intended recipient's transplant hospital

c. The date the donated organ was procured

10.1.E Promoting the Efficient Management of the Organ Placement System

~~The lung placement efficiency score is the total of the candidate's lung travel efficiency and lung proximity efficiency points.~~ Each lung candidate is assigned placement efficiency points based on the straight-line distance between the donor hospital and the transplant hospital where the candidate is listed. Lung placement efficiency points are awarded on a scale of 0-15. OPTN *Policy 21.1.D: Lung Placement Efficiency Points* details the calculation of the lung placement efficiency points.

10.1.E.1 ~~Travel Efficiency~~

~~A candidate's lung travel efficiency points are determined based on the straight-line distance between the donor hospital and the transplant hospital where the candidate is listed. Lung travel efficiency points are awarded on a scale of 0-5. OPTN Policy *21.1.D.1: Lung Travel Efficiency Points* details the calculation of lung proximity efficiency points.~~

~~10.1.E.2 Proximity Efficiency~~

~~A candidate's lung proximity efficiency points are determined based on the straight-line distance between the donor hospital and the transplant hospitals where the candidate is listed. Lung proximity efficiency points are awarded on a scale of 0-5. OPTN *Policy 21.1.D.2: Lung Proximity Efficiency Points* details the calculation of lung travel efficiency points.~~

21.1.A.3 Converting Lung WLAUC to Lung Waiting List Survival Points

Waiting list Survival Points are equal to

$$((25^{(1-\text{WLAUC}/365)} - 1)/24)*\text{~~25~~}23.61$$

21.1.B.3 Converting Lung PTAUC to Lung Post-Transplant Outcomes Points

Post-Transplant Outcomes Points are equal to

$$(\text{PTAUC}/1826)*\text{~~25~~}23.61$$

21.1.C Biological Disadvantages Formulas

21.1.C.1 Lung CPRA Points

The Lung CPRA points are equal to

$$((100^{CPRA}-1)/99)*\sout{5}4.72$$

The variable CPRA represents the probability of incompatibility based on the candidate's CPRA.

21.1.C.2 Lung Height Points

The Lung Height points are equal to

$$((100^{HTIN}-1)/99)*\sout{5}4.72$$

The variable HTIN represents the probability of incompatibility based on the candidate's height found in OPTN *Policy 21.2.C.1: Probability of Incompatible Lung Donors Based on Height*.

21.1.D ~~Efficient Management Formulas~~ Lung Placement Efficiency Points

The Lung placement efficiency points are assigned according to *Table 21-3 Placement Efficiency Points*.

Table 21-3: Placement Efficiency Points

A candidate registered at a transplant hospital that is at or within this distance from the donor hospital	Will be assigned placement efficiency points equal to
0 ≤ NM ≤ 50	((-0.02/50)NM + 1)*15
50 < NM ≤ 100	((-0.1/50)(NM-50) + 0.98)*15
100 < NM ≤ 150	((-0.01/50)(NM-100) + 0.88)*15
150 < NM ≤ 250	((-0.01/100)(NM-150) + 0.87)*15
250 < NM ≤ 400	((-0.01/150)(NM-250) + 0.86)*15
400 < NM ≤ 1,000	((-0.6/600)(NM-400) + 0.85)*15
1,000 < NM ≤ 5,181	((-0.25/4181)(NM-1,000) + 0.25)*15
NM > 5,181	0

Note. The variable NM represents straight line distance between donor hospital and candidate hospital in nautical miles.

~~*21.1.D.1 Lung Travel Efficiency Points*~~

~~The Lung travel efficiency points are equal to~~

~~{1 – [6.3*NM + 247.63 * (NM – 43.44) * I{NM > 43.44} – 104.44 * (NM – 67.17) * I{NM > 67.17} – 128.34 * (NM – 86.9) * I{NM > 86.9}] / 116989.1)*5~~

~~The variable NM represents straight-line distance between donor hospital and candidate hospital in nautical miles.~~

~~*21.1.D.2 Lung Proximity Efficiency Points*~~

~~The Lung proximity efficiency points are equal to~~

$$(I\{NM \leq 45\} + I\{NM \in (45,90)\}*(1 - 0.15 / 45 * (NM - 45)) + I\{NM \geq 90\}*0.875 / [1 + \exp(0.0025 * (NM - 1500))])*5$$

~~The variable NM represents straight-line distance between donor hospital and candidate hospital in nautical miles.~~

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