

OPTN Lung Transplantation Committee

Meeting Summary

October 14, 2025

Conference Call

Matthew Hartwig, MD, Chair

Dennis Lyu, MD, Vice Chair

Introduction

The OPTN Lung Transplantation Committee met via teleconference on 10/14/2025 to discuss the following agenda items:

1. Discuss lung continuous distribution allocation policy
2. Open forum (if needed)

The following is a summary of the Committee's discussions.

1. Discuss lung continuous distribution allocation policy

The Chair said the objective of the meeting was to formulate a plan of action to present to the OPTN Board of Directors on 10/16/2025 regarding concerns about access to lung transplant for blood type O candidates. The goal is to identify policies that increase transplant rates and reduce time to transplant for blood type O lung candidates to bring those metrics more in line with those observed for lung candidates of other blood types. Proposed changes would need to include a preliminary quantitative assessment of changes to parameters associated with match run complexity and offer logistics, and a preliminary assessment of the impact on candidates of different blood types and other downstream impacts to subgroups within the lung waitlist.

Data summary:

The Committee reviewed metrics comparing two years of data following the blood type allocation modification (post-ABO mod era: 9/27/2023 – 9/26/2025) to the two years prior to implementation of continuous distribution (pre-CD era: 3/9/2021 – 3/8/2023).

- Waitlist mortality rates: Blood type B and blood type O candidates had statistically significant decreases in their waitlist mortality rates from the pre-CD era to the post-ABO mod era.
- Transplant rates: Candidates of all blood types had higher transplant rates in the post-ABO mod era, but there was a bigger increase in transplant rates for blood type A, B, and AB candidates than for blood type O candidates, such that there is a relative disparity in transplant rate between blood type O candidates and candidates of other blood types.
- Median time to transplant: Candidates of all blood types had a notable decrease in median time to transplant in the post-ABO mod era, but the non-O candidates experienced a greater decrease in median time to transplant than blood type O candidates.

The Committee reviewed historical transplant access between the pre-CD era (3/9/2021 – 3/9/2023), the CD era prior to the ABO mod (3/9/2023 – 9/27/2023), and the post-ABO mod era (9/27/2023 – 12/31/2024).

- Transplant percentage: Across blood types, transplant percentage ranged between 80-95% across the three eras. Blood types O and B tended to have the lowest transplant percentages, but the differences relative to blood types A and AB were small.
- Waiting time at transplant: Blood type O candidates tended to have longer waiting time at transplant across the three eras.
- Transplant rate: The difference between the blood type O transplant rate and the transplant rate for candidates of other blood types widened in the CD eras.
- Distribution of organs to candidates by blood type: Post-ABO mod policy allows more O donor lungs to be distributed to non-O recipients than in the pre-CD era.
- Distribution of non-O recipients of O donor lungs: Many of these recipients had elevated medical urgency subscores, but a portion of these recipients had relatively low medical urgency subscores.

The Committee reviewed simulation of potential policies modifying how blood type is incorporated into lung allocation. The analysis varied the weight on the blood type attribute of the lung composite allocation score (CAS) between 0% to 50% and the weights of the other attributes were adjusted proportionally. For each potential policy, 15 simulations were performed. The charts reviewed by the Committee showed the average outcome across the 15 simulations for each policy:

- Increasing the weight on the blood type attribute with the current rating scale reduced disparities in transplant percentage and transplant rate, but disparities remained
- Total waitlist deaths and median travel distance remained stable as the weight on the blood type attribute increased
- Increasing the weight on the blood type attribute with an optimized rating scale could further reduce disparities

The Committee reviewed an example showing how the blood type rating scale could be optimized to further reduce blood type disparities.

Summary of discussion:

Decision #1: The Chair will present the Committee's proposed plan of action to the OPTN Board of Directors:

- Modify how candidates are prioritized in lung allocation by blood type based on optimized simulation results
- Monitor impact of Committee work on lung allocation efficiency yet to be implemented
- Apply findings of the OPTN Allocation Out of Sequence Workgroup to improve policy compliance
- Explore policy optimization that accounts for changing levels of allocation out of sequence

A member asked what weight on the blood type attribute would provide the biggest reduction in variation across blood types for all three metrics considered (transplant percentage, time to transplant, and transplant rate). The presenter said they could consider how to combine the metrics to determine which weight is optimal across all three metrics.

The Chair asked if there is room to make the metrics more equal across blood types by modifying only the rating scale, and keeping the weight on the blood type attribute at 5% per current policy. The presenter said that since blood type O candidates currently have the maximum points within the current rating scale and the least access in allocation, optimizing the rating scale for transplant rate with the current blood type weight dropped points to blood type A candidates to zero and provided minor

improvements for blood type O candidates. The presenter noted that it may be possible to show improvement for blood type O candidates for other metrics with a small weight on blood type, if the Committee chose to optimize around a metric other than transplant rate.

A member asked if it is possible to reduce the number of O donor lungs that go to AB candidates, since AB candidates are being transplanted much more quickly. The presenter said that modifications to the rating scale can shift the distribution of lungs so that more O donor lungs are going to O candidates.

A member suggested that the Committee could establish a CAS subscore above which O donor lungs could be offered to non-O candidates. The presenter noted that the Committee could achieve the same effect by increasing the weight on the blood type attribute such that non-O candidates would not be awarded enough points to receive O donor lungs. The member supported addressing the blood type disparity but said there should still be an opportunity for O donor lungs to go to medically urgent non-O candidates. The Committee discussed that some non-O recipients of O donor lungs had lower medical urgency subscores so there is potentially some opportunity to modify the policy to distribute more of those lungs to blood type O recipients.

The member asked if the Committee considered eliminating compatible transplants for O donors while maintaining compatible transplants for A and B donors when developing the allocation policy. The Chair said that was not considered, but the Committee could model more extreme scenarios that only permit O donor lungs to go to O recipients. The Committee discussed that the same effect could be achieved with screening rules by screening off any non-O candidate from an O donor match, or by only allowing candidates of other blood types above a certain CAS to appear on an O donor match.

An attendee asked about the mechanism of allocation of sequence and if distance plays a role, since modifying the weight on blood type did not seem to change travel distance much. A presenter confirmed the simulation did not observe much change in travel distance when varying the weight on blood type. The attendee asked if lungs allocated out of sequence are traveling farther than lungs placed in sequence. A HRSA representative cited recent literature¹ that found that lungs allocated out of sequence tended to travel farther than lungs allocated in sequence. The HRSA representative said that HRSA brought this to the Board's attention because policy noncompliance increased when the new policy went into place, so the Committee must consider how to improve compliance with the policy. The HRSA representative noted that the simulation results reviewed by the Committee assume a state of compliance with policy when there is currently a degree of noncompliance with the policy. A presenter clarified that the simulation model was trained on data that does not distinguish between in sequence and out of sequence allocation, so the current effects of allocation out of sequence are baked into the simulation results. The current model does not explicitly include an out of sequence versus in sequence placement mechanism, but the model could be updated to analyze the impact of reducing out of sequence allocation on blood type disparities.

A member noted that there are a variety of factors that lead to allocation out of sequence and asked if more discrete data are available on reasons for allocation out of sequence. The member said the Committee would need to understand what is leading to allocation out of sequence to change behavior, and whether that is family dynamics, organ procurement organization (OPO) dynamics, or logistic transportation dynamics. The HRSA representative said that allocation out of sequence has a temporal association with the implementation of the changes to lung allocation policy, and that allocation out of sequence has increased the most in areas where travel distance and logistical challenges with

¹ Samantha Halpern, Ruby Singh, Oliver Jawitz, et al., "Allocation Out of Sequence in Lung Transplant: An Analysis of the UNOS Registry," *JAMA Surgery* (2025): doi:10.1001/jamasurg.2025.2142.

distribution have gone up. The HRSA representative said that it appears to be a function of what is happening during the match in terms of the logistical barriers that OPOs or transplant centers are facing.

An OPO representative said their OPO has only allocated five lungs out of sequence this year. Four of those cases were due to time constraints from the family or the donor hospital and the OPO ran out of time to allocate the lungs. The other case was a late decline. The OPO representative said that it is challenging to pull together the resources for lungs unless a perfusion device is available, and that lungs tend to travel farther when ex vivo lung perfusion is used. The OPO representative said that timing is likely the primary issue and that is not tied as much to allocation policy as it is to decisions made by donor families. The OPO representative encouraged caution because while the goal is to get to perfect compliance, it is possible that attempting perfection will result in lost opportunities for transplant.

An attendee asked how timing considerations could be incorporated into policy, or as an offer filter, in terms of what is feasible in the timeframe provided by the donor family. A member noted that a lot of transplant programs are using third party procurement services so even if members of the transplant program cannot get to the donor hospital in time, the program uses a third party surgeon who can get to the donor hospital in time.

The Chair summarized the discussion, observing that the Committee can continue exploring questions on how to improve access by blood type, and that the drivers of allocation out of sequence are less understood, which makes it harder to impact with a single policy change. The Chair said there are some changes the Committee could propose if timing and efficiency are the concern. The Committee could also simulate changes to the placement efficiency points which are currently at a relatively low level in the overall scoring system. There are also some potential interventions outside of the allocation policy, like better filters, so programs can screen out organs they are not going to be interested in to save time. A presenter shared some analysis which found that 87% of O donors go to O recipients in sequence, whereas 78% of O donors go to O recipients out of sequence, so allocation out of sequence may be reducing access to some degree for O candidates.

The Chair and Vice Chair suggested that the presentation to the Board could include how to address the blood type disparity, and that further information or data might be needed to dramatically impact allocation out of sequence directly. The OPO representative noted that OPOs must explain why an organ is allocated out of sequence each time it occurs and said the Committee needs that information in aggregate form. They noted that the Committee has worked on a lot of proposals to make allocation faster and some of those have not been implemented. Those proposals may help to speed up allocation by providing transplant programs all the information they need to respond to lung offers more quickly. The OPO representative asked if aggregate information regarding allocation out of sequence can be provided to the Committee. The HRSA representative said that the information available is of low quality and noted that there is less allocation out of sequence in the area of the country where the OPO representative works. A member asked why allocation out of sequence is considered a policy-driven issue, since noncompliance varies across the country, and there are factors other than the policy that may be driving that discrepancy. The HRSA representative said that the impact of the policy implementation was variable across the country and shared a chart showing that the number of programs notified to get an organ placed varies across regions over time as allocation policies have changed. The HRSA representative said that the allocation policy must be more usable nationwide.

Next steps:

The Chair will present the Committee's proposed plan of action to the OPTN Board of Directors on 10/16/2025 for further feedback.

2. Open forum

There were no open forum requests for this meeting.

Upcoming Meetings

- October 30, 2025
- November 13, 2025

Attendance

- **Committee Members**
 - Matthew Hartwig
 - Dennis Lyu
 - Marie Budev
 - David Erasmus
 - Katja Fort Rhoden
 - Jordan Hoffman
 - Siddhartha Kapnadak
 - Brian Keller
 - Jody Kieler
 - Tina Melicoff
 - Jackie Russe
 - Lara Schaheen
 - Gary Schwartz
 - Heather Strah
 - Wayne Tsuang
- **HRSA Representatives**
 - Raymond Lynch
- **UNOS Staff**
 - Keighly Bradbrook
 - Kaitlin Swanner
 - Kayla Temple
- **Other Attendees**
 - Thomas Athey
 - John Magee
 - Eli Pivo