

OPTN Lung Transplantation Committee

Meeting Summary

March 25, 2021

Conference Call

Erika Lease, MD, Chair

Marie Budev, DO, Vice Chair

Introduction

The Lung Transplantation Committee met via Citrix GoTo teleconference on 03/25/2021 to discuss the following agenda items:

1. Continuous Distribution: Tradeoff Curves

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

1. Continuous Distribution: Tradeoff Curves

MIT consultants presented on Tradeoffs through Optimization for Continuous Distribution and continued the review of how optimization and artificial intelligence could be used to help the Committee weigh the six attributes for continuous distribution.

MIT consultants pointed to the extreme high (40%) and low (6%) modeled weights for placement efficiency from the previously requested SRTR Thoracic Simulation Allocation Modeling (TSAM). MIT consultants aimed to show what results would look like between these extremes.

The tradeoff curve figures outlined how weights influenced the number of waitlist and post-removal death versus the median transport distance (utility versus efficiency). It was shown that the simulated "optimized policy" reduced mortality by 5 percent, maintained median transport distance, and lowered transplant rate disparity by ABO blood typing. The tradeoff curves also clearly show a range of where diminishing returns can be seen for proximity weight at around 10 percent. In addition to median transport distance, the same point of diminishing return was shown for estimated transport cost and the percent of organs expected to fly (distance greater than 75 nm) which is a verification that the 10 percent point on the curve is a relatively robust finding in the optimization analysis. Since the slope below the 10 percent point is very shallow, this would suggest minimal additional mortality reductions with a weight less than 10 percent.

Sensitivity analyses were performed to help narrow down weights for pediatric and candidate biology attributes. For the pediatric attribute, the analysis showed pediatric transplant and pediatric mortality rates stabilizing above a 15 percent weight. For candidate biology attributes, the analysis showed that high candidate biology weights resulted in increasing disparities by candidate blood type. It was mentioned that any amount of candidate biology weight may increase disparities which suggested possibly leaving the weight at zero. However, there is the possibility that this may leave blood type O candidates with less offers but a higher organ acceptance rate.

Summary of discussion:

Pediatric Sensitivity Analysis

A member wanted to clarify if this shows that the previous weighting of about 30% in which all pediatric candidates get offers first does not need to be that high to achieve the same result and MIT consultants confirmed that it appeared that a lower weight of about 15-20% would achieve that behavior. It was also noted that this is a good example of how all of the analyses that the Committee is using to inform their decisions complement each other.

Candidate Biology Sensitivity Analysis

A member asked if the divergence seen was related to height and weight being combined with Calculated Panel Reactive Antibodies (CPRA) and requested clarification on how this analysis incorporated candidate biology factors. MIT consultants explained that if all factors were analyzed separately the shape of the curve may not be exactly the same, but that they would be similar to what is shown with everything combined.

A member asked if the acceptance rates are based on the current policy because a blood type AB candidate is going to be ranked lower on the match list than a blood type O, A, or B donor and will turn down more offers than a blood type O candidate who is more likely to accept the offer. The member also asked how acceptance rates were determined because it was expected that blood type AB candidates turn down more offers since they also receive less offers/are there confounding effects with donor quality. SRTR staff clarified that the offer acceptance models use current policy which include adjustments for where on a match run an offer is being given, but did state that access to donors will likely change with continuous distribution which may change acceptance behavior which is difficult to model. Members expressed concern that blood type O candidates may be at a disadvantage because they would not have any priority when all other candidates are also compatible with those donors. However, the Committee did not want to create a situation where a blood type O organ must be offered to all blood type O candidates before offered to other possibly more urgent blood group candidates.

A member asked if it is acceptable to change values even if they go against what was shown with AHP and it was clarified that while AHP showed us ranked values there is not one piece of evidence that the Committee is utilizing to make the most informed decisions possible, but a combination of all the information and tools available.

The Committee clarified that in practice there should still be a small priority for blood type O candidates to discourage actual disparity due to blood type since they have access to a smaller number of donors compared to other blood types, but that they needed to be mindful of any overcompensation with any amount of priority given to these candidates.

Next steps:

The Committee is set to choose the final set of policy options for SRTR to model by April 1, 2021 and the Committee will review the final modeling results and choose an option by May/June 2021 to send for public comment.

Upcoming Meetings

- March 31 & April 1, 2021 (Committee)

Attendance

- **Committee Members**
 - Erika Lease, Chair
 - Marie Budev, Vice Chair
 - Alan Betensley
 - Denny Lyu
 - Cynthia Gries
 - Marc Schechter
 - John Reynolds
 - Ryan Davies
- **HRSA Representatives**
 - Jim Bowman
- **SRTR Staff**
 - Katie Audette
 - Melissa Skeans
 - Andrew Wey
 - Maryam Valapour
- **UNOS Staff**
 - James Alcorn
 - Julia Chipko
 - Rebecca Goff
 - Elizabeth Miller
 - Janis Rosenberg
 - Susan Tlusty
 - Sara Rose Wells
 - Krissy Laurie
 - Leah Slife
 - Darren Stewart
- **Other Attendees**
 - Ted Papalexopoulos
 - Nikos Trichakis