OPTN Lung Transplantation Committee
Meeting Summary
August 3, 2023
Conference Call

Marie Budev, DO, Chair
Matthew Hartwig, MD, Vice Chair

Introduction

The Lung Transplantation Committee (the Committee) met via Citrix GoTo teleconference on 8/3/2023 to discuss the following agenda items:

1. Welcome and agenda
2. Blood type rating scale
3. Next steps and closing comments

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

1. Welcome and agenda

The Chair welcomed Committee members.

Summary of discussion:

There was no further discussion by the Committee.

2. Blood type rating scale

The blood type rating scale is based on the proportion of incompatible donors under the composite allocation score (CAS). Blood type is aligned with calculated panel reactive antibody (cPRA) and height since they share a common scale. Blood type incompatible (ABOi) candidates are still screened off match runs, except for pediatric candidates who are eligible for ABOi offers. Points by blood type are:

- .4550 for blood type O
- .0455 for blood type A
- .2439 for blood type B
- 0 for blood type AB

OPTN committees generally request that SRTR perform simulation modeling of allocation policy changes. The 2021 SRTR modeling provided to the Committee showed an increase in transplants for blood type O, but transplants decreased by 10% compared to three months prior to implementation of *Establish Continuous Distribution of Lungs.* After further examination, it was found that the modeling showed blood type O receiving transplants from all blood types instead of only from blood type O donors.

There are tradeoffs between getting analysis quickly and using the most updated models. MIT analysis based on the 2015 Thoracic Simulated Allocation Model (TSAM) with updates to approximate the 2021 TSAM and the blood type fix is immediately available. Staff proposed using MIT analysis and match run analysis to test options for rating scales that could be simulated by the updated SRTR TSAM if needed. SRTR noted it would take four weeks for SRTR to update TSAM and provide results once the Committee

submits a modeling request. Future work would include SRTR developing Organ Allocation Simulator (OASIM) for lung.

Data Summary:

Three-month monitoring post implementation of *Establish Continuous Distribution of Lungs* showed no major changes for candidates ever waiting or additions to the OPTN Waiting List by blood type. The number of OPTN Waiting List removals due to death or too sick for transplant has declined for all blood types. Blood type O transplants have decreased and waiting time has increased for blood type O candidates. There is no significant difference in post transplant survival points by blood type for either transplant recipients or candidates ever waiting. There is a statistically significant difference in medical urgency points at transplant by blood type. Blood type O recipients are sicker at the time of transplant.

SRTR match run analysis pre-CAS showed the fraction of match runs with blood type identical candidates at each sequence number starts relatively high at lower sequence numbers, decreases quickly as sequence number increases, and then stables out. Under CAS, for the highest priority candidates, those match runs have fewer blood type identical candidates for sequence numbers one through 20. After sequence number 20, CAS prioritizes blood type identical candidates more than the former allocation system. If the blood type point values under CAS are scaled up to the full five points for blood type O, .1239 for blood type A, 1.6219 for blood type B, and zero for blood type AB this would result in a greater fraction of match runs with blood type identical candidates. Transplants would decrease for blood types A, B, and AB and increase for blood type O, decreasing most for blood type A candidates since they are receiving a disproportionate number of transplants under CAS compared to their distribution on the waiting list.

The .4550 points given to blood type O candidates do not distinguish between candidates at the top of the match run, where the point differentiation for other attributes like medical urgency are larger, but the point difference for blood type does give blood type O candidates more priority for O donor organs at larger sequence numbers.

Summary of discussion:

Decision #1: The Committee supports evaluating changes to the blood type rating scale now and agrees the goals of this change are:

- More proportional access across blood types
- No decrease in access for blood type O candidates
- Preserving other goals of continuous distribution, particularly reduced waitlist mortality

Members voiced support for a rapid change and commented changes to the height rating scale may be warranted as well. A member voiced concern over maximizing blood type O points to the full five points awarded for blood type because that could lead to overcorrection. Members discussed that it would be hard to overcorrect if the Committee does not prioritize identical transplants over compatible transplants as the former allocation system did.

A member asked what an interim solution may be and how transplant programs are handling this issue until the Committee addresses this. Staff responded a communication will be sent out to lung transplant programs and exception requests remain an option. The Review Board Chair stated the Lung Review Board will not be able to handle the volume of exception requests for blood type O candidates and this would lead to inequities between candidates at transplant programs who know to submit requests versus candidates at transplant programs who are unaware of that option.

3. Next steps and closing comments

The Committee will consider changes to the blood type rating scale. Potential changes include:

- Increase the weight on the blood type rating scale
- Increase the weight on the three biological disadvantages attributes (blood type, cPRA, and height) to keep them aligned on the same scale
- Rescale the blood type rating scale so that blood type O would receive 100% of the attribute weight (e.g. make more use of the five points available for blood type)

Staff are performing additional analysis to inform options. The Committee will consider the goals of any proposed changes.

Summary of discussion:

Decision #2: The Committee supports these next steps and will meet in one week.

Upcoming Meetings

- August 10, 2023, teleconference, 5 pm ET

Attendance

- **Committee Members**
  - Marie Budev
  - Matthew Hartwig
  - Erika Lease
  - Brian Keller
  - Brian Armstrong
  - David Erasmus
  - Ed Cantu
  - Errol Bush
  - Jackie Russe
  - Katja Fort Rhoden
  - Lara Schaheen
  - Pablo Sanchez
  - Sid Kapnadak
  - Thomas Kaleekal
  - Wayne Tsuang
- **HRSA Representatives**
  - Jim Bowman
  - Marilyn Levi
- **SRTR Staff**
  - David Schladt
  - Maryam Valapour
  - Nicholas Wood
  - Katherine Audette
  - Ahmed Habashy
  - Caitlyn Nystedt
  - Josh Pyke
  - Jon Miller
  - Ryo Hirose
  - Ajay Israni
  - Grace Lyden
- **UNOS Staff**
  - Kaitlin Swanner
  - Taylor Livelli
  - James Alcorn
  - Sara Rose Wells
  - Chelsea Weibel
  - Samantha Weiss
  - Holly Sobczack
  - Krissy Laurie
  - Erin Parkhurst
  - Rachel Hippchen
  - Carlos Martinez
  - Tatenda Mupfudze
  - Susie Sprinson
  - Anne Paschke

- Other attendees
    - Paul Gunsalus
    - Ted Papalexopoulos