OPTN Liver and Intestinal Organ Transplantation Committee
Meeting Summary
March 17, 2023
Conference Call

James Pomposelli, MD, PhD, Chair
Scott Biggins, MD, Vice Chair

Introduction

The OPTN Liver and Intestinal Organ Transplantation Committee (the Committee) met via Citrix GoToMeeting teleconference on 03/17/2023 to discuss the following agenda items:

1. Continuous Distribution Attribute: Population Density

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

1. Continuous Distribution Attribute: Population Density

The Committee discussed population density as an attribute in continuous distribution of livers.

Summary of discussion:

The Committee considered whether an attribute related to population density or supply and demand better aligns with the goal of placement efficiency or patient access.

The Vice Chair asked the Committee to consider whether population density or supply and demand should be an attribute in continuous distribution when there are attributes also related to travel efficiency and proximity efficiency. The Vice Chair stated support for incorporating all three attributes in order to have different mechanisms to leverage. A member agreed.

The Committee reviewed available models in the literature.[1,2] The Vice Chair stated that a population density-based model may be the best option. The Vice Chair explained that a population density-based model would be a simple solution that may allow for improvement in less densely population areas, where discrepancy in access to transplant is observed. The Vice Chair added that there are other attributes, travel efficiency and proximity efficiency, that could be utilized to reduce travel.

An SRTR representative presented explanations for how to consider rating scales as functions of curves and slopes. The SRTR representative explained that curves and slopes can be varied depending on the metrics that the Committee decides upon.

A member stated that patient access, travel efficiency, and proximity efficiency are all important matters in continuous distribution. The member stated that it is necessary to acknowledge that the farther an organ travels, the more complicated the logistics become. The member stated that continuous distribution may need to incorporate giving preference to candidates within a certain

[1] Wood NL, Kernodle AB, Hartley AJ, Segev DL, Gentry SE. Heterogeneous Circles for Liver Allocation. Hepatology. 2021 Jul;74(1):312-321. doi: 10.1002/hep.31648. PMID: 33219592; PMCID: PMC8348643.
[2] Haugen CE, Ishaque T, Sapirstein A, Cauneac A, Segev DL, Gentry S. Geographic disparities in liver supply/demand ratio within fixed-distance and fixed-population circles. Am J Transplant. 2019 Jul;19(7):2044-2052. doi: 10.1111/ajt.15297. Epub 2019 Mar 18. PMID: 30748095; PMCID: PMC6591030.

distance of donor hospitals. The Vice Chair stated that concept will be addressed in the travel efficiency and proximity efficiency attributes.

The Vice Chair explained that in regard to an attribute related to population density or supply and demand, the Committee will need to determine the inputs and outputs. The Vice Chair stated that population density may be an appropriate input because it is not gameable and it is a proxy to supply and demand. The Vice Chair added that supply and demand could be the output and measured as monitoring. The Vice Chair suggested an alternative option is that supply and demand could be the input, meaning that the model would be dependent on the definitions of supply and demand. The Vice Chair stated concern using specific supply and demand metrics as inputs to an allocation system due to the ability for transplant programs to modify their behaviors in order to unfairly gain more access. The Vice Chair stated that population density may be a more objective proxy for supply and demand.

Another SRTR representative noted that it is difficult to discuss the concept of supply separately from proximity or travel efficiency as they are interrelated concepts. The Vice Chair stated that an attribute related to population density or supply and demand is more aligned to address access to transplant than travel or distance.

The Committee discussed possible definitions for supply and demand.

A member stated that it will be important to consider marginalized populations that do not have access to liver transplant due to lack of insurance coverage. The member noted that if supply is defined as individuals eligible for transplant, then southern states will have a smaller supply population.

The Chair noted that if supply were defined as organs recovered, then that would be dependent on organ procurement organization (OPO) performance. The Vice Chair stated that supply defined as organs recovered and transplanted may be complicated due to problems related to non-use of organs. The Vice Chair stated that eligible deaths would be a difficult metric to determine. An SRTR representative suggested that the SRTR could provide additional metrics to help form definitions.

A member suggested defining demand as active liver candidates on the waitlist with a specific MELD score range, such as MELD 15 to 20. Another member noted that donation after brain death (DBD) donors and donation after circulatory death (DCD) donors should be combined into one metric for demand.

The Vice Chair stated reservations in incorporating supply and demand into an allocation system when they are not tangible metrics to transplant programs or patients.

Next steps:

The Committee will continue to discuss population density or supply and demand as an attribute in the continuous distribution of livers.

Upcoming Meeting

- April 3, 2023 @ 9:00 PM CT (Houston, TX & teleconference)
- April 21, 2023 @ 3:00 PM ET (teleconference)

Attendance

- **Committee Members**
  - Alan Gunderson
  - Allison Kwong
  - Christopher Sonnenday
  - Colleen Reed
  - Erin Maynard
  - James Trotter
  - Joseph DiNorcia
  - Neil Shah
  - Pete Abt
  - Peter Matthews
  - Scott Biggins
  - Sumeet Asrani
- **HRSA Representatives**
  - Jim Bowman
  - Marilyn Levi
- **SRTR Staff**
  - Jack Lake
  - Katie Audette
  - Nick Wood
  - Ryo Hirose
  - Tim Weaver
- **UNOS Staff**
  - Austin Chapple
  - Betsy Gans
  - Erin Schnellinger
  - James Alcorn
  - Joel Newman
  - Katrina Gauntt
  - Laura Schmitt
  - Matt Cafarella
  - Meghan McDermott
  - Niyati Upadhyay
  - Susan Tlusty