

OPTN Kidney & Pancreas Transplantation Committee Continuous Distribution Workgroup

Meeting Summary

November 5, 2021

Conference Call

Rachel Forbes, MD, Chair
Oyedolamu Olaitan, MD, Vice Chair
Martha Pavlakis, MD, Chair
Jim Kim, MD, Vice Chair

Introduction

The Kidney & Pancreas Transplantation Committee Continuous Distribution Workgroup (the Workgroup) met via Citrix GoToMeeting teleconference on 11/5/2021 to discuss the following agenda items:

1. Overview and Discussion: Incorporating Placement Efficiency into the Continuous Distribution of Kidneys
2. Wrap Up & Next Steps

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

1. Overview and Discussion: Incorporating Placement Efficiency into the Continuous Distribution of Kidneys

The Workgroup reviewed placement efficiency's role in continuous distribution, OPTN Final Rule requirements, and potential rating scales that the Workgroup could use for the placement efficiency attribute.

The Workgroup reviewed the following potential rating scales for placement efficiency:

- Simple, linear rating scale
 - Relies on a single, simple scale to approximately account for all types of inefficiencies linked to proximity (cold ischemic time (CIT); offer refusals; transport costs; coordination costs)
- Extending the simple, linear scale
 - Avoid concern about candidates listed at a hospital very close to a high volume donor hospital always having a slight advantage for those donors compared to other candidates at nearby transplant centers ("inner plateau")
- Further extending the simple, linear scale (simple, piecewise linear approach)
 - Linear approach can be augmented by incorporating a penalty for likely requiring a flight
 - Value judgements needed to inform choice of rating debit for (a) long drive and (b) flight
 - Can accommodate differential value judgements on the importance of proximity as a function of organ quality/donor type
 - Differences can be reflected through differential weights
- Two complementary, highly nonlinear scale
 - Mirrors what the Lung Committee decided on
 - "Travel cost" scale
 - Costs associated with travel mode and distance
 - "S-curve" scale

- Other inefficiencies associated with attempting to place organs to further-away candidates

Summary of discussion:

A Chair stated that, when looking at the 6-month monitoring report¹, the data showed the vast majority of kidneys transplanted were within 250 nautical miles (NM). The Chair mentioned that this allocation change has added difficulty with (1) offers from organ procurement organizations (OPOs) that centers aren't familiar with and (2) shipping specimens, since there has been an increase in offers. The Chair noted that any tech innovations that could help streamline offers will help with the current administrative burden.

A member highlighted that there should be some recognition that driving is easier to arrange than flying regardless of distance in most circumstances and single flights are better than connecting flights.

Staff mentioned that the Final Rule has a performance goal of allocating organs as broadly as feasible. Knowing that lungs can't survive outside the body for that long, there is a CIT limitation which is much shorter than it is for kidneys. Because of this limitation, there is a feasibility zone where lungs are not travelling beyond a certain distance. This feasibility concept was embedded into the Lung Committee's placement efficiency rating scale and staff suggested that the Workgroup should consider whether this is feasible for kidney and pancreata as well.

Furthermore, staff explained that distance is known about a candidate at the time of the match run whereas other efficiency considerations such as cold ischemic time are not known at the time of the match. So, this is where value judgement is incorporated into the decision – what is the value tradeoff between additional travel time versus (vs.) less efficiency (i.e., further proximity)?

A member stated that distance is a surrogate for travel time; however, distance doesn't factor in travel time and how that relates to CIT. When factoring in time to CIT, there's a difference if it's factored in prior to the operating room, 6-18 hours, and 24-36 hours. The member mentioned that kidneys can tolerate more CIT, so physical distance shouldn't matter as much although more data is needed to determine how dynamic the distance can be.

A member emphasized that cost is a placement efficiency consideration as well – if a center wants to pay more to transport an organ by charter flight instead of a commercial flight, then the amount of travel time will decrease. The member also noted that time of day impacts the cost and availability of flights.

A Chair inquired how the two scores being used for proximity efficiency and travel cost in the nonlinear scale will be combined into one attribute. Staff explained that they are two parts of the score, both related to distance, and the weight between them gets split. So, if distance, which is a proxy for placement efficiency, has a weight of 10 percent of the score then it will be equally partitioned to the two curves – 5 percent to the travel cost curve and 5 percent to the s-curve.

A member stated that they favor the simple, piecewise linear approach the most because it's more flexible and allows for reallocation. The member added that they would not criticize the simple linear approach as being too simple; however, the simplicity does not allow it to encompass what the Workgroup is trying to achieve with this attribute.

¹ https://optn.transplant.hrsa.gov/media/z0ohhcut/data_report_kidney_full_20211008_1_508_compliant.pdf

A member agreed and noted that there is more variability in kidney donor qualities than there is for other organs, so donor quality matters more for other organs. The member continued by stating that, for good quality kidneys, travel distance and efficiency do not matter as much because the kidneys can endure more CIT and be shipped. However, for marginal kidneys, it becomes more important to place the kidney within a shorter distance or with less amount of CIT. The member suggested that there needs to be some measure of variability, which may not need to be a fixed measure for each variable.

An SRTR representative emphasized that there should be a completely different placement efficiency scale for pancreata. It was noted that CIT is important for pancreas transplant, but most important is the ability of a program's team to procure the pancreas since everything is about donor procedure and quality of the donor. The SRTR representative mentioned that there are a different set of issues for kidney and pancreas that contribute to placement efficiency.

Staff mentioned that the analytical hierarchy process (AHP) exercise/community exercise will help with these value judgement discussions and noted that there will be two exercises, one for kidney and one for pancreas. Staff explained that the Workgroup will not be bound by the results of this exercise, but instead can use the results to get perspective in the value judgement discussions.

A member summarized that it seems the Workgroup favors either the simple, piecewise linear approach or the simple, linear approach based on what has been discussed.

Staff explained that they had also pursued the possibility of a more granular approach, which would try to estimate the travel cost for each donor and transplant hospital combination. Staff mentioned that that's the end goal of this project in theory, but concluded that it's infeasible until the OPTN starts collecting more types of data related to efficiency.

There was no further discussion.

2. Wrap Up & Next Steps

Workgroup members should review the slides presented at this meeting to help process the rating scale options and continue these discussions during the Workgroup's next meeting.

There were no additional comments or questions. The meeting adjourned.

Upcoming Meeting

- November 19, 2021 (Teleconference)

Attendance

- **Workgroup Members**
 - Martha Pavlakis
 - Rachel Forbes
 - Jim Kim
 - Oyedolamu Olaitan
 - Abigail Martin
 - Amy Evenson
 - Caitlin Shearer
 - Dave Weimer
 - Parul Patel
 - Pradeep Vaitla
- **SRTR Staff**
 - Ajay Israni
 - Bryn Thompson
 - Jonathan Miller
 - Peter Stock
 - Raja Kandaswamy
- **HRSA Representative**
 - Marilyn Levi
 - Raelene Skerda
- **UNOS Staff**
 - Joann White
 - Rebecca Brookman
 - Lindsay Larkin
 - Kayla Temple
 - Alison Wilhelm
 - Amanda Robinson
 - Ben Wolford
 - Darren Stewart
 - Laura Schmitt
 - Lauren Motley
 - Rebecca Marino
 - Robert Hunter
 - Sarah Booker
- **Other Attendees**
 - Aaron Wightman
 - PJ Geraghty
 - Warren McKinney