OPTN Kidney & Pancreas Transplantation Committee
Continuous Distribution Workgroup
Meeting Summary
May 21, 2021
Conference Call

Silke Niederhaus, MD, Chair
Rachel Forbes, MD, Vice Chair
Vince Casingal, MD, Chair
Martha Pavlakis, MD, Vice Chair

Introduction

The Kidney & Pancreas Transplantation Committee Continuous Distribution Workgroup (the Workgroup) met via Citrix GoToMeeting teleconference on 5/21/2021 to discuss the following agenda items:

1. Welcome & Review of Project Goals
2. Project Approach
3. Calculated Panel Reactive Antibodies (cPRA) Rating Scale

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

1. Welcome & Review of Project Goals

The Workgroup reviewed the goals of the Continuous Distribution project as well as the Workgroup's next steps, including the second phase of the project (assigning values to attributes) and the development of a concept paper summarizing the identification and categorization of attributes.

Summary of discussion:

The Workgroup had no comments or questions.

2. Project Approach

The Workgroup reviewed an updated approach to the Continuous Distribution project development incorporating feedback from the Kidney and Pancreas Committees' Leadership, including conceptualization tools such as a tableau dashboard similar to that developed for the Lung Continuous Distribution Workgroup.

Summary of discussion:

The Workgroup had no comments or questions.

3. cPRA Rating Scale

The Workgroup reviewed and discussed several potential models for a cPRA rating scale.

Data summary:

The current allocation system prioritizes highly sensitized candidates with cPRAs of 98-99 nationally within 250 nautical miles (NM) of the donor hospital and candidates with cPRA 100 percent nationally. Currently, candidates with cPRA 80-89 percent have a large gap between waitlist and transplant rates, while candidates with cPRA 98-100 percent have transplant rates higher than waiting list rates.

However, more granularly, not all 100 percent cPRA candidates have the same access, with cPRA 99.95-100 percent candidates experiencing a large gap between waitlist volume and relatively small transplant rates.

A linear cPRA scale would map priority points to cPRA itself, and is the simplest model for a cPRA rating scale. However, access by cPRA is non-linear, and current allocation priorities cPRA in a non-linear, exponential function.

A non-linear cPRA scale would utilize varying degrees of steepness, with greater emphasis on highly sensitized patients. Multiple non-linear ratings scales with varying levels of steepness can be modeled in the Kidney-Pancreas Simulated Allocation Model (KPSAM) to compare system level changes. The OPTN Histocompatibility Committee also recommends continuing with a non-linear rating scale.

Summary of discussion:

A Workgroup Chair remarked that the non-linear approach makes the most sense biologically, and that priority for 99 and 100 percent cPRA candidates may need to be adjusted going forward. The Workgroup Chair asked the Workgroup if they foresaw any unintended consequences from use of a non-linear scale. One Workgroup member agreed that a non-linear scale would be appropriate and more equitable, and added that unintended consequences in terms of equity may occur, but could easily be fixed or adjusted for in a continuous distribution system.

A Scientific Registry of Transplant Recipients (SRTR) representative suggested a potential functional mathematical model for the cPRA rating scale. Currently, points are inversely proportional to the percent of donors that match, or proportional to $\frac{1}{1-cPRA}$. The SRTR representative proposed utilizing an equation such as $\frac{1}{101-cPRA}$, which would result in a percentage of the appropriate weight for each candidate, and the whole weight for a 100 percent cPRA candidate.

A Workgroup member pointed out that the current allocation system awards such a high priority for 100 percent cPRA candidates that they essentially receive 200 years of waiting time on match runs, and their classification trumps everything else. The member continued that it will be difficult when apportioning and prioritizing all of the attributes to achieve similar priority for highly sensitized patients unless cPRA has an incredibly large weight. 100 percent cPRA candidates will still need significant priority, as they have much lower transplant rates than less sensitized patients. The member argued that a scale of 0 to 1 could be used if 1 is the apex and almost everything else is significantly flattened, with the shape of that exponential curve dropping down steeply in the first 0.1 percent change in cPRA and tapering off. A Workgroup Chair agreed, pointing out that the 200-point addition for 100 percent cPRA patients matters little with the high cPRA classifications in the current kidney allocation system, and that the classification itself is functionally how cPRA is put on a curve. The 200-point addition is enough points to put 100 percent cPRA patients in a separate classification. The Workgroup Chair agreed that the steep curve will be critical to building appropriate priority.

The Workgroup reached consensus that the cPRA rating scale should be a steep, non-linear scale.

Next steps:

The options for the cPRA rating scale reviewed today will be redistributed to the Workgroup via email to ensure all Workgroup members have the opportunity to share further thoughts and raise objections, if any.

Upcoming Meetings

- June 18, 2021 (Teleconference)

Attendance

- **Committee Members**
  - Martha Pavlakis
  - Vincent Casingal
  - Oyedolamu Olaitan
  - Parul Patel
  - Caitlin Shearer
  - Raja Kandaswamy
- **HRSA Representatives**
  - Marilyn Levi
  - Raelen Skerda
- **SRTR Staff**
  - Ajay Israni
  - Jon Miller
  - Nick Salkowski
  - Bryn Thompson
- **UNOS Staff**
  - Lindsay Larkin
  - Joann White
  - Amanda Robinson
  - Nang Thu Thu Kyaw
  - Rebecca Brookman
  - Kayla Temple
  - Ross Walton
  - Tina Rhoades
  - Alison Wilhelm
  - Anne McPherson
  - Benjamin Wolford
  - Joel Newman
  - Kaitlin Swanner
  - Lauren Motley
  - Melissa Lane