

OPTN Pancreas Transplantation Committee

Meeting Summary

March 6, 2023

Conference Call

Rachel Forbes, MD, Chair
Dolamu Olaitan, MD, Vice Chair

Introduction

The OPTN Pancreas Transplantation Committee (the Committee) met via Citrix GoToMeeting teleconference on 3/6/2023 to discuss the following agenda items:

1. Overview and Discussion: Scenarios and Weight Recommendations for Organ Allocation Simulator (OASIM) #2

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

1. Overview and Discussion: Scenarios and Weight Recommendations for Organ Allocation Simulator (OASIM) #2

The Committee reviewed, discussed and finalized the scenarios and weights that would be included in the second OASIM modeling request.

The Committee reviewed considered the following modeling expectations:

- What insights do we expect to gain from OASIM modeling?
 - Distance
 - Waiting time
 - Access by calculated panel-reactive antibody (CPRA)
- What insights do we not expect to gain from OASIM modeling?
 - Pediatrics
 - Prior Living Donor
 - Islets

Additionally, the Committee was reminded to consider the following points from their previous discussions:

- Weights are not reflective of the frequency of an event
- Ratio of proximity efficiency to qualifying time
- Ratio of proximity efficiency to pediatrics/prior living donor/CPRA

Summary of discussion:

The Committee was provided an overview of the previous graphs and their interpretations as follows:

Median distance by proximity weight

The Committee reviewed the previous discussions of the median distance by proximity weight. From the data provided and the Committee's established goal of minimizing the median distance organs are expected to travel, there is the expectation that diminishing returns with proximity weights greater than approximately 20 percent. Previously, the Committee determined that in order to achieve the goal of

minimizing the median distance, the proximity weight would need to be between 20-30 percent. It was further clarified that this goal could also be achieved with proximity weights lower than 20 percent.

There were no questions or comments.

Median qualifying time at transplant qualifying time weight

For the median qualifying time at transplant qualifying time weight, the Committee reviewed the Massachusetts Institute of Technology (MIT) dashboard that showed:

- Median qualifying time at transplant increases with increasing weight on qualifying time
- An increase in weight on qualifying time results in an increase on how much the system is driven by qualifying time versus other attributes (i.e., proximity efficiency, CPRA)

The MIT dashboard demonstrated that in comparison to what was modeled as current policy, having a weight of 20 percent for qualifying time would be the maximum weight that would be closest to policy which would be in alignment to the goals for this first iteration of the project. Anything greater than a weight of 20 percent would result in there being more emphasis placed on the system than what is observed in current policy.

The Committee Vice Chair stated that the impression is that the more weight given to qualifying time, the shorter the time should be, and asked for clarification on this. Research staff clarified by pointing out that data from the MIT dashboard being reviewed showed the median qualifying time at transplant for transplant recipients. This is not looking at the median qualifying time for every patient waiting for a transplant. The data showed that the more emphasis the system puts on qualifying time through increase in qualifying weight, the more likely candidates with longer waiting times would be observed to be transplanted faster.

Median qualifying time at transplant by proximity weight

The Committee then reviewed the relationship between qualifying time at transplant and proximity weight. Data from the MIT dashboard demonstrated an inverse relationship between these attributes where the median qualifying time at transplant decreases with increasing weight on proximity efficiency.

There were no questions or comments.

Median distance by qualifying time weight

The Committee reviewed an MIT dashboard graphic that demonstrated that as the weight on qualifying time increased, there was an increase with the median distances observed.

There were no questions or comments.

Scenarios and Weights for OASIM #2

The Committee then reviewed the following scenarios and weights for consideration for the second modeling request:

	Proximity Efficiency : Qualifying Time Ratio					
Attribute	1:1	1.3:1 (v1)	1.3:1 (v2)	1.6:1	2:1 (v1)	2:1 (v2)
Proximity Efficiency	15%	17%	22%	22%	22%	24%
Qualifying Time	15%	13%	17%	14%	11%	12%
CPRA	20%	20%	17%	18%	19%	18%
Pediatrics	20%	20%	17%	18%	19%	18%
Prior Living Donor	20%	20%	17%	18%	19%	18%
Organ Registration	10%	10%	10%	10%	10%	10%

The Committee previously discussed the relative importance of proximity efficiency and qualifying time, as these attributes would be driving the scores for the majority of kidney-pancreas (KP) and pancreas candidates. The modeling goal of this approach would explore different ratios of proximity efficiency to qualifying time while maintaining appropriately high access for high CPRA/pediatrics/prior living donors. The Committee then reviewed six scenarios and weights that looked at different ratios of weights for proximity efficiency and qualifying time. It was noted that in moving across the scenarios from left to right (as seen in the table above), there is an increase of the relative importance assigned to proximity efficiency relative to the weight of qualifying time. The scenarios were explained as follows:

- **1:1 Scenario:** There is a 1:1 ratio on the proximity efficiency to qualifying time weights. Both of these attributes in this scenario are weighted at 15 percent.
- **1.3:1 (v1) Scenario:** This is the first scenario that has a 1.3:1 ratio on proximity efficiency to qualifying time with an increased weight of 17 percent for proximity efficiency and a decreased weight of 13 percent weight for qualifying time.
- **1.3:1 (v2) Scenario:** This is the second scenario that has a 1.3:1 ratio on proximity efficiency to qualifying time that increases the weight on proximity efficiency to 22 percent and an increased weight of 17 percent for qualifying time.
- **1.6:1 Scenario:** There is a 1.6:1 ratio on the proximity efficiency to qualifying time weights where the weight for proximity efficiency remains at 22 percent and the weight for qualifying time decreases to 14 percent.
- **2:1 (v1) Scenario:** This is the first scenario that has a 2:1 ratio on proximity efficiency to qualifying time with a 22 percent weight for proximity efficiency and an 11 percent weight for qualifying time.
- **2:1 (v2) Scenario:** This is the second scenario that has a 2:1 ratio on proximity efficiency to qualifying time with a 24 percent weight for proximity efficiency and an 12 percent weight for qualifying time.

It was reiterated that the weights shown for the CPRA, pediatrics and prior living donor attributes in each scenario was to maintain appropriately high access for high CPRA/pediatrics/prior living donors. The Committee observed the MIT dashboard results of these scenarios that demonstrated the following:

- Median distance equivalent to/lower than current for all 6 policies.
- Distance decreases as relative weight on proximity increases.
- Median qualifying time at transplant decreases as relative weight on qualifying time decreases.
- Median qualifying time for 2:1 scenarios is identical to simulated current policy (2 years).

- Median qualifying time for the 1:1 scenario is slightly higher than simulated current policy (2.2 years).
- Transplant rates for CPRA 98-100% increase in all 6 scenarios relative to current policy.

The Committee also reviewed these scenarios in candidate comparisons for pediatrics modeled by the Tableau sensitivity tool where:

- **Candidate 1:** Pediatric, 250 NM from donor hospital, and
- **Candidate 2:** Adult, 0 NM from donor hospital

The candidate comparisons demonstrated the following:

- **1:1 Scenario:** This scenario had a 15 percent weight on proximity efficiency, 15 percent on qualifying time and 20 percent weight on pediatrics. This higher weight on pediatrics relative to proximity efficiency prioritizes the pediatric candidate over the adult candidate.
- **1.3:1 (v1) Scenario:** This scenario had a 17 percent weight on proximity efficiency, 13 percent on qualifying time and 20 percent weight on pediatrics. The adult candidate receives more priority than observed in the 1:1 scenario, but the pediatric candidate is still prioritized over the adult candidate.
- **1.3:1 (v2) Scenario:** This scenario had a 22 percent weight on proximity efficiency, 17 percent on qualifying time and 17 percent weight on pediatrics. The pediatric candidate who is farther away would still be prioritized over the adult candidate, but by a narrow margin due to the higher weight placed on proximity efficiency.
- **1.6:1 Scenario:** This scenario had a 22 percent weight on proximity efficiency, 14 percent on qualifying time and 18 percent weight on pediatrics. The pediatric candidate is prioritized over the adult candidate, with a slightly wider margin than the 1.3:1 scenario.
- **2:1 (v1) Scenario:** This scenario had a 22 percent weight on proximity efficiency, 11 percent on qualifying time and 19 percent weight on pediatrics. The pediatric candidate is prioritized over the adult candidate.
- **2:1 (v2) Scenario:** This scenario had a 24 percent weight on proximity efficiency, 12 percent on qualifying time and 18 percent weight on pediatrics. Both the pediatric and adult candidates would receive the same score due to the increased weight for proximity efficiency.

The Committee was called to a vote on the four scenarios among the six presented that should be included in the second modeling request.

A Committee member asked that for qualifying time, how much is assigned for the hypothetical candidates. Research staff clarified for the two candidate comparisons, this was the assumption that they had 1 year qualifying time.

A Health Resources and Services Administration (HRSA) representative stated that for pediatrics and prior living donor having the same amount of weight, how would this work for the CPRA attribute as it is not included in the candidate comparison examples. Research staff responded by explaining that CPRA could also be incorporated in these examples; with the CPRA attribute being assigned a steep slope, there would be less priority observed. A Scientific Registry of Transplant Recipients (SRTR) representative added that pediatrics and prior living donor attributes are conditional and CPRA is a continuous gradient. If the highest CPRA at 100 percent is assumed to be the unusual circumstance, the incidence of this would not be much different from a prior living donor or pediatric candidate as it is unusual to have a CPRA candidate at 100 percent on a KP list but it can happen.

The Committee voted as follows:

- **1:1 Scenario:** 6 votes
- **1.3:1 (v1) Scenario:** 7 votes
- **1.3:1 (v2) Scenario:** 7 votes
- **1.6:1 Scenario:** 10 votes
- **2:1 (v1) Scenario:** 9 votes
- **2:1 (v2) Scenario:** 6 votes

The Committee Chair suggested modeling the 1:1 scenario to ensure that when being asked why placement efficiency is more important than qualifying time, this would have been modeled to justify this thought. The Committee Chair continued by stating that if CPRA, prior living donor and pediatric are not assigned a high weight, proximity efficiency would always be prioritized on a match run of candidates at a similar distance. From the four scenarios that were weighted the highest by the Committee, the placement efficiency attribute is weighted the highest in each of the scenarios. The Committee Vice Chair agreed with this thought and stated that the scenarios could go either way when thinking about the modeling goals established by the Committee in prioritizing pediatrics and prior living donors when those particular events occur.

A member agreed with this point as well. The Committee Chair suggested also running the 1:1 scenario. Another member agreed with this. The Committee was called to another vote on the four scenarios that would be included in the second modeling request.

The Committee voted as follows:

- **1:1 Scenario:** 11 votes
- **1.3:1 (v1) Scenario:** 8 votes
- **1.3:1 (v2) Scenario:** 7 votes
- **1.6:1 Scenario:** 10 votes
- **2:1 (v1) Scenario:** 8 votes
- **2:1 (v2) Scenario:** 3 votes

The Committee Vice Chair asked if the transplant rates were reviewed for the scenarios. The Committee Vice Chair continued that the transplant rates by CPRA from the MIT dashboard was kept in mind in their vote of the scenarios. The Vice Chair continued by stating the 2:1 and 1.6:1 seemed to be closest to what is currently in policy.

An SRTR representative asked how many pancreas transplants are done for high CPRA patients a year. The Committee Vice Chair responded that when previously looking at data, there is a small number of these transplants and is unlikely to significantly affect the match run. Similar to the approach to pediatric candidates and prior living donors, the goal would be to prioritize a high CPRA candidate in the rare instances that that event does occur. The Committee Vice Chair continued by explaining that those candidates with 80-90 percent CPRA; those candidates receive offers all of the time and become very selective. The 98-100 percent CPRA candidates are a smaller population in comparison and should be prioritized. A member stated that in looking at the most recent annual report, it appears that there are about 4 percent of the transplants that are done, which confirms that these transplants are small in number.

The Committee Chair agreed with this and in review of the scenarios, stated that part of this would also be in account of the acceptance practices of the 80-90 percent CPRA candidates suggested by the model as the number observed is small. The Committee Chair continued that because the CPRA is 20 percent for the 1.3:1 scenario voted on, it does give a disproportionate rate although the volume of those transplants is still low in raw number.

The Committee Vice Chair stated that this seems reasonable to model the four scenarios selected, but the points made should be taken into consideration. The 1.3:1 (v1) scenario seems to be similar to the 1:1 scenario and it was suggested that the 1.3:1 (v2) scenario may have been better to model since it is slightly different to the 1:1 scenario. A member agreed with this. The Committee was asked to vote on which version of the 1.3:1 scenario to model.

The Committee Vice Chair voiced support in modeling the 1.3:1 (v2) scenario because the 1.3:1 (v1) scenario is similar to the 1:1 scenario and because of the transplant rate given to the 80-90 percent CPRA, those results are almost unacceptable and would be hard to defend. The 1.3:1 (v2) would provide some contrast to the 1:1 scenario to review. The Committee Chair agreed with this and added that since the scenarios are so close (a 2 percent difference in proximity efficiency and qualifying time). The Committee agreed to model the 1.3:1 (v2) scenario rather than the 1.3:1 (v1) scenario for the second modeling request.

The final four scenarios agreed upon by the Committee that will be included in the second OASIM modeling request were summarized as follows: **1:1, 1.3:1 (v2), 1.6:1, 2:1 (v1)**.

An SRTR representative asked for discussion on blood type. The SRTR representative shared a case example of a 28 year old pancreas donor with a body mass index (BMI) of 31. With two AB candidates willing to accept this offer, current policy would not allow this. The AB transplant rate would be low if only identical not compatible even at the end of the list.

The Committee Chair clarified that current screening would be maintained as outlined in policy. The SRTR representative continued by explaining that from the example given, current policy would not allow compatible after screening. This was previously discussed with the Committee and at one time the Committee initially agreed with allocating identical first followed by compatible at the end of the screen which is not how it is currently written in policy.

The Committee Vice Chair clarified that the challenge with this based on previous discussions was that it resulted in a decrease in transplant rates for some of the kidney patients, which is why the Committee initially reasoned that compatible could be allowed after the kidney match run for pancreas alone, but not to KP so as not to disadvantage those on the kidney waiting list. It was then discussed that in order to do this, there would need to be a separate match run from pancreas alone and KP which would present complexities in doing this.

The SRTR representative stated that the number of AB recipients would be so small that it is not thought this would affect the utilization of available of kidney alone. By definition, anything that goes to KP would take away from kidney alone lists. The goal discussed by the Committee is to increase the utilization of pancreata and if the current allocation not allowing compatible may cause some barriers in achieving this goal.

The Committee Vice Chair agreed that this is something that should be considered and discussed further, but the challenge would be that with the current allocation that allows to go to AB after the O match run has been run, the transplant rate for the AB blood group is slightly higher than the other blood groups. The SRTR representative clarified that it was shown that in keeping the rules as identical only, the transplant rates will decrease.

The Committee Vice Chair stated that the Committee determined to keep blood type as currently as it was determined that it was too complex to change from current policy but agreed that this is something that should be considered and discussed in the future.

Staff asked if the Committee felt comfortable in the current decisions in moving forward with blood type by maintaining the current screening outlined in policy. The Vice Chair voiced support and agreement to the Committee's current decision on blood type.

The Committee Chair agreed with this and asked that in these particular instances based on the example provided, if there was a way to allocate the pancreas. A member confirmed that in a situation where there is a young pancreas donor that could be allocated somewhere within a reasonable distance in an expedited situation for KP, this is done. The Committee Chair followed up by asking if in this situation where a patient is not shown on the match run, would the offer need to go to pancreas alone allocation. The member stated that this was not the case and that there have been a number of times that a KP or even with a simultaneous liver-kidney (SLK) where the kidney patients sometimes do not appear on the list because they are screened off and the allocation can still be done for a KP.

The SRTR representative stated that this scenario is different and refers to when one organ is screened off because it was listed as additional organ versus dual listing which allows for that organ to be brought in for allocation. The SRTR representative clarified that the question posed was in relation to current blood type policy is that if there is a blood type B donor, it can only go to a blood type B candidate. The kidney gets released back to the kidney list as soon as the blood type B is exhausted.

The Committee Vice Chair stated that there is concern for pancreas alone and the restrictions related to that. If the pancreas would not be utilized in these instances, this should be addressed. The Committee Vice Chair inquired if a provision should be outlined for this for pancreas alone or if it may be something that could be addressed as part of the facilitated pancreas allocation. For KP, it would be too complex to take a kidney off the list due to the decrease in the number of kidneys.

The Committee Chair concluded that at this time, the blood type discussion may not be able to be incorporated for this first iteration of the project, but can be considered for future iterations but to complexities previously discussed.

Next steps:

- The Committee will be asked to rank the four scenarios that will be included in the second OASIM modeling request.
- The Committee's modeling request will be submitted to the SRTR for their analysis.

There were no further questions or comments. The meeting was adjourned.

Upcoming Meeting

- March 13, 2023 (Teleconference)

Attendance

- **Committee Members**
 - Dolamu Olaitan
 - Rachel Forbes
 - Colleen Jay
 - Dean Kim
 - Diane Cibrik
 - Jessica Yokubeak
 - Maria Helena Friday
 - Megan Adams
 - Muhammad Yaqub
 - Parul Patel
 - Randeep Kashyap
 - Ty Dunn
 - William Asch
 - Todd Pesavento
- **HRSA Representatives**
 - Marilyn Levi
- **SRTR Staff**
 - Bryn Thompson
 - Raja Kandaswamy
 - Peter Stock
 - Jonathan Miller
 - Ajay Israni
- **UNOS Staff**
 - Joann White
 - Austin Chapple
 - Carol Covington
 - James Alcorn
 - Krissy Laurie
 - Lauren Mauk
 - Lauren Motley
 - Sarah Booker
 - Kayla Temple
- **Additional Attendees**
 - Dave Weimer