

**OPTN Pancreas Transplantation Committee
Continuous Distribution Workgroup
Meeting Summary
October 9, 2020
Conference Call**

**Silke Niederhaus, MD, Chair
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Introduction

The Continuous Distribution Workgroup (the Workgroup) met via Citrix GoToMeeting teleconference on 10/09/2020 to discuss the following agenda items:

1. Overview of Project – Review of 9/25 Meeting
2. Review and Discussion of Attributes
3. Next Steps

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

1. Overview of Project – Review of 9/25 Meeting

The Workgroup reviewed the purpose and goals of the Continuous Distribution project. Continuous Distribution will change allocation from a classification-based system to a points-based system in order to remove hard boundaries such as geography and ABO Typing.

The Workgroup is currently in the first phase of the project, which is identifying and categorizing attributes.

During the Workgroup’s last call, they discussed attributes specific to pancreas that are currently in policy. The attribute, HLA Matching, was moved from medical urgency to candidate biology and the attributes, age and prior living donor, were added to patient access.

Summary of discussion:

No discussion.

2. Review and Discussion of Attributes

The Workgroup reviewed and discussed proposed attributes and their categorization related to pancreas transplantation for consideration in the Continuous Distribution project.

Summary of discussion:

The Workgroup provided input on the proposed attributes and their categorization as follows:

Medical Urgency: Prioritize sickest candidates first to reduce waiting list mortality

Attribute: Kidney-Pancreas (KP) versus (vs.) Pancreas vs. Islets

A member noted that there is a difference in what medical urgency criteria needs to be used for patients with diabetes, patients with diabetes and no cardiac autonomic neuropathy, and patients with neuropathy who are also uremic. A member stated that kidney failure does play a large role in the medical urgency of pancreas candidates.

Members agreed that it would be helpful to, first, think about pancreas candidates with kidney failure and diabetes as one population and what attributes might be applicable to them, then, think about pancreas alone patients in the absence of kidney dysfunction. After considering the medical urgency attributes for those two populations, the Workgroup would need to decide how to combine all the attributes, because there will be pancreas patients with kidney failure and hypoglycemic unawareness.

A member pointed out an additional grouping that would help the Workgroup decide on medical urgency attributes. The member noted that pancreas alone candidates should also be categorized by reduced GFR, normal GFR, and GFR less than 20. The following are medical urgency considerations for each of these groups:

- Reduced GFR – if the pancreas alone candidate is medically urgent, there is no way for the candidate to receive a pancreas offer due to their low GFR and risk of immunosuppression
 - Possibility of a safety net
- Normal GFR – primary determinants are non-renal secondary complications and the most predictive determinant is cardiac autonomic neuropathy
 - Main determinant of metabolic complications is hypoglycemic unawareness

A member noted that, since there may be some components for KP under this category, this is something to bring back to the Kidney Committee when we discuss medical urgency a little further. A member countered and said that they would like to see what the Kidney Priority Workgroup comes up with before pancreas finalizes attributes.

A member emphasized that candidates with diabetes and renal failure are at much higher risk of mortality and should have more medical urgency in order to get transplanted sooner, even with kidney alone candidates. Currently, this is not the case and it should be collaborated on with the Kidney Committee, but wait to see what the Kidney Priority Workgroup comes up with.

A member noted that most pancreata tend to get utilized “locally” where there’s quick access to the center where it’s going to get the transplant – minimizing ischemia time. A member expressed concern that it seems counterintuitive if the Workgroup suggests pancreas should be used locally, since the main driver of this project is to remove geographic disparities in allocation.

Members pointed out that disparities in the allocation system might exist anyway or be caused by different reasons, but this shouldn’t be an issue as long as local allocation isn’t contributing to the disparity.

Post-transplant Outcomes: Prioritize candidates who are expected to survive for at least one year after receiving transplant

Attribute: Ischemic Time

A member suggested adding age as an attribute to this category. A member explained that they would generally favor a younger patient to get a pancreas; however, there are challenges regarding age discrimination.

United Network for Organ Sharing (UNOS) staff explained that the National Organ Transplant Act (NOTA) states they are to recognize special circumstances of pediatric candidates and the OPTN Board has interpreted that as being able to give preference to pediatric candidates. Therefore, policies could give a general preference to pediatrics.

A member inquired if the Workgroup has enough information to support using age in this category. A member stated that most might agree that younger age would result in better post-transplant survival

for KP recipients, but isn't sure whether the Workgroup should use a cut-off age like the Lung Committee or come up with a score that includes age and attributes points to younger candidates.

A member inquired whether age should be used as an attribute for adult patients. A member explained that age is used for prioritization of adult kidney candidates; however, diabetes status of kidney candidates was also used in terms of outcomes.

Members agreed with adding pediatric priority as an attribute under the patient access category, since age isn't currently included in the pancreas continuous distribution model. The member stated that it sounds like there's something relevant there, but it might not be quick to create a rating scale and gain consensus. UNOS staff agreed and pointed out that, once we're in a points-based system, it's a lot easier to adjust these attributes afterwards.

A member stated that if the Workgroup is modeling off of the Kidney EPTS score for age, it would also assume pancreas transplant patient outcomes are going to be inferior the longer they have been on dialysis just like in kidney alone patients. This would mean that patients who have been on dialysis less time would be given priority because they might have better outcomes.

A member expressed concern about years on dialysis being a sensitive area because one can argue the more years on dialysis also increases mortality for these patients without a transplant, which gives them preference on the kidney list for years of waiting time.

In conclusion, the Workgroup agreed to add pediatric priority as an attribute to the patient access category.

Candidate Biology: Increase transplant opportunities for patients who are medically harder to match

Attributes: Blood type, CPRA, HLA Matching (O-ABDR), KP Transplants (biologically need both organs)

UNOS staff stated that in previous discussions it had been mentioned that the Workgroup remove PRA, which is something to consider because kidneys will have CPRA in their prioritization and patients will be both on kidney and kidney pancreas lists.

A member mentioned that KP candidates have a disadvantage on the current kidney pancreas list because patients with a high CPRA don't get the same priority they have do with kidney. This means KP candidates will be assigned a kidney, but not a KP, because they get national kidneys based off of CPRA. A member suggested mirroring what the Kidney Committee proposes for CPRA, and maybe even for HLA matching if possible; that way there will be similar preferences for pancreas and KP candidates as there are for kidney alone candidates. A member noted that the following are two broad areas where the Workgroup would want to collaborate with the Kidney Committee:

- Candidate biology – patients are going to be on both lists (KP and kidney) and we want to make sure there's uniformity
- When does the kidney uncouple and move to the KP pancreas list?

A member stated that blood type would be interesting – at what point do we offer pancreas to other blood groups? A member suggested that all blood group compatible pancreas transplants, especially pancreas alone transplants, should be allowed. The Workgroup would just need to consider how to prioritize each of the blood groups.

A member stated that it's important to keep in mind that Blood Type O's still have the highest waiting time even in the KP programs, so the blood type attribute would need to allow for compatibility while also taking away the disadvantage of being a Blood Type O or B.

A member noted that pancreas patients should benefit from ABDR mismatched donors, which is currently not the case, and maybe this should be mirrored with what the Kidney Committee comes up with as well.

UNOS staff explained that the goal of candidate biology should be thought of as this question – what’s the likelihood of being able to get an offer because of your candidate biology? Certain blood types have a harder time receiving an offer and CPRA makes it harder for a candidate to receive an offer if they’re highly sensitized, but how does 0-ABDR fit into this category?

A member agreed that a 0-ABDR isn’t really hard to find, but, when one is found, the candidate usually has better outcomes. Members agreed that the 0-ABDR attribute should also be in the post-transplant outcomes category.

A member pointed out that 0-ABDR overlaps in both the post-transplant outcomes category and the candidate biology category. For example, there are certain racial groups that have very rare HLAs, so when they hit a 0-ABDR mismatch it’s very difficult to get the organ. There are also ethnic groups in certain areas that have HLAs that are very different from the majority of that area.

A member suggested grouping candidates a little differently than before in order to really be able to analyze candidate biology attributes. The following was the suggested groupings:

- Pancreas alone candidates
- Kidney Pancreas candidates
- Candidates with diabetes on dialysis
- Pancreas After Kidney (PAK) candidates
 - These are patients that were simultaneous pancreas-kidney (SPK) candidates, but then had the initiative to go out and find a live donor, but wait longer for the pancreas – should have same priority, if not more for their initiative
 - May want to separate PAKs into the following subgroups:
 - Pancreas after a living donor kidney – maybe offer a safety net priority
 - Pancreas after a deceased donor kidney
 - SPK but kidney still works and pancreas fails or vice versa
- Remainder of the list including candidates with diabetes not yet on dialysis

Patient Access: Increase transplant access for patients under the age of 18 and patients who previously donated an organ or part of an organ

Attributes: Waiting time, Age, Prior living donor

UNOS staff inquired whether it would be appropriate for wait time to be an attribute for patient access in pancreas alone candidates. A member stated that Pancreas Transplant Alone (PTA) candidates may wait last on the waiting list, but if there’s a PTA candidate who is sufficiently metabolically compromised then something should be done to help that group increase their access to transplant.

Members weren’t sure how to quantify the metabolic complications of diabetes in the absence of kidney failure, but agreed waiting time should be left as an attribute.

Placement Efficiency: Consider resource requirements to match, transport, and transplant an organ

Attributes: Travel efficiency metrics, costs

A member inquired about how the other organ groups are dealing with their travel efficiency metrics. UNOS staff explained that the Lung Committee constructed a scale that incorporates distance (cost increases when distance increases) and mode of transportation (cost increases when mode changes

from driving to flying) together and averaged it out across the country, so, for any given distance, there is a predicted cost. The Lung Committee also considered the following attributes related to distance, geography or proximity, but didn't include any of them in their model:

- Ischemic time
- Population density
- Likelihood of acceptance

A member stated that, with KPs, distance is a very important factor for allocation, so a linear distribution might work. A member suggested that there should be a strong weight for candidates within a closer distance and as distances diminish the amount of prioritization points decreases, but not necessarily in a linear fashion. UNOS staff explained that the Lung Committee had talked about something similar and thought about having inflection points where the mode of transportation changes and where you have ischemic time limits. However, while the Workgroup may be able to predict travel time with some accuracy, travel time doesn't equate to ischemic time because there's time spent before and after travel.

Members agreed that it is logical to have a linear system since it does still take distance into account. Members highlighted that the pancreas continuous distribution model will be different from other organs, in regards to placement efficiency, because this attribute will hold more weight than other attributes.

A member inquired whether the pancreas continuous distribution model should also include facilitated pancreas or if it might not be needed. Members agreed that facilitated pancreas could be placed in the placement efficiency category and could be placed in a new category – reducing organ discards.

A member pointed out that the Multi-Organ Policy Review Workgroup decided to increase the initial nautical mile (NM) cut-off from 250 NM to 500 NM for heart-kidney and lung-kidney candidates. The member stated that this may not have any relevancy for pancreas, but it could potentially impact discard rates. A member inquired whether the acuity circles would go away with continuous distribution, since there would be a linear distribution and it would be weighted appropriately. A member mentioned that the nautical miles are in reference to the current system; however, with distance, the Workgroup can still construct cliffs in their new model if there's solid reasoning for it.

Another member also mentioned that while these issues won't be completely eliminated with the linear distribution, Workgroup members agreed that the linear distribution will help and that the Workgroup could potentially work on this more in the future.

A member felt it would be important to know what the other organ committees are doing with placement efficiency and if they have cliffs set up. Another member pointed out that it shouldn't matter what the other committees are doing as long as the pancreas uncouples from the kidney early enough, but this is something that would need to be discussed separately.

Donor Characteristics

Attributes: Body Mass Index (BMI)

A member mentioned that the only role BMI has is routing a pancreas offer to first either islet candidates or pancreas candidates, but currently this is difficult because the future of islet transplant is uncertain.

A member suggested that if a donor's BMI is over 35, the Workgroup should prioritize islet candidates and if the BMI is less than 35 then prioritize whole pancreas, but it's almost like a cliff. A member stated that their center looks at local donors with a BMI up to 36 and the center will go take a look at the organ

with the hopes of being able to utilize it; however, the percentage of donors with BMIs greater than 32 that the center utilizes is very low.

A member mentioned that the current islet allocation policy states that once a pancreas is not allocated within the local area, then the pancreas can be allocated to islet candidates who are over 50 years old and have a BMI over 30. Members agreed that it would be nice to keep this in the linear distribution in order to distinguish a group of candidates that may be suitable for islets.

A member noted that if we keep the islet allocation policy in the Workgroup's new model, then their linear distribution can't start at zero. There would need to be some interplay between distance, BMI, and age for islet candidates.

Members suggested that donor age would also need to be added to the donor characteristics category for the purpose of deciding when to offer islets first for efficiency of placement. Members agreed that it would be least controversial to keep BMI of 30 and age 50, but this wouldn't include those local candidates. Once mileage/distance increases, and BMI and age reaches the threshold, then the pancreas will follow the linear distribution and islet candidates would receive more priority than KP candidates.

Avoid Organ Wastage

Attributes: Islets, Facilitated Pancreas

A member inquired about how second islet transplants were prioritized. The member stated that the second or third infusion is difficult because each one is another pancreas. In the UK, they give a second islet infusion with the same priority as the first infusion; however, in the U.S., a candidate receives the first infusion and then starts their wait time for the second infusion. After the second infusion, there's no priority.

A member stated that any time there is a second infusion or third infusion needed, then islet candidates should wait again just like a pancreas should wait for re-transplant. A member countered that if the intention of the center was to do two islet infusions, then it could be argued that the islet candidate should still receive priority.

Miscellaneous

- Medical Urgency
 - Hypoglycemic Unawareness
 - Type 1 vs. Type II diabetes
 - Pancreas Donor Risk Index (PDRI)
- A member suggested adding cardiac autonomic neuropathy.

3. Next Steps

UNOS staff will synthesize the information from the meeting and revise the working attribute table for pancreas which will be shared with the Workgroup to review and discuss further during the next Workgroup meeting.

Upcoming Meeting

- October 23, 2020 (teleconference)

Attendance

- **Workgroup Members**
 - Silke Niederhaus
 - Parul Patel
 - Piotr Witkowski
 - Pradeep Vaitla
 - Raja Kandaswamy
- **HRSA Representatives**
 - Marilyn Levi
- **SRTR Staff**
 - Bryn Thompson
 - Jonathan Miller
- **UNOS Staff**
 - James Alcorn
 - Joann White
 - Nang Thu Thu Kyaw
 - Rebecca Brookman
 - Ross Walton