# OPTN Pancreas Transplantation Committee
# Meeting Summary
# April 11, 2022
# Chicago, IL

**Rachel Forbes, MD, Chair**
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## Introduction

The Pancreas Transplantation Committee (the Committee) met in Chicago, IL on 4/11/2022 to discuss the following agenda items:

1. Review/Discussion: Continuous Distribution of Kidneys and Pancreata
2. Policy Oversight Committee (POC) Update

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

## 1. Review/Discussion: Continuous Distribution of Kidneys and Pancreata

The Committee reviewed the Pancreas analytical hierarchy process (AHP) results[1] and discussed the rating scales for the waiting time, blood type, and placement (proximity) efficiency attributes. The Committee also reviewed and discussed donor factors and how this may be incorporated into the pancreas and kidney-pancreas (KP) continuous distribution framework.

Summary of discussion:

*Overview of AHP Results & Public Comment*

The Committee first reviewed the overall participation of the AHP exercise by demographics. Among the participants, transplant hospital professionals were the largest group to participate in the AHP exercise. The Committee then reviewed the overall pancreas AHP results. Biologically difficult to match (which includes blood type and CPRA attributes) received the most weight. This measures the percentage of the wait list with whom a candidate can find an acceptable donor, which most participants found this to be most important; the histocompatibility lab demographic group placed the most emphasis and responded similarly with the lung and kidney AHP exercises as well.

Pediatrics and prior living donors also resulted in a lot of weight. Overall, the results were remarkably consistent across the demographic groups. There were some differences that were pointed out to the Committee: Organ Procurement Organization (OPO) professionals placed more emphasis on very nearby candidates. This result is not surprising as OPOs place organs and see the difficulties when going further down the match run and having to allocate organs further distances. The OPO focus group was asked for their feedback on this for additional insight. There was some back and forth in how pediatrics and prior living donors were prioritized and there were differences observed in how this was weighted across demographic groups. It can be interpreted that the community as a whole would like to prioritize both

[1] https://optn.transplant.hrsa.gov/media/qrxnpv4n/2022-pancreas-report-on-public-ahp-prioritization_508-compliant.pdf

of these attributes. In a classification-based system, the order is sequential whereas in the continuous distribution framework, these attributes could be given equal priority.

The results were also consistent for those attributes that fell in the bottom half of priority. Generally, waiting time, nearby candidates (distance and proximity efficiency), and whole pancreas, not islets (organ registration). The organ registration results show that some participants may be willing to have a mixture of islet candidates before solid pancreas candidates on a match run. This may want to be done for a pediatric islet candidate who is nearby and highly sensitized in comparison to a solid pancreas candidate who is farther away and not highly sensitized. The Committee was asked for their overall impressions of the results.

A member voiced surprise that proximity efficiency was not ranked higher for pancreas transplant. The primacy of the organ donor, quality is so important. Even for transplant professionals, this attribute was ranked low. In trying to reduce cold ischemic time and allowing the local teams to procure the organ, it was thought that this would be ranked higher. For kidneys, this would make sense but it was surprising to see a lower ranking in this category for pancreas.

Another member stated that the low ranking in proximity efficiency is not a surprised and believes that the responses are driven by emotion in some ways. For example, no one would want to deny prior living donors or pediatrics in comparison to proximity.

The Committee Chair stated that it is hard because this is overarching in comparison to other attributes. Additionally, when doing the pancreas exercise, it could be clouded, for example, when talking about a prior living donor receiving a kidney or a kidney-pancreas. Overall, there did not seem to be much of a surprise of the AHP results.

The Committee Vice Chair agreed that the AHP results were not a surprise. When taking the exercise and looking at proximity efficiency, the perspective was seen more that within a certain nautical mile (NM), if the program is willing to go that far. Some of the questions compared this to a candidate who was waiting for more than ten year, which was not thought to being a good comparison. The Committee Vice Chair continued by stating that the pediatrics and prior living donor rankings were not a surprise.

The Committee Chair asked how “very near candidate” was defined. Staff clarified that “very near candidate” was defined as a candidate who is very close to the donor hospital. The Committee Chair continued by stating that it is important if a candidate is near. Staff clarified that the exercise defined a “very near candidate” as prioritizing a nearby candidate (i.e. a short drive from the donor hospital). The Committee Chair stated that this is not asking much as current allocation the proximity of 250NM is a long drive or flight sometimes.

A member commented that ten years ago, pancreata and livers were recovered different from what is done today. From ten years ago, organs stayed with the recovery team, which made it easier for the donor surgeon familiar with pancreas recovery and transplant to speak with their own team members to accept the pancreas. Now, a liver team goes out to recover a liver and may not be familiar with pancreas recovery and you may or may not need to send out your own surgeon. The further away this donor is, the less feasible it becomes for there to be a liver or pancreas surgeon dedicated which can somewhat impairs the recovery of the pancreata. The member continued by stating that the pancreata being nearby may not be the only factor to consider. If a liver team is sent out for a certain donor, the pancreas team from that same institution should have higher prioritization for the pancreas because the change of the pancreas being utilized from being covered by your own team member may be higher.

Staff then shared the kidney AHP results with the Committee. The kidney AHP results had more attributes than pancreas, which included kidney after liver (KAL) safety net, longevity matching (which includes the Estimated Post Transplant Survival (EPTS) and Kidney Donor Profile Index (KDPI)), and medically urgent candidates. Similar to the pancreas AHP exercise, results were remarkably consistent across the demographic groups. Medical urgent candidates ranked the highest in the kidney AHP results. Also highly ranked were biologically difficult to match candidates (which includes blood type and CPRA), pediatrics, and prior living donor. The lower prioritized attributes were waiting time, KAL safety net, longevity match candidates (includes KDPI and EPTS), and proximity efficiency. Similar to the pancreas results, the OPO demographic group prioritized proximity efficiency higher in comparison to the other demographic groups. Overall, there are similarities in the kidney and pancreas results: prior living donors, pediatrics, biologically difficult to match candidates being ranked highest and long waiting times and proximity efficiency being lower prioritized.

A member commented that it may not be surprising that OPOs ranked proximity efficiency highly, and when reviewing the OPO focus group results, there is a lot of truth to what is said in regards to proximity efficiency. IF there are organs that are shipping from one part of the country to another, and they are being held in the cargo holds, this increases the cold ischemic time (CIT) for these organs for hours. The question that was asked was whether a very nearby candidate should be prioritized over a biologically difficult to match candidate, most people would choose the biologically difficult to match candidate; this should be considered and taken into account when reviewing these results.

Staff clarified that the results should be seen as a way to help frame discussions for the next phase of the project. The Committee will ultimately make the final decision on the weights based on further discussions and modeling.

A member stated that another question that tends to come up, especially for kidneys, there is such a discrepancy in organ donor quality that does not exist for pancreas. The member asked if there would be an ability to adjust the organ priorities based on donor factors in a similar exercise.

Staff agreed with this and stated that this was critical for the continuous distribution framework. The framework allows to distinguish between different donor characteristics and adjust accordingly.

Another member stated that this may be a more nuanced approach and that it would not have to be for every kidney that is allocated across the country. The member continued by asking if discussions ever came up where patients with their first transplant had priority for those patients receiving a second of their transplant. Should there be some priority points for those patients who receive their first transplant? For kidney patients, about 25 percent who are on candidates beyond their first transplant. Staff clarified that this was not included as a specific attribute but that this concept did arise during public comment.

A member commented that this would be difficult to specify – there may be some patients who were non-adherent and there may be some patients who encounter graft failure. This may be challenging to figure out. Another member agreed with this.

The Committee Chair stated that sometimes it seems that when transplanting multi-organ and high CPRA, the first time transplants hardly have access to some of the sequences anymore. The Committee Chair added that usually these candidates are not well and their outcomes may be challenging if they do not have access. The same challenges are present for those candidates with high CPRA as well. There

should be some consideration in looking into and discussing these outcomes of utility and equity. A Scientific Registry of Transplant Recipients (SRTR) representative agreed with this and stated that utility is more important over other factors.
Staff then showed the Committee's results from their participation in the AHP results. The Committee's results are consistent with the other results previously discussed. Staff pointed out that there was a difference in the prioritization of the whole pancreas, not islets (organ registration) attribute was rated higher than most of the other demographic groups. The assumption is that this is due to the expertise of the Committee members and understanding of the pancreas allocation system more than most of the other demographic groups.

The Committee Vice Chair agreed with this and stated that when taking the exercise, it was the thought that patients who need a pancreas have a high mortality relative to those that need a kidney alone. For the distance from the hospital, "very nearby candidate" sounds like comparing a recipient at least next to the hospital and may be why this was rated as low as it did.

A member stated that if given two difficult to match candidates for pancreas, the candidate that is nearby should be prioritized over the candidate that is further away. If there was one prior living donor and one candidate who is difficult to match, the tie breaker should also be based on the candidate who is closer to the hospital. There should be a consideration in the definition of donor team going to recover the liver from the same hospital as opposed to just rating distance.

The Committee was reminded of the additional resources that were sent prior to the meeting that includes the complete AHP reports, OPO and Patient Focus Group summaries and the kidney-pancreas continuous distribution attribute memo that summarizes all of the discussions to date on the attributes and rating scale decisions.

There were no additional comments or questions.

*Rating Scale Discussions*

The Committee reviewed the rating scale decisions to date, highlighting the outstanding rating scale decisions. The Committee's focus for the purposes of this meeting were on the waiting time, blood type, proximity efficiency attributes. The Committee was also introduced to the donor factors concept that included discussions regarding the whole pancreas, not islet (organ registration) attribute.

*Waiting Time*

The Committee reviewed current policy regarding waiting time for pancreas, kidney-pancreas (KP), and islet candidates. Waiting time for pancreas and islet candidates begin on the date the candidate is first registered as a pancreas or islet candidate on the waiting list. For KP candidates who are 18 years or older on the date of registration, they will begin to accrue waiting time once all of the following conditions have been met:

- The candidate is registered for a kidney-pancreas
- The candidate qualifies for kidney waiting time according to Policy 8.4: Waiting Time
- The candidate is on insulin

Pancreas, KP, and islet candidates continue to accrue waiting while registered as active or inactive.

Previous discussions regarding waiting time indicated that the Workgroup and Committees did not support capping waiting time, thought that large waiting times could be due to access issues, and had questioned if waiting time should be weighted differently for dialysis vs. non-dialysis waiting time.

From Public Comment, the common themes were as follows:

- Support for considering GFR-qualified and dialysis waiting time differently
    - Support for weighting dialysis time highly, especially for pediatric patients
    - Recommendation to give points for pre-emptive listing, to encourage pre-emptive transplant
- Support for significant weighting
- Support for no ceiling rating scale
- Support for use of linear to curve rating scale
- "Candidates with more waiting time are typically medically complex, and kidneys from medically complex deceased donors are not appropriate for these candidates"

From the OPTN Ethics Committee feedback, the common themes were as follows:

- A member proposed a staggered rating scale
    - Years 0-4 were equal, 4-8 higher, etc.
- Questions if waiting time is a surrogate for medical urgency or a factor of equity
    - Staggering attribute weight accounts for candidate's worsening condition
- A member noted wait time is not uniformly distributed in the country – capping waiting time doesn't address those unfair disadvantages

From the Patient focus group feedback, the common themes were as follows:

- Support for treating dialysis time differently than waiting time
- Long waiting times and extended use of dialysis can increase a patient's medical complexity and impact their outcomes as a recipient
- For GFR-qualified candidates, waiting time is not a good indicator of medical need or level of sickness, as chronic kidney disease can progress at different rates
- Utility concerns – medically complex patients with long dialysis times may not make the best use of a graft and graft years
- Rating scale
    - Support for linear curve approach, aligning with preference for long term outcomes
    - Rating scale "cap" should be based to a degree on transplant survival benefit related to waiting time

The OPTN Kidney Committee recommended a rating scale with no ceiling and no curve with the justification being that long waiting time could be due to various reasons. Staff inquired whether the Committee agreed with the OPTN Kidney Committee's recommendation.

A member inquired if there should be a safety net that is standardized in policy across all organs. For example, liver recipients that need a kidney and have a GFR under 25 would fall into the liver-kidney safety net. The member stated that this could be for candidates that are sensitized since they will have a long waiting time.

A member mentioned that they aren't sure whether waiting time should receive high priority since candidates could have priority for all of the other attributes.

The Chair stated that they found this question difficult in the AHP exercise because it asked participants to compare a pediatric KP candidate to a KP candidate. Pediatric KP candidates are very rare, so

participants probably assumed the question was in regards to kidney instead of KP. A member inquired how many prior living donors are going to be a KP donor. A member responded that the number of pediatric and KP donors is always going to be small, which is why the member thought that pediatric candidates and prior living donors should get high priority.

A member stated that they didn't understand why the waiting time rating scale can go above 100% to not stay linear. Staff explained that there are a few different options; however, choosing a point at less than 100 percent would be the linear to curve option. This option would keep the rating scales as 0-100 percent, but then it would also treat different amounts of years differently.

A member stated that the linear to curve rating scale makes the most sense. There would be a few outliers that are at 5 or 10+ years of waiting time, but this scale would also address the weight dilution issue.

A member noted that they thought the linear to curve rating scale would have been better for kidneys as well, similar to the piecewise linear approach for placement efficiency. Staff also explained that this rating scale didn't need to have a curve it could just have different slopes.

A member mentioned that the no ceiling rating scale option would make sense for those candidates who are disadvantaged with referrals or decreased access to transplant. A member mentioned that there are certainly late referrals and inquired if that could be accounted for by moving the waiting time cutoff to 7 years.

A member stated that, typically, the reason for late referrals is due to non-compliance up until the patient is ready to do what they need to in order to receive the transplant. The member emphasized that there's a different between those patients and those who should have been referred but weren't. A member emphasized that they understand the issue with non-compliance, but stated that those patients should still have the same considerations.

Members noted that, even if those patients didn't receive as much priority for their waiting time, the composite allocation score (CAS) would still be additive and include all of the other attributes. A member emphasized that, even though the CAS is additive, if waiting time is not prioritized as heavily at some point then those patients near the wait time cutoff will be waiting even longer.

The Chair stated that they were still struggling with the rating scale giving more than 100 percent of the points for waiting time. Staff explained that if a candidate has 5 years of waiting time, then they would receive 5 points because that would be 5 percent of the scale. If a candidate was on the extreme end and had 10 years of waiting time then they would receive 10 points, double the amount of points the candidate with 5 years of waiting time received.

The Chair inquired whether the Committee wants to allow a candidate to get double the points for an attribute that we would have a rating scale for. Staff explained that it would help with the weight dilution issue.

A member suggested that the Committee could cap the points at 100 years of dialysis. The Chair stated that that would mean the Committee is suggesting some type of cap, and it would be more difficult to explain that there is a cap but candidates are receiving extra points. The Chair stated that it seems like there will be some type of adjustment after the bulk of waiting time.

A member mentioned that there is a cap for CPRA at 100 although the average CPRA is much less than that and inquired if the Committee could do something analogous to that with waiting time. A member stated that a portion of the population may feel disadvantaged if the Committee decides not to use a cap for waiting time.

A member stated that they don't see it as a cap, but rather the number of points that are trying to be distributed. The member also stated that this may be different from region to region and the outliers would be very small.

A member noted that all of this also depends on where the Committee decides to put the wait time cutoff. Another member suggested looking at the first round of modeling to see where most candidates' waiting time falls and, then, determining where the wait time cutoff should be.

A member inquired what the difference would be if the Committee left the rating scale linear so those candidates with higher waiting time would get transplanted. Staff explained that that would introduce weight dilution and include outliers, although that could be compensated for by bumping that overall weight up.

A member inquired (1) how much the likelihood of good transplant outcomes decrease with each additional year of waiting time and (2) how would the wait time priority be compared to all of the other attributes' priority. An SRTR representative mentioned that modeling might help a little bit with this discussion. The SRTR representative stated that using a wait time cutoff could actually blunt the advantage of wait time points and that the no ceiling option would only give about one percent of candidates more than 100 percent of the points. The SRTR representative stated that if all those fail and a candidate is still waiting, then something is not being accounted for. Then the question for the Committee is whether they want to make an exception for those patients.

A member stated that seeing a histogram of years on the waitlist or time to transplant may help the Committee determine if they want a linear or linear to curve rating scale. A member suggested that the Committee consider center characteristics in this discussion as well. Some centers have high turndown rates or poor organ availability and a rating scale that isn't going to account for all centers and geography may not be as effective.

A member inquired if the Board of Directors would have to decide which wait time rating scale to use if the Committees chose different rating scales. Staff explained that the rating scales for kidney and pancreas/KP don't need to be consistent, for example, other organs accrue waiting time by status. Staff stated that when the Committees send this out for public comment there is always a chance that they could see desire to have a consistent rating scale.

Staff also noted that kidney and pancreas/KP will continue to have their separate match runs.

A member mentioned that the population of candidates with long dialysis time don't have the best outcomes, so those patients may need to be treated differently in regards to waiting time.

Staff stated that, by 5.6 years, 95 percent of candidates have been waiting and that only 1 percent of candidates have been waiting longer than 9.5 years. A member inquired if the wait time cutoff would need to be different for pancreas and KPs. Staff explained that this rating scale would be for both pancreas and KPs.

A member stated that a lot of the longer wait times probably has to do with sensitization. Another member mentioned that waitlist management is an issue and some of the pancreas patients could be inactive, but continuing to accrue waiting time for islets. Rachel: a lot of this also has to do with sensitization. A member noted that difficulty in access or distrust of hospital could also be contributing to long waiting times.

Members agreed that they would like the wait time cutoff to include 90-99 percent of the candidates waiting and that this would be the same for pancreas and KP. An SRTR representative stated that the sensitivity tool will be a more useful tool when trying to visualize the impact that this wait time cutoff

may have on different match runs. Staff also mentioned that the sensitivity tool could be populated with different options for inflection points.

A straw poll was taken. The Committee votes on which wait time rating scale they preferred were as follows:

(a) No ceiling – 3 votes
(b) Linear to curve – 10 votes

There were no additional questions or discussion.

*Blood Type*

The Committee reviewed the current allocation policy: for kidney-pancreas (KP) and pancreas allocation, candidates are classified according to compatible, incompatible, and permissible blood types. Blood type O has some specifications where blood type A, B or AB would also be allocated to those candidates depending on if the candidate has a 0-ABDR mismatch and a CPRA that is greater than, or equal to 80 percent.

Similarly, for kidney allocation, candidates are classified according to compatible, incompatible, and permissible blood type. There is prioritization for blood O type and B. Blood type O and B kidneys are reserved for type O and type B candidates with the exception of 0-ABDR mismatch.

Previous Workgroup and Committee discussions and agreed that the continuous distribution framework would need to allow for compatibility while accounting for the disadvantaged blood types. The Workgroup reviewed a common scale that was used for Lung that put blood type and CPRA together. The Workgroup considered whether reserved blood types should be accessible by other blood types (ex. highly sensitized type B). After much discussion, the Workgroup deferred on deciding on a rating scale until further review of PC feedback.

From Public Comment, the common themes were as follows:

- "Implementation of unified candidate biology score will have a tremendous impact on ABO disparity when coupled with removal of biology restrictions that limit transplants which are ABO-compatible, but no ABO-identical"
- Support for prioritizing blood types B and O
- Non-A1/non-A1B kidneys
    - Support for prioritization to B and O candidates
    - Support for allocating to A and B candidates, with equal access between B and A patients (no prioritization for B candidates)

A member stated that one thing different for pancreas allocation is the idea that a pancreas is most likely to be used locally or by the team that recovered the organ. When this is taken into account and the availability of donors and the discard rates are also taken into account, it makes sense for the pancreas to allow recipients within close proximity or within the same donor team to have access even if they are not blood group identical but if they are blood group permissible. Pancreas from a non-A1 donor is going to be more likely used in an O and B recipient if they are local than if the organ were offered to the nearest other recipients that may be further away but have more compatibility with blood type but most likely use.

The Committee Chair stated that this was something the Committee had tried to put into policy for pancreas in the past and it was not accepted after public comment. The Committee Chair asked for clarification if the public comment feedback was general to pancreas or was the sentiment for the overall project. Staff confirmed that the public comment feedback was in regards to the overall kidney

and pancreas project. The Committee Chair stated that the public comment made sense in regards to blood types B and O. The Committee Chair asked if there was data that shows how many A2 to B KPs or pancreas, if any, are done annually and did not think there were any, which would conclude that some of these factors do not apply to pancreas. An SRTR representative stated uncertainty in the historical data but stated that from their personal experience in the field (not the opinion of the SRTR), they have listed A2B candidates and converting the list so the blood type O's can receive access. The Committee Chair asked if there was any priority for allocation. The representative stated that there was no priority but that they are listing; they have done a living donor transplant with this approach.

Staff provided an overview of the following rating scale options for the blood type attribute:

- Screening Option
    - Replicates current policy
    - Screens off certain blood types (ex. non-O for O)
    - Should still consider a points-based scale to distinguish between compatible blood types (ex. a match run will need a rating scale to give ABO identical candidates priority over AB candidates)
- Points Option (staff recommendation)
    - Awards points to candidates based on their blood type and biological disadvantage
    - Points can be awarded based on the proportion of donors who are biologically incompatible with a given candidate blood type

Staff continued by outlining the Kidney Committee's recommendation in support of maintaining blood type screening for O and B blood types. Some Kidney Committee members were interested in potentially exploring other options in modeling where certain blood types are given different weights. The Committee was asked their thoughts on the rating scale options presented for blood type and their recommendation for pancreas/KP.

The Committee Chair asked if there was discussion on changing prioritization for blood type, would this need to go back out for public comment. Staff clarified that from a procedural standpoint that when this is put forward for public comment would be when the community would be made aware and could provide feedback. During the AHP exercise and the request for feedback, there was a question asked about these different options. Throughout this project, there has been transparency with the community of the discussions and progress of this project. Similar to that, if there were any changes the Committee decides to make that may result in a change, it could be an announcement and discussion during an upcoming public comment cycle as the Committee had been doing currently.

The Committee Chair stated that it is believed that this would require a policy change to current policy and that this has come up in the past where the Pancreas Committee brought forth this idea during public comment previously and the community rejected this idea.

The Committee reviewed the points option rating scale. This rating scale first applied to lung with a policy that was approved and awaiting implementation. Staff clarified that the idea for this option is to align blood type incompatibility proportions with CPRA so it's logically consistent and prioritized on the same scale. It would be a non-linear scale. The Kidney Committee seemed to be leaning toward the screening option due to concern of changing that aspect of policy.

A member stated that blood types O and B should maintain their preference as they already have longer waiting times than blood types A and AB. If blood type O were to be given to blood type A and AB unless the community decides they want high sensitization, this would present a disadvantage to O patients. Similarly, B patients should not go to AB for the same reason as these patients are already disadvantaged by their blood type.

Staff clarified that with blood type and CPRA, the discussion is within the same context in determining what percentage of the donor pool can a candidate match with. With lung, they went one step further by including height. This can all be measured on the same scale. Once this is done, clinical data is used to determine what is more important; for example, is a blood type O roughly similar to a CPRA of 48 or 50 should receive the same amount of priority as they receive the same amount of clinical disadvantage. The continuous distribution framework allows the use of clinical data to make an evidence based decision. The Committee was asked to consider what the rationale would be for not allowing compatible transplant to move forward if there is a more nuanced way, at least in what lung modeling showed, can provide sufficient access to these disadvantaged blood types and why staff is recommending this points option rating scale approach.

A member asked that in regards to the points option rating scale, this would mean that there would be no screening for blood type O's and B's and O's could technically go to A or AB, but the points can be moved where you want it to be.

Staff confirmed that this was correct, but added that sufficient weight would have to be given to the blood type attribute in order for this to happen. Through modeling, the sensitization tool, and the mathematical optimization work that would be done can help with determining what that threshold would need to be to make sure that O's have access. Staff also stated that KP and pancreas screening rules are handled differently, as the screening rules for KP do not apply for pancreas. There is currently non-O pancreas candidates on a match run, whereas for KP, they are screened off unless they have a high CPRA or 0-ABDR mismatch.

A member asked if the Committee could recommend a different points distribution potentially for pancreas than for kidney. The member wondered if there are different percentages of candidates on the list with varying blood types, whether each blood type represents a different barrier to access to a pancreas compared to access to a kidney.

Staff clarified that this would be run separately from the different organs. The denominator is based on the proportion of pancreas donors, which would be different from kidney. The member asked if there was data separating pancreas alone and KP and if this was something that should be considered.

Staff confirmed that the data did not separate pancreas alone and KP, as the donor pool is essentially the same. For now, the project was separated into kidney versus KP/pancreas/islets. However, this could be looked into distinguishing further.

The Vice Chair voices difficulty in determining how this should be modeled because there will be candidates who will be disadvantaged. It sounds good in theory in combining blood type and CPRA and giving points so those candidates in blood group A cannot get from blood group O but it is a matter of time before it is exhausted unless this is continuous in nature.

The Chair asked for further clarification on the recommended model. No other blood group can give to O's so blood type O is constantly giving to the other blood types, how O's are not disadvantaged in this model. Additionally, B's cannot give to an A or AB.

Staff clarified that the weight for biological disparities would need to be sufficiently high so that on an O match run, the O's are either at or near the top. An alternative would be to force points for blood type O's to always appear at the top, but that would then pose the question of if this would help with utilization. Additionally, would the kidney community be concerned of the increase of KPs being used because there will be a bigger KP list that is coming up as compatible for some of these donors.

The Vice Chair asked for further clarification; in combining different points to come to the composite allocation score and if blood group O were given high points, then even the highly sensitized from the other groups or someone who has a long waiting time would never get above O anyway.

The Chair argued that if listing every blood type O candidate, there is going to be concern in efficiency. A member stated that this would be a concern for kidney. The pancreas AB list is sometimes so short that a program has one patient on the list, that program will receive constant calls until that candidate is transplanted. The pancreas O list is not believed to be as excessively long. The member continued by stating that it would be important to have other blood types on the list for utilization sake but agreed that if O's end up donating their organs to everyone who is A and B, then the A and B donors won't be utilized as much and there will be a loss in utilizing those donors. The A and B donors should be on the list, but maybe closer to the bottom of the list unless there are extremely extenuating factors.

A member asked if this would be iterative. If this option were to result in the numbers on the list growing small in AB and A, would there be an opportunity to go back to how screening is done currently.

Staff clarified that the advantage of continuous distribution is that the framework is structured in a more modular fashion, which would allow adjustments as needed.

The Committee Chair stated that the Committee should commit to aligning as closely as possible to current policy.

Staff stated that given the inter-play between KP allocation and kidney alone allocation and the concerns that may have come up in the past, SRTR modeling may be able to help with seeing the impact of screening versus non-screening.

The Committee Chair asked the Committee their thoughts on trying to broaden to compatible and identical for this first iteration.

A member stated that from a patient acceptance standpoint, an entire allocation is completely being changed and taking away blood groups from candidates would dismantle blood groups. In thinking about going down sequence; if there is an O and it is not accepted locally, it should go out regionally and then to an A or B before going national.

The Committee Chair stated that when thinking about this as the pancreas committee, should this be thought of more as a multi-organ and focus more on how the pancreas is allocated with the assumption that the kidney would follow. It seems that the task of the Pancreas Committee should be the pancreas, how the pancreas is allocated and how it can draw a kidney, similar to lung, liver, and heart – like a true multi-organ. Staff agreed with this and suggested in discussing this further with the Ad hoc Multi-Organ Transplantation Committee.

The Committee Chair stated that it can be challenging to try to put KP with kidney when there are also factors that are pancreas. If the focus could be on pancreas knowing that the kidney would come with KP and in some ways increase access for some of these patients, it may be easier to focus on pancreas allocation. Staff agreed with this and stated that the pancreas community may appreciate having some qualifying criteria for KP but it may be a separate question from this blood type discussion.

A member also agreed and stated that from a purely pancreas perspective, all possible permutations should be considered. Whatever is compatible should be allowed given all the other CRPA and wait time factors. The pancreas is more likely to be used locally so the more local recipients that can be on the match run, the more likely the pancreas would be utilized. AS pancreas is a low volume field, this theoretically should not affect wait times for the other organs significantly except for maybe blood type

O where there may need to be limitations for those patients who are highly sensitized or something along those lines.

The Committee Chair stated that the other multi-organs probably take more kidneys from the pool than pancreas; it is getting to be a niche field and the focus should be on maximizing pancreas transplantation.

The Committee Vice Chair agreed with this and stated that this approach would help in addressing the confusion and difficulty on how to allocated pancreas with kidney. The Committee Vice Chair continued by suggested designing criteria for pancreas and then if a kidney is needed, a kidney can be drawn with it. The only difference between lung, heart, or liver is that there may be a different threshold (similar to the safety net) for those candidates who may not meet criteria and in need of a kidney.

The Committee Chair agreed with this and stated that there may need to be consideration for a safety net for pancreas alone if a candidate does not meet qualifying criteria. When thinking about islets, which has not been approved, it is difficult in trying to make everything match kidney, especially when this would be run on separate match runs.

A member agreed that the Committee should be pancreas focused; this does not mean completely ignoring what the kidney Committee is doing but the Committee should be advocating for the pancreas.

Staff asked the Committee which rating scale they would prefer if just thinking about pancreas alone candidates. The Committee Vice Chair suggested that the rating scale for pancreas alone should be identical over compatible. There was a question for clarification on if this vote would mean that this would be restrictions based on CPRA or other factors.

Staff clarified that this rating scale would include attributes for 0-ABDR, pediatrics, and high sensitization for example or there could be another approach, which would be current policy of blood type screening. Based on the Committee discussions, there are three options that could be considered:

(a) continue screening (current policy),
(b) do not screen, but identical always over compatible, or
(c) do not screen, but identical usually over compatible (but with exceptions based on composite score).

The Committee Chair asked for clarification on this with an example: if a donor were a blood type O, everyone on the list would receive points based on their blood types but the concern would be in depleting the type O's and results in O's waiting longer. Staff clarified that this would be dependent on how much weight is given to the other biological disadvantages. If there is not much weight given to the other biological disadvantages, there is the potential of depleting the O's very rapidly. Adequate weight would need to be given to maintain the equity that is in place.

A member stated that when hearing biologically difficult to match, there was some confusion as to how this was defined. The member continued by stating that blood type is not biologically difficult to match; CPRA would more fall into the definition of biologically difficult to match. The member voiced concern that O's would be allocated all over and not be accessible for the O candidates, which will create a great disadvantage. The Committee Chair stated that these candidates are already disadvantaged by time.

Staff stated that an option would be to assign a large number of points to all O's on an O donor match run because they are ABO identical and have enough points so that they are always ahead of the ABO compatibles who would be at the bottom of the list from a utilization perspective.

A member stated that this could be different in terms of the kidney list in comparison to the pancreas list. For the kidney list, the blood group O waiting time, which is always the longest would continue to increase no matter what. For the pancreas list, this is different because there are technically plenty of blood group O pancreas donors that sometimes go unutilized for various reasons (distance, surgeon inexperience, etc.). For pancreas alone, the decision could be a little more liberal. When doing a KP and you allow the sharing, you again take a kidney from the O list on the kidney side whereas for pancreas alone, this does not happen. The member continued by suggestion that pancreas alone would not need to aim for identical necessarily. For KP, this would need to be thought of differently to help with the kidney list.

A member asked if there was a different in wait time for blood groups for pancreas. SRTR staff confirmed that there is a difference in wait time for pancreas and KPs; the different is amplified for pancreas only because the utilization is so low. SRTR staff continued by stating that for patients who were listed in 2016-2017 all blood types included, the average wait time is 12 months for KP and 24 months for a pancreas transplantation alone (PTA). For pancreas after kidney (PAK), the wait time is even longer due to selection bias. However, there is a difference between blood type A's and O's, with O's waiting longer partially due to selection bias. There are a lot of O's that are allocated for KP since there are many candidates waiting for O's.

A member voiced agreement in local allocation influencing everything. From a perspective that certain programs may be conservative for pancreas alone than anything else due to ischemic time. The idea of blood type and distance may increase pancreas alone transplant.

A straw poll was taken. The Committee votes were as follows:

(a) Continue screening (current policy) – 0 votes
(b) Don't screen, but identical always over compatible – 1 vote
(c) Don't screen, but identical usually over compatible (but with exceptions based on composite score)Placement (travel) efficiency: 10 votes

A member asked for clarification on if this vote were for pancreas alone or for KP. The Committee Chair asked the Committee if different scales should be presented for this to be accepted. A member stated that there should be different rating scales, as it would be reasonable to have more pancreata placed locally by expanding blood type to compatible. It will be challenging to gain support for kidney on this same scale because there would be a disadvantage.

Staff recommended that the Committee has an option to model more than one scenario and that the recommendation could be two specified rating scales.

Based on the differences discussed, the Committee made a final decision on the following rating scales:

- Pancreas and KP: Do not screen, but identical usually over compatible (but with exceptions based on composite score)
- KP: should mirror what the Kidney Committee recommends

There were no additional questions or discussion.

*Placement (Proximity) Efficiency*

The Committee reviewed the current allocation policy, which is classified for KP and pancreas by body mass index (BMI) and age. KP and pancreas are first allocated within 250NM from the donor hospital and once this has been exhausted, allocation then goes national.

The Committee then reviewed the public comment regarding proximity efficiency, which included the following themes:

- Transplant program/pancreas transplanting team procurement is critical to acceptance and utilization
    - Liver teams often over-characterize pancreata as fatty or edematous
- Proximity is an important aspect to pancreas allocation and utilization
    - Programs rarely import pancreata or accept them from distant donor hospitals
- Pediatric Committee – "make the geographic acuity circle for pancreas smaller… this would decrease late declines for Kidney-Pancreas"
    - Pancreata often cannot be procured by distant teams and do not always travel well
    - Consideration: "Geographic variation in KP transplant can result in geographic disparities in impact on pediatric kidney programs"
- "Pancreas islets should be allocated after whole pancreas and kidney pancreas have been exhausted"
    - Islets could encourage pancreas utilization

The feedback provided by the OPO Focus group, regarding proximity efficiency had the following themes:

- Practicality of placing and transporting a kidney: a nearby candidate is easier to transport than one across the state
- Efficiency of allocating and placing an organ – often complicated by additional factors
    - Density of TX centers and donors
    - Donor characteristics
- Efficiency of transport and logistics

The Committee Chair stated that a very nearby candidate (short drive to donor hospital) should more be seen as a surrogate for proximity efficiency.

Staff provided an overview of the rating scale recommendations for proximity efficiency. The Workgroup had considered various options for proximity efficiency previously and supported a proximity rating scale framework that would prioritize candidates who are listed closer to the donor hospital and deprioritize candidates who are further away from the donor hospital. The Committee were provided an overview of the "piecewise linear" proximity rating scale option; the x-axis has the distance from the donor hospital and the y-axis represents the amount of points the candidates would receive from the proximity rating scale. Staff reviewed the various components of the rating scale with the Committee as follows:

- Inner plateau: represents any gains in efficiency for a patient who is listed at the same hospital as the donor or hospital versus a patient who is listed nearby
    - If the Committee agrees there is value to including this inner plateau, the Committee would need to determine what distance is appropriate
- Subtype driving distance: the assumption here is that as organs are driven further distances, the cost of doing so will increase

    - The Committee would need to determine how much more priority a candidate who is 50NM away, for example, to a candidate who is 200NM away. The Committee would be asked to provide their feedback on whether this slope should be shallow or steep
- Uncertainty zone: assumption that some organs would be driven and others will start to be flown. This extends the scale out from 250NM to 500NM

Staff further explained that the inflection points of 250NM and 500NM were informed by data that was used by the circles policy that was implemented in 2021. Staff then reviewed organ center travel data with the Committee. The data showed that 75 percent of kidneys traveled 250NM or less when they were driven. In contrast, 75 percent of kidneys flown traveled over 700NM. Staff clarified that this data had limitations as it is specific to kidney data from organ center data.

Staff shared public comment feedback regarding the rating scale recommendations. The themes from public comment were as follows:

- Support for piece-wise linear approach
    - ASTS – Inflection point for driving distance at 250NM, driving slope should be very flat
    - NATCO – steep drop in slope after drivable zone, followed by gradual decrease; an "uncertainty zone" should not be considered
    - "More weight given to proximity in order to limit cold ischemic time, especially for high KDPI kidneys"
- Concern for transportation challenges
    - Ground courier infrastructure at its limit and commercial airline system laden with challenges outside of OPO and OPTN control
    - Increased costs associated with transportation
- Appropriate emphasis on proximity, transportation, and allocation efficiency is necessary to make continuous distribution possible and practical
    - "Continuous Distribution without careful consideration of efficient practices and proximity between recovery hospital and transplant hospital will exacerbate transportation deficiencies that already exist"
    - Concern for travel, cold ischemic times, and potential impacts on recipient outcomes
    - Concern for geographic disparity, particularly for rural patients

Staff presented the following recommendation for the Committee to consider:

- Model two rating scale options:
    - One that heavily deprioritizes candidates farther from the donor hospital
    - One that less deprioritizes candidates further from the donor hospital
- KPSAM results can help refine the rating scale in the absence of real world data
- Ultimately, the attribute weight(s) assigned to proximity is likely to have a greater impact than the precise shape of the rating scale

The KP Continuous Distribution Workgroup made the following recommendation in regards to kidney proximity efficiency:

- Agreed there should be an inner plateau of 50NM
- Driving slope of 85 percent

The Committee was asked for their feedback and recommendations for pancreas and KP. The Committee Chair stated that the 50NM inner plateau seems reasonable. For pancreas, especially if programs are sending their own teams, 250NM is too far to drive, therefore, the slopes should be steeper.

A member agreed with the inner plateau and felt that 50NM would be sufficient for both pancreas and kidney. The member also agreed that the slope should be steeper for pancreas. The member continued by stating that there should be a higher priority for proximity efficiency for pancreas as opposed to kidney. Staff commented that it may not be necessary to change the slope as if the Committee determines to add more weight to the attribute, that would attribute to a steeper slope.

The Committee Chair asked if there should be a drivable/flyable range for pancreas once outside the 250NM. The Committee Chair asked if there was any data showing how many pancreata are transplanted outside of 250NM.

A member stated that the overall fly zone changes by location, time of day, and from where you are trying to fly the organ. For pancreas, unlike for kidney, there is not a linear relationship for distance at all especially if going outside of a narrow radius.

Another member agreed with this sentiment and added that for proximity efficiency for pancreas, on the OPO side, the biggest factors are time of the recovery, availability of a surgeon who has the expertise, and benefits from the centralized recovery center. Sometimes the donor moves a lot more than 50NM. The member continued by stating that the distance that the pancreas travels is less important than the availability of a recovery center at the time of the recovery.

A member suggested that for pancreas proximity efficiency would be to award points to the program's liver team recovering the liver because the pancreas is likely to be utilized at that program if the recovery surgeon is trusted.

The Committee Vice Chair stated that if the program that procures the liver receives extra points, the points should not be higher than the immediate local area because it may disadvantage small to medium programs that do not do a lot of liver transplants. Priority should still go those programs in the local areas.

The Committee Chair agreed with this and stated that from experience in their region, they often do not go beyond 250NM. It was acknowledged that there is variation across programs and that for most programs, distance is a significant factor.

A member stated that not all liver recovery surgeon is comfortable with pancreas and not every liver program does pancreas transplants. Just because a program has a liver team, there is not a guarantee that the pancreas would be assessed. The member suggested giving local priority for efficiency.

Another member stated that there would be challenges from an allocation scheme in relying on a liver team and that there is so much variations across programs that impact decision making in real time that probably can't be put into a linear model. The member continued that the decisions seems to be that either allocation is local or it is not.

Staff stated that this was an important point to make and suggested that the Committee refer to the data that is currently available to help with building the rating scales.

A member asked what the interplay of 100NM compared to 50NM; 100NM is a driveable distance. Another member asked if there was a great difference between 50NM and 100NM. A member stated that the inner plateau could be flat and then have a gentle slope that goes down and as it gets further away, the slope can get steeper. Another member voiced concern in this being problematic as there are varied circumstances that would make it hard to make a slope.

The Committee Chair asked the Committee what would be considered a drivable distance. SRTR staff stated that this would depend on location and traffic patterns.

The Committee Chair asked if a data request could be made to see where this pancreata is being transplanted. Staff stated that there is data showing the distribution of pancreata by distance and reviewed that information with the Committee. Staff also mentioned that when looking at other organs for distribution, there is an aspect of member behavior but there is a big influence driven by policy.

The Committee reviewed the data that showed that for KP there was a pronounced drop off at 250NM. For pancreas alone, the data showed that pancreata is traveling farther than KP.

The Committee Vice Chair stated it seems that the 50NM may work as the flat line for KP. For pancreas, something around 150NM – 200NM may work, as it seems as though that is the distance most will drive and where most of the utilization is. A member stated that this may be affected by the likelihood of pancreas alone transplant programs that are willing to import and less common for KP programs.

The Committee Chair commented that this is difficult for pancreas alone because the volume of programs is so small. It may not make sense to limit distance for pancreas due to this, as these organs are most likely flown.

Staff clarified that when thinking about the inner plateau, the Committee should assume that all candidates inside the inner plateau – for two patients who are nearly clinically identical, should the system give priority to the nearby candidate?

A member stated that addressing KP should be the focus first as this is the overwhelming majority of the pancreas that are transplanted. The member added that if understanding the inner plateau correctly, what the Committee is being asked to solve is not sending organs outside of a narrow area because there are a lot of transplant programs.

Staff commented that the motivation for the inner plateau were from previous discussions around fairness; if a program is in a metro area with a lot of programs, for example, there may be disadvantages due to access. If the zone is made wider to 100 – 150NM, then there is a question of whether or not proximity should be a tie breaker to induce efficiency.

The Committee Chair voiced support for the 50NM inner plateau and then a slope to 250NM. A member stated that this would not exclude expedited placement so there could still be a steep drop off and have an expedited list. Another member agreed with this and stated that the question would be what the distance would be. The idea would be that in a cluster of programs the candidate should not be advantaged for being listed at one program over another.

Staff summarized the Committee's recommendation for a piecewise linear scale with an inner plateau of 50NM with a slope from 50NM to 250NM. A member added that this may be a bigger percentage than it is for other organs. Staff asked for clarification on if the Committee would be removing the uncertainty zone within the scale. The Committee agreed with the removal of the uncertainty zone and that there would be one slope instead of two slopes.

Staff commented that the decisions made by the committee would need to be justified to be compliant with the Final Rule. A member stated that the justification would be to that programs rely more on commercial flights. Staff asked the member to clarify how this justification may push towards local towards broader distribution. The member replied by stated that if a lung team is going out to procure their own lungs and bringing them back to their program by flying themselves, those programs have more control over their timetable than if the mode of transportation used was a commercial flight.

Another member added that the chance of discard increases the longer the distance is for pancreas because the ischemic time is less controllable in the long run because those programs do not have their own transportation. The member continued by stating that another way in looking at the piecewise

linear rating scale, by the time a program is thinking about flying, which may be at 250NM, should that be at 50 percent? How steep should the driving slope be? These type of detailed questions may not be the same for different parts of the country.

The Committee reviewed the Lung Committee's rating scale that was approved by the OPTN Board of Directors. The Lung Committee's rating scale for proximity efficiency has an S curve. The first drop off is less than 20 percent compared to the 50 percent that the Committee was just discussing. Staff continued that the 20 percent drop off was presumed to be a shorter distance (private flight for lungs). After this, the thought was that once travel goes a greater distance, there would be some infeasibility for lung in going greater distances with cold time.

A member voiced approval with the lung scale. Once a decision it gets to a point that the organ will be flown, there are too many variables that have to be considered. Other factors would then need to be considered and take priority at that point.

Another member commented that the rating scale for lung would not necessarily be the same for pancreas. There scale would be flat sooner than what lung did (by 250NM or 500NM). The member continued by stated that you a pancreas can travel a far distance, however, it would be dependent on a surgeon's willingness to accept an organ for a certain patient that has many other factors affecting their priority or their eligibility. The timing may be similar because the organ is being flown but there are patient factors that should be prioritized more than distance.

Staff asked for clarification on if this speaks to a really shallow slope and only slight reductions in proximity points once the organ is already flying. The Committee Chair agreed with this and stated that once the organ is being flown, the scale should be shallow.

A member stated uncertainty if there should even be a slope or if the scale should just be flat. At that particular point in time, candidates would be the same no matter the distance. In looking at the piecewise linear rating scale, the initial plateau would be 50NM, the driving distance slope would turn into an S shape slope as seen in the lung allocation and then drop down by 250NM to zero, after which the scale would be completely flat where the other factors would take over.

The Committee Vice Chair stated that cost may need to be considered because the further an organ is flown, the cost would increase. For the recipient, the timing probably almost the same and this depends on other logistics. A member stated that when placing organs past 250NM, their OPO has had challenges with facilitated placement for pancreas. Another member stated that this could also be due to location.

Staff commented that with a short flight versus a long flight, is cold time a factor. A member stated that this is not the case and that distance and cold time cannot be correlated due to other logistical factors.

A member inquired whether there were any places in the country that may be disadvantaged due to being inaccessible to a nearby donor hospital. The Committee Chair stated that Seattle doesn't appear to have many options. Additionally Alaska donors are considered are now considered Seattle donors.

The Committee Chair asked if there was a downside to having a small slope to address these disadvantages? Staff clarified that the advantage of continuous distribution is that hard boundaries would be removed from allocation and instead would be a part of a continuum.

A member asked that in order to satisfy optics, should continuous distribution and have the rating scale almost flat while still being continuous. Staff clarified that this would be the case as the framework the Committee is working on is one that would remove the hard boundaries and would promote a

continuum. Staff added that in essence, if the rating scale were flat after 250NM, distance would not be a deciding factor.

The Committee Vice Chair commented that this may be an argument for a steep slope or there may need to be more weight given to distance in the composite allocation score so that patients who are closer to the donor hospital have priority.

Staff summarized the Committee's recommendation of a piecewise linear rating scale, inner plateau of 50NM, and a slope of 250NM to 0NM. The Committee agreed with this. Staff will work on a visual representation of the Committee's recommended rating scale, which will be reviewed and discussed further during the next Committee meeting.

There were no further questions or discussions.

*Donor Factors*

The Committee reviewed islet policy to demonstrate that the priority given to islet candidates differs depending on donor characteristics. Islets candidates are prioritized before national pancreas/KP candidates with CPRA of 80-100% and national pancreas/KP candidates for pancreata from donors older than 50 years old or donors with a body mass index (BMI) greater than 30.

The Committee was asked the following questions:

- Should attribute weights (value judgements) differ for allocating organs of different 'quality'/'medical complexity'? And if so, how?
- Should the same two age/BMI groupings be used to assign differential pancreas continuous distribution attribute weights? Or should these hard boundaries be modified and/or removed?

A member stated that the Committee had discussed this before and that they had determined that the utilization of the whole organ pancreas declines sometime between 40-50 years old and a BMI of 30. Members agreed that there are certain circumstances where the pancreas from a donor between 40 and 50 years old could be utilized. Members suggested having priority for pancreas candidates from donors less than 40 years old and priority for islet candidates from donors 50 years old or older with some type of transition between 40 and 50 years old.

Staff mentioned that it is still possible to have hard boundaries for donor factors if there is justification for it.

A member inquired if it would be possible to reserve that particular donor for islets and then focus on the whole pancreas. The member stated that pancreata from donors over age 50 and with a BMI of 30 should go straight to islets. The member mentioned that islets should always be on the pancreas match run; however, they are not sure if it's valuable to have pancreas candidates on the match run for pancreata from older donors with a BMI of 30 or greater. The member suggested that there is potential to have a slope that is similar to the utilization of the pancreas.

Staff explained that the utilization rates that were presented were for whole organ pancreas, but they could look at removal reasons to see if it's for islets.

Members agreed that there should be a donor dependency for whole organ pancreas versus islets.

A member inquired whether the OPTN collects islet data and, if the OPTN doesn't, who does. Staff explained that the OPTN collects waitlist data for islet candidates and waitlist removals for islet transfusion, although the OPTN does not collect data on long-term follow-up.

Members determined the following additional possible donor modifiers for pancreas/KP/islets:

- Modifier for harder to place donors
- Donation after circulatory death (DCD) pancreas
- BMI
- Public Health Service (PHS) increased risk
- A1C

There were no further questions or discussion.

**2. Policy Oversight Committee (POC) Update**

The Committee reviewed the role of the Policy Oversight Committee (POC), the Strategic Plan, and the Strategic Policy Priorities. It was explained that the POC has a renewed focus on portfolio management, which aims to maximize benefit given the available resources.

Summary of discussion:

There were questions or discussion. The meeting was adjourned.

**Upcoming Meetings**

- April 18, 2022 (teleconference)

**Attendance**

- **Committee Members**
  - Rachel Forbes
  - Oyedolamu Olaitan
  - Silke Niederhaus
  - Maria Helena Friday
  - Nikole Neidlinger
  - Parul Patel
  - Randeep Kashyap
  - Ty Dunn
  - Todd Pesavento
  - Dean Kim
  - Antonio Di Carlo
  - Daniel Keys
  - Jeffrey Steers
  - Luke Shen
  - Megan Adams
- **HRSA Representatives**
  - Marilyn Levi
  - Jim Bowman
  - Raelene Skerda
- **SRTR Staff**
  - Jonathan Miller
  - Bryn Thompson
  - Raja Kandaswamy
  - Ajay Israni
  - Josh Pyke
  - Nick Wood
  - Tim Weaver
- **UNOS Staff**
  - Joann White
  - Rebecca Brookman
  - Lauren Mauk
  - Lauren Motley
  - James Alcorn
  - Darren Stewart
  - Sarah Booker
  - Kim Uccellini
  - Amanda Robinson
  - Carol Covington
  - Kayla Temple
  - Lauren Motley
  - Matt Chaulklin
  - Ross Walton