

**OPTN Liver and Intestinal Organ Transplantation Committee****Meeting Summary****April 3, 2023****Houston, TX****James Pomposelli, MD, PhD, Chair****Scott Biggins, MD, Vice Chair****Introduction**

The OPTN Liver and Intestinal Organ Transplantation Committee (the Committee) met in Houston, Texas and via Citrix GoToMeeting teleconference on 04/03/2023 to discuss the following agenda items:

1. Public Comment Review and Vote: National Review Board Guidance for Multivisceral Transplant Candidates
2. OPTN Organ Procurement Organization Committee: Organ Offer Acceptance Limits Project
3. OPTN Policy Oversight Committee Update
4. Continuous Distribution Public Comment Review
5. Post-Transplant Survival in Continuous Distribution
6. MELD 3.0 Data Collection
7. Geographic Equity in Continuous Distribution
8. Medical Acuity in Continuous Distribution
9. Cold Ischemic Time and Normothermic Regional Perfusion Data Collection

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

**1. Public Comment Review and Vote: National Review Board Guidance for Multivisceral Transplant Candidates**

The Committee reviewed public comment feedback on the *National Review Board Guidance (NLRB) for Multivisceral Transplant Candidates* proposal<sup>1</sup> and discussed potential post-public comment changes.

Summary of discussion:

Feedback from the transplant community during public comment was supportive of the proposal. Some public comment feedback suggested the Committee consider different score recommendations for multivisceral candidates. However, the Committee had previously considered multiple different score recommendations during the development of the proposal, and ultimately ruled them out for various reasoning.<sup>2</sup>

The Committee discussed public comment feedback that requested medical professionals with renal expertise to review multivisceral exception requests which include a kidney. However, it was noted that per the NLRB operational guidelines, exception requests are randomly assigned to five representatives

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<sup>1</sup> OPTN Liver & Intestinal Organ Transplantation Committee, *Proposal*, National Review Board Guidance (NLRB) for Multivisceral Transplant Candidates. Public Comment period January 18, 2023 to March 18, 2023. Available at [https://optn.transplant.hrsa.gov/media/fl5pcwpx/national-liver-review-board-nlrp-guidance-for-multivisceral-transplant-candidates\\_liver\\_pc-winter-2023.pdf](https://optn.transplant.hrsa.gov/media/fl5pcwpx/national-liver-review-board-nlrp-guidance-for-multivisceral-transplant-candidates_liver_pc-winter-2023.pdf).

<sup>2</sup> Ibid.

of the appropriate specialty board.<sup>3</sup> Due to this, the NLRB operational guidelines would need to be modified to remove the current randomization of assignments. In addition, current NLRB membership and participation is limited to liver transplant programs. It would take an alteration of the NLRB operational guidelines and additional development and implementation effort to incorporate a pathway for these exceptions to be reviewed by individuals with renal expertise. As such, the Committee determined that these changes were outside the scope of this project.

A member noted that if a multivisceral candidate is listed for both a kidney and a liver, then the candidate will have already met simultaneous liver-kidney (SLK) criteria per *Policy 9.9.B: Liver-Kidney Candidate Eligibility for Candidates 18 Years or Older*. The Committee agreed that adding this clarification into the guidance will help inform NLRB reviewers that they do not need to review SLK criteria when reviewing multivisceral candidate exception requests. The Committee agreed to add the following sentence into the multivisceral guidance as a post-public comment change, “Candidates being listed for any liver and kidney multivisceral combination will have already met simultaneous liver-kidney criteria as outlined in OPTN Policy”.

The Committee unanimously supported sending the *NLRB Guidance for Multivisceral Transplant Candidates* proposal to the OPTN Board of Directors for consideration.

Next steps:

The OPTN Board of Directors will consider this proposal during the June 26, 2023 meeting.

**2. OPTN Organ Procurement Organization Committee: Organ Offer Acceptance Limits Project**

The Committee reviewed a presentation from the OPTN Organ Procurement Organization (OPO) Committee regarding their project on organ offer acceptance limits.

Summary of discussion:

A member stated support for the OPO Committee addressing organ offer acceptance limits. The member stated that the system needs to be adjusted because multiple organ offer acceptances can slow down the allocation processes. The member did not support limiting liver organ offer acceptances to one due to candidates that may be critically ill and the need for multiple options. The member supported limiting organ offer acceptances based on medical urgency status and suggested carving out status 1A and 1B liver candidates. The Chair agreed and stated that modifying policy to only allow one organ offer acceptance is concerning. The Chair stated a solution needs to have carve outs for MELD 35 and higher.

Another member noted that multiple organ offer acceptances are important for medically urgent candidates but it is also important for considerations related to cost and logistics.

An SRTR representative suggested that the OPO Committee analyze the problem and determine whether limiting organ offer acceptances aligns with the problem. The SRTR representative stated that the solution should be driven by data. Another member agreed and cautioned placing too much emphasis on placement efficiency as it may negatively impact patient choice and clinical decision.

A member stated the effective and transparent communication between OPOs and transplant programs may help with the current problem. The member expressed concerns about modifying limits on organ offer acceptances due to critically ill candidates who do not have many options. Other members agreed.

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<sup>3</sup> OPTN, National Liver Review Board Operation Guidelines. Available at [https://optn.transplant.hrsa.gov/media/ywxddona/20200804\\_nlr\\_operational\\_guidelines.pdf](https://optn.transplant.hrsa.gov/media/ywxddona/20200804_nlr_operational_guidelines.pdf).

Another member suggested to remain with the status quo of the current offer organ acceptance limits. A member stated if status quo cannot be maintained, then the best option may be to limit organ offers acceptances based on medical urgency status.

A member suggested the OPO Committee consider how limiting organ offer acceptances may be impacted by increased utilization of machine perfusion.

Next steps:

The Committee will continue to provide feedback to the OPO Committee on the project as appropriate.

### **3. OPTN Policy Oversight Committee Update**

The Vice Chair presented an update on the work of the OPTN Policy Oversight Committee (POC).

Summary of discussion:

There was no discussion.

### **4. Continuous Distribution Public Comment Review**

The Committee reviewed public comment feedback received on their concept paper *Update on the Continuous Distribution of Livers and Intestines*.<sup>4</sup> The Committee will continue to discuss relevant public comment feedback as they develop the various phases of the project.

### **5. Post-Transplant Survival in Continuous Distribution**

The Committee discussed post-transplant survival as an attribute in continuous distribution of livers. During previous Committee meetings, the Committee reviewed available evidence to support including a factor for post-transplant survival in the first iteration of continuous distribution. During those conversations, the Committee decided not to include post-transplant survival as a specific attribute in the first iteration of continuous distribution, as the Committee agreed that the available models did not have sufficient predictive ability and the allocation system already accounts for post-transplant survival through other means.

However, during the most recent public comment period, the Committee received a significant amount of feedback on their initial decision to not include post-transplant survival as a specific attribute in the first iteration of continuous distribution and new research was published with a potential model for incorporating post-transplant survival in the allocation system.

Summary of discussion:

The Chair provided a brief overview of previous Committee discussion on the topic and feedback received during public comment. A Committee member provided a more detailed overview of the post-transplant survival models the Committee previously reviewed and Committee deliberations on a post-transplant survival attribute in continuous distribution.

The lead author of the paper titled, "A Model for Calculating the Long-Term Estimated Post-Transplant Survival of Deceased Donor Liver Transplant Patients," presented an in-depth overview of the paper for

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<sup>4</sup> OPTN Liver & Intestinal Organ Transplantation Committee, *Concept Paper*, Update on the Continuous Distribution of Livers and Intestines. Public Comment period January 18, 2023 to March 18, 2023. Available at [https://optn.transplant.hrsa.gov/media/zc3lti1y/continuous-distribution-of-livers-and-intestines\\_liver\\_pc\\_winter-2023.pdf](https://optn.transplant.hrsa.gov/media/zc3lti1y/continuous-distribution-of-livers-and-intestines_liver_pc_winter-2023.pdf).

the Committee's consideration as a potential model for incorporating post-transplant survival as a specific attribute in continuous distribution.<sup>5</sup>

The presenter noted that the high-level objectives and guiding principles of the long-term estimated post-transplant survival (L-EPTS) model were as follows:

1. A prognostic tool for estimating the long-term survival benefit obtained from deceased donor liver transplant
2. Using pre-transplant variables that are easily obtained
3. Develop a well-calibrated scoring and ranking system to classify patient groups more likely to receive benefit
4. Prioritize candidates based on this benefit
5. Validation

The author outlined the methods used for the development of the L-EPTS model. These methods are outlined in more detail in the full publication.<sup>6</sup> The following independent variables were included in the L-EPTS model:

- Age at transplant
- Increase in MELD-Na score
- Diabetes
- Liver malignancy
- Previous transplant
- Race (White/non-white)
- Sex
- Transjugular intrahepatic portosystemic shunt (TIPSS)

Importantly, although race was originally included in the L-EPTS model, it was removed from the model and the results presented to the Committee due to feedback that race should not be included as a variable in liver allocation. Race was not statistically significant within the model and therefore removing it as a variable did not significantly impact the overall performance of the model as described in the publication.

The presenter described the development of a five-tier system for classifying post-transplant survival, with those candidates expected to survive the longest post-transplant in Tier 5 and those candidates with the lowest expected post-transplant survival in Tier 1. A Committee member asked if the number of cohort participants in each tier was equal. The presenter responded that the number in each tier is not the same but there were thousands of subjects in each tier.

Another Committee member asked if there is overlap between the tiers. The presenter responded that there is not. A Committee member asked for further explanation on the error bars for each tier, as some seem to fit better than others. The presenter noted that precision of the tiers is not perfectly linear and there is mortality in each tier that impacts the error bars. The presenter noted that the model is best at discriminating between candidates in Tier 1 vs. Tier 5.

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<sup>5</sup> John Stephen Malamon et al., "A Model for Calculating the Long-Term Estimated Post-Transplant Survival of Deceased Donor Liver Transplant Patients," *SSRN Electronic Journal*, 2022, <https://doi.org/10.2139/ssrn.4267520>.

<sup>6</sup> Ibid.

A representative from the SRTR noted that Tier 1 includes a wide range of survival probabilities, which could be challenging to account for in allocation. The SRTR representative noted that the tier system is still likely more accurate than a continuous or ordinal system.

A Committee member asked how quickly candidates would move between tiers. An SRTR representative noted that the only input variable that would change is MELD score, so candidates would only move between tiers based on their MELD score while on the OPTN Waitlist.

A Committee member asked for clarification on how this tier system would be incorporated into allocation, suggesting that the initial model would deprioritize candidates with an estimated post-transplant survival of 50% at 10 years. Other Committee members clarified that the model wouldn't deprioritize any candidates, but could be used to give some small priority (depending on the weight of the attribute) to candidates more likely to have long-term post-transplant survival. A Committee member noted that 50% survival at 10 years is a long time and would represent a positive post-transplant outcome and that 10 year survival should not be incorporated into the allocation system.

A representative from HRSA asked if the model is capable of identifying potentially futile transplants, as opposed to longer term utility, which can be more difficult to predict. The presenter noted that futility is difficult to predict mathematically, if it is defined as the time at which the candidate reaches equal likelihood of survival without a transplant.

A Committee member asked how the model accounted for poor outcomes in recipients with hepatitis C, which is no longer the case given new treatment methods. The presenter noted this was not accounted for in the model.

A Committee member asked how the model could be applied to multi-organ transplant candidates, given that they were excluded from the cohort. The presenter stated that the model could not be applied to multi-organ transplant candidates.

The presenter further explained the validation methods used for the model. The presenter noted that a conservative metric for tier validation was about .7 predictive positive value (PPV). The presenter then explained the validation of the model using Cox Regression and noted that the concordance for the model is .79.

To conclude the presentation, the author noted that the following conclusions:

1. The model prioritized clinical utility.
2. The 5-tier system to rank patients is most valuable
3. Removing the "Race" variable had minimal effect on model performance
4. No candidates would be unfairly categorized based on age alone
5. There is still work to be done to explore the model, including:
  - a. Need to validate on new datasets
  - b. Explore additional methodologies
  - c. Need to examine more recipient characteristics
  - d. Need to examine donor characteristics
  - e. Need to define futility

An SRTR representative noted that the Committee may also want to consider removing age from the model if it's something they want to pursue. The SRTR representative also recommended the Committee consider uncapping MELD as another means to factor in post-transplant survival in the new allocation system. The SRTR representative then asked the presenter how the initial variables were selected for inclusion, specifically the change in MELD being defined as the difference between MELD at listing and current MELD, rather than current MELD and the MELD before the current MELD. The SRTR

representative continued to suggest that the Committee carefully consider their objectives in incorporating a specific factor for post-transplant survival or futility. The SRTR representative then suggested the Committee consider how adding donor characteristics to the model may increase the complexity of the model, whereby a candidate's post-transplant survival tier could change based on donor characteristics with every match run.

The Vice Chair asked the presenter to explain what, exactly, this new L-EPTS model improves upon compared to the previous models the Committee reviewed for post-transplant survival, reminding the Committee that they decided the previous models were not ready to be incorporated into the allocation system so this new model should have a clear improvement over the prior models.

The presenter noted that they used non-linear regression, which holds higher fidelity to the underlying data. The presenter further explained that this model also uses easily available and clinically relevant data and the tiered system is more appropriate. The author did not commit to saying that this model is more accurate than prior models.

A Committee member asked the presenter to speak to the distribution of age across the different tiers. The presenter noted that there is asymmetry in age across the different tiers. The presenter further explained that younger people tend to live longer so the model is naturally going to predict them to live longer after transplant. The Committee member noted that there could be different conceptions of transplant benefit based on the age of the recipient.

A Committee member asked if age becomes more of a factor in the 10 year model compared to the 5 year model. The Committee members then asked the presenter to explain the validation cohort which seemed to show some differences with the training cohort. The presenter agreed that age was a driving factor in the difference between the 5 and 10 year models and that there are multiple factors for differences between the cohorts that could be shared with the Committee in greater detail.

A Committee member asked why there are more recipients in Tier 1 surviving out to 10 years in the 10 year model than there are Tier 1 recipients surviving out to 5 years in the 5 year model. The presenter noted that the timeframe for the cohorts is different which could drive the difference. The Committee member noted that there didn't seem to be a large difference in predicted survival in the 5 year model between the tiers. The presenter agreed that the difference between the tiers was statistically significant yet small and the largest difference was between Tier 1 and Tier 5, as expected.

A Committee members asked when the end of the follow-up time was in the cohort. The presenter clarified that it was September 2022. The Committee member then noted that there had been issues with death capture up to 2022 but the presenter noted that they used the updated file to resolve this concern. The Committee member then noted that there are recipients included who haven't died yet and suggested the Committee consider the effect of different center practices.

The Chair reminded the Committee that the publication was not intended for policy necessarily, but originally intended to be a clinical tool.

A Committee member asked why the predicted survival in the publication seemed to be higher than survival rates captured in other data. The Committee member then asked why variables such as intensive care unit (ICU) status, ventilator status, or dialysis status were not included. The presenter noted that the differences in expected post-transplant survival could be due to the exclusion criteria in the cohort. The presenter also agreed that they could include more variables to increase the power of the model.

A Committee member asked about the impact of recipients with hepatocellular carcinoma (HCC) and other malignancies. The presenter clarified how they incorporated malignancy in the primary data.

An incoming Committee member noted that, when considering post-transplant survival, there is always some bias because the individual transplant programs are already selecting candidates who they expect to do well after transplant.

The Vice Chair stated that other organ systems, such as lung, have had a factor for post-transplant outcomes built into their allocation system for a while so including post-transplant survival as part of continuous distribution was not new for them. On the other hand, while liver allocation may not have an explicit factor for post-transplant survival, it is something that is accounted for by individual center decisions on who to list and by mechanisms such as capping MELD at 40, and having set criteria for HCC and CCA exceptions.

The Committee discussed if they could incorporate a form of donor-recipient matching, such as KDPI and EPTS in kidney.

A Committee member stated that the Committee should not incorporate long term post-transplant survival in the allocation system, as the data is not predictive enough and the separation in likelihood of recipient survival can be accounted for in a shorter post-transplant timeframe. The member continued by saying that there are too many factors that impact 5 year post-transplant survival that can't be controlled for so it should not be a factor in allocation.

The Committee discussed differences between liver and kidney allocation, as it pertains to matching higher quality organs to candidates predicted to survive long term after transplant. They noted the importance of longevity matching in kidney allocation is not the same as liver allocation and there is not good data to suggest increased utility in matching higher quality donors to candidates expected to live long term after transplant. The Committee further noted that the increased use of normothermic regional perfusion will change such discussions.

A Committee member suggested that the larger community might be more interested in ensuring there are guardrails in place to avoid livers being transplanted into recipients with a high likelihood of short term mortality after transplant, rather than an attribute focused on longer term survival.

An SRTR representative noted that SRTR monitoring of 90 day and 1 year post transplant survival seems to provide those guardrails and the liver transplant community does a good job of avoiding futile transplants, at least in part because of SRTR monitoring. The SRTR representative urged the Committee to consider if this is a problem that needs to even be addressed through allocation or if SRTR monitoring and transplant program behavior is already addressing the issue of avoiding futile transplants.

The Committee discussed the need to educate patients and the larger transplant community on how post-transplant survival is already baked into the allocation system.

The Committee completed the discussion by confirming their previous decision to not include a specific attribute on post-transplant survival. They cited the fact that existing models are not able to predict long term post-transplant survival, the system already accounts for post-transplant survival in ways that might not be as explicit as other organ systems but are included nonetheless, and transplant programs already do a good job at selecting candidates who are anticipated to do well after transplant.

An SRTR representative further noted that because MELD and PELD are good at predicting pre-transplant mortality, the liver allocation system already accounts for transplant benefit because it already prioritizes the sickest candidates who are most likely to die without a transplant and are therefore most likely to benefit from a transplant.

The Committee further noted that liver cells can regenerate, unlike kidney and lung, so placing higher quality donor organs with recipients anticipated to live longer is not as biologically necessary in liver

allocation. And finally, the Committee noted that it will be important to reiterate to the community that liver allocation already does a good job of ensuring successful post-transplant outcomes so incorporating a specific attribute on post-transplant outcomes would not serve a particular purpose to further the liver allocation system.

Next steps:

The Committee will work to educate the community on the ways the current liver allocation system already accounts for post-transplant outcomes. The Committee does not anticipate including a specific post-transplant survival attribute in continuous distribution.

## **6. MELD 3.0 Data Collection**

The Committee was updated on the progress of the implementation of *Improving Liver Allocation: MELD, PELD, Status 1A and Status 1B* proposal.<sup>7</sup> The Committee discussed updates related to data collection for MELD 3.0.

Summary of discussion:

Based on feedback from subject matter experts in the field of transgender medicine, the Committee agreed to change the label from “current sex” to “sex for purposes of adult MELD calculation”.

Next steps:

The Committee will continue to discuss the implementation of the *Improving Liver Allocation: MELD, PELD, Status 1A and Status 1B* proposal as needed.

## **7. Geographic Equity in Continuous Distribution**

The Committee discussed geographic equity in the continuous distribution of livers. Geographic equity had previously been discussed as population density or supply and demand.

Summary of discussion:

An SRTR representative stated that SRTR has been discussing alternative ways to measure disparities in access to transplant. The SRTR representative suggested that the rate of organ offers per specific ranges of MELD scores may be important data to analyze.

A member suggested reviewing waitlist mortality by county as a way to analyze geographic equity. Another member responded that analyzing waitlist mortality will not account for individuals who do not get added to the waitlist. A member responded that an initial step could entail measuring waitlist mortality and eventually expand it to liver-related mortality. An SRTR representative responded that waitlist mortality does not always relate to transplant access. The SRTR representative explained that there are many reasons why certain transplant populations may be more sick than others, thus waitlist mortality is impacted by a lot of factors besides geography.

The Chair stated that they define geographic equity as the number of eligible deaths in a transplant program’s proximity to be similar to other transplant programs. The Vice Chair stated that utilizing eligible deaths would be dependent on OPO performance. A member responded that utilizing offer rates as a metric to determine geographic equity would be beneficial as it would not depend on OPO

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<sup>7</sup> OPTN Liver & Intestinal Organ Transplantation Committee, *Briefing Paper*, *Improving Liver Allocation: MELD, PELD, Status 1A, Status 1B*. Public Comment period January 27, 2022 to March 23, 2022. Available at [https://optn.transplant.hrsa.gov/media/kxhdo0h4/improving-liver-allocation\\_meld-peld-status-1a-status-1b\\_winter-2022-pc.pdf](https://optn.transplant.hrsa.gov/media/kxhdo0h4/improving-liver-allocation_meld-peld-status-1a-status-1b_winter-2022-pc.pdf).

performance. The member explained that the goal of geographic equity should be that irrespective of where a candidate is located, they should receive equal access to a liver offer.

An SRTR representative suggested that if the Committee is interested in review liver offer rate data, that it should be stratified by MELD score. Another member suggested further stratifying between donation after circulatory death (DCD) and donation after brain death (DBD).

A member stated that offer rates can be skewed. Another member responded that waitlist practices and transplant rates are metrics that can be biased. The member explained that offer rates can not be bias because organs are offered to candidates based on allocation policy. Another member asked whether the Committee could review unfiltered offer rates.

The Vice Chair stated the Committee should first focus on geographic equity, then they can determine the goals of travel efficiency and placement efficiency and consider the possible overlapping of the three different attributes.

The Vice Chair suggested the Committee consider which geographic units would be beneficial to analyze variation in offer rates. A member suggested utilizing region or state as the geographic unit. Another member suggested utilizing transplant programs as the geographic unit. Staff noted that the Kidney Transplantation Committee utilized donation service areas (DSAs), while the Pancreas Transplantation Committee utilized regions as geographic units.

A member clarified that the goal of geographic equity is that the organ offers that any candidates receives should be as equitable as possible across the nation. The member stated that transplant candidates are organized by the transplant programs in which they are registered, therefore reviewing transplant program level data on unfiltered offer rates stratified by MELD score would be most beneficial. The member added that knowing where a candidate is on a match run would also be helpful in understanding offer rates.

#### Next steps:

The Committee will continue to discuss geographic equity and submit a potential data request.

### **8. Medical Acuity in Continuous Distribution**

The Committee discussed medical acuity scores for organ allocation. Members of the community presented on the Optimized Prediction of Mortality (OPOM) model.<sup>8</sup> The Committee also discussed the tradeoffs between OPOM and MELD/PELD.

#### Summary of discussion:

Since the Committee's October 11, 2022 meeting<sup>9</sup>, the presenters noted the following work has been performed:

- Deleted age as a variable; results are materially the same
- Added MELD 3.0 as a variable; results are materially the same
- Compared OPOM and MELD 3.0; OPOM has a significant performance edge in reducing waitlist mortality

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<sup>8</sup> Dimitris Bertsimas et al., "Development and Validation of an Optimized Prediction of Mortality for Candidates Awaiting Liver Transplantation," *American Journal of Transplantation* 19, no. 4 (June 2018): pp. 1109-1118, <https://doi.org/10.1111/ajt.15172>.

<sup>9</sup> OPTN Liver & Intestinal Organ Transplant Committee, *Meeting Summary*, October 11, 2022. Available at [https://optn.transplant.hrsa.gov/media/udxkksza/20221011\\_liver\\_summary\\_final-1.pdf](https://optn.transplant.hrsa.gov/media/udxkksza/20221011_liver_summary_final-1.pdf).

- Updated the Pediatric OPOM (POPOM) and compared with PELD to present a unified model; Results for POPOM and PELD are very similar

The Chair stated it is necessary to involve the pediatric stakeholders in the development of POPOM.

A member noted that OPOM has a binary outcome of 90-day mortality. The member added that MELD is a survival model, meaning that it used a Cox regression model with a harrell c-statistic. The presenter noted that their model utilizes logistic regression to evaluate the area under the curve (AUC). The member asked how an individual that received a transplant impacts the model. The presenter responded that those individuals are considered censored. The presenter stated that analysis was performed to consider what would have happened to those individuals had they not received a transplant. The presenter stated there was not a significant difference in modeling results. The member noted that the c-statistics for MELD does not decrease much over time.

A member stated that a model that does not include individuals who are transplanted results in over indexing candidates who have higher mortality, or are sicker than their MELD score and not receiving transplants in the current allocation system. The member stated this may be a reason that there appears to be a different effect between MELD and OPOM.

A member stated that the MELD model accounts for who may have a shorter expected mortality, which the OPOM model may not account for since it is modelled on a 90-day mortality binary outcome. The member also noted that it will be important to analyze the results for the hepatocellular carcinoma transplant candidate population.

Another member expressed concern regarding how to explain OPOM to patients and physicians. A member stated that a medical acuity score should be chosen based on best model. Another member noted that patients can, and will, understand OPOM.

The presenters recommended that the Committee review both OPOM and MELD in modeling scenarios in order to analyze the potential differences and benefits in the medical acuity scores.

#### Next steps:

The Committee will continue to discuss medical acuity scores for continuous distribution.

### **9. Cold Ischemic Time and Normothermic Regional Perfusion Data Collection**

The Committee briefly discussed the necessities for collecting data related to cold ischemic time and normothermic regional perfusion.

#### Summary of discussion:

An SRTR representative noted the significant increase of liver perfusion utilization. The SRTR representative noted that the current cold ischemic time data collection may not lend to accurate data analysis due to increased usage of pumps. The SRTR representative suggested that the Committee should update data collection related to cold ischemic time and perfusion in order to accurately understand the impacts of continuous distribution once it is implemented.

#### Next steps:

The Committee will continue to discuss this further.

### **Upcoming Meeting**

- April 21, 2023 @ 3:00 PM ET (teleconference)

## Attendance

- **Committee Members**
  - Alan Gunderson
  - Allison Kwong
  - Bailey Heiting
  - Christopher Sonnenday
  - Colleen Reed
  - Erin Maynard
  - Greg McKenna
  - James Trotter
  - Jim Eason
  - Jim Markmann
  - Jim Pomposelli
  - Joseph DiNorcia
  - Kym Watt
  - Neil Shah
  - Pete Abt
  - Peter Matthews
  - Scott Biggins
  - Shimul Shah
  - Shunji Nagai
  - Sophoclis Alexopoulos
  - Sumeet Asrani
  - Vanessa Pucciarelli
- **HRSA Representatives**
  - Jim Bowman
- **SRTR Staff**
  - Jack Lake
  - Katie Audette
  - Nick Wood
  - Ryo Hirose
  - Tim Weaver
- **UNOS Staff**
  - Betsy Gans
  - Delaney Niles
  - Erin Schnellinger
  - James Alcorn
  - Joel Newman
  - Kaitlin Swanner
  - Katrina Gauntt
  - Laura Schmitt
  - Lindsay Larkin
  - Matt Cafarella
  - Meghan McDermott
  - Niyati Upadhyay
  - Sarah Scott
  - Susan Tlusty