

**OPTN Liver and Intestinal Organ Transplantation Committee
Hepatocellular Carcinoma (HCC) Stratification Subcommittee
Meeting Summary
September 25, 2024
Conference Call**

Chris Sonnenday, MD, Chair

Introduction

The OPTN Hepatocellular Carcinoma Subcommittee (the Subcommittee) met via WebEx teleconference on 09/25/2024 to discuss the following agenda items:

1. Background
2. Review HCC Stratification Models

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

1. Background

The subcommittee reviewed their scope of work in determining if HCC priority should be stratified in the upcoming transition to continuous distribution. The subcommittee reviewed the decisions it would need to make and if there was enough data to support stratification of HCC priority.

Summary of discussion:

No decisions were made regarding this agenda item.

The Chair stated for background that medical urgency will continue to be a main component of continuous distribution and that the Model for End-Stage Liver Disease 3.0 (MELD 3.0) and the model Pediatric End-Stage Liver Disease Creatinine (PELD Cr) scores will be used in the first version of live continuous distribution. The Chair also stated the Liver and Intestinal Organ Transplantation Committee decided that the transition to continuous distribution would be a good time to consider that not all Hepatocellular Carcinoma (HCC) transplants are equivalent and that moving exceptions to priority scores may be a good time to consider stratifying HCC patient priority.

The Chair stated the Subcommittee is charged with determining the following.

- If there is enough data to support HCC priority stratification in continuous distribution
- What variables are needed to determine how to stratify HCC priority?
- What would be the criteria for stratification levels?
- How to evaluate the impact of stratifying HCC priority

The Chair stated the Subcommittee's goal is to determine these items and to maintain appropriate priority for HCC patients within continuous distribution but that it was not the charge of the Subcommittee to decide the number of points in continuous distribution for each level of HCC stratification nor to change the eligibility criteria for HCC.

The Chair suggested the Subcommittee will need to balance the risk and benefits of transplanting HCC patients to determine how to stratify HCC patient priority. The Chair stated other considerations will

include what data is needed to support HCC stratification and if there should be additional stratification within Milan criteria which are those patients with HHC who are lower priority/low urgency candidates for transplant.

Next steps:

The Subcommittee will work on these objectives and considerations in following meetings.

2. Review HHC Stratification Models

The Subcommittee looked at a model, Multi-HCC to handle HCC stratification. The Subcommittee also reviewed older models including the following.

- Hazard Associated with Liver Transplantation for HCC (HALT-HCC)
- Drop-out Equivalent MELD (deMELD)
- HCC-MELD
- MELD Equivalent (MELD-Eq)
- Optimizing Prediction of Mortality (OPOM)

Summary of discussion:

No decisions were made regarding this agenda item.

One subject matter expert expanded on the idea that transplantable patients with HCC have varying levels of stage progression and that the current HCC exception system does not capture that. That member then pointed out there are roughly three categories of HCC patients within the Milan criteria; those who would benefit from transplant, those who likely don't need a transplant, and those who would do poorly after transplant. Those patients who are down staged into Milan criteria may be at higher risk of dropout and should be considered for potential higher priority.

The subject matter expert introduced a potential model called Multi-HHC as a way handle HCC stratification. The model is based on MELD 3.0, log aflatoxin B1 (AFB), and tumor burden listings which can be updated periodically. This model outperforms previous models, and the next step would be to incorporate updated variables. One such variable may be wait-time, otherwise HCC patients within Milan criteria may have difficult accessing organs.

One member illustrated that there are other models for HCC stratification, but these models are outdated though HALT-HCC is actively being updated with 2019 data. All the models are similar in that they primarily use the same three variables, MELD, tumor size, and AFB. The repeated use of these variables indicates there is a limited number of variables in the available dataset.

The Chair opened the floor for discussion. Some members expressed concern about how well the various models manage multifocal tumors. One member responded that every model manages multifocal tumors differently but that the Multi-HCC model has a category for multifocal tumors.

One member expressed that they liked the OPOM model because it interdigitated HCC with MELD. The Subcommittee discussed the potential for HCC stratification to upset the public and that interdigitation may help avoid that dissatisfaction. Another member mentioned that interdigitating HCC with MELD would require assigning higher priority to HCC patients to get them the transplants they need.

One member pointed out that HCC priority for the whole group has been well refined over the years and that in stratifying the HCC population's priority would likely require removing priority points from some HCC patients to offset the addition of priority points to other HCC patients.

One member expressed concern from the community that portal hypertension and liver function should be considered in any changes to the proposed priority allocation model. A member responded that more subjective criteria like those indicative of portal hypertension may be difficult to include.

Next steps:

The Subcommittee members will look at current available stratification models for potential missing variables and bring models forward in the October Subcommittee meeting to examine the pros and cons for each model and look for weak points and concerns with each option.

Upcoming Meetings

- October 28, 2024 @ 3:30 PM ET (teleconference)
- November 21, 2024 @ 3:30 PM ET (teleconference)

Attendance

- **Subcommittee Members**
 - Chris Sonnenday
 - Scott Biggins
 - Allison Kwong
 - Neil Shah
 - James Pomposelli
 - Joseph Dinorcia
 - Marina Serper
- **HRSA Representatives**
 - Jim Bowman
- **SRTR Staff**
 - Nick Wood
 - Katie Audette
- **UNOS Staff**
 - Emily Ward
 - Jesse Howell
 - Ben Schumacher
 - Laura Schmitt
 - Joel Newman
- **Other Attendees**
 - Neil Mehta
 - Parissa Tabrizian
 - Anjana Pillai
 - Marilyn Levi
 - Jack