OPTN Liver and Intestinal Organ Transplantation Committee
Meeting Summary
August 19, 2022
Conference Call

James Pomposelli, MD, PhD, Chair
Scott Biggins, MD, Vice Chair

Introduction

The OPTN Liver and Intestinal Organ Transplantation Committee (the Committee) met via Citrix GoToMeeting teleconference on 08/19/2022 to discuss the following agenda items:

1. Continuous Distribution Attribute Re-cap: Frailty
2. Continuous Distribution Attribute: Social Determinants of Health

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

1. Continuous Distribution Attribute: Frailty

The Committee reviewed their discussions from the August 5, 2022 Committee meeting, and continued discussing frailty as a potential attribute to incorporate into continuous distribution of livers and intestines.

Summary of discussion:

The Committee agreed that an attribute related to physical fitness might not be ready to be incorporated into continuous distribution.

The Committee noted their previous discussions regarding how frailty impacts pre and post transplant outcomes. The Committee noted the potential for manipulation of some of the subjective frailty measures such as grip strength or walking speed.

A member stated that implementing relevant data collection may help the possibility of incorporating frailty into the next iteration of continuous distribution. The member suggested that collecting the six minute walk speed may be the easiest option to operationalize. The member added that data elements related to the liver frailty index would be most beneficial to the liver transplant community.

Next steps:

The Committee will finalize attribute discussions during the October 11, 2022 Committee meeting. The Committee will determine weight and rating during the next phase of the project.

2. Continuous Distribution Attribute: Social Determinants of Health

The Committee discussed social determinants of health as a potential attribute to incorporate into continuous distribution of livers and intestines.

Summary of discussion:

Research and input compiled from Committee members prior to this meeting included:

- The Final Rule states that the "OPTN Board of Directors shall be responsible for developing, with advice of the OPTN membership and other interested parties, policies within the mission of the OPTN…including policies that reduce inequities resulting from socioeconomic status"[1]
- Allocation policies must be based on medical criteria[2]
- Healthcare is a small factor in the overall health and wellbeing of individuals[3]
- Determinants of health from the social context are multi-faceted and represent a proxy for various different factors, which ultimately are strongly associated with outcomes in the general population
- Life expectancy is extremely broad. The life expectancy in the most affluent areas of the United States are analogous to those countries with the longest life expectancy in the world, such as Australia, Japan, and Spain. The life expectancy in regions of the United States with the highest social determinants of health risk factors are analogous to many of the countries with lower life expectancy.[4]
- A study found that the opportunity to move from a neighborhood with a high level of poverty to one with a lower level of poverty was associated with modest but potentially important reductions in the prevalence of extreme obesity and diabetes.[5]
- Gini index – an expression of the variation in income inequality within a given region. Results showed that variation in income inequality had more impact on impoverished individuals in those communities compared to communities with a lower median income overall. [6]
- Area Deprivation Index (ADI) – a measure used to express multi-factors and relative deprivation on an index level. There are clusters of areas with high ADIs in the United States, but there are also high ADIs in areas that are on average more affluent.
- Other notable measures:
  - Social Deprivation Index (SDI)
  - Median income by zip code
  - Percent of population in poverty
  - Estimated life expectancy
  - Community County Risk Score (health rankings)
  - Distressed Community Index
- When there is a conceptual relationship between sociodemographic factors and outcomes or processes of care and empirical evidence that sociodemographic factors affect an outcome or process of care reflected in a performance measure then it is appropriate to use forms of risk adjustment[7]

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[1] 42 CFR §121.4(a)(3)

[2] 42 USC §274(b)(2)(B)

[3] Evans RG, AJPH, 2003 Mar

[4] institute for health metrics and evaluation, accessed 2016. https://www.healthdata.org/

[5] Ludwig J, Sanbonmatsu L, Gennetian L, Adam E, Duncan GJ, Katz LF, Kessler RC, Kling JR, Lindau ST, Whitaker RC, McDade TW. Neighborhoods, obesity, and diabetes--a randomized social experiment. N Engl J Med. 2011 Oct 20;365(16):1509-19. doi: 10.1056/NEJMsa1103216.

[6] Gini Index of Income Inequality (American Community Survey 2009-13 5-Year Estimates, table B19083, U.S. Census Bureau).

[7] A recommendation from the technical report *Risk Adjustment for Socioeconomic Status or Other Sociodemographic Factors* (August 2014). National Quality Forum.

- County Health Rankings express an index for risk within each county in the United States based on a variety of different factors
- Community risk level is strongly associated with pre transplant processes and outcomes in kidney transplant recipients[8]
- There is a relative dose response relationship between patients that resided in higher community health risk areas with drop off from the waitlist[9]
- Significant evidence of the association of social determinants of health and outcomes and access to care in a myriad of health contexts
- Multiple indices that may express risk in residential communities exist and are likely a proxy for multiple factors
- Higher deprivation is heterogeneously distributed across the US
- Evidence of an association of deprivation and liver transplant outcomes (waitlist, post-transplant, and underlying disease burden)
- Efforts to measure risks at the individual level and the strength of area measures may be important

SRTR staff stated the if transplant programs provided the addresses of transplant candidates, then census tract level data could be obtained. SRTR staff added that allocation policy must balance what needs to be preserved and what needs to be prioritized. SRTR staff explained that if equity is important, then the tradeoff may be slightly lower post-transplant outcomes overall due to individuals with lower social economic status having lower post-transplant survival outcomes.

SRTR staff stated that some data, which is currently collected, such as level of education, race/ethnicity, etc., may be stronger predictors than neighborhood level data. SRTR staff explained that neighborhood level data assumes that the neighborhood is homogeneous; however, there are individuals that may or may not have the characteristics of the neighborhood.

A member stated there is an assumption that all individuals who have a low socioeconomic status have similar access to the transplant wait list. The member stated this assumption is inaccurate because Medicare coverage for liver transplant varies in each state. The member explained that in Texas a significant portion of the population has no access to liver transplant. The member stated that a fraction of individuals with low socioeconomic status are added to the waitlist in southern states compared to other areas of the country. The member stated that the Committee should consider the possibility that incorporating social determinants of health into liver allocation may have an opposite effect. The member explained that it may end up allocating livers out of areas with more low socioeconomic status populations due to the fact those populations do not have access to the transplant wait list.

Another member stated that incorporating social determinants of health into liver allocation may benefit the areas of inequality in the United Stated. The member stated that incorporating a small number of points to individuals that reside in more vulnerable populations would allow for more equity compared to those in less vulnerable populations.

A member of the community stated that there is an assumption that a transplant program's liver waitlist is representative of the surrounding population. The member of the community stated this assumption

[8] Schold JD, Heaphy EL, Buccini LD, Poggio ED, Srinivas TR, Goldfarb DA, Flechner SM, Rodrigue JR, Thornton JD, Sehgal AR. Prominent impact of community risk factors on kidney transplant candidate processes and outcomes. Am J Transplant. 2013 Sep;13(9):2374-83. doi: 10.1111/ajt.12349.

[9] Ross K, Patzer RE, Goldberg DS, Lynch RJ. Sociodemographic Determinants of Waitlist and Posttransplant Survival Among End-Stage Liver Disease Patients. Am J Transplant. 2017 Nov;17(11):2879-2889. doi: 10.1111/ajt.14421.

is incorrect because a lot of screening occurs for an individual to be listed. The member of the community suggested that the characteristics of the candidates on the liver waitlist should be decoupled from the characteristics of the population in the surrounding area. The community member asked whether social determinants of health may be incorporated into liver allocation on an individual basis rather than utilizing larger aggregate data. The presenter stated that there has been research to determine how much information is lost when comparing the different levels of data (e.g. individual, census tract, county). The presenter stated that the research showed that more aggregate-level metrics tend to lose some specificity at the individual level but there is a degree to quantify how accurate each measure is at each different level. The presenter suggested that a next step may be determining how well the indices correlate with individual data. The presenter added that the transplant population is different compared to other contexts and general populations.

The member of the community stated that in order to implement social determinants of health in liver allocation, transplant programs' liver waitlists must be comparable to the characteristics of the surrounding communities.

The presenter stated that data shows more candidates drop off the waiting list or die on the waiting list who come from low ADI communities. The presenter stated that that shows an effect of social determinants of health. The presenter added that the effect might be even larger if there were individual data to analyze. The presenter stated that social determinants of health is an important component of outcomes so it is necessary to understand the impact further.

The Chair suggested that risk adjustment for transplant program metrics may be an option for the Committee to consider. The Chair explained there might be a bias for patients from vulnerable populations due to potential lower post transplant outcomes. The Chair stated that risk adjusting for this might allow transplant programs to be more willing to take risk. SRTR staff stated that they review every variable that is collected the through the OPTN to analyze the post transplant outcomes and risk adjust. SRTR staff stated that the Committee may consider adding additional points into the composite allocation score (CAS), but determining how many points and how much weight will be what controls the impact. SRTR staff suggested that CAS points could be determined by the magnitude of difference in waitlist mortality or drop off.

SRTR emphasized that incorporating social determinants of health into liver allocation will only affect those individuals who are on the liver waitlist. SRTR staff stated that solutions must be upstream if the aim is to fix the inequities upstream. SRTR staff stated that the Committee may consider recommending the OPTN Data Advisory Committee to discuss OPTN data collection related to barriers of access to the waitlist. A member stated the purview of the OPTN begins with candidates on the waitlist.

Next steps:

The Committee will continue discussing social determinants of health as a potential attribute in the continuous distribution of livers and intestines.

Upcoming Meeting

- September 9, 2022 @ 12:00 PM ET (teleconference)
- September 16, 2022 @ 3:00 PM ET (teleconference)

Attendance

- **Committee Members**
  - Alan Gunderson
  - Allison Kwong
  - Bailey Heiting
  - Christopher Sonnenday
  - Colleen Reed
  - Erin Maynard
  - Greg McKenna
  - James Eason
  - James Pomposelli
  - James Trotter
  - Kym Watt
  - Pete Abt
  - Sanjay Mehrotra
  - Scott Biggins
  - Sophoclis Alexopoulos
  - Sumeet Asrani
  - Vanessa Pucciarelli
- **HRSA Representatives**
  - Jim Bowman
  - Marilyn Levi
- **SRTR Staff**
  - John Lake
  - Katie Audette
  - Nick Wood
  - Ryo Hirose
- **UNOS Staff**
  - Betsy Gans
  - Erin Schnellinger
  - James Alcorn
  - Julia Foutz
  - Krissy Laurie
  - Liz Robbins Callahan
  - Matt Cafarella
  - Meghan McDermott
  - Niyati Upadhyay
  - Rob McTier
  - Susan Tlusty
- **Other Attendees**
  - Dave Weimer
  - Derek Dubay
  - Evelyn Hsu
  - Jesse Schold
  - Samantha DeLair