Disparities resulting from variations in regional donor supply and liver transplant tourism

In the United States, the Organ Procurement and Transplantation Network (OPTN) develops national policies that determine how donated organs are collected, matched, and distributed with candidates on the transplantation waitlist. Currently, the nation is divided into 11 geographic regions, called United Network for Organ Sharing (UNOS) Regions, to facilitate transplantation. Over the past 15 years, several policy changes were implemented by OPTN to create a fair and efficient system for liver allocation and distribution. Despite these efforts, geographic differences in donor organ availability and demand among the 11 UNOS Regions determine the waitlist mortality, or the chances of dying while on the waitlist. We aimed to study the disparities associated with listing practices of liver transplant candidates within UNOS Region 5, which is comprised of Arizona, California, Nevada, New Mexico, and Utah.

In 2013, there were 3,075 candidates who died awaiting liver transplantation, with UNOS Region 5 accounting for the highest number of annual deaths. In candidates who underwent liver transplantation outside of UNOS Region 5 through a multiple listing, there was a significant increase in the proportion of Caucasians, those with graduate degrees, and a higher median household income. To avoid waitlist mortality, candidates in UNOS Regions with longer waitlist-time-to-transplant sought temporary residence and multiple listings in UNOS Regions with relatively shorter waitlist times. These candidates with multiple listings were awarded with favorable outcomes including a shorter wait time to liver transplantation. Expectedly, UNOS Region 5 had the highest number of candidates with multiple listings seeking liver transplantation in another UNOS Region.

Our results suggest that the imbalance in the organ supply-to-demand ratio in UNOS Regions, including Region 5, incentivizes candidates to seek multiple listings in UNOS Regions with comparatively shorter waitlist-time-to-transplant. Our data also suggest that socioeconomic background, race/ethnicity, and level of education influence the practice of multiple listing for liver transplantation, a finding that is comparable with those studied in heart transplant allocation. Patients with multiple listings have significantly better odds of receiving a liver transplant at lower model for end-stage liver disease score, which is used to prioritize patients waiting for a liver transplant and determines how urgently a patient needs a liver transplant within the next several months. Our findings show certain subgroups of the population within UNOS Region 5 benefiting from the practice of multiple listing, and efforts must be made to eliminate these disparities and establish a fair and balanced allocation system.

George Cholankeril [1], ***Eric R. Yoo*** [2], ***Ryan B. Perumpail*** [3], ***Zobair M. Younossi*** [4], ***Aijaz Ahmed*** [3]
[1]*Division of Gastroenterology and Hepatology, University of Tennessee Health Science Center, USA*
[2]*Department of Medicine, University of Illinois College of Medicine, USA*

[3]*Division of Gastroenterology and Hepatology, Stanford University School of Medicine, USA*
[4]*Department of Medicine, Inova Fairfax Hospital, USA*

Publication

Disparities in Liver Transplantation Resulting From Variations in Regional Donor Supply and Multiple Listing Practices.
Cholankeril G, Yoo ER, Perumpail RB, Younossi ZM, Ahmed A
Clin Gastroenterol Hepatol. 2017 Feb