Measures of geographic disparities: Are waitlist outcomes enough?

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Introduction

- Current measures of geographic disparities focus **solely** on waitlist metrics
  - **MELD at transplant**
  - **Waitlist mortality**
  - Waiting time
  - Transplant rates

- Waitlist metrics reflective of complex balance of supply and demand
  - Supply: Redistricting only redistributes the currently **used** supply, not usable supply
    - Shifts organs from high performing OPOs->low performing OPOs
  - Demand: Waitlist demand ≠ true demand
    - Many patients with ESLD who could benefit from transplant never get wait-listed
    - There is convincing evidence of large geographic variability in access to the waiting list

- Broader concerns
  - Our goal as hepatologists/liver specialists should be population health – outcomes for the entire pool of patients with advanced liver disease
  - Waitlist metrics do not account for outcomes in the broader population who are potentially eligible for transplant
Geographic variability in waitlist mortality and MELD scores at transplantation

- Geographic variability in prevalence of end-stage liver disease
- Potential donor supply; number of “eligible deaths”
- Local transplant center competition
- Variability in waitlisting practices
- Variable OPO performance—donor conversion rates
Used organ supply does not reflect potential organ supply due to variable OPO performance

Donor “authorization” rates among reported eligible deaths per OPO, 2008-2013

According to OPTN/UNOS data as of 9/30/2013
Untapped organ supply due to statewide differences in donor designation

Courtesy of Peter Reese, MD, MSCE, via Gift of Life Philadelphia
Waitlist demand impacted by variable waitlisting practices:
Correlation of waitlisting rates and waitlist metrics

\[ \rho = -0.90 \]

\[ \rho = 0.90 \]

*Medicaid data from 1999-2009 linked with OPTN/UNOS data from 1999-2013*
Impact of waitlisting rates on waitlist metrics: Simulation suggests similar waitlist mortality rates if all five states had similar waitlisting rates.

- Observed waitlist mortality rates:
  - Florida: 16.1%
  - Ohio: 19.9%
  - New York: 22.2%
  - Pennsylvania: 21.3%
  - California: 24.5%

- Simulated waitlist mortality rates:
  - Florida: 24.5%
  - Ohio: 23.3%
  - New York: 25.1%
  - Pennsylvania: 22.2%
  - California: 16.1%

*Medicaid data from 1999-2009 linked with OPTN/UNOS data from 1999-2013*
Impact of waitlisting rates on waitlist metrics: Differences in transplant rates would be much smaller if all five states had similar waitlisting rates.

*Medicaid data from 1999-2009 linked with OPTN/UNOS data from 1999-2013*
Broader concern: Waitlist health outcomes ≠ Broader health outcomes among broader population with ESLD
Potential solutions/alternatives

- Redrawing allocation maps/redistricting may be needed
- BUT, policy revisions should have a broader FOCUS than waitlist outcomes, and should account for:
  - True organ supply
    - OPO performance: Hold OPOs accountable for low conversion rates
      - Don’t shift from high→low performing OPOs
    - Variable statewide donor registration rates
      - Initiatives to increase registration rather than shifting organ supply
  - Account for true organ demand
    - Consider impact of variable waitlisting rates
      - Active monitoring of transplant center referrals and waitlisting rates
      - Need to collect data on true demand for organ transplantation
  - Think broadly: Population in need of transplantation
  - Long-term impact of urgency-based policies
    - Simulations of redrawing maps must consider impact of transplanting higher MELD patients
    - Transplant the sickest versus efficient use of scarce resource?¹

¹-Bittermann et al, AJT, under review
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Supplementary Slides
Geographic differences in donor supply (“eligible deaths”) and demand (ESLD prevalence among Medicaid enrollees)
Correlation between statewide waitlisting rates and waitlist and population-level outcomes among Medicaid enrollees with ESLD

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