Metrics of Disparity and Optimization of Distribution

Ryo Hirose, MD, Ad Hoc Chair
Seth Karp, MD, Ad Hoc Vice-Chair
First, a thanks to the Ad Hoc members

<table>
<thead>
<tr>
<th>Ryo Hirose, MD, Chair</th>
<th>Seth Karp, MD, Vice Chair</th>
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<tbody>
<tr>
<td>David Mulligan, MD</td>
<td>Juan Arenas, MD</td>
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<td>John Roberts, MD</td>
<td>Josh Levitsky, MD</td>
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<td>Zakiyah Kadry, MD</td>
<td>Goran Klintmalm, MD</td>
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<td>Benjamin Samstein, MD</td>
<td>Kevin O'Connor</td>
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<td>Luis Fernandez, MD</td>
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The Ad Hoc Subcommittee on Metrics of Disparity and Optimization of Distribution seeks to

further define the parameters that should be employed for a *patient based* distribution system.
Areas of Interest

- How exactly is disparity defined?
- How do we define supply to demand ratios?
- Should candidates with exception points be excluded in the modeling for broader sharing?
- Is MELD the appropriate metric which determines a fair allocation system?
- What other metrics beyond median MELD at transplant should be incorporated into a fair distribution system?
- Should changes be made to the constraints previously set by the Committee?
- Should some local level of priority be considered?
- How will minority or economically disadvantaged populations be affected?
- How will small programs in isolated areas be affected?
The Definition of Disparity

- OPTN/UNOS Board of Directors, November 2012 Resolution specifically addresses geographic disparity.

“Geography is often thought of as the generation and interpretation of maps that describe the physical world. Geography is far more than that, but the physical description of boundaries has a great deal to do with how we view communities and how we construct society (Giddens 1984).”
A preventable difference in opportunity to achieve optimal health due to geographical variation in access to transplantation.
Metrics

Disparity metrics such as differences in the median/mean MELD at transplant, rates of death on the waiting list, total deaths due to liver disease, or transplant rates by DSA or Region.

Summative metrics such as total deaths or transplants.

The Final Rule lists both summative and disparity metrics.

But there may be trade-offs such as the increase in transport time and distance traveled required to achieve a reduction in disparities.
Tradeoffs, What is acceptable?

- Mortality for Critically Ill Candidates
- Disparity in Access
- Cost to the Overall System

- Cold Ischemic Time
- Cost to Centers/OPOs
- Travel Time
- Transparency
Exclusion of Exceptions

Lab MELD vs. Match MELD
## Metrics Beyond MELD at Transplant

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<th>Eligible Deaths</th>
<th>Total Deaths</th>
<th>Variation</th>
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The Issue of Supply to Demand

Supply:
Actual liver donors, eligible donors for purposes of transplant (as defined by OPTN and reported by OPOs), and total deaths.

Demand:
Total waitlisted patients, total waitlisted patients with MELD > 15.
Could Changes to the Constraints be Beneficial?

The number of districts should be at least 4 and no more than 8.

The minimum number of transplant centers per district is 6.

The maximum median travel time between DSAs placed in the same district is 3 hours.

The number of waitlist deaths under redistricting must not be statistically significantly higher than in the current system.

The districts should be contiguous.
Priority for Proximity

Liver Proximity Score (LPS)
MELD+ X Points

Proximity Circles

Donor Hospital

150 mile radius

250 mile radius
Now the SRTR will present the updated findings.

Thank you!