Redistricting – Another Perspective

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The status quo is intolerable -

There is too much geographic disparity.
Did Share 35 achieve its goals of:
1) diminishing geographic disparity?
2) decreasing waitlist mortality?
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Existing geographic disparity

MELD at transplant is $\geq 3$ or more points higher than national median
MELD at transplant is 1-2 points higher than national median
MELD at transplant is 0-2 points lower than national median
MELD at transplant is 3 or more points lower than national median (for this map)
Impact of “Share 35”

- MELD at transplant is $\geq 3$ or more points higher than national median
- MELD at transplant is 1-2 points higher than national median
- MELD at transplant is 0-2 points lower than national median
- MELD at transplant is 3 or more points lower than national median (for this map)
Share 35 and Geographic Disparity in MELD at LTx

- Variance across DSAs in pre-Share 35 era: 14.3
- Variance across DSAs in post-Share 35 era: 17.6

*Geographic disparity worsened under Share 35.*
Did Share 35 achieve its goals of:
1) diminishing geographic disparity?
2) decreasing waitlist mortality?
Pre-transplant mortality for patients wait-listed for a liver transplant

Waitlist mortality has fallen from 15% in 1999 to 10% in 2012
Share 35 and Pre-LTx Mortality

Despite an additional 326 donors (6,029 pre vs. 6,357 post):

- Numerically increased regions 1, 3, 4, 6, 7
- Numerically decreased in regions 2, 5, 8, 9, 10, 11

The impact of Share 35 on waitlist mortality depends on where you live and needs to be adjusted for existing temporal trends.
Overall donation rates (per 100 eligible deaths), by DSA

Donation rate varies by 30% between OPOs
Donor yield: observed to expected ratio (O/E), 2011–2012
State

Variation in the use of ECD donors by DSA
Impact on Post-LTx Outcomes
Graft survival among adult liver transplant recipients transplanted in 2007: deceased donors

77%  
87%  

Hazards ratio for 1 year graft loss = 1.7

MELD 15-20
MELD 11-14
MELD 6-10

0 0 12 24 36 48 60
Months post-transplant
Graft failure among adult liver transplant recipients: deceased donor
Impact on graft loss is still evolving and will need to be adjusted for temporal trends.
Benefit, Cost and Conflict of Interest
MELD/PELD 35+ Candidates: Rates of Death* and Transplant for Exceptions and Standard Candidates

MELD/PELD exceptions had lower death rates and lower transplant rates did standard MELD/PELD candidates.

% Died or Transplanted

- Death 30 days: Exception 4.5, Standard MELD 30.2
- Death 90 days: Exception 7.5, Standard MELD 34.2
- Transplant 30 days: Exception 40.5, Standard MELD 55.3
- Transplant 90 days: Exception 54.1, Standard MELD 60

*Includes candidates removed for too sick
There is an indisputable need for redistricting *but*.....
Summary of Concerns

• The use of legacy data may not be reflective of current practices.

• Negative effects of a proposed policy change on outcomes need to be fully considered, e.g. on posttransplant mortality and removal from waitlist due to illness.

• Neither “Share 35” nor the proposed redistricting accounts for the one item that could solve the donor shortage: improved organ donation rates. A new allocation system should preserve and enhance local accountability for Organ Procurement Organization (OPO) performance (e.g. for donations per 100 eligible deaths).
Summary of Concerns

- Reallocating livers to larger metropolitan transplant centers on the East and West Coasts has the unintended consequence of shifting resources away from rural, relatively poorer populations, and centers, thereby decreasing access for communities with high donation rates and potentially affecting the viability of smaller programs in geographically remote areas.

- Sharing for higher MELD scores should confer a survival benefit. Sharing should, in general and with few exceptions, be limited to patients with laboratory value-based MELD scores. More proximate local recipients should be favored if their MELD score is similar (e.g. differential ≤2) to a more geographically remote recipient.

- Insufficient consideration has been given to cost.
Summary of Concerns

- A new allocation policy should produce a meaningful improvement in outcomes, including waitlist mortality, posttransplant mortality, graft loss and cost.
  
  We propose that *a priori* requirements be set for projected and actual improvements (e.g. $\geq 5\%$ change in a key outcome and benchmarked against standard economic metrics, such as cost per QALY).
Reform in allocation –
Two Requests

• UNOS release data that will allow individual transplant centers to determine the effect the modeling scenario(s) will have on their volumes and potential future sustainability

• More time be allowed to not only fully understand the implications of the current “Share 35” policy but also to meaningfully address the concerns outlined above.