The Impact of Changes in OPTN Oversight of Kidney Programs on Organ Yield and Offer Acceptance Practices

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Introduction
At its October 2016 meeting, the Membership and Professional Standards Committee (MPSC) of the Organ Procurement and Transplantation Network (OPTN) approved an operational rule to reduce the perceived disincentives and risk aversion caused by MPSC review of posttransplant outcomes.

Kidney programs must meet the review criteria for all transplants and after excluding transplants of kidneys from donors with kidney donor profile index (KDPI) ≥ 85%. Kidney programs must meet the review criteria for common temporal trends across every donor with a linear effect for calendar time.

Methods
Both the kidney yield and offer acceptance analyses included deceased donors recovered between January 1, 2016, and February 28, 2018.

Kidney yield
The difference in kidney yield before and after implementation was estimated for donors with KDPI < 85% and ≥ 85%. An ordinal logistic regression was estimated for donors with KDPI ≥ 85%. The ordinal regression was adjusted for potentially important donor factors and for common temporal trends across every donor with a linear effect for calendar time.

Offer acceptance
The offer acceptance analysis estimated the probability of an offer of a deceased donor kidney being accepted. Importantly, because match run data contains no information on when discarded kidneys are no longer offered, only offers of kidneys that were eventually accepted were included. Additionally, only offers to kidney-alone or kidney-pancreas candidates were included.

Similar to kidney yield, the offer acceptance analysis adjusted for candidate, donor, and candidate-donor factors, and adjusted for common temporal trends in acceptance with a linear effect for calendar time.

Methods (Cont’d)
The difference in offer acceptance before and after implementation was estimated for three types of offers:

- KDPI < 85%.
- KDPI ≥ 85%.
- KDPI ≥ 85% and raw EPTS > 2.70

The last comparison was particularly important because it captured the acceptance of offers specifically targeted by the operational rule (i.e., raw EPTS > 80%).

Results
Table 1. Adjusted odds ratios for the difference in kidney yield after versus before implementation of the operational rule.

<table>
<thead>
<tr>
<th>Category</th>
<th>Odds Ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KDPI &lt; 85%</td>
<td>1.20 (1.04-1.38)</td>
</tr>
<tr>
<td>KDPI ≥ 85%</td>
<td>1.27 (1.06-1.53)</td>
</tr>
</tbody>
</table>

Table 2. Adjusted odds ratios for the difference in offer acceptance after versus before implementation of the operational rule.

<table>
<thead>
<tr>
<th>Type of offers</th>
<th>Odds Ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KDPI &lt; 85%</td>
<td>1.02 (0.81-1.27)</td>
</tr>
<tr>
<td>KDPI ≥ 85%</td>
<td>1.04 (0.88-1.14)</td>
</tr>
<tr>
<td>KDPI ≥ 85% and</td>
<td>0.98 (0.88-1.12)</td>
</tr>
<tr>
<td>EPTS ≥ 2.70</td>
<td></td>
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</tbody>
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Figure 1. The temporal trend in kidney yield for donors with KDPI ≥ 85%. COIIN was a separate OPTN initiative to increase the utilization of kidneys from donors with high KDPI.

Figure 2. The temporal trend in kidney yield for donors with KDPI ≥ 85%. COIIN was a separate OPTN initiative to increase the utilization of kidneys from donors with high KDPI.

Conclusion
The evidence of improved utilization after implementation of the operational rule was mixed:

- Kidney yield increased, but notable temporal trends existed for donors not targeted by the operational rule.
- Unlike donors with KDPI < 85%, kidney yield for donors with KDPI ≥ 85% was relatively flat until ~3 months prior to implementation by MPSC.
- There was no notable change in offer acceptance after implementation of the operational rule, even for offers from high-risk donors to high-risk candidates.

Further monitoring of posttransplant outcomes is critical because the possibility of improved utilization may be tolerable if posttransplant outcomes did not worsen.

References

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