



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 higher-risk donor kidneys into higher risk recipients. Specifically, kidney programs are identified only if both of the following conditions are met:

1. The program met the MPSC flagging criteria for every transplant; and
2. The program met the MPSC flagging criteria after excluding transplants of kidneys from donors with kidney donor profile index (KDPI) $\geq 85\%$ into recipients with poor estimated posttransplant survival (EPTS; $\geq 80\%$).

We evaluated the effectiveness of the operational rule in improving kidney yield and offer acceptance practices because (1) the decades-long increase in kidney discard rates is mostly attributable to changing donor characteristics, and (2) most programs are not identified by the MPSC solely due to poor outcomes with high-risk transplants.

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 $\geq 85\%$. An ordinal logistic regression estimated the differences through an interaction between donors recovered after implementation and donors with KDPI $\geq 85\%$. The ordinal regression 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 $\geq 85\%$
- KDPI $\geq 85\%$ 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 is $\sim 80\%$).

Results

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

Category	Odds ratio (95% CI)
KDPI $< 85\%$	1.20 (1.04-1.38)
KDPI $\geq 85\%$	1.27 (1.06-1.53)

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

Type of offers	Odds Ratio (95% CI)
KDPI $< 85\%$	1.02 (0.97-1.07)
KDPI $\geq 85\%$	1.04 (0.95-1.14)
KDPI $\geq 85\%$ and EPTS ≥ 2.70	0.99 (0.88-1.12)

Figure 1. The temporal trend in kidney yield for donors with KDPI $\geq 85\%$. COIIN was a separate OPTN initiative to increase the utilization of kidneys from donors with high KDPI.

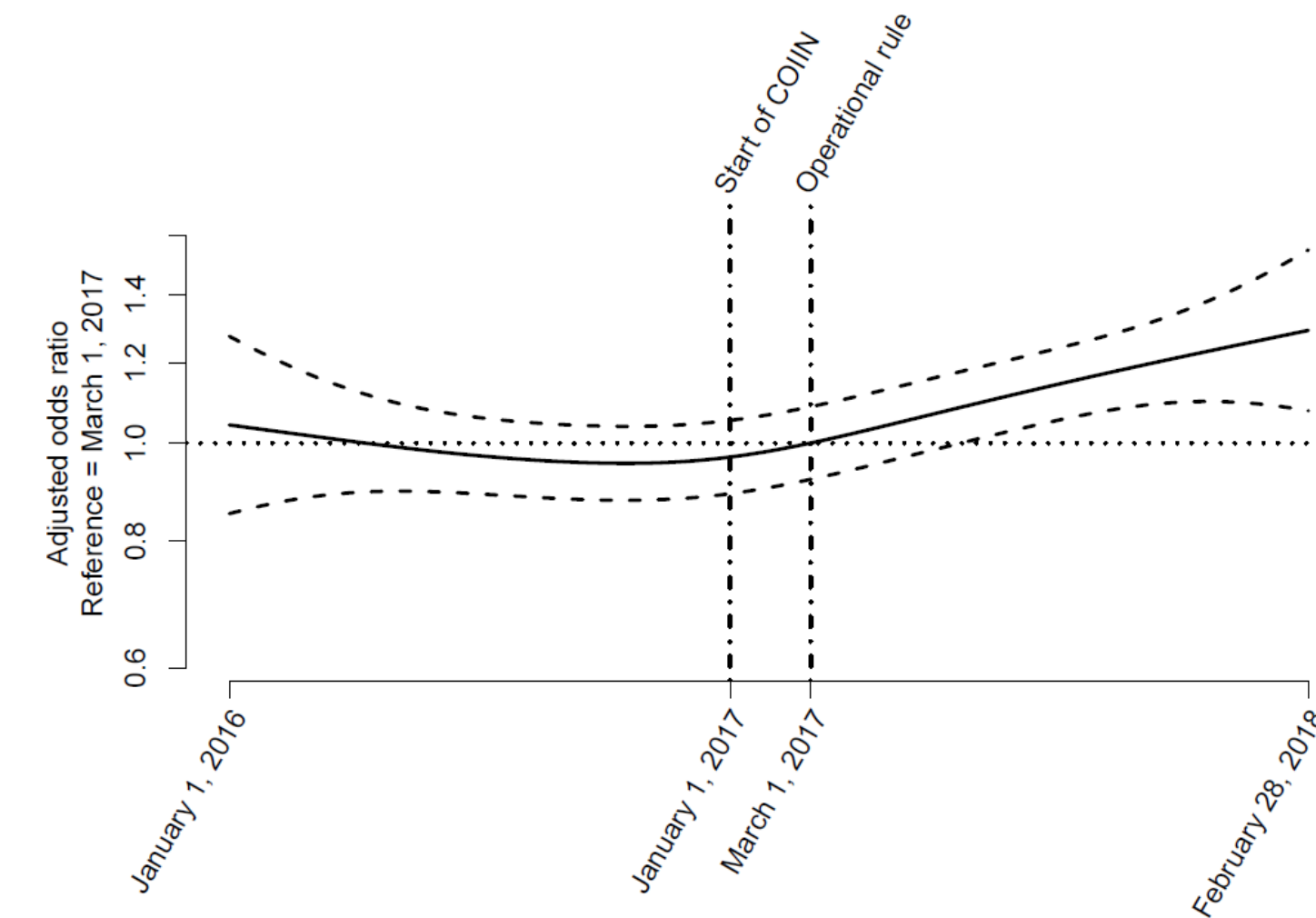
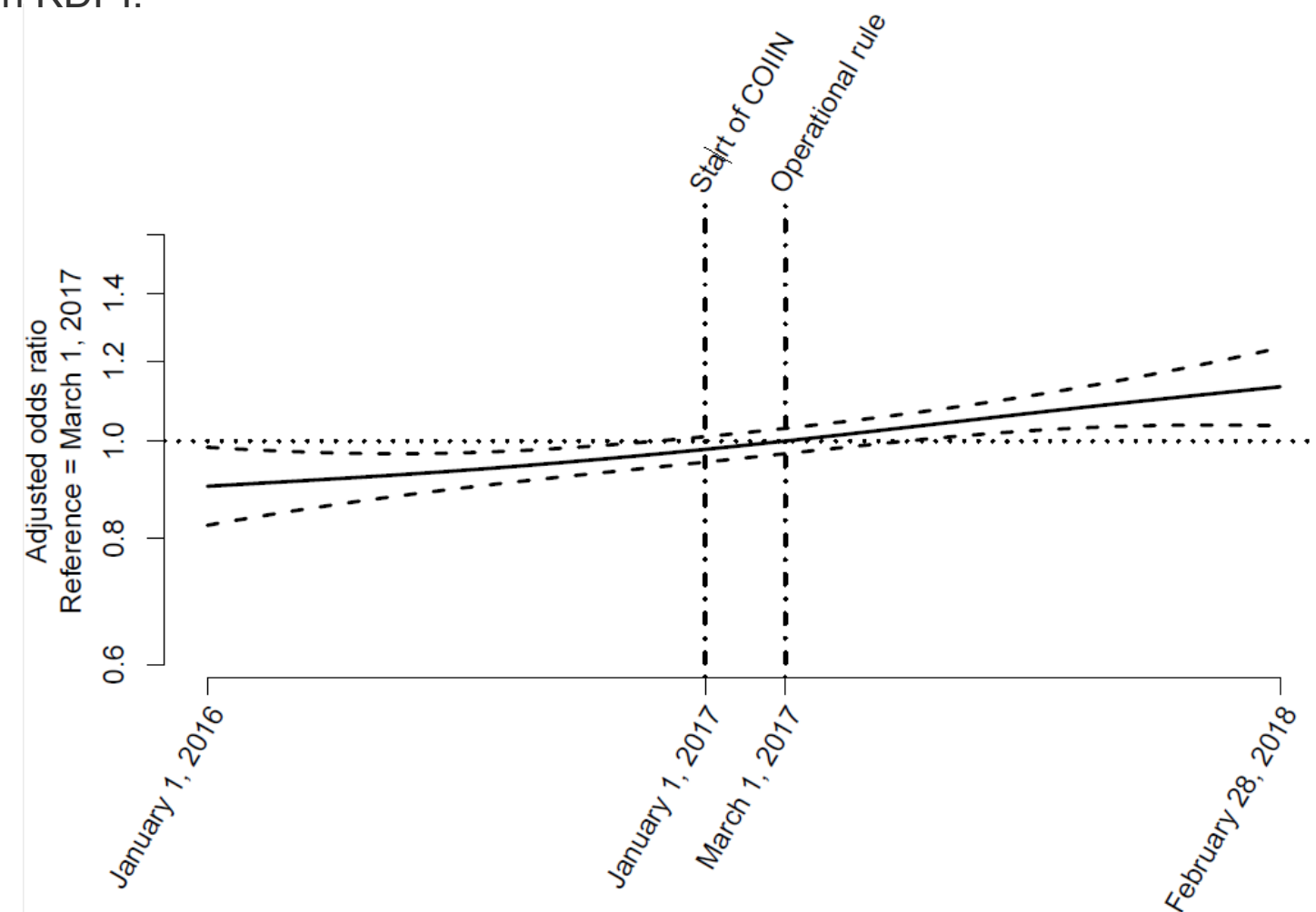


Figure 2. The temporal trend in kidney yield for donors with KDPI $< 85\%$. COIIN was a separate OPTN initiative to increase the utilization of kidneys from donors with high KDPI.



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 $\geq 85\%$ was relatively flat until ~ 3 months prior to implementation by MPSC.
- There was no notable change in offer acceptance after implementation of the operation 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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