Improving Societal Outcomes in Organ Recovery and Transplantation

Ravi Subramanian (work with Priyank Arora)
Gregory J. Owens Professor, Scheller College of Business

Health Systems – The Next Generation Forum 2023
Mismatch between Demand and Availability of Organs

Patients on the Waiting List by Organ
As of January 2023

- Kidney: 88,901
- Liver: 10,625
- Pancreas: 857
- Heart: 3,365
- Lung: 960
- Other*: 2,141

Transplants Performed by Organ
In 2022

- Kidney: 25,499
- Liver: 9,528
- Pancreas: 108
- Heart: 4,111
- Lung: 2,692
- Other*: 950

*Other includes kidney/pancreas and allograft transplants like face, hands, and abdominal wall.
Based on OPTN data as of January 30th, 2023. Totals may be less than the sums due to patients included in multiple categories.

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Supply-Side Performance
% of Eligible Donors from whom no organ is recovered

Based on data for the year 2016 published by US SRTR
Conversion of Potential to Authorized Donors

Missed referrals

Potential donors

- Hospital admission
- Referral call to OPO
- Brain Death declaration
- Family authorization

Authorized donors

Other patients

- Focus on care of living patients
- HCPs’ knowledge of/attitudes towards brain death
- Delays in referring potential donors to the OPO


Family refusals

- Resource constrained
- Communication techniques

(Shafer et al. 2003; 2004, Siminoff et al. 2009)

Operating Room (OR)

- Organ recovery is not accorded requisite priority

Objectives/Payoffs

- **OPO (non-profit)**
  - + Rate of authorized donors

- **Hospital (for-profit)**
  - +- Reimbursements (organ recovery and other procedures)
  - - Cost of in-patient waiting
  - - Disutility from organ recovery activities

- **Social Planner**
  - Quality-adjusted life-years (QALYs) for all receiving care
In practice, hospitals do not bear financial penalties for adverse organ recovery/transplantation performance outcomes.

- Limited ways for OPOs to enforce operational actions by hospitals

Socially optimal contracts can be designed that

- Directly specify the OPO’s and hospital’s levels of effort and hospital's priority for organ recovery, or
- Alter the objectives of the OPO and/or the hospital
THANK YOU

(Ravi.Subramanian@scheller.gatech.edu)