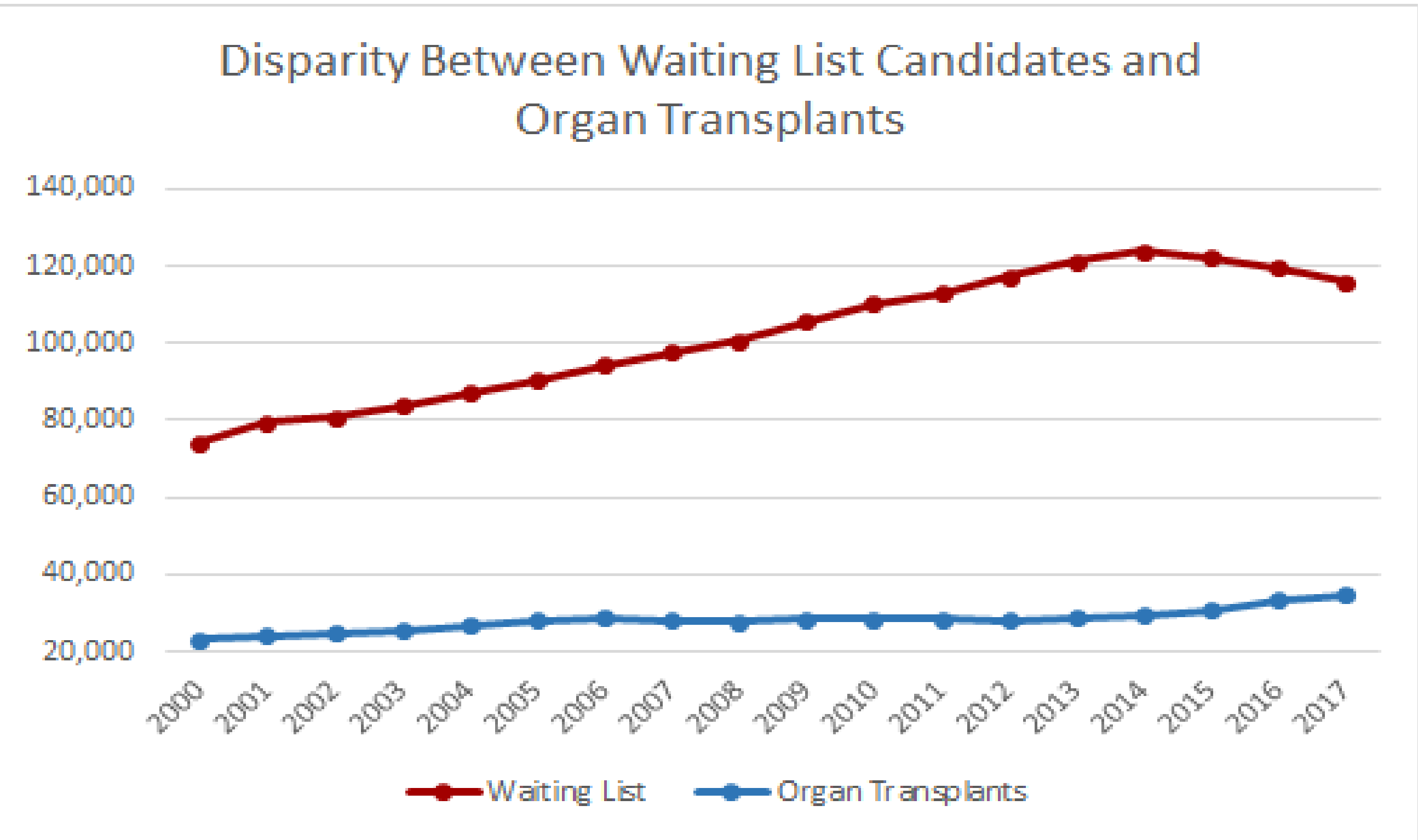


Using Supply Chain Management Principles to Improve the Organ Donation Process

by Salman Farooqui, Dr. Elizabeth Anderson-Fletcher, faculty mentor

Introduction & Background

- Disparity between number of people on the United Network of Organ Sharing (UNOS) transplant waiting list and the supply of organs available for transplant is still very large
- 114,443 people on the organ waiting list (as of 8/13/2018) with about 1 person added every 10 minutes



- ~20 waiting-list candidates die per day, but supply-demand gap is being lessened because of expanded-criteria donors, immunosuppressant drugs, etc.
- Significant research has been done on the demand aspect (i.e. organ allocation) of the Organ Donation Process (ODP), but not much research has been done on supply-side aspects
 - Special focus on supply-side, operational entities – the *Organ Procurement Organization (OPO)* and the *Hospital*
- Viewing the ODP as a supply chain allows the involved organizations to pinpoint operational errors or areas that can be improved to optimize organ donation rates

Fast Facts

Organs are not recovered from over 25% of potential donors because of rule-outs or presumed futility (Arora, 2016)

Up to 8 organs can be recovered per donor, but the average number of organs recovered and transplanted per donor is about 2.11



The U.S. has a donor rate of 26 donors per million people

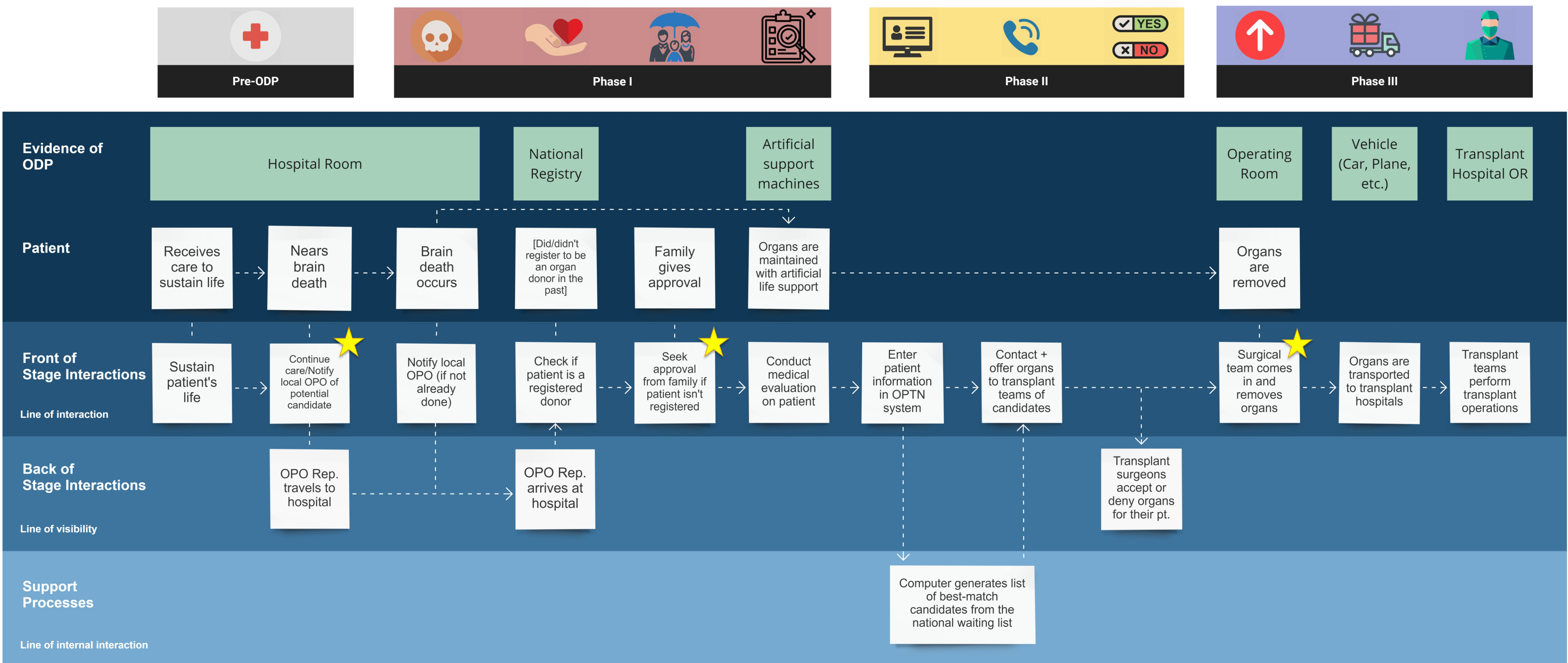
Resource constraints include financial limitations for the OPO and OR capacity for the Hospital

Only 3 in every 1,000 people die in such a way that organs can be recovered

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- Chief Sean Conley, EMS Director, Atascocita Fire Department
- Shannon Cook, Liver Transplant Coordinator

Service Blueprint of Organ Donation Supply Chain

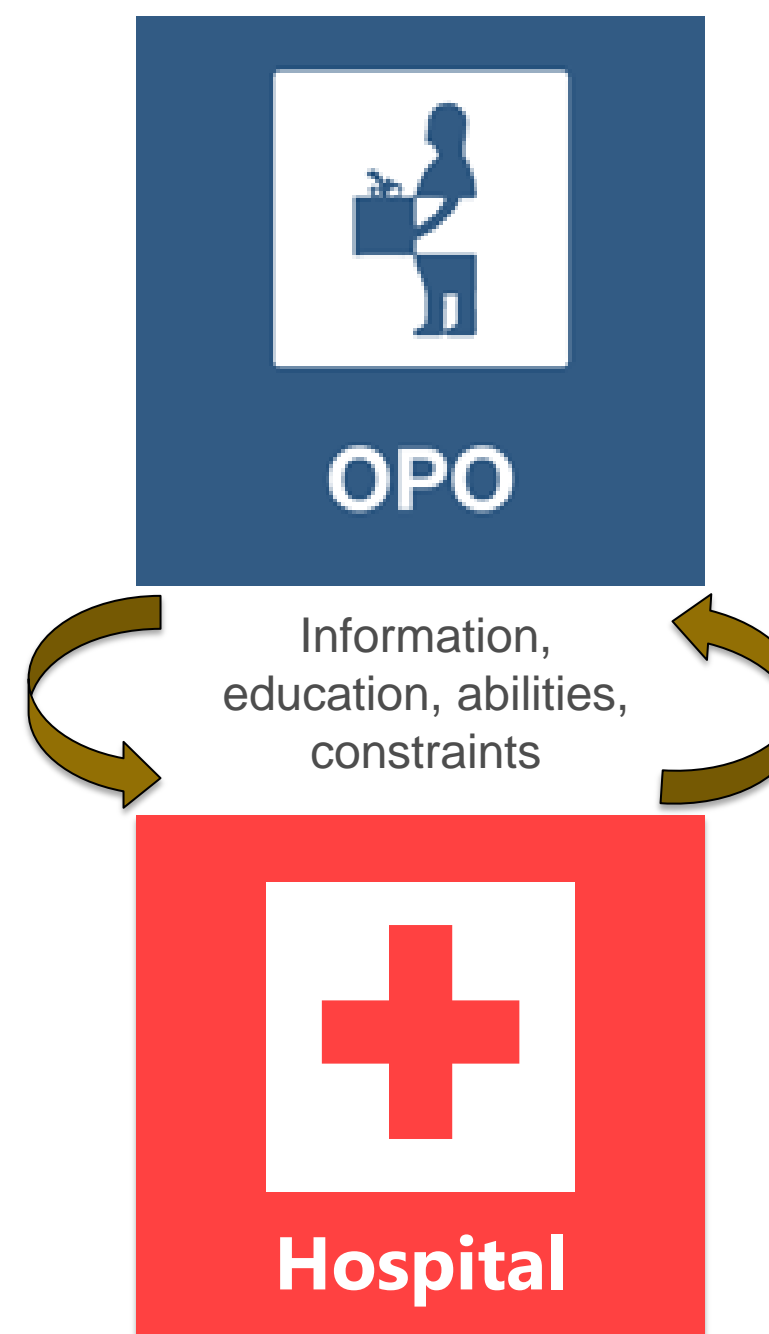


This figure maps out the ODP, including the different parties involved as well as the actions they carry out in order to ultimately deliver organs to recipients in transplant hospitals. Yellow stars indicate specific areas that can be improved.

- OPO and Hospital are at odds: OPO is nonprofit and financially constrained while focusing only on organ donation. Hospital is multifaceted, focusing on many other objectives (some being more profitable than organ donation)
- OPO-Hospital relationship needs improvement; OPO workers viewed as “outsiders”, “vultures”, etc.
- Many organs that are discarded *can* be transplanted – efforts are withdrawn because of incorrect presumed futility
- Hospital workers not completely educated on proper timeliness to make referrals to OPO
- In line with OD Breakthrough Collaborative, look at data (referral rate, conversion rate, denials) to push more aggressive donor management

Conclusion

The Organ Donation Process (ODP) is well established and clearly works, but the supply-demand gap for organs continues to be an issue since about 20 people a day die while waiting for an organ. Viewing the process as a supply chain, there are two main operational adjustments that could optimize organ donation rates: **(1) improve the relationship between the OPO and the Hospital through aligning interests, discussing each other's needs and constraints, and placing an OPO Representative in high-potential hospitals;** and **(2) implement clear and consistent policies, procedures, and educational standards for organ donation so that hospital workers make more timely referrals and discuss the process with patients' families.** Successful supply chains are those in which partner organizations work effectively together and share information. The next step would be for OPOs and Hospitals to form collaboratives in which they work on analyzing data (i.e. referral rates and conversion rates), creating a contract that addresses their abilities and capacities, and developing a way to constantly educate hospital workers on how to improve organ donation management.



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