



5 ways to improve the U.S. organ donation and transplant system

A collaborative reform package

The U.S. has the highest performing donation and transplant system in the world. But as good as it is, it needs to get even better to support the more than 100,000 patients on the waitlist. Based on the input of experts in our field, UNOS is proposing a five-part package of reforms to drive improvements to save even more lives.

December 5, 2020

Overview



During a time of unprecedented challenges for the U.S. health care system, the American organ donation and transplant community has continued to save lives. U.S. patients have received 1,100 more deceased donor transplants through Nov. 30, 2020, than at the same point in 2019. The challenges have been many: diversion of transplant staff to care for COVID-19 patients, inconsistent availability of personal protective equipment, limited coronavirus testing availability, inability to transplant organs from potential donors who tested positive for COVID-19, and various logistical obstacles across the nation. Even in the midst of a pandemic, United Network for Organ Sharing (UNOS), organ procurement organizations (OPOs) and transplant hospitals have maintained one of the world's best organ donation and transplant systems.

The system's success reflects its commitment to continuous improvement, which has driven 10 consecutive years of increases in the number of deceased-donor transplants performed. Thanks to the efforts of the national transplant network, 26% more transplants are performed today than five years ago.

But there is more work to do. More than 100,000 people are waiting for a transplant. Every day, they count on the organ donation and transplant community to do everything it can to strengthen the system and ensure that patients have equitable access to lifesaving organs.

At UNOS, we are working alongside other members of the U.S. transplant system—including OPOs, donor hospitals, and transplant hospitals—and the federal government to advance our shared goal of affirmative reforms and promote an ongoing increase in organ donation and transplants in the U.S.

To that end, we have proposed a five-part package of reforms. Some are within UNOS' authority as the Organ Procurement and Transplantation Network (OPTN), while others must be led by federal agencies. These reforms would build upon our success as one of the leading systems in the world, and save even more lives than ever before.

1. Automate real-time donor referral
2. Establish better metrics for OPOs and transplant centers
3. Improve the process of getting the right organ to the right patient at the right time
4. Remove disincentives to using older and more complex donors when appropriate
5. Enable organ procurement organizations to merge or share services

Automate real-time donor referral



Issue

Identifying potential organ donors is a vital step to maximizing the efficiency of the U.S. organ donation and transplant system and ensuring as many organs as possible get to those who need them. **Deceased donor organs can only come from people who have passed away in a hospital while on a ventilator or shortly after withdrawal of mechanical support.** The timing of referrals to OPOs is critical to ensure viability of organs from a potential donor for transplantation. Donor hospitals routinely report imminent deaths to OPOs for people who meet broad criteria for deceased donation, but the timelines vary from hospital to hospital and the demands of patient care can cause unintended delays.

Also, the screening process to determine donor potential and gain authorization for actual donors is resource-intensive for donor hospitals and OPOs. **Donors must be carefully screened to minimize risk of donor-transmitted illness and each organ must be screened to ensure the likelihood of long-term function if transplanted.** OPOs, often reflecting the preferences of transplant programs they serve, have different methods and standards for identifying potential donors. In turn this leads to inconsistencies in the identification process and **subjective differences** in calculating the number of potential deceased donors. Without a streamlined and clinically relevant process in place to identify potential organ donors, and a national standard for referral data elements, some lives that could be saved may not be.

Solution

Automated donor referrals remove much of the variation in timeliness and the subjective element of identifying potential organ donors. They also lift the burden of reporting that falls on donor hospital staff, allowing them to concentrate more on patient care, instead of administrative requirements. Such automated processes use hospital electronic medical records systems to flag potential candidates for donation

and send an automatic message to the collaborating OPO, which dispatches a team to assess and recover the organ. Multiple OPOs have successfully piloted the use of automated donor referral systems.

Some observers say universal application of automating donor referrals would be too costly, but UNOS believes costs are minimal because the technical requirements are relatively simple and can be duplicated across the major hospital electronic health record systems. After nearly \$30 billion in federal subsidies has been dedicated to electronic medical record development, it would seem wise to leverage that investment and technology through the regulatory system into as many opportunities as possible. We also believe the number of additional lives saved and long-term medical expenses eliminated by organ donation would be worth the cost.

Action

UNOS will continue leading collaborative work underway now with OPOs and transplant hospitals to establish a national standard for donor referral data. The Centers for Medicare and Medicaid Services should then require all donor hospitals to establish automatic electronic donor referral systems to comply with the existing regulatory requirement to refer all inpatient deaths to the OPO in a timely fashion—or provide strong incentives to do so.

Benefits of automated donor referral

- Accelerates the timeline of organ screening, procurement, and transplantation.
- Increases the validity of potential donor data and boosts our ability to analyze OPO performance and improve it.
- Shifts the burden of identifying and reporting potential organ donors away from hospital staff, allowing them to concentrate more on patient care.
- Maximizes the efficiency of the entire system and ensures as many organs as possible get to patients who need them most.

Establish better metrics for OPOs and transplant hospitals



Issue

Holding OPOs and transplant hospitals accountable for their performance, and helping them to improve and save more lives, requires consistent, reliable and timely metrics.

To accurately measure OPO performance, we need consistent data collection practices that provide the level of clinical detail required to determine donor suitability, such as information about whether the patient died on a ventilator, the potential donor-transmitted disease risk and details of medical treatment provided shortly before death.

Solution

Automated donor referrals would provide an improved and timely data source as well as the opportunity to better understand donor potential. They would be based on clearly established criteria for the completeness of information and the clinical thresholds established by the OPO to report potential donors. This hospital-reported, patient-level data could be used to calculate a clear metric suitable to assess and improve OPO performance. Transmitted independently and directly from the donor hospitals' electronic medical records, this data should provide sufficient clinical detail to assess if the conditions of a death were consistent with the potential for organ donation. Other stakeholders also have recommended calculating a performance metric using this more accurate data.

Action

CMS has regulatory oversight over OPOs. CMS should require or encourage all donor hospitals to provide directly reported ventilated death data from hospitals' electronic medical records, a highly accurate source of data for calculating donor potential. Further, OPOs and transplant programs should be evaluated on a dashboard of metrics that reflects multiple aspects of performance and allows us to identify performance improvement opportunities.

Did you know?

- Only 1% of people die in a way that makes them medically eligible to donate their organs.
- In order to donate, patients must die while on a ventilator and meet stringent criteria to prevent possible donor-disease transmission.

Benefits of improved metrics

- Boosts the ability to hold OPOs and transplant hospitals accountable for their performance.
- Strengthens the capacity of UNOS and CMS to drive performance improvement throughout the entire transplant system.
- Focuses on independently collected, reliable data to identify improvement opportunities across all aspects of the system.

Improve the process of getting the right organ to the right patient at the right time



Issue

Available organs sometimes go unused because the unique medical circumstances of the donor limit the number of candidates who could benefit from the organ. The matching system can be made more efficient by directing such organs in a timely way to transplant programs most willing to accept them.

UNOS is developing and implementing a number of innovative projects to increase the efficiency of organ placement, often for organs that may otherwise go unused under the traditional matching system. In these efforts, UNOS draws from data gained from more than 30 years of serving as the OPTN and partnerships with OPOs, transplant hospitals, and leaders in technology, research and science nationwide. Recent and current initiatives include:

- **Creating the first national donor image sharing hub:** UNOS is implementing, in a phased fashion, the first national hub for securely sharing high-quality medical imaging studies. Incorporating quick access to high-quality radiological images into organ offers has the potential to decrease the number of organs that are not used and increase the number of transplants overall.
- **Using organ acceptance data to improve the decision-making process:** UNOS has piloted a project to promote efficiency in donation and transplant by providing transplant programs the ability to set more **sophisticated screening criteria** for offers they will accept. Utilizing these filters reduces unwanted offers, decreases cold ischemic time, and increases organ acceptance, especially of hard to place organs.
- **Deploying natural language processing to increase kidney utilization:** A study led by UNOS researcher investigates how this innovative methodology may predict which deceased donor kidneys will experience placement difficulties and **forecast which will be accepted by transplant hospitals**, and paves the way for improving organ utilization rates.
- **Simulating organ acceptance to increase the number of transplants:** Our powerful simulation platform, SimUNet™, allows researchers to analyze a variety of factors involved in the organ acceptance process, acting as a testing ground for **understanding and improving behaviors**.

- **Predicting organ travel time:** To decrease the nationwide organ discard rate, UNOS researchers are involved in a project to better predict organ travel time. Our team is conducting real-time data analysis to refine a feasibility algorithm aimed at **predicting the optimal route for organ transplantation**.
- **Understanding the role of biopsies on organ transplant outcomes:** UNOS is partnering with university researchers on a study that aims to reduce the national kidney discard rate by **clarifying associations** between kidney-specific prognostic markers and long-term, post-transplant outcomes.
- **Visualizing and evaluating organ acceptance and refusal:** Our interactive tool allows transplant centers to review their own organ acceptance rates for specific types of donors, along with transplant-specific and aggregate outcomes information on the organs they refused that were transplanted elsewhere. Centers use the information to **analyze and improve their clinical decision-making processes** with the goal of increasing transplants.
- **Providing OPOs quality improvement tools:** UNOS makes available benchmark reports for OPOs that allow them to compare their own organ offer placement attempts to their peers and **determine how their processes affect their ability to recover and place organs**.

Solution

By adopting policies and practices that streamline organ offers and acceptance, the organ donation and transplant field can improve the matching system and eliminate speedbumps that can keep the organ procurement system from working as efficiently as possible.

Action

UNOS will increase its efforts to implement innovative technology solutions that aim to increase organ utilization and system efficiency.

Benefits of streamlined organ offers and acceptance

- Increased utilization of lifesaving organs.
- Reduction in unwanted organ offers.
- Improved patient outcomes.

Remove disincentives to using older and more complex donors when appropriate



Issue

America has the highest performing organ donation and transplant system in the world. We have more organ donors and more annual transplants, and we save more lives through organ donation than any other country. Still, there are ways to increase the number of transplants and help even more people. One key step toward increasing organ transplantation is to use organs from older donors, whose organs are often rejected by transplant hospitals because they are more complex to work with. For some transplant patients, especially those who are older themselves, organs from older donors are a good choice. Though receiving an older donor's organ can create more expensive post-transplant care than getting a younger donor's organ, it is, in many cases, less costly than dealing with a chronic condition. For example, 62% of kidneys with medical characteristics that transplant hospitals commonly reject and discard are used in France.

Solution

Evaluate transplant hospitals based on their use of organs from older and more complex donors and eliminate monitoring and financial disincentives for using these organs.

Action

UNOS will review transplant hospital outcome metrics and ensure that risk factors associated with complex donor organs and recipients are accounted for.

CMS, which uses risk adjustment in evaluating transplant hospital performance, should also use statistical risk assessment to align payments to hospitals with the complexity of the organs they choose to transplant. Some donor organs and some recipients can be expected to require longer hospital stays or additional care. Payment formulas should remove disincentives for taking on additional predictable expense. A leadership role in this approach by CMS might also help encourage private payers to consider doing the same.

Benefits of using complex organs

- Increases the pool of available organs.
- Ensures more people can receive the lifesaving transplants they need and more donor families can give the gift of life.
- Reduces obstacles and waiting times for a transplant.

Enable OPOs to merge or share services to boost their ability to serve hospitals and patients



Issue

For nearly a decade, the number of organ donations and transplants in the U.S. has grown year over year, making our system the best in the world. The increase in donations and transplants has been driven by a number of factors, most importantly expanding the view of who is a potential donor and increasing the use of organs after circulatory death, as opposed to brain death, as well as organs from older donors. But the use of these strategies continues to vary greatly across regions of the country. More can be done to improve performance by OPOs and transplant programs so that organs that could save a life do not go unused. With more than 100,000 people on the organ donation waitlist, the system as a whole must continue to improve.

Solution

Provide regulatory mechanisms for OPOs to more easily merge, or pool, services to ensure continuous improvement, uninterrupted services, and equitable access to transplants across the nation.

Action

CMS should create an expedited process for reviewing and approving a change in ownership for currently certified OPOs. CMS should also remove barriers to sharing resources. Additionally, it should provide incentives for OPOs to merge by extending an OPO's certification cycle if its performance in the newly merged service area of a formerly lower performing OPO improves by a certain percentage in the first two years after enactment of the new regulation.

Benefits of OPOs merging or sharing services

- Prevent disruptions to transplant services.
- Reduce business inefficiencies and strengthen existing resources and services.
- Support OPOs in need of assistance and improve performance of the system overall.

Learn more about how the national organ donation and transplant system works on unos.org