Understanding the Drug Overdose Epidemic's Effect on Organ Donation

The epidemic explains a significant portion of the rise in deceased organ donation, but accounts for less than half of the increase

The national organ donation and transplant system remains focused on better understanding the impact of the drug overdose epidemic on organ donation and transplantation. While the reach of the nationwide, decades-long problem is well-beyond this community, UNOS is duty-bound to ensure the safe, efficient, and respectful donation and transplantation of donor organs continues and improves, regardless of the way a potential donor has lost his or her life. It has been reported that the increase in the number of deceased donors is entirely or largely due to the overdose epidemic; however, a recent analysis suggests that overdose deaths account for less than half of the increase.

It is important to be mindful that: (1) the data collected about deceased donors during the evaluation for potential organ donation has always been specifically tailored to the types of information needed to support organ matching and allocation; therefore, it is not designed to capture nuanced details about causes of death in ways that would support robust analysis of drug overdose deaths themselves; (2) misclassification of donor cause of death could be occurring, given that complete information about cause and manner of death may not be available even at the time of death, particularly for deaths due to injuries, such as overdoses, that often require additional medico-legal investigation to document; and (3) the exact number of donors who died as a result of an overdose has been the subject of recent debate in clinical transplant literature.

Overdose deaths are a factor in increased deceased organ donation

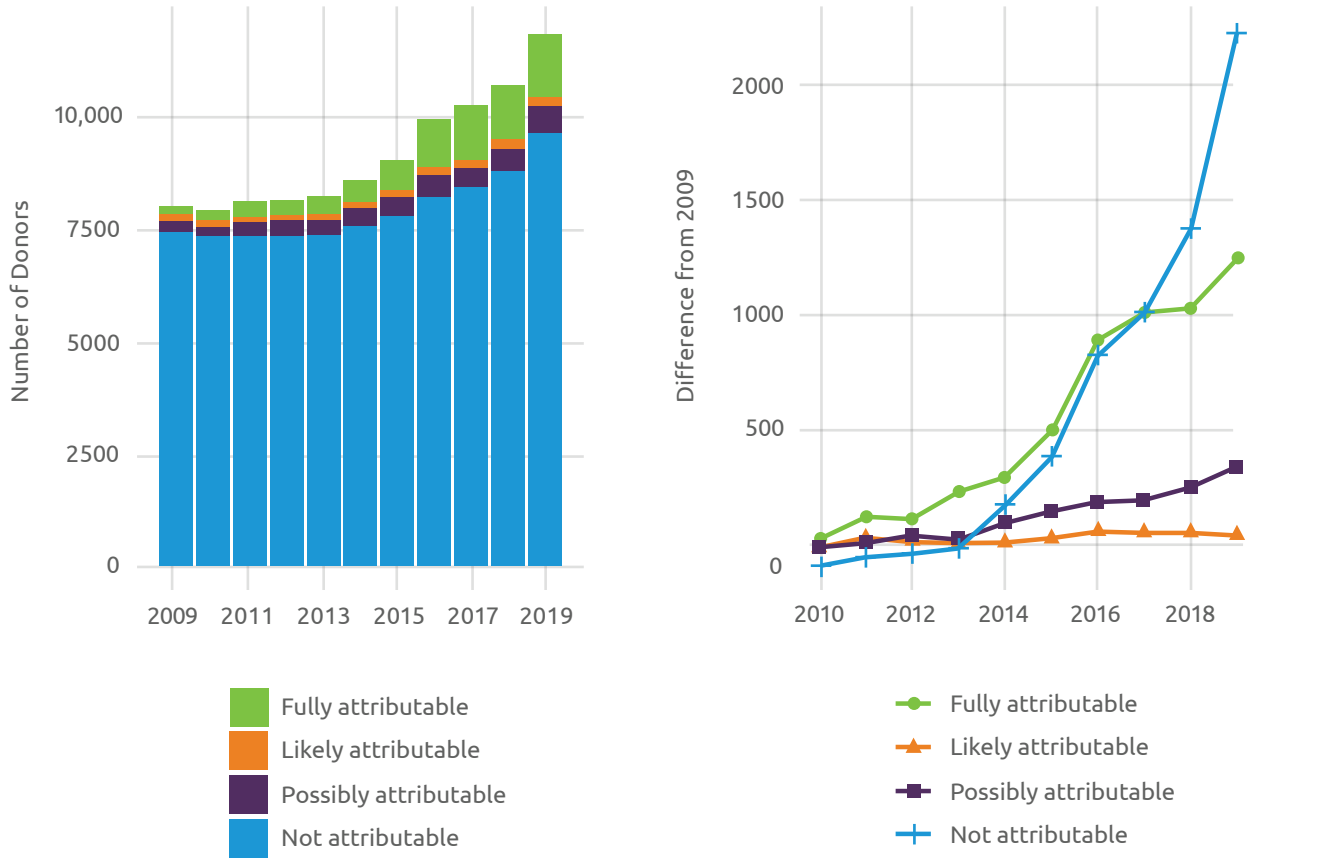
According to an epidemiologic analysis[1] of transplant registry data conducted by UNOS researchers, the overdose epidemic can explain a significant portion of the decade-long rise in deceased organ donation; although, overdose deaths still account for less than half of the increase. UNOS researchers found that while overdose deaths have played a role in increased organ donation, they were not the only factor. In fact, in recent years, deaths due to injuries other than overdoses, such as motor vehicle traffic deaths and other accidents homicide and suicide also contributed to increased donation.

[1] Zehner, Anne M., Estimating the drug overdose epidemic's impact on organ donation in the United States: An epidemiologic analysis of transplant registry data, 2021, https://apha.confex.com/apha/2021/meetingapp.cgi/Paper/496592

UNOS examined cause, mechanism and circumstance of death; history of cocaine use; other illicit, non-intravenous drug use; and intravenous drug use, as reported to the Organ Procurement and Transplantation Network (OPTN), to classify deceased donors in the U.S. between 2009 and 2019 as fully, likely, possibly, or not attributable to overdose.

- UNOS researchers estimated that 86.6 percent of donor deaths in this period were fully not attributable to overdoses, while 13.4 percent were fully (7.6 percent), likely (1.6 percent) or possibly (4.2 percent) attributable.
- Increases in all four categories of donors occurred during this period. Less than half (42.2 percent) of the increase in donors since 2009 was among deaths fully, likely or possibly attributable to overdose, with the remainder of the increase (more than half) due to deaths that were estimated to be not attributable to overdose.
- Those with at least some attribution were whiter, younger, more likely to have Hepatitis C Virus Infection (HCV), had fewer comorbidities and were more likely to be designated PHS increased risk.
- The OPTN does not collect comprehensive data on donor cause and manner of death, so all numbers published to date on the contribution of overdose deaths to increases in deceased donation are estimates, not a firm set of facts.

Annual number of deceased donors by drug overdose attribution estimate class (left panel) and annual change from 2009 in number of deceased donors by drug overdose attribution estimate class (right panel)



CDC and OPTN policies evolved to improve screening and use of donor organs

The federal government and OPTN policies have evolved to improve the ability to transplant organs from a broader set of deceased donors than in prior decades. For example, Centers for Disease Control and Prevention (CDC) guidelines and OPTN policies have evolved to improve screening of donor organs for viruses, including HCV, which often co-occurs with injection drug use, and reflect the availability of a cure for this virus that became available in 2013 in the U.S. In June 2020, the U.S. Public Health Service (PHS) published a new guideline, ***Assessing Solid Organ Donors and Monitoring Transplant Recipients for Human Immunodeficiency Virus, Hepatitis B Virus, and Hepatitis C Virus Infection.***[2] It refined criteria for determining if a deceased or living donor has risk for acute human immunodeficiency virus (HIV), hepatitis B virus (HBV), and HCV. The guideline reflects improvements in screening of organs for these viruses as well as the availability of newer, effective treatments for infection.

The OPTN developed and approved policies for organ procurement organizations (OPOs) and transplant hospitals based on this 2020 guideline.[3] The policies aim to balance the goals of limiting disease transmissions while also increasing the opportunities for end-stage organ failure patients to receive a transplant. Under these policies, OPOs were required to revise their screening questions to assess donor risk criteria. Transplant hospitals, also functioning under these policies, were required to inform transplant candidates that risk criteria are present and test recipients for HIV, HBV, and HCV infections after transplantation and should transmission occur, make effective therapies available.

UNOS' role as the OPTN contractor is to ensure the best use of available organs

UNOS' responsibility, as the OPTN contractor, in managing the organ donation and transplant system is to ensure the best use of available organs, no matter how tragic a donor's death. While a particular societal concern such as drug overdoses may increase the overall number of potential donors, regardless of the manner in which a donor dies, professionals will come together to engage and support a donor's family. They will obtain appropriate authorizations, place the organs for transplant, transport the recovery teams and donated organs to the transplant hospital, transplant the organ into the patient, and help manage the recipient's post-transplant care. None of those critical steps are avoided or augmented based on the donor's cause of death. The entire transplant community has worked together to respond to the increase in drug-related overdose deaths and aims to provide a measure of comfort to all grieving donor families, who often see the donation of their loved one's organs as their final, selfless act.

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[2] Jones JM, Kracalik I, Levi ME, et al. Assessing Solid Organ Donors and Monitoring Transplant Recipients for Human Immunodeficiency Virus, Hepatitis B Virus, and Hepatitis C Virus Infection — U.S. Public Health Service Guideline, 2020. MMWR Recomm Rep 2020;69(No. RR-4):1–16. DOI: http://dx.doi.org/10.15585/mmwr.rr6904a1

[3] New OPTN policies to align with updated U.S. Public Health Service Guideline, Jan. 20, 2021, https://unos.org/news/policy-changes/new-optn-policies-to-align-with-updated-u-s-public-health-service-guideline/