



Lifesaving CAR T and transplant trends

Significant trends driving unprecedented levels of transplants and medical spend for payers



1. The COVID-19 pandemic

COVID-19 has put significant strain on health care professionals overwhelmed by high infection rates. As a result, many people postponed or deferred care deemed “nonessential” or avoided receiving necessary care altogether.

As overwhelmed health care systems struggled with the COVID-19 pandemic, patients in need of transplants, such as living kidney and bone marrow transplants, often deferred care. The number of solid organ transplantations decreased by about 30% between 2019 and 2020.¹

The postponing and deferral of transplant care created a bottleneck that has increased demand in the last year. Many people who deferred care in 2020 are now seeking transplant procedures. The 40,000 transplants performed in 2021 represent a 6% increase from the prior year.²

The direct effect of a COVID-19 infection on the lungs has also caused an increase in the need for lung transplants. About 7% of all lung transplants performed in the U.S. between 2020 and 2021 were done to treat severe lung damage caused by COVID-19.³ On average, these lung transplants can cost about \$1.3 million.

Long COVID-19 may also have an impact on rising transplant rates, though it's too early to determine exactly how much.

2. New developments in CAR T-cell cancer therapy

Chimeric antigen receptor (CAR) T-cell therapies treat cancer by removal, modification and transplantation of a patient's T-cells. The use of this treatment has increased for several reasons:

- CAR T-cell therapies are now available for more types of cancers. Previously, only those with leukemias and lymphomas received it. Now patients with multiple myelomas can also access this treatment.



7%

of lung transplants now are COVID driven, costing ~\$1.3M



\$1.5M

average cost for CAR T treatments, rapidly growing



- The Food and Drug Administration (FDA) has approved CAR T-cell therapies more quickly over the last several years, making more options available.
- Over 20 treatments are in clinical trials for different conditions. These treatments are expected to reach the market in the next few years and offer new options for a range of patients.
- About one in every 100,000 care plan members will pursue a CAR T-cell treatment.

The increase in CAR T-cell therapy availability, patient interest and the therapy's more frequent use as a first- or second-line cancer treatment has led to average billed costs of \$1.5 million or more.

3. The opioid epidemic

Deaths due to opioid overdoses have surged in recent years. Over the past two decades, over 800,000 people have died from drug overdoses, primarily from opioids. The increase in overdose deaths has led to an increase in organ donation. Specifically, organs donated from a deceased donor following a drug overdose accounted for about 13% of all organs donated in 2017 or almost one in six. This is a significant rise from 2000, when organs donated by people dying of overdoses were only about 1% of all organ donors.⁴

The increased availability of organs from deceased donors may help alleviate wait time, increasing the number of transplants performed.

4. End-stage renal disease patient eligibility for Medicare Advantage plans

Changes in the Cures Act in January 2021 allowed for end-stage renal disease (ESRD) patients to enroll in a Medicare Advantage plan. These changes allowed almost 400,000 previously ineligible ESRD patients to receive coverage from a Medicare Advantage plan.⁵

Kidney transplants are among the most common type of transplant procedure, especially for ESRD patients. Since 2021, transplant referrals have increased significantly for Medicare Advantage plans. Some plans have seen a nearly 20% increase in kidney transplant referrals.

Medicare is now covering organ acquisition costs for any kidney transplant members with a Medicare Advantage plan, shifting more of the cost to the Centers for Medicare and Medicaid.



1 in 6

donors from opioid overdose



20%

increase in kidney transplant referrals for MA plans

5. Transplant Spend

Organ transplants in the U.S. has grown. Organ transplants can be lifesaving treatments for people with conditions such as liver or kidney failure. However, they are exceptionally costly care options. Transplant costs range from \$500,000 to more than \$1 million, with an average cost of about \$743,000. However, costs vary widely depending on the type of transplant and where, geographically, the transplant is being performed,⁶ leading to unpredictable costs.

Meanwhile, the number of transplant procedures and available donor organs is increasing. Over 40,000 transplants were performed in 2021,⁷ while about 106,000 people were on a waiting list for a transplant.



>100K

people awaiting a
lifesaving transplant

As lifesaving transplants continue to increase, having support in place is essential. By working with the right program, members can get the care they need, resulting in better health outcomes and managed costs.

Find out how [Optum Transplant Solutions](#) can help.

1. Healio. New data show organ transplants fell by 31% worldwide during COVID-19 pandemic. [healio.com/news/nephrology/20210908/new-data-show-organ-transplants-fell-by-31-worldwide-during-covid19-pandemic](https://www.healio.com/news/nephrology/20210908/new-data-show-organ-transplants-fell-by-31-worldwide-during-covid19-pandemic). September 8, 2021. Accessed August 9, 2022.
2. Axios. Transplants rebound from COVID lull. [axios.com/2022/01/18/transplants-2021-covid-vaccines](https://www.axios.com/2022/01/18/transplants-2021-covid-vaccines). January 18, 2022. Accessed August 9, 2022.
3. Cedars Sinai. NEJM: new data on COVID-19 lung transplants. [cedars-sinai.org/newsroom/nejm-new-data-on-covid-19-lung-transplants/](https://www.cedars-sinai.org/newsroom/nejm-new-data-on-covid-19-lung-transplants/). January 26, 2022. Accessed August 9, 2022.
4. Owens B. Organ donations from overdose deaths on the rise but stigma remains. Canadian Medical Association. 2018;190(22): E698-E699.
5. AHIP. Medicare Advantage and the Cures Act: Scaling to meet rising ESRD enrollment. [ahip.org/webinars/medicare-advantage-and-the-cures-act-scaling-to-meet-rising-esrd-enrollment](https://www.ahip.org/webinars/medicare-advantage-and-the-cures-act-scaling-to-meet-rising-esrd-enrollment). October 26, 2021. Accessed August 9, 2022.
6. Milliman. 2020 U.S. organ and tissue transplants: Cost estimates, discussion, and emerging issues. [milliman.com/-/media/milliman/pdfs/articles/2020-us-organ-tissue-transplants.ashx](https://www.milliman.com/-/media/milliman/pdfs/articles/2020-us-organ-tissue-transplants.ashx). January 2020. Accessed August 9, 2022.
7. U.S. Department of Health and Human Services. All-time records again set in 2021 for organ transplants, organ donation from deceased donors. [optn.transplant.hrsa.gov/news/all-time-records-again-set-in-2021-for-organ-transplants-organ-donation-from-deceased-donors](https://www.optn.transplant.hrsa.gov/news/all-time-records-again-set-in-2021-for-organ-transplants-organ-donation-from-deceased-donors). January 11, 2022. Accessed August 9, 2022.

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