The Value of Transplant Centers to Hospitals and Health Care Systems

Hospitals and health care systems may help **improve patients' quality of life** with a **kidney transplant**, which is the optimal therapy for eligible patients with ESRD[1,2]

Pretransplant evaluations, waiting list management, and posttransplant care require **multidisciplinary hospital services**[3,4]

Transplantation may include these services:

(D) DONOR (R) RECIPIENT

- Organ Procurement[5] (D)
- Laboratory Testing[3,6,7] (D) (R)
- Coordinated Care[3,7] (D) (R)
- Imaging[4,6] (D) (R)

Physician Specialists[4,6,8,9] (D) (R)

- Surgeons
- Cardiologists
- Radiologists
- Pathologists
- Endocrinologists
- Nephrologists
- Psychiatrists
- Gastroenterologists

STEP 1 Initial Evaluation (D) (R)

STEP 2 Waiting List* (R) or Living Donation (D) (R)

STEP 3 Transplant (D) (R)

STEP 4 Posttransplant Care (D) (R)

Medical evaluations to determine suitability for kidney transplantation may include but are not limited to[3,6,7]

- ☑ **TESTING**
  - HIV
  - CMV
  - Epstein-Barr Virus
  - Hepatitis
  - Blood and Tissue Typing
- ☑ **EXAMINATIONS**
  - Liver
  - Heart
  - Lung
  - Kidney
  - Prostate
- ☑ **SCREENING TESTS**
  - Mammogram
  - Pap Smear
  - Colonoscopy
  - Frailty
  - Neurology
  - Stroke

Annual volume for kidney transplant centers in the top 20% (n=50)[10,†]

- Median number of **kidney transplants:** **~278**
- Percentage of the total **kidney transplant waiting list population:** **~48%**
- Median number of **patients on the kidney transplant waiting list:** **~740**

Investing in Transplant Centers May Benefit Health Care Systems in Addition to Patients



Transplant centers promote research and innovation in hospitals and health care systems[11,12]

3,155
NIH-funded publications on transplantation in 2022[13]

~$930 million
in NIH funding for transplantation research (1,942 projects) in 2022[14]

Kidney paired exchange (KPE) programs may help increase access to kidney transplant, potentially contributing to increased transplant rates at hospitals[15]

~1 in 5
living donor kidney transplants in 2022 were achieved through KPE[16]

~10% of programs performed

>50% of total KPE transplants in 2021[17]

CMV, cytomegalovirus; **ESRD**, end-stage renal disease; **NIH**, National Institutes of Health; **OPTN**, Organ Procurement and Transplantation Network.

*Waiting list includes individuals who may receive kidneys from deceased donors.[18] † OPTN data were used to calculate the median number of transplants for centers in the top 20% (50 of 249) with the most transplants performed in 2023. The median number of transplants for all centers (N=249) was 74, with a range of 0 to 503 transplants. OPTN data from 2024 were used to calculate the percentage of patients on the waiting list of the identified centers in the top 20%; there were 46,601 patients on the waiting list of the transplant centers in the top 20% and 96,797 patients on the waiting list across all transplant centers.[10]

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CMS Supports Kidney Transplantation

In October 2020, **two new kidney transplant Medicare Severity Diagnosis Related Groups (MS-DRGs)** were introduced to address the complexity of diagnosis and care for kidney transplant recipients, such as those with major complications or comorbidities (MCCs)[19,20]

	MS-DRG 650	MS-DRG 651	MS-DRG 652
MS-DRG description[21]	Kidney transplant with hemodialysis with MCC	Kidney transplant with hemodialysis without MCC	Kidney transplant
Total allowed cost (FY 2022)[21,‡]	$51,427	$42,297	$34,062
Hospital internal cost (FY 2022)[21,‡]	$38,207	$29,762	$25,886
Average ratio of total allowed cost to hospital internal cost (FY 2022)[21,‡]	1.35	1.42	1.32

Suggested Strategies for Hospitals and Health Care Systems to Support Their Transplant Centers

- Expand **living donation program**[22,23]
- Provide and promote participation in a **KPE program**[22]
- Incorporate **full-time equivalents (FTEs)** as necessary to account for **increases** in **community referrals**[24]
- Support the goals established by **Advancing American Kidney Health (AAKH)**[23]

For more information on increasing access to kidney transplantation, please scan the following QR codes

PATH TO PKT RESOURCE

MILLIMAN REPORT

and visit our kidney transplant website at **www.partnersintransplant.com/preemptive-kidney-transplant.html**

To request a meeting with a Sanofi Market Access Representative, please contact **transplant@sanofi.com**

CMS, Centers for Medicare & Medicaid Services; **FY**, fiscal year; **PKT**, preemptive kidney transplant; **QR**, quick response.

‡This report analyzed kidney transplant admissions—specifically those that listed Medicare fee-for-service as the primary payer—using inpatient claims from 2021 and 2022 CMS 100% Limited Data Set files. MS-DRG relative weights were set using the national average cost to charge ratios applied to hospital charges to estimate hospital internal costs.[21]

1. Tonelli M, et al. *Am J Transplant*. 2011;11(10):2093-2109. **2.** Axelrod DA, et al. *Am J Transplant*. 2018;18(5):1168-1176. **3.** Preparing for transplant: evaluation, finding a match, costs, and surgery. American Kidney Fund. Updated August 9, 2024. Accessed February 10, 2025. https://www.kidneyfund.org/kidney-donation-and-transplant/preparing-transplant-evaluation-finding-match-costs-and-surgery. **4.** Becoming a living donor. National Kidney Foundation. Updated March 29, 2024. Accessed February 10, 2025. https://www.kidney.org/kidney-topics/becoming-living-donor. **5.** The national organ transplant system. United Network for Organ Sharing. Accessed February 10, 2025. https://unos.org/about/national-organ-transplant-system/. **6.** Rossi AP, Cheng XS. In: Lam AQ, ed. UpToDate. Wolters Kluwer; 2024. Accessed February 10, 2025. https://www.uptodate.com/contents/kidney-transplantation-in-adults-evaluation-of-the-potential-kidney-transplant-recipient. **7.** Living donor evaluation. National Kidney Foundation. Accessed February 10, 2025. https://www.kidney.org/transplantation/living-donor-evaluation. **8.** Chadban SJ, et al. *Transplantation*. 2020;104(4)(suppl 1):S1-S103. **9.** Sjekavica I, et al. *Acta Clin Croat*. 2018;57(4):694-712. **10.** National data. Organ Procurement & Transplantation Network. Accessed February 10, 2025. https://optn.transplant.hrsa.gov/data/view-data-reports/national-data/. **11.** Transplant Research Center. Mayo Clinic. Accessed February 10, 2025. https://www.mayo.edu/research/centers-programs/transplant-research-center/overview. **12.** News release. UC Health; February 2, 2024. Accessed February 10, 2025. https://www.uchealth.com/en/media-room/press-releases/uc-health-uses-innovation-to-set-records-in-organ-transplantation. **13.** Search results. PubMed. Accessed February 10, 2025. https://pubmed.ncbi.nlm.nih.gov/?term=transplantation&filter=pubt.researchsupportnihextramural&filter=pubt.researchsupportnihintramural&filter=dates.2022%2F1%2F1-2022%2F12%2F31&sort=pubdate. **14.** National Institutes of Health. Estimates of funding for various research, condition, and disease categories (RCDC). Research Portfolio Online Reporting Tools. May 14, 2024. Accessed February 10, 2025. https://report.nih.gov/funding/categorical-spending#/. **15.** Rancourt K. Why paired kidney exchange is the best option for living kidney donation. National Kidney Registry. Accessed February 10, 2025. https://www.kidneyregistry.org/for-donors/kidney-donation-blog/why-paired-kidney-exchange-is-the-best-option-for-living-kidney-donation/. **16.** Lentine KL, et al. *Am J Transplant*. 2024;24(2)(suppl 1):S19-S118. **17.** Garg N, et al. *Am J Transplant*. 2024;24(1):46-56. **18.** Transplant from a donor who has died. United Network for Organ Sharing. Accessed February 10, 2025. https://transplantliving.org/kidney/the-kidney-transplant-waitlist. **19.** Zavala E, et al. *Am J Transplant*. 2022;22(suppl 3):589. American Transplant Congress 2022 abstract 591. **20.** Schwantes IR, et al. *Clin Transplant*. 2021;35(1):e14068. doi:10.1111/ctr.14068. **21.** Siddiqi H, et al. Kidney transplantation admissions in the Medicare fee-for-service population. Milliman. May 23, 2024. Accessed February 10, 2025. https://edge.sitecorecloud.io/millimaninc5660-milliman6442-prod27d5-0001/media/Milliman/PDFs/2024-Articles/8-19-24_Milliman-Kidney-Transplant-LDS-Report.pdf. **22.** Ismail MS, et al. *Tex Heart Inst J*. 2019;46(1):71-72. **23.** US Department of Health and Human Services. Advancing American kidney health. Accessed February 10, 2025. https://aspe.hhs.gov/sites/default/files/private/pdf/262046/AdvancingAmericanKidneyHealth.pdf. **24.** Demasters-Reynolds S. In: Proceedings of the 28th Annual UNOS Transplant Management Forum. United Network for Organ Sharing; 2020:55-56. Abstract C3-D2. Accessed February 10, 2025. https://unos.org/wp-content/uploads/2020Category_3Abstracts.pdf.

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