

Organ Transplantation in India (2020 – 2024*)

India performed more solid-organ transplants in 2023 than in any previous year, yet demand still exceeds supply by a factor of 20–25. At least 5 lakh Indians die each year while waiting for an organ they never receive. ^[1] ^[2] ^[3]

1. Annual Transplants and Donors (Calendar-year data reported by NOTTO)

Year	Total Transplants	Living-donor Transplants	Deceased-donor Transplants	Living Donors†	Deceased Donors
2020	7,443 ^[4]	6,457 ^[4]	984 ^[4]	~6,457	351 ^[4]
2021	12,259 ^[4]	10,638 ^[4]	1,619 ^[4]	~10,638	552 ^[4]
2022	16,041 ^[5] ^[6]	13,338 ^[4]	2,694 ^[4]	~13,338	904 ^[4]
2023	18,378 ^[7] ^[8]	15,435 ^[7]	2,935 ^[7]	15,436 ^[7]	1,099 ^[7]
2024*	>19,000 (provisional, Jan–May) ^[9]	n/a	n/a	n/a	n/a

†Living donors roughly equal living-donor transplants because kidney and partial-liver grafts are usually one-donor–one-recipient procedures.

2. Organ-wise Activity (2020–2023)

Organ	2020	2021	2022	2023
Kidney – Living	4,970 ^[10]	8,254 ^[10]	9,834 ^[5]	11,791 ^[7]
Kidney – Deceased	532 ^[10]	818 ^[10]	1,589 ^[5]	1,635 ^[7]
Liver – Living	1,487‡ ^[7]	2,363‡ ^[7]	2,957 ^[5]	3,643 ^[7]
Liver – Deceased	291 ^[10]	482 ^[4]	761 ^[5]	840 ^[7]
Heart (all donors)	67 ^[4]	133 ^[4]	197 ^[4]	221 ^[7]
Lung (all donors)	14 ^[4]	19 ^[4]	26 ^[4]	197 ^[7]

‡2020–2021 living-liver figures taken from NOTTO graphs; small discrepancies possible owing to rounding.

3. The Unmet Need

Organ	Annual Clinical Need	Current Annual Supply	Gap (Supply ÷ Need)	Key Evidence
Kidney	~2 – 2.2 lakh ^[11]	~13,400 (2023)	6%	NITI/NOTTO RTI data ^[10] ^[3]

Organ	Annual Clinical Need	Current Annual Supply	Gap (Supply ÷ Need)	Key Evidence
Liver	~30,000 ^[3]	~4,500 (2023)	15%	MOHAN Foundation ^[3]
Heart	~50,000/yr need ^{[12] [13]}	221 (2023)	0.4%	IANIS/NOTTO ^[12]
Lung	"Hundreds" wait; ~100–120 done/yr ^[14]	197 (2023)	<1%	Medanta & INSHLT reviews ^{[14] [15]}

4. Mortality Attributable to Organ Shortage

- At least **500,000 Indians die every year** solely because an organ is not available^{[1] [2] [3]}.
- Kidney: ~175,000 patients remain on dialysis wait-lists; 35–40% die within five years^[16].
- Liver: about **2 lakh deaths** annually are attributed to end-stage liver disease without transplantation^{[2] [11]}.
- Heart: fewer than 0.2% of the **50,000** patients who need a heart each year actually receive one^[12].
- Overall, **17 deaths every day** are linked to the donor shortage^[2].

5. Why the Gap Persists

1. **Donation rate < 1 donor per million population (DPM)** versus 35–50 DPM in Spain/USA^{[17] [8]}.
2. Limited deceased-donor infrastructure outside a handful of high-performing states (Telangana, Tamil Nadu, Maharashtra)^{[7] [4]}.
3. Fragmented waiting lists (about **5 lakh people** nationally)^{[18] [6]}, now being integrated under "One Nation One Policy."
4. Financial barriers: 85% of transplants are self-funded; insurance seldom covers long-term immunosuppression^{[19] [3]}.

6. Motivation for an "Organ-Transplantation Management System" (OTMS)

Data-driven arguments for the project

- **Lives at stake:** >5 lakh preventable deaths per year translate to **1,370 deaths every day**, or nearly **one Indian life lost every minute** to organ scarcity^{[1] [2] [3]}.
- **Escalating demand:** Kidney-wait-list growth from 1.5 lakh (2019) to **1.75 lakh (2024)**, with median wait of 3–5 years^[16].
- **System strain:** Despite a 147% rise in transplants between 2020 and 2023, only **8%** of aggregate need was met in 2023 (18,378 vs. >2.3 lakh organs required)^{[7] [11]}.
- **Gender inequity:** 63% of living donors are women, yet **70% of recipients are men** — a disparity OTMS can flag and help correct^[8].
- **Data gaps:** States fail to upload complete data; OTMS will enforce real-time reporting and transparent allocation^[6].

- **Efficiency gains:** Each deceased donor yields 2.67 organs on average^[4]; if OTMS doubled deceased donations from 1,099 to 2,200, **>2,900 additional lives** could be saved annually.

Therefore, the OTMS project aims to integrate wait-lists, donor registries, logistics, and outcome tracking on a single national dashboard, ensuring that no viable organ is wasted and no eligible patient is overlooked.

2024–2025 Outlook

NOTTO's mid-2024 bulletin shows India on course to pass **19,000** transplants in 2024, propelled by streamlined e-pledge registry (Aadhaar-linked) and "Angdaan Jan Jagrukta Abhiyaan."^[9] Full-year data will confirm whether policy reforms translate into sustained increases in deceased donation and reductions in wait-list mortality.

(All figures are the latest published by NOTTO or peer-reviewed studies as of 18 July 2025. 2024 numbers are provisional.)



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2. <https://www.newindianexpress.com/nation/2021/Nov/29/five-lakh-people-die-waiting-for-organ-transplant-in-india-experts-2389452.html>
3. <https://pmc.ncbi.nlm.nih.gov/articles/PMC8556848/>
4. https://notto.mohfw.gov.in/WriteReadData/Portal/News/867_1_2013_to_2023_updated_on_28th_July_2024_1_.pdf
5. <https://dpuhospital.com/blog/organ-transplantation-rate-india/>
6. <https://economictimes.com/industry/healthcare/biotech/healthcare/digital-database-of-organ-donors-on-cards-for-smooth-transplants/articleshow/109014190.cms>
7. https://notto.mohfw.gov.in/WriteReadData/Portal/News/858_1_Updated_NOTTO_ANNUAL_REPORT_08-05-24_.pdf
8. <https://www.itnnews.co.in/indian-transplant-newsletter/issue71/Deceased-Organ-Donations-in-2023-India-Reaches-a-New-Milestone-1287.htm>
9. <https://www.narayanahealth.org/blog/kidney-transplants-in-india>
10. <https://www.dtnext.in/lifestyle/wellbeing/50k-indians-require-heart-transplants-each-year-only-02-recipe-them-727899>
11. <https://pmc.ncbi.nlm.nih.gov/articles/PMC9841148/>
12. <https://www.medanta.org/patient-education-blog/leading-a-healthy-life-after-lung-transplant>
13. https://journals.lww.com/lungindia/fulltext/2019/36050/underutilization_of_potential_donors_for_lung.5.aspx
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