Organ Preservation - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-06-01 | 130 pages | Mordor Intelligence

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Report description:

Organ Preservation Market Analysis

The organ preservation market size stands at USD 336.55 million in 2025 and is forecast to reach USD 457.87 million by 2030, advancing at a 6.35% CAGR. Demand growth mirrors the widening gap between transplant need and donor supply, with 103,000 people queued for organs in the United States while only 48,000 procedures took place during 2024. Normothermic machine perfusion (NMP) is redefining clinical expectations by giving surgeons extra evaluation time and salvaging organs once deemed unusable, as reflected in the FDA clearance of the Organ Care System Heart. Reimbursement codes for ex-vivo perfusion under Medicare's Increasing Organ Transplant Access Model add a financial catalyst that broadens hospital adoption. Meanwhile, supply-chain safeguards mandated by the FDA improve device availability yet highlight cost pressures for hospitals that must procure both disposables and capital equipment. Rising rates of diabetes, cardiovascular disease, and chronic kidney disease in older adults further add structural demand, pushing transplant programs to maximize every donated graft.

Global Organ Preservation Market Trends and Insights

Rising Incidence of Multi-Organ Failure in Aging Populations

Life expectancy gains have enlarged the cohort older than 65, a group increasingly eligible for transplantation thanks to evidence showing comparable post-operative outcomes when frailty is managed. Chronic kidney disease, diabetes, and cardiovascular disorders all scale with age, lifting demand for reliable preservation that can cope with longer work-ups typical in geriatric cases.

Hospitals therefore prefer solutions that protect organs during extended cold ischemia and offer functional assessment before implantation. Static cold storage remains widespread, yet machine perfusion's ability to resuscitate marginal grafts is especially valuable when donor age rises. Transplant protocols now include geriatric assessment tools, reinforcing the need for flexible preservation windows that accommodate complex surgical schedules.

Technological Advancements in Preservation Techniques and Devices

Machine perfusion keeps donor organs at physiologic temperature, cutting primary graft dysfunction from 28% to 11% in recent heart studies. Donation-after-circulatory-death (DCD) hearts, once rarely used, are now feasible at scale under normothermic regional perfusion, with 606 U.S. cases recorded across 49 organ-procurement organizations. Device makers integrate GPS tracking, pressure regulation, and temperature telemetry so that teams receive live alerts during transport. Cryopreservation research, such as X-Therma's protein-mimetic ice blockers, aims to shift preservation from hours to weeks. These innovations collectively shorten allocation times, lower discard rates, and help surgeons expand donor criteria.

High Cost of Transplantation and Preservation Devices

Milliman estimates that total transplant episode expenses grow 5.2% annually for patients under 65, and 9.1% for older cohorts. The Organ Care System Heart requires hospital capital outlays above USD 250,000, and each disposable set adds roughly USD 40,000 per procedure. Preservation solutions also vary widely: University of Wisconsin solution costs USD 120 per liter versus USD 10 for Marshall's formulation, pressuring cost-conscious hospitals despite equivalent graft survival scores in select cohorts. Developing regions therefore lag in NMP adoption, prolonging reliance on static cold storage. Budget limitations can also delay staff training and certification, which are prerequisite for advanced device use and data reporting.

Other drivers and restraints analyzed in the detailed report include:

Increasing Government and NGO Initiatives for Organ Donation / Emergence of Reimbursement Codes for Ex-Vivo Perfusion / Regulatory Uncertainty for Normothermic Perfusion /

For complete list of drivers and restraints, kindly check the Table Of Contents.

Segment Analysis

Static Cold Storage retained 62.25% share of the organ preservation market in 2024 because of its simplicity, low cost, and decades-long validation in every transplant program. Even so, delayed graft function remains more frequent with extended criteria donors, prompting centers to trial perfusion add-ons that refresh metabolic substrates during transport. The organ preservation market size attributable to Static Cold Storage will grow modestly but cede share as perfusion adoption outpaces baseline growth.

Normothermic Machine Perfusion is projected to grow 10.45% annually through 2030 as multicenter data show 94% six-month heart graft survival versus 91% for ice storage. Hypothermic variants serve kidneys well by minimizing perfusate cost yet delivering measurable gains in delayed graft function, especially for extended criteria grafts. Regional perfusion in situ is rising too, with 606 U.S. DCD cases reported by 2024. The converging toolkit allows surgeons to sequence cold storage, hypothermic perfusion, and normothermic phases, tailoring methods to donor physiology and travel distance.

University of Wisconsin Solution accounted for 45.53% of the organ preservation market share in 2024. Its hyperosmolar, antioxidant-rich profile minimizes cellular edema and free-radical damage, establishing default use across kidneys, livers, and pancreas grafts. However, high potassium content and viscosity complicate pediatric use, inviting alternatives.

Custodiol HTK is expanding 9.35% CAGR on the appeal of low viscosity and cost parity for multi-organ procurement, with trials confirming similar liver graft survival to UW but simplified flushing protocols. Celsior targets cardiac grafts while Perfadex Plus remains standard for lungs, and new antioxidant-enhanced formulations under clinical review seek to further cut ischemia reperfusion injury. Specialized perfusates for machine perfusion, including proprietary oxygen carriers, represent an incremental revenue tier that supports premium pricing in the organ preservation market.

The Organ Preservation Market Report is Segmented by Technique (Static Cold Storage (SCS), and More), Preservation Solution (University of Wisconsin (UW) Solution, Celsior, and More), Product Type (Preservation Solutions, and More), Organ Type (Kidneys, Liver, and More), End User (Transplant Centers, Hospitals, and More) and Geography (North America, Europe, and More). The Market Forecasts are Provided in Terms of Value (USD).

Geography Analysis

North America retained 36.82% share of the organ preservation market in 2024, underpinned by advanced infrastructure, the OPTN mandate to reach 60,000 annual transplants by 2026, and supportive reimbursement for perfusion. Widespread clinical trials, FDA device clearances, and robust donor-registration campaigns sustain first-mover advantage. Canada's universal health coverage ensures demand continuity, while Mexico's device imports rise as public hospitals expand transplant services.

Europe exhibits steady but slower growth. Germany, France, Italy, Spain, and the United Kingdom lead adoption, yet cost-effectiveness assessments exert downward pressure on device prices. The European Society for Organ Transplantation's roadmap for Advanced Therapy Medicinal Products spotlights regulatory caution that may defer rollouts for biologic-enhanced perfusates. Nonetheless, cross-border procurement networks in Eurotransplant and Scandiatransplant regions rely on high-performance transport systems to cover long-haul drives between donor and recipient hospitals.

Asia-Pacific is the fastest-growing region, posting a 10.62% CAGR as transplant program capacity accelerates across China, India, and Japan. China's COTRS platform legitimized voluntary donation and raised public trust, while new liver units achieve procurement rates comparable to mature Western centers. India's rising medical tourism, coupled with domestic manufacturing incentives for perfusion devices, adds volume and price competition. Japan's aging population creates high kidney and heart demand, and public insurers increasingly reimburse NMP in pilot projects.

List of Companies Covered in this Report:

Xvivo Perfusion / Organ Recovery Systems / Getinge / Bridge to Life Ltd. / TransMedics Inc. / 21st□Century Medicine / Dr. Franz Kohler Chemie GmbH / Essential Pharmaceuticals LLC / Waters Medical Systems / Organox / CryoLife / BioLife Solutions / Preservation Solutions Inc. / Lifeline Scientific / Vascular Perfusion Solutions Inc. / KARA Perfusion / EBERS Medical Technology SL /

Additional Benefits:

 The market estimate (ME) sheet in Excel format /
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