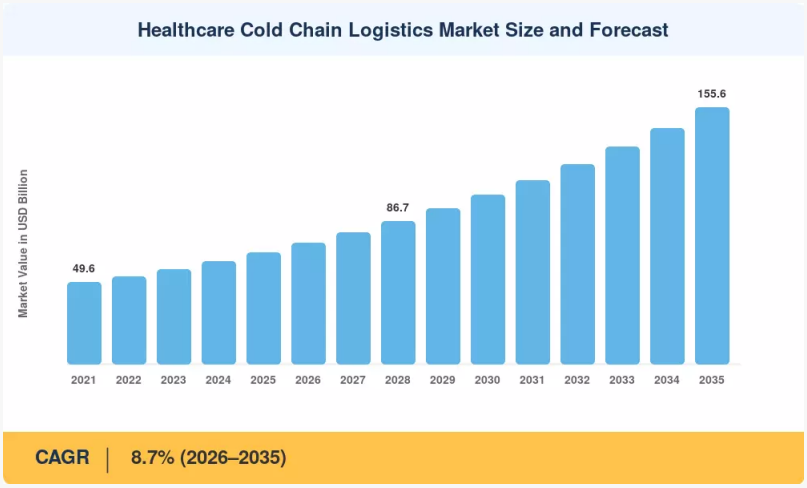
# Healthcare Cold Chain Logistics Market to reach USD 155.6 Billion by 2035 at 8.7% CAGR

*Healthcare Cold Chain Logistics Market to Grow from USD 67.5 Billion in 2025 to USD 155.6 Billion by 2035- By Biologics and Cell Therapy Pipeline Growth*



Healthcare Cold Chain Logistics Market (2026 - 2035)

NY, CA, UNITED STATES, September 17, 2026 /EINPresswire.com/ -- As per Market Research Future, the global Healthcare Cold Chain Logistics Market size is projected to reach USD 155.6 Billion by 2035 from USD 67.5 Billion in 2025, at a CAGR of 8.7% during the forecast period 2026--2035. The market is projected to grow from USD 73.4 Billion in 2026, the first year of the forecast window.

The 8.7% CAGR---anchored by structural shifts in biopharmaceutical distribution---is propelled by three converging forces: the accelerating shift toward biologic therapies and personalized medicines, with over 70 commercial-stage cell and gene therapy products expected by 2030, driving the need for unbroken temperature integrity from the manufacturing floor to the patient bedside; regulatory tightening across major markets, particularly the European Commission's revised Good Distribution Practice (GDP) guidelines and the U.S. FDA's Drug Supply Chain Security Act (DSCSA) enforcement milestones, which compel manufacturers and third-party logistics providers to invest heavily in digitized monitoring platforms and validated packaging systems; and government vaccination mandates and pandemic preparedness stockpiling programs, including the WHO's USD 4.2 Billion Immunization Agenda 2030 investment commitment, that continue to underpin capital flows into cold chain infrastructure worldwide.

Global logistics providers and health organizations are amplifying this momentum. DHL pledged to invest EUR 2 billion (USD 2.34 billion) by 2030 in cold chain infrastructure and new GDP-certified Pharma Hubs, and UPS increased its North American capacity by acquiring Andlauer Healthcare Group for USD 1.6 billion in April 2025. According to WHO data, member states are directed to invest an aggregate USD 4.2 Billion in cold chain infrastructure upgrades through 2030, while the global installed base of pharmaceutical cold chain sensors exceeded 28 million

units in 2024 and is projected to surpass 65 million by 2030. These forces are creating the distribution infrastructure and shipment volume on which the Healthcare Cold Chain Logistics Market depends.

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Key Market Trends & Growth Drivers

Rising Demand for Biologics and Cell Therapy Logistics

The market is witnessing an increasing demand for validated temperature-controlled distribution of complex biologic medicines. As monoclonal antibodies, biosimilars, and autologous cell therapies progressively define the pharmaceutical landscape, more shippers are requiring cryogenic and chilled logistics capabilities. This trend indicates a shift toward "cold-chain-by-design" distribution, with specialized 3PL providers deploying validated cryogenic shipping channels and robust last-mile processes. Cell and gene therapies are forecast to expand at a 20.5% CAGR through 2035, the highest growth rate across all product categories, with individual patient-specific shipments commanding logistics fees that can exceed USD 15,000.

Advancements in IoT Monitoring and Validated Packaging

Innovations in shipment monitoring and thermal packaging are becoming a hallmark of the industry. Logistics operators are deploying IoT-enabled sensor networks, blockchain-backed chain-of-custody documentation, and digital twin technology to simulate cold chain lanes end-to-end. These advancements aim to enhance compliance and reduce product loss, potentially leading to better patient safety and increased market penetration. IoT-enabled temperature monitoring has reduced product loss from temperature excursions by approximately 18--22%, and monitoring and data-logging services are advancing at a 13.5% CAGR through 2035.

Integration of Digital Compliance Technologies

The incorporation of digital compliance platforms into the industry is gaining traction. Tools such as automated Quality Management Systems and continuous digital temperature records are being utilized to satisfy GDP and DSCSA audit requirements and facilitate data exchange between trading partners. FedEx continues investing in shipment visibility technology through its SenseAware monitoring platform, supporting technology-led differentiation in premium cold shipments.

Increasing Prevalence of Immunization Programs and Stockpiling

Government vaccination mandates and pandemic preparedness stockpiling are primary drivers.

According to WHO, the Immunization Agenda 2030 framework targets 90% vaccine coverage for zero-dose communities, while India's Mission Indradhanush 5.0 and Nigeria's National Primary Healthcare Development Agency programs are building over 35,000 new cold chain points. The market is projected to expand as national stockpiling programs and emerging-market immunization infrastructure continue to absorb cold chain capacity. The World Bank estimates that 40% of healthcare facilities in low-income countries still operate without a continuous power supply, underscoring the urgent need for innovative solutions.

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Market Segment Insights

BY SERVICES

Transportation: Largest segment with 50.3% share in 2024, driven by the capital-intensive nature of validated fleet operations, including temperature-controlled trucks, reefer containers, and active air freight units. DHL continues expanding its global GDP-certified transportation network through sustained infrastructure investment.

Storage: Significant share at 33.8% in 2024, benefiting from biologics manufacturers shifting from just-in-time models to buffer stock strategies following pandemic-era supply disruptions.

Monitoring & Data-Logging: Fastest-growing service at 13.5% CAGR, propelled by IoT adoption and regulatory pressure for continuous temperature documentation across every distribution tier.

BY PRODUCT TYPE

Vaccines: Largest segment with 41.0% share in 2024, due to sustained routine immunization programs and pandemic-readiness stockpiling mandates.

Biopharmaceuticals: Significant share at 28.4% in 2024, anchored by monoclonal antibody and biosimilar growth requiring chilled 2--8°C distribution.

Cell & Gene Therapies: Fastest-growing product category at 20.5% CAGR, as each autologous therapy shipment involves patient-specific, time-critical cryogenic transport with zero tolerance for delay or temperature deviation.

Clinical Trial Materials: Valued at USD 5.8 Billion in 2025, driven by the expansion of decentralized and hybrid clinical trial logistics.

BY TEMPERATURE RANGE

Refrigerated (2--8°C): Largest segment with 45.8% share in 2024, reflecting the standard storage requirement for the majority of vaccines and monoclonal antibodies.

Frozen (−20°C): Valued at USD 10.2 Billion in 2025, serving mRNA and select biologic products.

Cryogenic (−80°C and below): Fastest-growing temperature range at 23.1% CAGR, propelled by cell therapy commercialization requiring validated liquid nitrogen (−196°C) shipping lanes.

Controlled Ambient (15--25°C): 12.6% share in 2024, serving diagnostics and stable pharmaceuticals.

BY END USER

Pharmaceutical & Biotech Manufacturers: Largest segment with 60.2% share in 2024, bearing primary regulatory responsibility for product integrity through the final point of administration and driving outsourcing of distribution operations.

Contract Research Organizations: Fastest-growing end user at 12.1% CAGR, driven by the proliferation of decentralized clinical trials requiring validated direct-to-patient cold chain delivery networks.

Hospitals & Healthcare Facilities: Generated USD 9.8 Billion in 2025 revenue, supported by direct biologic administration programs.

Government & Public Health Agencies: 7.3% share in 2024, managing national immunization stockpiles and public health distribution programs.

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Regional Outlook

North America --- Market Leader in Compliance Infrastructure

North America leads with 43.0% of global revenue in 2024, driven by a dense biopharma manufacturing base and advanced regulatory enforcement. The United States accounts for the vast majority of regional demand, with over 1,200 FDA-registered biologics distribution centers operating validated cold chain networks, and the DSCSA's 2024 compliance milestones triggered an estimated USD 2.1 Billion in supply chain IT upgrades. Canada is growing as a biologics import corridor, while Mexico is emerging as a pharmaceutical nearshoring destination. The competitive

landscape is characterized by continuous investment in GDP-certified capacity among leading logistics providers.

Europe --- Second Largest Market

Europe holds the second-largest share at roughly 26.5% of the global market, anchored by stringent EU GDP compliance requirements that mandate continuous digital temperature monitoring across all distribution tiers. Germany anchors regional demand with its pharmaceutical manufacturing cluster---home to four of the ten largest global biopharma companies---while the UK's MHRA has introduced post-Brexit cold chain documentation requirements creating parallel compliance streams. Leading countries include Germany, the United Kingdom, and France, where major logistics providers such as Kuehne + Nagel and DB Schenker are heavily invested.

Asia-Pacific --- Rapidly Growing Market Segment

The Asia-Pacific region accounts for about 19.5% of the global share and is the fastest-growing region at a 10.1% CAGR through 2035. Growth is fueled by India's expanding vaccine production capacity---with Serum Institute and Bharat Biotech collectively exporting vaccines to more than 150 countries---and China's Healthy China 2030 initiative, which allocated RMB 127 Billion (approximately USD 17.5 Billion) to healthcare infrastructure modernization. India's Mission Indradhanush and China's volume-based healthcare investments are driving cold chain buildout across Tier-2 and Tier-3 cities. The competitive landscape is evolving with regional specialists and global 3PLs competing for vaccine hub development.

Middle East & Africa and South America --- Untapped Potential

The South America region holds around 6.2% of the global share, led by Brazil's ANVISA regulatory modernization and the Pan-American Health Organization's Revolving Fund channeling approximately USD 900 Million annually through regional cold chain networks. The Middle East & Africa region, at 4.8% share, is driven by the UAE's Dubai South Pharma Zone and Saudi Arabia's Vision 2030 healthcare investment, while Gavi Alliance-funded passive cold chain equipment and NGO outreach programs supply much of sub-Saharan Africa.

Competitive Landscape and Recent Developments

The Healthcare Cold Chain Logistics Market is characterized by moderate fragmentation and accelerating capital investment, driven by biologics growth and regulatory tightening worldwide. The top five players collectively hold an estimated 32--38% of global revenue, with regional specialists coexisting alongside integrated multinational 3PLs.

KEY COMPANIES AND RECENT MILESTONES

UPS Healthcare (US) (April 2025): Increased its North American capacity by acquiring Andlauer Healthcare Group for CAD 2.2 billion (USD 1.6 billion). Holds an estimated 8--11% revenue share with an integrated express network and GxP compliance capability.

DHL Supply Chain (DE) (April 2025): Pledged to invest EUR 2 billion (USD 2.34 billion) by 2030 in increased cold chain infrastructure and new GDP-certified Pharma Hubs. In March 2025, DHL purchased CRYOPDP, adding more than 600,000 yearly temperature-controlled shipments across 15 countries. Holds an estimated 7--10% revenue share.

U.S. FDA Regulatory Milestone (November 2024): Enforced enhanced DSCSA Phase II serialization requirements, mandating digital transaction data exchange across all pharmaceutical trading partners.

Cryoport (US) (January 2025): Introduced the HV3 cryogenic transportation system for cutting-edge cell and gene therapies, reinforcing its specialty cryogenic logistics leadership.

Other Key Players: FedEx Logistics (US), Kuehne + Nagel (CH), World Courier / Cencora (US), DB Schenker (DE), CEVA Logistics (FR), Envirotainer (SE), Cold Chain Technologies (US), Sensitech / Carrier Global (US).

Future Outlook: 2026--2035

The Healthcare Cold Chain Logistics Market is projected to reach USD 155.6 billion by 2035, growing at a CAGR of 8.7%, driven by biologics and cell therapy pipeline growth, regulatory tightening, and pandemic preparedness stockpiling.

New opportunities lie in:

- Expansion into emerging markets with regional vaccine hub development and greenfield cold chain infrastructure

- Development of digital twin, predictive analytics, and AI-orchestrated lane-selection platforms to enhance compliance

- Investment in sustainable cold chain solutions, autonomous last-mile delivery, and data monetization services

By 2035, the Healthcare Cold Chain Logistics Market is expected to achieve substantial growth and innovation, with logistics networks evolving into data platforms that monetize compliance, visibility, and outcome assurance.

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