

North America Clinical Trial Supply & Logistics Market, By Service (Logistics & distribution, Storage & retention, Packaging, labeling, and blinding, Manufacturing, Comparator sourcing, other services), By Therapeutic Area (Oncology, Cardiovascular Diseases, Respiratory Diseases, CNS And Mental Disorders, Others), By Phase (Phase I, Phase II, Phase III, Phase IV), By Country, Competition, Forecast and Opportunities, 2019-2029F

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Abstracts

North America Clinical Trial Supply & Logistics Market was valued at USD 1.21 billion in 2023 and is anticipated to project robust growth in the forecast period with a CAGR of 6.81% through 2029. The North America Clinical Trial Supply & Logistics market is a dynamic and rapidly evolving sector that plays a crucial role in the pharmaceutical and biotechnology industries. As one of the largest and most advanced regions in terms of clinical research, North America witnesses a robust demand for efficient and reliable supply chain solutions to support clinical trials. The market encompasses a wide range of services, including packaging, labeling, storage, distribution, and transportation of clinical trial materials. With the increasing complexity of clinical trials and the growing emphasis on precision medicine, the need for specialized and compliant supply chain solutions has become paramount. The region's well-established regulatory framework and infrastructure contribute to the market's competitiveness, attracting both domestic and international players.

Key factors driving the North America Clinical Trial Supply & Logistics market include the rising number of clinical trials, advancements in biopharmaceutical research, and

the increasing prevalence of chronic diseases. The adoption of innovative technologies such as temperature-controlled logistics and interactive response technologies (IRT) further enhances the efficiency and reliability of clinical trial supply chains. The market is also influenced by the expanding scope of decentralized and virtual clinical trials, which necessitate flexible and agile supply chain solutions. As the industry continues to grapple with challenges like stringent regulatory requirements, global sourcing complexities, and the need for real-time visibility, companies in the North America Clinical Trial Supply & Logistics market are actively investing in advanced technologies and strategic partnerships to stay competitive.

Key Market Drivers

Increasing Number of Clinical Trials

The North America Clinical Trial Supply & Logistics Market is experiencing a robust upswing, primarily fueled by the escalating number of clinical trials conducted across the region. The pharmaceutical and biotechnology industries are witnessing an unprecedented surge in research and development activities, driven by a growing focus on precision medicine, personalized therapies, and the exploration of novel treatment modalities. This surge has translated into an increasing demand for efficient and streamlined clinical trial supply chain solutions to support the diverse and expansive scope of trials. Biopharmaceutical companies are engaging in a plethora of clinical studies, ranging from early-phase exploratory trials to large-scale phase III trials, covering an array of therapeutic areas. This diversification in the clinical trial landscape has necessitated a sophisticated logistics infrastructure capable of handling a wide array of investigational drugs, biological samples, and medical devices.

The rise in the number of clinical trials is not only attributed to the exploration of new drug candidates but also to the expanding scope of research methodologies. With a growing emphasis on decentralized and virtual trials, as well as adaptive trial designs, the logistical demands on the clinical trial supply chain have become more intricate. These innovative trial approaches, coupled with the incorporation of real-world evidence, require flexible and responsive supply and logistics solutions to ensure the seamless movement of materials across diverse trial sites and patient-centric models.

The heightened global competition in the pharmaceutical industry has driven companies to conduct trials across multiple regions simultaneously, creating a need for comprehensive and globally integrated supply chain networks. The complexity of managing such multinational trials, adhering to diverse regulatory requirements, and

ensuring timely and secure transportation of trial materials has underscored the pivotal role of specialized logistics providers in the North America Clinical Trial Supply & Logistics Market. These providers offer tailored solutions, leveraging advanced technologies and adhering to stringent compliance standards to address the unique challenges posed by the increasing number and complexity of clinical trials.

Advancements in Biopharmaceutical Research

In recent years, remarkable advancements in biopharmaceutical research have propelled the North America Clinical Trial Supply & Logistics Market to unprecedented heights. The convergence of cutting-edge technologies and innovative methodologies has ushered in a new era of efficiency and precision in the development and distribution of clinical trial supplies. The increasing focus on personalized medicine, coupled with the accelerated pace of drug development, has necessitated a paradigm shift in the logistics and supply chain of clinical trials. Biopharmaceutical companies are now leveraging state-of-the-art technologies, such as blockchain and artificial intelligence, to optimize the tracking and management of clinical trial supplies, ensuring real-time visibility and transparency.

One significant breakthrough driving the market is the adoption of advanced analytics to predict and mitigate potential supply chain disruptions. Machine learning algorithms analyze historical data, identify patterns, and forecast demand, enabling proactive decision-making and risk management. This predictive analytics approach not only ensures the timely availability of trial materials but also minimizes the overall costs associated with supply chain inefficiencies. The integration of smart packaging technologies, equipped with sensors and RFID tags, allows for continuous monitoring of temperature-sensitive drugs during transportation, safeguarding the integrity of the trial samples.

The biopharmaceutical research landscape's rapid evolution has also spurred the growth of specialized logistics providers catering specifically to clinical trials. These companies offer end-to-end solutions, from packaging and labeling to global distribution, ensuring compliance with stringent regulatory requirements. The emphasis on Good Distribution Practice (GDP) and Good Manufacturing Practice (GMP) has become paramount, driving the demand for logistics services that adhere to the highest quality standards. This heightened focus on compliance not only expedites the approval process but also enhances the overall reliability and credibility of clinical trial outcomes.

Prevalence of Chronic Diseases

The escalating prevalence of chronic diseases in North America has emerged as a key driver propelling the growth of the Clinical Trial Supply & Logistics Market in the region. As the incidence of conditions such as cardiovascular diseases, diabetes, and various types of cancer continues to rise, there is an urgent and expanding need for innovative therapies and treatment modalities. This surge in demand for new drugs has catalyzed a corresponding increase in clinical trials, necessitating a robust and efficient supply chain infrastructure to support these endeavors. Biopharmaceutical companies are grappling with the complexities associated with large-scale clinical trials, from ensuring a timely and secure supply of investigational drugs to managing diverse trial sites across geographies.

The burgeoning burden of chronic diseases has prompted biopharmaceutical firms to conduct more extensive and intricate clinical trials, emphasizing the importance of a sophisticated supply and logistics ecosystem. This ecosystem encompasses a range of services, from packaging and labeling to storage, distribution, and management of clinical trial materials. The intricacies involved in handling diverse therapeutic areas and managing the diverse requirements of clinical trials have led to an increased reliance on specialized logistics providers. These providers offer tailored solutions that cater to the unique needs of clinical trials, ensuring the efficient and compliant movement of materials across the supply chain.

The prevalence of chronic diseases has underscored the significance of patient-centric clinical trials and decentralized trial designs, wherein patients can participate from the comfort of their homes. This shift in trial methodologies places additional demands on the clinical trial supply chain, requiring nimble logistics solutions to accommodate decentralized and virtual trial models. As regulatory agencies increasingly acknowledge and accommodate these novel trial designs, the Clinical Trial Supply & Logistics Market in North America is witnessing a paradigm shift towards more flexible and patient-centric approaches.

Key Market Challenges

Stringent Regulatory Landscape

The North America Clinical Trial Supply & Logistics market encounters a formidable obstacle in the form of a stringent regulatory landscape. Regulatory complexities, enforced by agencies such as the Food and Drug Administration (FDA) in the United States and Health Canada, significantly impact the operations of companies providing

supply chain solutions for clinical trials in the region. Compliance with an intricate web of regulations is non-negotiable in the pharmaceutical and biotechnology industries, where adherence to strict guidelines is essential for the safety of participants and the integrity of trial data.

The regulatory landscape poses challenges at every stage of the clinical trial supply chain. From the initial planning and sourcing of investigational products to their storage, distribution, and final delivery to clinical trial sites, companies must navigate a complex maze of requirements. This complexity is heightened by the need to align with international standards and guidelines, considering the often-global nature of clinical trials conducted in North America.

Meeting regulatory standards involves meticulous documentation, adherence to Good Manufacturing Practice (GMP) guidelines, and rigorous quality control processes. Any deviation from these standards can lead to regulatory scrutiny, potentially resulting in delays, fines, or even the suspension of clinical trials. The cost implications of regulatory non-compliance can be significant, impacting both the timelines and financial viability of clinical research projects.

The ever-evolving nature of regulations presents an ongoing challenge. Regulatory requirements are subject to updates and revisions, requiring companies to stay vigilant and continuously adapt their processes to remain in compliance. This demands a high level of expertise, resources, and a proactive approach to staying abreast of the latest regulatory developments

Temperature-Controlled Logistics Challenges

Temperature-controlled logistics poses a formidable challenge to the North America Clinical Trial Supply & Logistics market, adding a layer of complexity that demands precision and expertise. With an increasing emphasis on biopharmaceuticals and advanced therapies, many investigational products are highly sensitive to temperature variations. This heightened sensitivity requires meticulous control throughout the supply chain to maintain the integrity and efficacy of these temperature-sensitive compounds.

The challenge begins at the manufacturing stage, where stringent temperature requirements must be adhered to during production and packaging. Ensuring that these products remain within specified temperature ranges during storage and transportation is critical to prevent degradation. However, the diverse climates across North America, ranging from extreme cold to sweltering heat, present a logistical puzzle for companies

managing clinical trial supply chains.

The logistics challenge intensifies during transportation, especially for multi-site clinical trials where products may need to traverse varying environmental conditions. The risk of temperature excursions increases during transit, potentially compromising the quality of investigational products and jeopardizing the validity of clinical trial results. This is particularly true for biologics, cell therapies, and other advanced medicines that are increasingly prevalent in clinical research.

Key Market Trends

Integration of Advanced Technologies

The North America Clinical Trial Supply & Logistics Market is undergoing a transformative phase, propelled by the widespread integration of advanced technologies into the supply chain ecosystem. The adoption of cutting-edge technologies is revolutionizing how pharmaceutical and biotech companies manage the logistics of clinical trials. One of the key advancements is the utilization of blockchain technology to enhance the transparency, traceability, and security of the clinical trial supply chain. Blockchain ensures an immutable and decentralized ledger, reducing the risk of data errors and enhancing the integrity of the information related to the movement of trial materials.

Artificial intelligence (AI) and machine learning are also playing a pivotal role in optimizing the clinical trial supply chain. These technologies enable predictive analytics, helping forecast demand patterns, identify potential risks, and streamline inventory management. By leveraging historical data and real-time information, AI-driven systems enhance the efficiency of the supply chain, ensuring that adequate quantities of investigational drugs and supplies are available precisely when and where they are needed. This predictive capability not only minimizes the risk of stock outs or overstock situations but also contributes to cost-effectiveness in the overall trial conduct.

The integration of Internet of Things (IoT) devices and sensors into packaging and logistics processes is enhancing the monitoring and management of clinical trial supplies. Smart packaging equipped with temperature and location sensors ensures the integrity of temperature-sensitive drugs during transportation, a critical factor in maintaining the efficacy of investigational products. Real-time monitoring allows for proactive interventions in case of deviations from specified storage conditions, reducing the likelihood of compromised trial results.

The digital transformation of the clinical trial supply chain is also fostering the development of innovative tools for tracking and managing shipments. Mobile applications and cloud-based platforms provide stakeholders with real-time visibility into the movement of trial materials, allowing for quicker decision-making and more effective collaboration among various stakeholders, including sponsors, CROs, and logistics providers.

Personalized Medicine and Targeted Therapies

The surge in personalized medicine and the development of targeted therapies are serving as powerful catalysts for the growth of the North America Clinical Trial Supply & Logistics Market. Personalized medicine, which tailors treatment strategies to individual patients based on their genetic, environmental, and lifestyle factors, has gained considerable momentum. This paradigm shift in healthcare necessitates a shift in clinical trial methodologies, with an increasing number of trials focusing on patient-specific responses to therapies. The rise of targeted therapies, designed to address specific molecular or genetic characteristics associated with certain diseases, has led to a proliferation of investigational drugs with unique requirements in terms of manufacturing, storage, and transportation.

The advent of personalized medicine and targeted therapies has introduced new complexities to the clinical trial supply chain, demanding a more flexible and adaptive logistics infrastructure. The need to manage smaller, more specialized patient populations in clinical trials requires precise and timely distribution of customized treatments. This has spurred a growing demand for advanced supply chain solutions that can handle the intricacies of personalized medicine, from the production of small batch sizes to the distribution of highly specialized therapeutic agents.

The nature of targeted therapies often involves stringent temperature and handling requirements to maintain the stability and efficacy of these drugs. The Clinical Trial Supply & Logistics Market is consequently witnessing an increased focus on temperature-controlled storage and transportation solutions, including specialized packaging with temperature-monitoring capabilities. This ensures that the integrity of these advanced therapies is maintained throughout the supply chain, from manufacturing facilities to clinical trial sites.

The dynamic landscape of personalized medicine also emphasizes the importance of patient-centric trials and decentralized trial designs, where patients may participate from

diverse locations. This decentralization introduces additional logistical challenges, further underscoring the need for a sophisticated and responsive supply chain infrastructure.

Segmental Insights

Service Insights

Based on the Service, logistics & distribution emerged as the fastest growing segment in the North America market for North America Clinical Trial Supply & Logistics Market in 2023. The pharmaceutical and biotechnology industries are increasingly conducting clinical trials on a global scale to ensure diverse patient populations and efficient recruitment. This globalization necessitates a robust logistics and distribution network to seamlessly transport investigational drugs, medical devices, and other trial materials across borders while adhering to varying regulatory requirements. Clinical trials involve a complex and multifaceted supply chain, from the manufacturing of investigational products to their distribution to numerous trial sites. Logistics providers play a crucial role in managing this complexity, ensuring the timely and secure delivery of materials to diverse geographical locations, including hospitals, research centers, and clinics participating in the trials.

Therapeutic Area Insights

Based on the Therapeutic Area, Oncology emerged as the dominant segment in the North America market for North America Clinical Trial Supply & Logistics Market in 2023. Oncology, which encompasses the study of cancer and related diseases, witnesses a high incidence rate in North America. The prevalence of various types of cancer, including breast cancer, lung cancer, and colorectal cancer, among others, has led to a surge in the number of clinical trials focused on developing new and innovative oncology treatments. This increased activity in the oncology space directly translates to a higher demand for clinical trial supply and logistics services. The field of oncology has been at the forefront of the precision medicine revolution. Advances in genomics and molecular diagnostics have paved the way for more targeted and personalized therapies for cancer patients. Clinical trials in oncology often involve the testing of novel targeted therapies, immunotherapies, and combination therapies. The specialized nature of these treatments requires intricate and customized supply chain solutions, contributing to the heightened demand for logistics services in the oncology therapeutic area.

Country Insights

United States emerged as the dominant country in the North America Clinical Trial Supply & Logistics Market in 2023, holding the largest market share. The United States is a global pharmaceutical and biotechnology hub, home to a significant number of major pharmaceutical companies, biotech startups, and research institutions. The concentration of these entities in the U.S. contributes significantly to the demand for clinical trial supply and logistics services. The country's leadership in drug development and clinical research activities amplifies the need for efficient and specialized supply chain solutions. The U.S. consistently hosts a substantial number of clinical trials across various therapeutic areas. The country's robust healthcare infrastructure, diverse patient populations, and advanced research facilities attract a high volume of clinical research activities. The sheer scale and diversity of clinical trials conducted in the United States result in an increased demand for comprehensive clinical trial supply and logistics services.

Key Market Players

Thermo Fisher Scientific Inc.

Catalent, Inc.

Parexel International (MA) Corporation

Almac Group Inc

Marken LLC

Piramal Pharma Solutions

Evoke Health LLC

DHL International Ltd

FedEx Corporation

Packaging Coordinators Inc.

Report Scope:

In this report, the North America Clinical Trial Supply & Logistics Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

North America Clinical Trial Supply & Logistics Market, By Service:

Logistics & distribution

Storage & retention

Packaging, labeling, and blinding

Manufacturing

Comparator sourcing

other services

North America Clinical Trial Supply & Logistics Market, By Therapeutic Area:

Oncology

Cardiovascular Diseases

Respiratory Diseases

CNS And Mental Disorders

Others

North America Clinical Trial Supply & Logistics Market, By Phase:

Phase I

Phase II

Phase III

Phase IV

North America Clinical Trial Supply & Logistics Market, By Country:

United States

Canada

Mexico

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the North America Clinical Trial Supply & Logistics Market.

Available Customizations:

North America Clinical Trial Supply & Logistics Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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