

# **North America Rare Disease Therapeutics Market Segmented By Therapeutics Area (Hematologic Diseases, Cancer, Infectious Diseases, Cardiovascular Diseases, Metabolic Diseases, Endocrine Diseases, Musculoskeletal Diseases, Others), By Route of Administration (Injectable, Oral, Others), By Drug Type (Biologics, Biosimilar, Small Molecules), By Distribution Channel (Specialty Pharmacies, Hospital Pharmacies, Online Pharmacies), By Country, Competition, Forecast & Opportunities, 2019-2029F**

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## **Abstracts**

North America Rare Disease Therapeutics Market was valued at USD 40.38 billion in 2023 and is anticipated to project robust growth in the forecast period with a CAGR of 10.88% through 2029. The North America Rare Disease Therapeutics Market is a dynamic and rapidly evolving sector within the pharmaceutical and healthcare industry. It is characterized by the development, manufacturing, and distribution of therapies and treatments designed specifically for rare diseases, which are often referred to as orphan diseases due to their low prevalence in the population.

Rare diseases are defined as medical conditions that affect a small segment of the population, typically fewer than 200,000 individuals in the United States, as per the U.S. Orphan Drug Act. These diseases can be genetic, autoimmune, infectious, or degenerative.

## **Key Market Drivers**

## Increasing Rare Disease Prevalence

**Diverse Rare Diseases:** North America witnesses a growing prevalence of rare diseases, many of which were previously underdiagnosed or misdiagnosed. These diseases encompass a wide spectrum of conditions, including genetic disorders, orphan diseases, and ultra-rare illnesses. Genetic mutations are often linked to rare diseases, and North America's diverse population includes various genetic backgrounds, contributing to the diversity of rare disease cases. Advances in medical technology and genetic testing have improved the accuracy and speed of rare disease diagnosis. This has led to a higher number of patients seeking treatment. The aging population in North America is prone to age-related rare diseases, such as certain forms of dementia and neurodegenerative disorders, further driving demand for therapeutics.

## Favorable Regulatory Environment

The favorable regulatory environment is a crucial driver for the growth of the North America Rare Disease Therapeutics Market. This regulatory framework is designed to incentivize the development of treatments for rare diseases and ensure that patients have access to innovative therapies. Regulatory agencies in North America, such as the U.S. Food and Drug Administration (FDA), offer orphan drug designation to pharmaceutical companies developing therapies for rare diseases. Companies are granted market exclusivity for a defined period (typically seven years in the U.S.). This exclusivity allows them to recoup their investment and generate revenue without competition. Companies can benefit from tax credits for qualified clinical testing expenses associated with orphan drugs, reducing their overall development costs. Orphan drug status may make companies eligible for research grants and funding, encouraging investment in rare disease drug development. Regulatory agencies offer accelerated approval pathways for rare disease treatments. These pathways are designed to speed up the development and review process, allowing therapies to reach patients more quickly. Rare disease therapies often receive priority review, which means that regulatory agencies give them special attention and expedite their evaluation.

In some cases, rare disease treatments can be granted fast-track designation, further expediting their development and review. Rare diseases often have small patient populations, making it challenging to conduct large-scale clinical trials. Regulatory agencies recognize this challenge and are often more flexible in accepting data from smaller trials, including data from compassionate use programs and expanded access

programs. In rare disease trials, surrogate endpoints or biomarkers may be used instead of traditional clinical endpoints, allowing for quicker assessment of a treatment's efficacy. In some cases, pharmaceutical companies that study their rare disease treatments in pediatric populations can earn an additional six months of market exclusivity.

### Advances in Biotechnology and Pharmacology

Biopharmaceutical advancements have paved the way for the development of targeted biologics and gene therapies tailored to rare disease-specific molecular pathways. These therapies offer precision treatment options. The concept of precision medicine has gained traction, allowing for the customization of treatments based on an individual's genetic makeup and the specific genetic mutation causing their rare disease. The ability to tailor therapies to the unique genetic profiles of patients with rare diseases has led to more effective and less invasive treatments.

### Growing Patient Advocacy and Awareness

North America boasts a strong network of rare disease patient advocacy groups and organizations. These groups play a pivotal role in raising awareness, funding research, and advocating for improved access to therapies. The concerted efforts of rare disease advocacy groups and medical professionals have led to improved diagnosis rates. This has ensured that more patients are identified and receive the appropriate treatment. Public and private initiatives have been established to fund research into rare diseases. This funding supports the development of novel therapeutics and fosters innovation in the field. Rare disease organizations actively engage in educational initiatives, ensuring that healthcare professionals are well-informed about rare diseases and their management.

The growth of the North America Rare Disease Therapeutics Market is driven by the increasing prevalence of rare diseases, a favorable regulatory environment, advancements in biotechnology and pharmacology, and the active involvement of patient advocacy groups. These drivers collectively contribute to the development and availability of innovative treatments for patients with rare diseases in North America.

### Key Market Challenges

#### Limited Patient Pool

Rare diseases, by definition, affect a limited number of individuals. This inherently restricts the patient pool for therapies developed to treat these conditions. Conducting clinical trials for rare disease therapies can be challenging due to the small number of eligible patients. This can result in longer trial durations, recruitment difficulties, and higher development costs. The limited patient pool may raise concerns about the economic viability of rare disease therapies, as they may not generate the same revenue as treatments for more common conditions.

### High Development Costs

Developing treatments for rare diseases often requires extensive research into the underlying genetic and molecular mechanisms. This can be resource-intensive and costly. Small patient populations can result in higher per-patient clinical trial costs. Companies must invest in specialized infrastructure and expertise to conduct these trials effectively. The uncertainty surrounding the commercial success of rare disease therapies can deter pharmaceutical companies from pursuing development efforts, especially when compared to treatments for more prevalent conditions.

### Access and Affordability

Despite regulatory incentives, there can be challenges in ensuring that rare disease therapies are accessible to patients, particularly those in remote or underserved regions. Many rare disease therapies, particularly biologics and gene therapies, can be expensive to manufacture and administer. High costs can create affordability issues for patients, healthcare systems, and insurers. The reimbursement landscape for rare disease therapies can be complex. Negotiating favorable reimbursement agreements can be time-consuming and may vary by region. There can be disparities in access to rare disease therapies based on factors such as socioeconomic status, geographic location, and insurance coverage, which can hinder equitable access to treatments.

### Key Market Trends

#### Advancements in Precision Medicine

One of the most prominent trends in the rare disease therapeutics market is the development of highly targeted therapies. Advances in genomics and molecular biology have enabled the identification of specific genetic mutations and molecular pathways associated with rare diseases. This understanding allows pharmaceutical companies to design therapies that precisely target the underlying causes of these conditions.

Precision medicine is becoming increasingly personalized, with treatments tailored to the unique genetic profiles of individual patients. This trend is driven by the recognition that rare diseases can manifest differently among patients, even when caused by the same genetic mutation. Personalized treatments aim to maximize efficacy while minimizing side effects.

The use of biomarkers, such as genetic markers or specific protein levels, is becoming more prevalent in rare disease diagnostics. These biomarkers aid in early diagnosis, patient stratification, and the monitoring of treatment responses, facilitating more effective and timely interventions. Advances in genomics, high-throughput sequencing technologies, and bioinformatics have made it possible to identify rare disease-causing mutations with greater precision. This has created a strong foundation for the development of targeted therapies and personalized treatment approaches, improving outcomes for patients.

### Gene and Cell Therapies

Gene therapy has emerged as a groundbreaking approach in the treatment of certain rare diseases caused by single-gene mutations. These therapies involve the delivery of functional copies of the defective gene or the correction of the mutated gene itself. Cell-based therapies, such as CAR-T cell therapies, are gaining prominence in the rare disease therapeutics market. These therapies involve modifying a patient's own immune cells to target and destroy disease-causing cells, particularly in rare cancers and genetic disorders. Regulatory agencies in North America have provided orphan drug designation to many gene and cell therapies for rare diseases, offering incentives for their development. This has accelerated research and investment in this area.

Advances in molecular biology, gene editing technologies like CRISPR-Cas9, and a deeper understanding of the genetic basis of rare diseases have paved the way for the development of gene and cell therapies. These therapies offer the potential for long-lasting or even curative treatments for certain rare diseases.

### Patient-Centric Care and Advocacy

Rare disease patient communities have become increasingly empowered and vocal, advocating for their needs and driving awareness about their conditions. This has led to greater recognition of the unique challenges faced by individuals with rare diseases. Patients, advocacy groups, and researchers are collaborating more closely than ever. Patient registries, natural history studies, and patient-reported outcomes are

contributing valuable data to research efforts, aiding in the development of rare disease therapies. Pharmaceutical companies are implementing expanded access programs and compassionate use policies to provide earlier access to experimental therapies for patients who have exhausted all other options. This trend reflects a commitment to addressing unmet medical needs.

Advances in communication and social media have enabled rare disease patients and their families to connect and mobilize on a global scale. Their advocacy efforts have not only raised awareness but also influenced research priorities, regulatory decisions, and industry practices, making rare disease care more patient-centric.

## Segmental Insights

### Therapeutics Area Insights

Based on the category of Therapeutics Area, the Hematologic Diseases segment emerged as the fastest-growing segment in the North America market for Rare Disease Therapeutics in 2023. Hematologic rare diseases encompass a wide range of disorders, including various types of anemia, hemophilia, and certain rare blood cancers like multiple myeloma and certain types of leukemia. The prevalence of these rare hematologic disorders contributes significantly to the segment's prominence. Hematologic diseases can be complex and challenging to diagnose and treat, making them an area of intensive research and development for innovative therapies.

Many rare hematologic diseases have limited treatment options available. Patients with these conditions often have unmet medical needs, creating a strong demand for novel and effective therapeutics. The scarcity of treatments for specific hematologic rare diseases can lead to market exclusivity for companies that develop effective therapies, providing a competitive advantage. Hematologic rare diseases often qualify for orphan drug designation, which comes with incentives such as extended market exclusivity, tax credits, and research grants. These incentives encourage pharmaceutical companies to invest in research and development for rare hematologic disease therapies. Advances in biotechnology, including gene therapies and precision medicine approaches, have revolutionized the treatment landscape for rare hematologic diseases. These innovative therapies offer new hope to patients. The conduct of clinical trials for hematologic rare disease therapies has expanded, with a focus on demonstrating safety and efficacy. This has led to the development of cutting-edge treatments. These factors are expected to drive the growth of this segment.



## Route of Administration

Based on the category of Route of Administration, the Injectable segment emerged as the dominant segment in the North America market for Rare Disease Therapeutics in 2023. Injectable therapies offer a rapid onset of action, providing immediate bioavailability of the medication. This is critical in managing acute or life-threatening rare diseases where timely intervention is essential. The injectable route allows for precise dosing, ensuring that patients receive the exact amount of medication needed for their condition. This precision is particularly crucial in rare diseases where small variations in dosage can have significant impacts.

Many rare diseases are caused by genetic mutations or require complex biological interventions. Injectable routes are well-suited for the delivery of biologics and gene therapies, which have become increasingly common in the treatment of rare diseases. Some rare disease treatments are sensitive to degradation in the digestive tract. Injectable formulations bypass the gastrointestinal system, delivering therapeutics in a stable and intact form. Injectable therapies often require less frequent dosing compared to oral medications, enhancing patient compliance. This is particularly beneficial for patients with rare diseases who may already face treatment challenges. In many cases, injectable treatments are administered by healthcare professionals, ensuring proper administration and reducing the risk of medication errors. These factors are expected to drive the growth of this segment.

## Drug Type

Based on the category of Drug Type, the Biologics segment emerged as the dominant segment in the North America market for Rare Disease Therapeutics in 2023. Biologics are designed to target specific molecules or pathways associated with rare diseases. This level of precision is crucial for treating conditions with complex underlying mechanisms. Unlike some conventional drugs, biologics tend to have fewer off-target effects, minimizing collateral damage to healthy tissues. This specificity enhances both safety and efficacy. Many rare diseases have a genetic or molecular basis, necessitating therapies that can address intricate molecular mechanisms. Biologics are well-suited for this purpose, as they can be engineered to interact with specific molecular targets.

Rare cancers often require targeted therapies. Monoclonal antibodies and other biologics have demonstrated effectiveness in treating rare cancer subtypes. Some rare diseases, such as certain autoimmune disorders, benefit from therapies that modulate

the immune system. Biologics, including monoclonal antibodies, can achieve this by targeting specific immune cells or signaling molecules. These factors are expected to drive the growth of this segment.

## Country Insights

The United States emerged as the dominated country in the North America Rare Disease Therapeutics market in 2023, holding the largest market share in terms of value. The United States boasts a highly developed healthcare infrastructure, including renowned medical institutions, specialized treatment centers, and a well-established pharmaceutical industry. This infrastructure is well-suited for the diagnosis, treatment, and management of rare diseases. The U.S. is a global hub for biopharmaceutical research and development, with numerous pharmaceutical and biotech companies dedicated to rare disease therapies. This has resulted in a robust pipeline of innovative treatments. The U.S. has a favorable regulatory environment that incentivizes the development of orphan drugs for rare diseases. These incentives, such as extended market exclusivity and research grants, encourage investment in rare disease therapeutics. The U.S. has a sizable population, including patients with rare diseases. This large patient pool creates a significant market for rare disease therapeutics. The U.S. has a strong network of patient advocacy groups and rare disease organizations that actively support research, raise awareness, and advocate for improved access to treatments. Health insurance coverage in the United States often includes rare disease therapies, making these treatments more accessible to patients.

## Key Market Players

Amgen Inc

BioMarin Pharmaceutical Inc

Alexion Pharmaceuticals Inc

Spark Therapeutics Inc

Ultragenyx Pharmaceutical Inc

Vertex Pharmaceuticals Inc

Novartis AG



Sanofi SA

Bristol-Myers Squibb Co

Bayer AG

#### Report Scope:

In this report, the North America Rare Disease Therapeutics Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

North America Rare Disease Therapeutics Market, By Therapeutics Area:

Hematologic Diseases

Cancer

Infectious Diseases

Cardiovascular Diseases

Metabolic Diseases

Endocrine Diseases

Musculoskeletal Diseases

Others

North America Rare Disease Therapeutics Market, By Route of Administration:

Injectable

Oral

Others

## North America Rare Disease Therapeutics Market, By Drug Type:

Biologics

Biosimilar

Small Molecules

## North America Rare Disease Therapeutics Market, By Distribution Channel:

Specialty Pharmacies

Hospital Pharmacies

Online Pharmacies

## North America Rare Disease Therapeutics Market, By Country:

United States

Canada

Mexico

## Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the North America Rare Disease Therapeutics Market.

## Available Customizations:

North America Rare Disease Therapeutics 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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