

Logistics Services Providers Expand Services To Meet Demand For Biopharmaceutical Drugs



This article is part of a series of stories exploring “Business Trends and Communications Strategies in the Pharmaceutical 3PL Market.”

New Types of Drugs Pose Logistics Challenges

New types of drugs with special handling and distribution requirements are creating new opportunities in the pharmaceutical supply chain. Biopharmaceuticals incorporate human material into drug manufacturing to effectively treat patients. The opportunities that biopharmaceuticals present to the pharmaceutical supply chain are significant.

Specialty Pharmaceuticals Advance Patient Therapy

Most drugs are developed by manipulating chemicals to create a desired reaction with a therapeutic benefit. These ‘small molecule’ drugs were joined in 1982 with the first biologic drug marketed in the United States. Biologics are generally more complex compared with small molecule formulations because they are manufactured through biological means and could contain extractions of human blood, genes, cells, and other bodily tissue.

Cell and gene therapies are a new class of medications personalized for the patient, meaning manufacturing

and distribution is for a market of one person. First marketed in 2017, they work by altering one's DNA in order to regulate genetic functions. These drugs are used to treat a variety of conditions such as autoimmune diseases and cancer.

Most biopharmaceuticals and cell and gene therapies require special storage and handling to maintain potency as they move within the supply chain.

The market for non-cold-chain medications was \$959 billion globally in 2019. Products requiring cold chain logistics totaled \$15.7 billion the same year. Although both segments are growing, the share of cold chain products is rising faster compared with non-cold chain products.

Small Molecule Drugs Dominate the Marketplace

Small molecule drugs make up 90% of global drug sales in today's pharmaceutical market. Most traditional drugs are composed of small molecules that have been chemically synthesized, being absorbed through oral consumption. These conventional pharmaceutical drugs are designed to treat a broad variety of illnesses like cold and flu, often sacrificing effectiveness for versatility.

Many of these products require no cold chain handling.

But newer types of medications are changing the nature of the supply chain.



Biopharmaceuticals are manufactured to meet specific patient needs.

Biopharmaceuticals and Cell and Gene Therapies Gain Market Share

The future looks bright for patients requiring these high-value products. The FDA approved 35 biopharmaceutical drugs in 2019 and received 500 active investigational new [drug applications](#) involving [gene therapy products in 2018](#)

In the past decade, newly emerging classes of drugs, including **biologics and biosimilars**, are increasingly gaining traction.

The cost to develop biopharmaceuticals is more expensive compared with small molecule drugs and they generally require the patient to administer the medication through injection. When biopharmaceutical compounds come in contact with the body, chemical reactions occur with more interaction than generic drugs. As a result, biopharmaceuticals are more effective in treating complex illnesses.

Cell and gene therapy is a growing market for one-to-one patient treatment. By modifying the DNA coding sequence, the genes are rewritten in a way that eliminates the problem at the source. Examples of conditions that would benefit from gene therapy are lactose intolerance, cancer, heart disease and diabetes.

Specialty Pharma and Logistics Services

Biopharmaceuticals usually require temperature controlled storage and must be handled differently than conventional small-molecule medications. The delivery system designed for small molecule drugs needs to be re-engineered to accommodate biologics and cell and gene therapies.

The pharmaceutical logistics industry is generally geared towards moving large amounts of medications including small molecule drugs to dispensing points where the order is distributed for treatment. The market for biopharmaceuticals and cell and gene therapy is growing relative to overall pharmaceutical sales.



New drug classes require temperature controlled storage.

Special handling, storage and fulfillment is an opportunity for WDSrx to increase service offerings based on these new therapies. In 2020, drugs requiring 2-8 C storage and shipping will constitute \$341 billion worth of products, and will show 48% growth between 2018 and 2024. Non-cold-chain products are currently \$959

billion, rising by [27% in value by 2024](#).

Expanding cold chain capabilities across four locations in Pompano, Boca, Houston, and New Jersey is an opportunity to increase business in biopharmaceuticals. There are detrimental effects to leaving drugs out in uncontrolled conditions such as decreased product effectiveness. Increasing space to store temperature regulated biopharmaceuticals will ensure the products remain secure. Developing informational materials to distribute in person and online focusing on cold chain services and distribution capabilities also promote awareness with target groups.

Meeting with representatives of pharmaceutical companies who work with biopharmaceuticals is a good way to inform them on existing cold chain capabilities for new drugs. For example, attending biopharmaceutical related conferences such as the one hosted by the Bio Supply Management Alliance (BSMA) committee allows companies to gain insight into specialized services for biopharmaceuticals at WDSrx.

“Future business success for Third Party Logistics providers depends on the availability of cold chain capabilities in multiple environments and locations to satisfy manufacturers developing biopharmaceuticals,” according to Adam Runsdorf, President of pharmaceutical logistics services provider WDSrx. “Specialized supply chains for cell and gene therapies are a small but important component to deliver treatments in a one-to-one loop between patient and manufacturer.”

[Expanding Options For New Drug Classes](#)

As production methods and technology improve, specialized pharmaceuticals including biopharmaceuticals and cell and gene therapies fit patient needs more effectively. Tailoring pharmaceutical drugs to these specific individuals allows for better outcomes. These innovations increase the opportunities for pharmaceutical companies to manage patient health. Pharmaceutical 3PL companies that address the need to strengthen storage and distribution capabilities will capitalize on this emerging supply chain challenge.

For further information about logistics implications for biopharmaceuticals contact Larry Hotz at lhotz@wdsrx.com or call 561-998-3885 x304.