WHAT MAKES HEALTHCARE SUPPLY CHAIN DIFFERENT?

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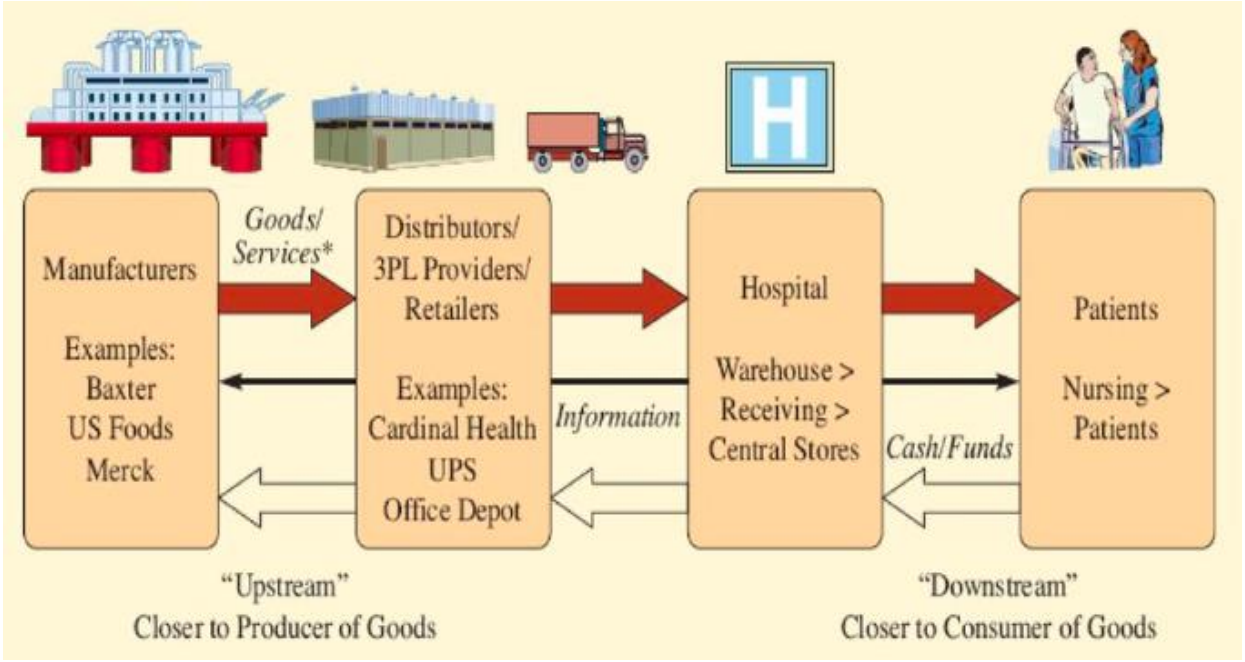
The supply chain generally refers to the resources needed to deliver goods or services to a consumer. In healthcare, managing the supply chain is typically a very complex and fragmented process.

Healthcare supply chain management involves obtaining resources, managing supplies, and delivering goods and services to providers and patients. To complete the process, physical goods and information about medical products and services usually go through a number of independent stakeholders, including manufacturers, insurance companies, hospitals, providers, group purchasing organizations, and several regulatory agencies.

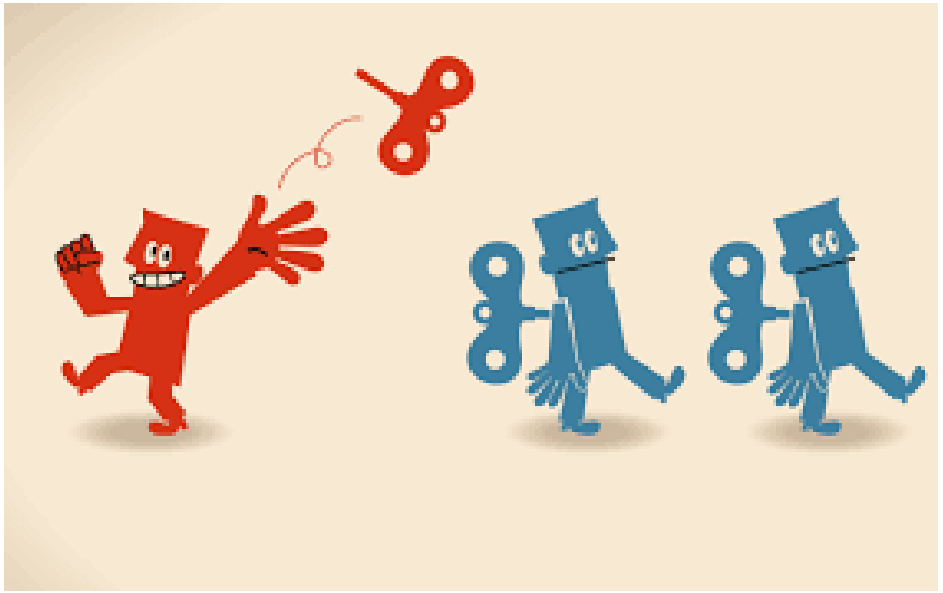


However, by promoting efficiency in the healthcare supply chain, hospitals and physician practices can create substantial cost-reducing opportunities across their organization.

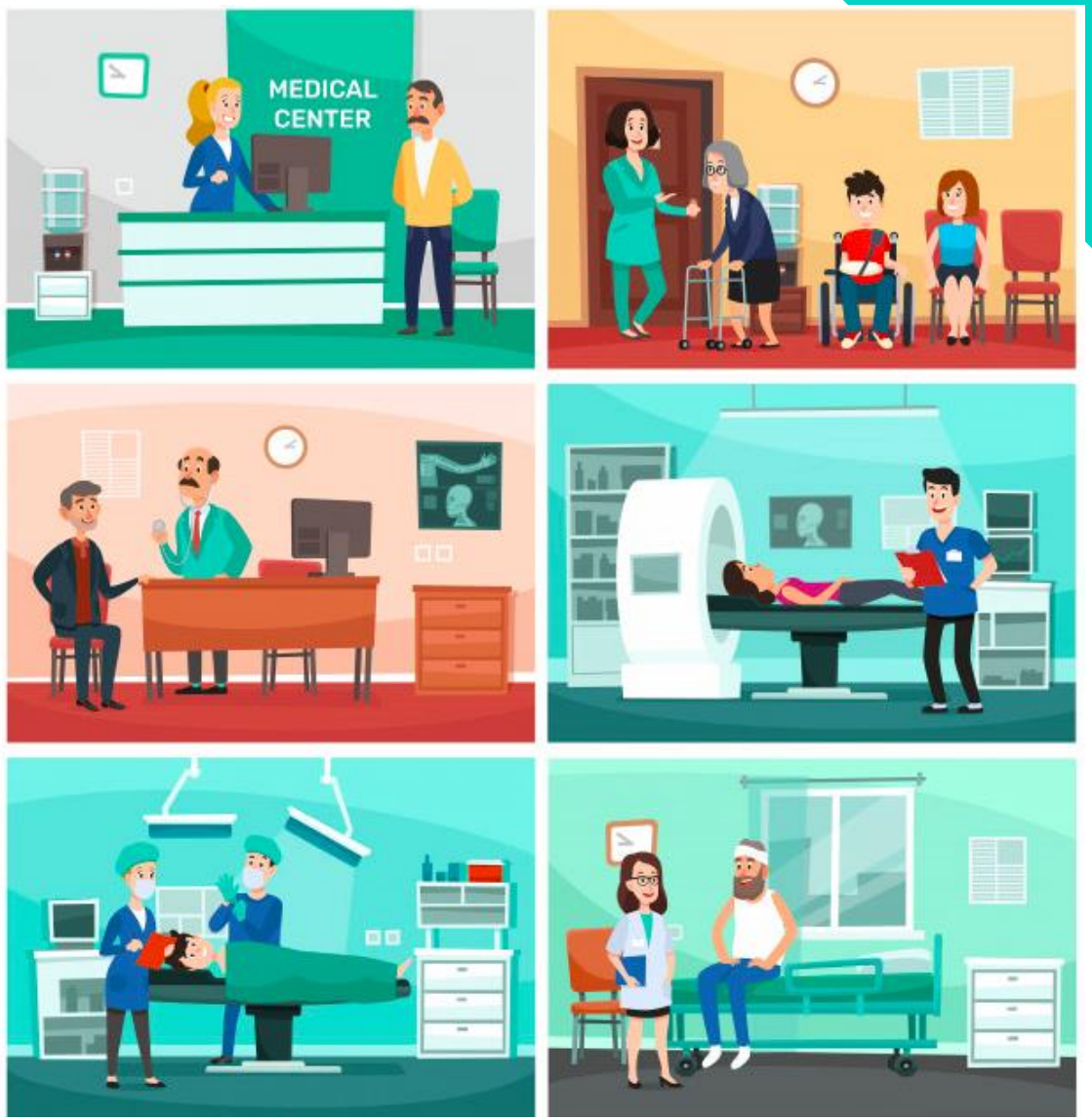
The key differences include physical and technical issues, such as:

- **The complexity of the end, the patients, and the complexities involved with caring for patients instead of building or delivering a finished product.**

Healthcare is different from other services because it is not clearly defined. In most industries, the product or service can be standardized to improve efficiency and quality. In healthcare, every consumer is structurally, chemically, and emotionally different. What works for one person may not necessarily work for another.



Healthcare also differs in terms of choosing consumers. In other services, there is a choice in selecting which person or industry business can be conducted with. It is not so in healthcare as treatment has to be provided to patients in places like the emergency room regardless of patients' ability to pay or not.



- **Consumers and their demand for healthcare**

Demand by definition is an economic concept that describes consumer's desire to pay a price for goods or services. If all other factors are constant, a rise in the price of a good or service will reduce demand and a decrease in the price of a good or service will increase demand. Healthcare demand is gradually rising. According to Dixon-Fyle, Sundiatu, Kowallik, Thomas (2010) Engaging consumers to manage health care demand. Mckinsey & Company, many countries will spend more than 20% of Gross Domestic Product (GDP) on health care by 2050.

Two main contributors to this growth are the increasing prevalence of preventable illness and the suboptimal use of healthcare resources. These factors are influenced by choices consumers make. For instance, obesity is on the rise in the United States. Obesity is preventable and can increase the risk of diabetes, stroke, and heart disease. Some patients do not take appropriate control of their health and seek treatment when conditions become chronic. The lack of initiate to live a healthy life and prevent chronic illness such as obesity has led to the misuse of the healthcare system, hence, increased cost.

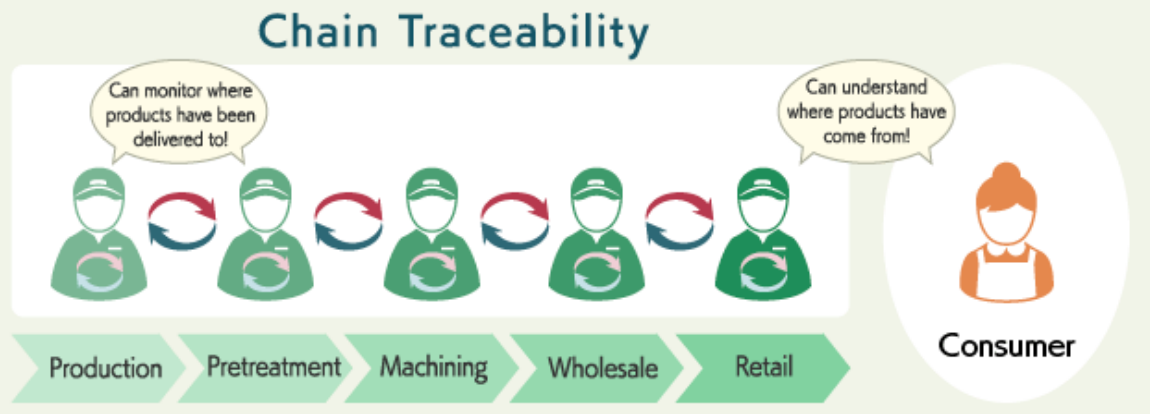
- **The quality of health makes it difficult to meet the ideal market solution**

Health is not a marketable product. It is not possible to swap “good health” between customers. For instance, Customer A cannot change his or her hemoglobin A1C result of 5.6 with Customer B whose result is 11.9. In other services, if Mr. A purchases an air purifier online from Amazon, if he chooses to return the product because of any reason, he can. If he decides he wants to sell it on Craigslist, he can also do that. This type of exchange is not possible when it comes to health.

Unlike other goods or services where demand can be predictable, and consumers have the ability to test the product or service before consumption. For instance, If Mr. G is thinking of purchasing a phone application to track weight loss goal for $12.99, the company offering this service can give Mr. G a 30 days free and no commitment trial period. This type of service is not possible in healthcare. A patient cannot have a 30 days trial for gastric bypass. After the completion of a surgical procedure, there is no "give me my money back" and the patient has to live with the outcome whether it is an expected positive outcome or adverse outcome with surgical complications

- **Traceability is the new watchword in the healthcare supply chain**

Thanks to the opioid crisis and the new laws and regulations that were created in response. Now, medical products manufacturers are required to increase the traceability of all pharmaceuticals and ingredients throughout the pharmaceutical and healthcare supply chain, thanks to the Drug Supply Chain Security Act (serialization requirement). The law details “requirements for manufacturers, repackagers, wholesale distributors, dispensers, and third-party logistics providers (trading partners).”



Traceability is a key driver in the Healthcare sector for:

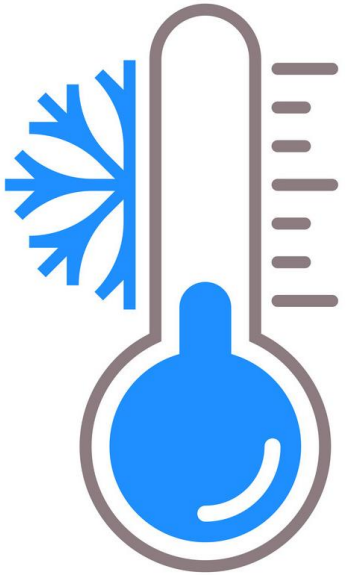
- Patient Safety
- Preventing counterfeiting
- Enabling correct patient records
- Enabling effective product recalls
- Traceability down to the patient
- Enabling regulatory compliance
- Enhancing business processes (e.g. inventory management, optimized supply chain efficiency, eProcurement)

In June 2014, the FDA released guidance to help healthcare supply chain trading partners “more readily identify, quarantine and investigate suspect and illegitimate products.” And several key requirements, like a system for product tracing, are supposed to be phased in between 2015 and 2023. This product tracing is where 3PLs and EDI providers like SPS Commerce have a part to play.

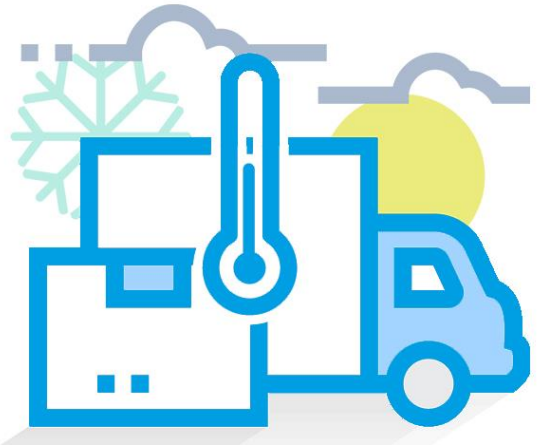
For one thing, traceability helps reduce the chance of expired drugs being distributed to patients. Inventory software, inventory visibility and supply chain visibility systems notify warehouse workers as well as distributors when they have products nearing their expiration dates on their shelves. Product bar codes and scanners can ensure that the right batches of drugs are removed from the shelves at the right times, and full inventory counts can be completed in hours, not days.

- **Cold chain logistics - An essential component of the healthcare supply chain**

The term ‘cold chain logistics’ refers to the storage, handling and transportation of product under temperature-controlled conditions. These conditions can be frozen, chilled or ambient, but any product that requires a controlled, monitored environment where a constant temperature is maintained is included. A poor handling of the cold chain during shipping could cause a drug to lose potency and even become toxic as a result of degradation triggers in the drug’s formula. Their focus is to provide cold chain management for temperature sensitive drugs to ensure that the quality and efficacy of the product will not be compromised.



Compared with dry cargo, supply chain risk increases exponentially when dealing with temperature-controlled transportation and storage. Temperature excursions (where cargo temperatures deviate from the shipper's optimal levels) can cause massive financial losses due to spoilt, damaged or degraded cargo. According to temperature monitoring specialists, the Healthcare industry suffers north of $15bn in product losses every year due to cold chain interruptions. This staggering figure has led suppliers to press their logistics partners for more stringent commitments and safety measures to ensure cargo is delivered as expected.



An example of how a seemingly small error can cause huge losses comes from the pharma-giant GlaxoSmithKline (GSK). In one case, GSK lost an entire vaccine shipment, worth millions, when Fahrenheit temperatures were misread as Celsius.

Cold chain logistics is becoming ever more important in the globalized supply chain world we live in today. Areas of the world that were previously unconnected to Western medicine, now have access to life-saving drugs such as insulin and cancer treatments, but only if there is no break in the cold supply chain.

- **Mitigating risk across the healthcare supply chain**

In the healthcare industry, we are surrounded by risk. We have offices that are dedicated to the subject. Yet, rarely are risk assessments performed on the supply chain. They should be. The supply chain holds major, but often invisible, risks to the healthcare industry.

There are two major risk categories that affect the healthcare supply chain; Business Risk and Operational Risk.

Business Risk has the greatest amount of visibility as it has the greatest immediate impact on the organization. For instance, a new Magnetic Resonance Imaging (MRI) suite is being installed and must be available for use by a certain date. This piece of capital equipment has the attention of many people! Another example might be the award of a new contract for IV Pumps to replace the aging fleet of older pumps.

Operational Risks are not so visible, yet can be immediately thrust to the forefront if a problem occurs. Operational Risks, when made visible, are often found in the public in newspapers, television, and on the internet.

Examples of Operational Risks are:

- An equipment manufacturer is unable to meet a demand because one of its suppliers (off shore) is unable to meet its own demand AND there are no U.S. manufacturers of this supply.
- Injectable medication has been identified as having been tainted and it is unknown if the hospitals supply chain is affected.
- Nuclear Medicine Camera, with no apparent reason, falls on a patient.
- Surgical equipment requiring a specialized cleaning regimen is labor-intensive when following the manufacturer's instructions.

Healthcare Supply Chain Managers must be mindful of the potential impact that Operational Risks pose to the supply chain and the healthcare system. Recognizing and assessing the potential for these risks early in the acquisition allows the manager to develop strategies to mitigate the outcome.

A common tool used to assess risk is the Failure Modes and Affects Analysis (FMEA). The FMEA allows for a more in-depth identification and understanding of the potential risks which may befall the product or service being acquired, assess (rate and rank) its effect on the system, and provide mitigation strategies. While this may seem like overkill in the beginning, should a problem occur, you will be glad you did this.