Managing an Efficient Supply Chain – Healthcare Sector

A global network used to deliver products and services from raw materials to end users through flow of information, physical distribution and cash defines what a 'supply chain' is. In the healthcare sector, the end user is the patient, and the only product that they are after is improved health at the most affordable price possible.

"Healthcare is not based on supply and demand. It can't be stocked like it's a traditional product, so a hospital's supply chain is very different from a business or organisation supply chain."

(Mike Rip, 2019)[1]

Manufacturing and supply of pharmaceuticals and medical devices is now more complex than ever. Most organisations are now focused on expanding their product portfolios to be merely able to lengthen product life-cycles or, in many cases, meet the rapidly evolving market requirements. Affordable products have now become a requirement for almost every emerging economy. With greater emphasis being placed on compliance and regulatory scrutiny of the healthcare products, supply chains across the healthcare sector still remain fragmented and weak, ultimately putting more and more patients at risk. This results in a loss of billions of dollars every year and undermines the ability of the healthcare sector to stand up to the current challenges it faces.

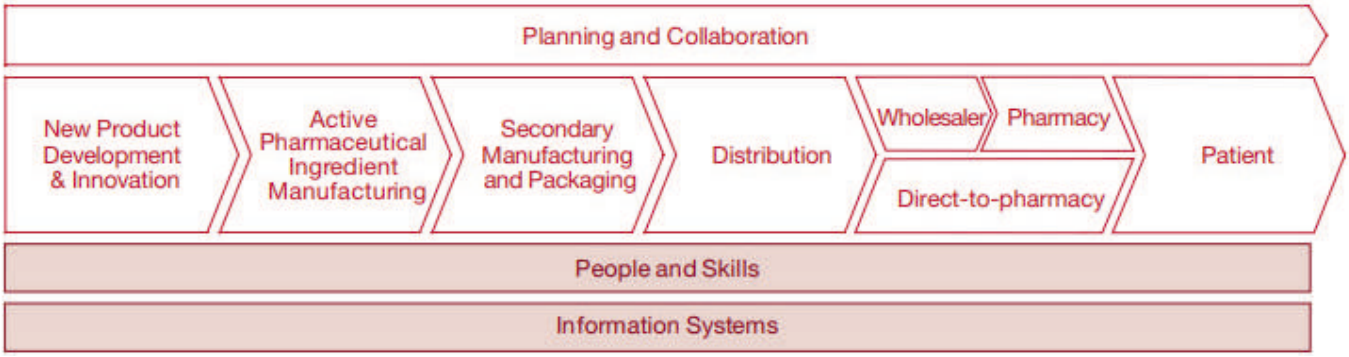
The supply chain across the healthcare sector is now being drastically transformed through the evolution of technology. There are increasingly more opportunities that allow an organisation within the healthcare sector to increase the optimisation and the flow of products amongst different manufacturers, purchasers and suppliers. Managing a supply chain in the healthcare sector is not easy; the healthcare supply chain has been disrupted for a while now and this lack of cohesiveness has made it very difficult for organisations in the healthcare sector to seamlessly adapt to the fluctuations in both the supply and demand from various vendors, distributors and group purchasing organisations (GPOs).

The supply chain serves as a backbone for the healthcare sector, right from the development phase, all the way through to the end user (hospitals, pharmacies or even the patients). Supply chains across the healthcare sectors are essentially supposed to cover all organisational, operational and value-adding activities that are typically needed to get these products manufactured and finally delivered to the end user.[2]

Transforming supply chains through limited improvement efforts will only yield poor or rather insignificant results. In order to have a healthy and fully reliable supply chain, it is important that greater focus be placed on comprehensive, integrated, complex efforts in order to automatically result in greater payoffs. Supply chains are accountable for nearly 25% of all pharmaceutical costs and nearly 40% of all medical device costs. Average spending on the global consumption of pharmaceuticals is vast – roughly $230 billion a year and about $120 billion on medical devices.

Managing Shortages and Improving Safety:
In the United States alone, drug shortages have tripled and in turn resulted in almost half a billion dollars' worth of costs being added to hospitals worldwide since 2005. Drug shortages create a market for counterfeiters, who are quick to close in on the opportunity that arises in the event of shortages caused in the supply of legitimate and genuine pharmaceuticals and medical devices. These shortages often threaten the safety of the patients and also substantially slash the revenues for legitimate companies. There is a 33% surge each year in supply chain breaches, not just in the largest economies of the world such as China and India, but also in other developed markets across the globe.

An average of 1 in 10,000 patients falls victim to the medication errors that occur worldwide across all hospitals. Having a streamlined and efficient supply chain process is critical to the safety of the patients. Adopting the right methods and managing supply chains efficiently would result in counterfeiting being slashed by nearly 50%, resulting in nearly $15 to $30 billion in revenue being returned back to the legitimate companies, which could use the funds for reinvestment towards the improvement of patient care.[3]

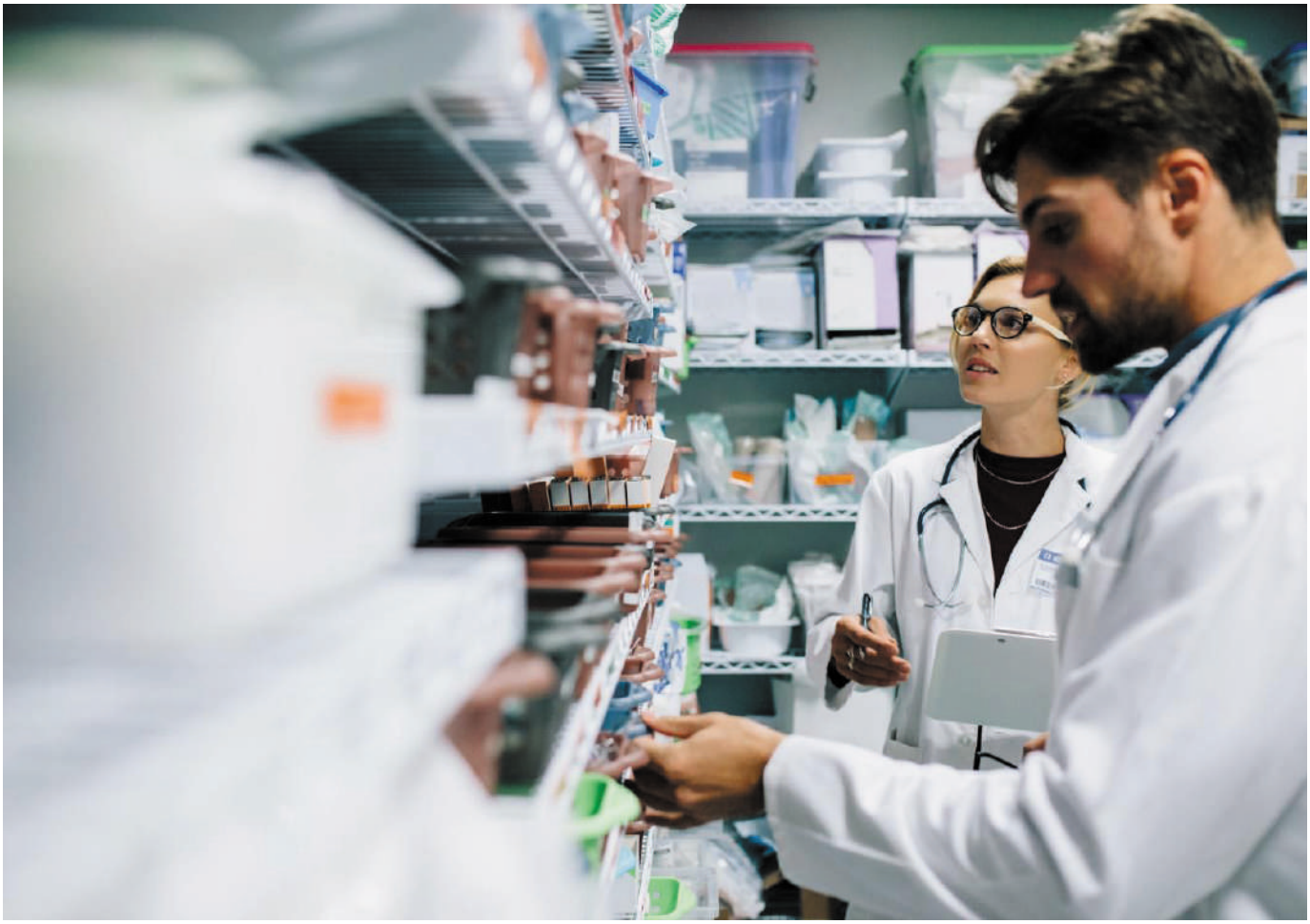


Managing a Supply Chain Across the Healthcare Sector:

1. **Virtual centralisation of the supply chain:**
   Organisations that use virtually centralised systems for managing their supply chains can help hospitals and clinics to reduce/control costs as well as improve their overall levels of service. The process surrounding virtually centralised supply chains is to integrate operations from a market perspective rather than the health system. Hospitals that operate within the same region or city can opt for a consolidated service centre (CSC) that can be jointly owned and managed by different hospitals that fall in the same region. A consolidated service centre is responsible for bringing together geographically based group of hospitals and clinics to form one single entity that can work together on centralising their contracting, sourcing, distribution and logistics functions. This approach will help solve the problems that arise due to time and budget shortages. Cost reduction and conflict resolution are key aspects where the impact of an introduction of a consolidated service centre will be noticed.[3]

2. **Segmentation:**
   The majority of pharmaceutical and medical device organisations run a 'one-stop shop' supply chain solution. The forced movement of products through this solution of supply chain results in multiple inefficiencies – larger inventory of certain products while high demand products remain in short supply or rescheduling production demands to simply meet all and every urgent requirement that arises. Segmenting your supply chain on the basis of the requirements of the customers or on the basis of the characteristics of the products can help tackle these problems in a rather efficient manner. Segmentation can allow the pharmaceutical and medical device companies to develop different production, forecasting and distribution strategies for each product on the basis of their characteristics and demands in the market.[3]

3. **Agility:**
   Agility is creating a model that is not just fast but also capable of responding to the fast-changing consumer demands and needs, possibly at a reduced cost. On average, the replenishment cycle of pharmaceutical products from the manufacturing plants to the distribution centres is roughly about 75 days. In comparison, FMCG (fast-moving consumer goods) can perform a similar replenishment cycle for their products in a fraction of the time taken by pharmaceutical manufacturing plants. Setting up an agile supply chain model will bring about stability in terms of production and replenishment, as well as visibility. Following a more structured and disciplined cross-

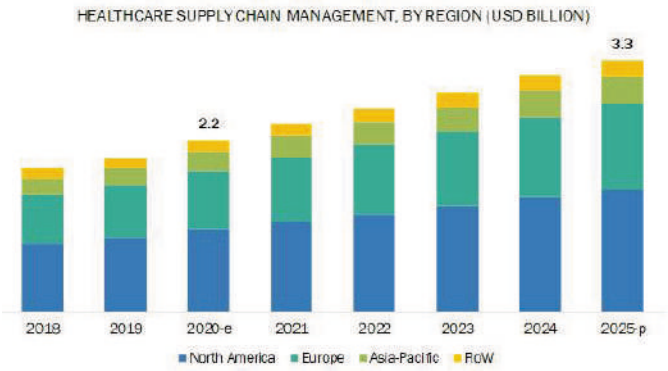


functional process, regular and more frequent communication and understanding the underlying problems facing the supply and demand of these products will help curb all bottlenecks.

4. **Use of RFID (radio frequency identification) applications in healthcare:**
The use of radio frequency identification applications can help link up the products to the internet. These applications help in tracking and tracing the products spread across the hospitals/clinics and also shed light on data/information surrounding the products. In comparison to the old school technique of barcoding, RFID applications offer a more robust solution by eliminating the need for intervention by humans as they do not require any direct line of sight identification. An RFID application can be programmed according to the need of the user. These applications contain information about product weights and location. The use of this application reduces time spent on tracking a particular product and offers accurate information and processes that eventually provide value to services.[4]

The global healthcare supply chain management market is expected to reach about $3 billion by the year 2025. This is expected to rise at a market growth rate of 7.9% CAGR (compound annual growth rate) during the forecast period.[5]

The transformation of the supply chain for healthcare can do much more than improve the end result. In meeting the supply chain leadership challenge, pharmaceutical and medical device companies can now provide far safer and more affordable access to medicines and medical devices that can improve or even save the lives of people across the globe. Inefficiencies that arise in the supply chain of the healthcare sector can now be made more efficient through the process of creating solutions that will increase efficiency, drive down costs and, most importantly, result in improving positive patient outcomes. Through the use of segmentation, agility and RFID applications, the healthcare sector can witness a surge in labour costs being reduced significantly, automatically resulting in pharmaceutical and medical device companies investing more of their resources directly towards the care of patients. The use of end-to-end supply chain solutions and managing the supply chain of the healthcare sector efficiently will pave the way for a brighter future of the industry.



The demand for controlling the healthcare supply chain is segmented into different categories such as manufacturers, vendors and distributors. Manufacturers must cater to their end users' growing demand for pharmaceutical products and medical devices. As a result, manufacturers are looking primarily at those supply chain management solutions that will help them to become faster, more reliable and efficient, and help reduce costs where possible. This is one of the reasons why more and more pharmaceutical and

medicine device manufacturers are opting for streamlined supply chain management solutions.

Managing a supply chain model is usually done through the achievement of three main criteria that are essential towards the successful and smooth running of these pharmaceutical and healthcare organisations. These are achieved through collaborative governance structures, implementing efficient and reliable processes and investing in information systems that will yield greater benefit and returns in the long run. The majority of the hospitals and clinics across the world are now very focused on setting up governance structures in order to be able to maintain a balance between providing the highest quality of care, and at the same time reducing costs.

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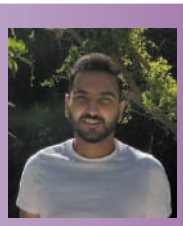

Sharan has over five years of widespread experience in the management of supply chain and logistics solutions across various industries. He has a long-term track record in managing supply chain and logistics strategies needed to make an organisation more effective in achieving its business goals. Sharan possesses a Master's degree from Middlesex University in Supply Chain and Logistics Operations.

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