2021 WHOLESALE DISTRIBUTION TRENDS

IN LIFE SCIENCES

CLARKSTON CONSULTING

2020 brought many changes to wholesale distribution for life sciences. Heading into 2021, distribution of coronavirus vaccines, optimizing warehouses and distribution systems with technology, and growth in ePharmacy setting the stage for potential industry disruption are some emerging trends sure to impact the industry.

TREND #1:

Wholesale distributors' role in effective distribution of coronavirus vaccines

Managing COVID-19 vaccines is bound to be a top priority for wholesale distributors in 2021, as trials and government authorizations near a close. Many manufacturers have **started producing these vaccines** in massive quantities as final approvals approach confirmation, but some distribution barriers and potential problems are being brought to light, highlighting a need for agile and cautious wholesale distributors.

Various coronavirus vaccine candidates have different cold-chain requirements, which could make transporting them difficult. So far, it seems that **Pfizer/BioNTech's vaccine candidate** must be carefully handled in freezing temperatures and can only be used within one day of refrigerated thawing. Moderna's vaccine has a similar freezing requirement but can be stored for approximately one week after thaw.

Some parts of the world do not have proper infrastructure to handle these requirements, and healthcare providers in these areas may even need to receive vaccine shipments by animal delivery or solar-powered refrigerator, giving **companies like AstraZeneca** that are producing vaccine candidates with less stringent refrigeration requirements a competitive edge in these regions. **Maersk and COVAXX** have established a supply chain management partnership with plans to focus on these developing nations, especially since COVAXX's candidate has less strict storage requirements, making it more realistically available for distribution in standard grocery refrigeration.

3 billion people live in parts of the world where many vaccine refrigeration requirements are not achievable for effective distribution.

SOURCE

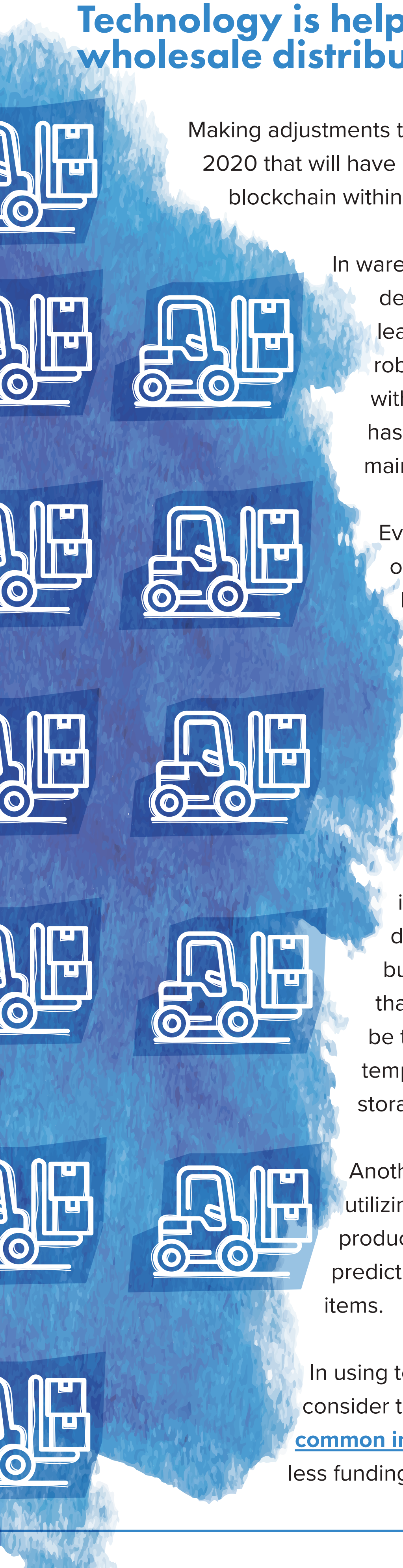
AmerisourceBergen's **Innomar Strategies has taken a role as a 3PL provider** for vaccine distribution in Canada, using temperature mapping and systems monitoring. The firm will also support **distribution to independent retail pharmacies in the US** in a partnership with the US CDC. McKesson has also been in communications with stakeholders and has **partnered with the US federal government** to distribute vaccines. Wholesale distributors should consider their strengths and capabilities in alignment with the vaccine candidates to best support distribution.

Other transportation issues are being considered, such as the potential for limited freight capacity. For air transport, global-scale capacity needs are **estimated to range from 1,000 to 8,000 747 cargo aircraft**. This requirement is realistically achievable but will still require proper planning by wholesale distributors. **United Airlines** has already started to distribute Pfizer's vaccine in preparation for FDA approval, transporting doses from Europe to Chicago while carrying five times the normal amount of dry ice allowed as specially permitted in order to maintain proper temperatures and increase flexibility. Additionally, both UPS and FedEx are indicating interest and taking preparatory steps for global distribution, with FedEx providing 90 cold-chain facilities across the world.

Keeping these vaccines potent and properly stored across many forms of transportation and **multiple points of transfer** is likely to be difficult. Providing speed, capacity, and ability to maintain temperature through cold chain storage should be maximized by distributors in order to move as quickly as possible and minimize difficulties. Wholesale distributors can take a lead on coordination between suppliers and healthcare providers or pharmacies to support vaccine availability and have a positive impact on supply chain management. Distributors must have a plan in place to avoid wasting a precious supply of vaccines, leaning on relationships, and cooperation across organizations to help fight the pandemic.

TREND #2:

Technology is helping in warehouses and inventory tracking as wholesale distributors navigate safety precautions



Making adjustments to keep employees safe during the coronavirus pandemic has been a priority in 2020 that will have lasting effects into 2021, driven by use of technologies such as AI, robotics, and blockchain within wholesale distribution.

In warehouses, a major challenge has been keeping employees safe while adjusting to demand surges. Wholesalers are focusing on ensuring that labor is distanced at least 6 feet through picking and packing activities, leading to growing use of robots for social distancing. AmerisourceBergen has amplified employee safety with distribution center robots that use UV to ensure disinfection, and McKesson has bolstered their use of automation to support fewer human laborers and maintain service stability even in demand uncertainty.

Even prior to the pandemic, adoption was higher for automation and robots than other supply chain technologies between 2019 and 2020, though smaller businesses were more likely unable to justify an investment until now. Warehouse robots can bring inventory to employees to pick, pack or ship, in addition to demonstrating other benefits such as the ability to use IoT connections for temperature controls. Additionally, AI paired with video data can help further ensure that workers are staying properly distanced and moving through a warehouse design most effectively.

Wholesalers' distribution processes are also utilizing digitization and sensors for temperature monitoring, which can help prevent damaged or unusable inventory, especially for important items like vaccines or plasma containing disease antibodies. Vaccines have not typically been tracked by dose in the past, but with the COVID-19 vaccine at top of mind, this is likely to be more important than ever. Using IoT sensors on pallets, cases, and units, temperature changes can be tracked, especially in handling inventory for air travel where less optimal temperature points more frequently occur. These sensors can send data to cloud storage, if needed.

Another tracking method is through barcodes which keep track of item journeys, utilizing blockchain for immutable records for monitoring to ensure safety and product preservation. Some companies provide AI and blockchain systems to make predictions, keep the distribution journey in check, and prevent stolen and counterfeit items.

In using tech for such important causes, it's imperative that wholesale distributors consider their current cybersecurity precautions. Cyberattacks have become more common in the pandemic, leaving smaller suppliers and distributors more vulnerable with less funding to maintain a high level of security with their operational infrastructures.

TREND #3:

ePharmacies are positioned to disrupt wholesalers

In the next few years, the rise of ePharmacy is likely to disrupt wholesale distributors, driven by recent strategic moves by Amazon. First, Amazon gained US pharmacy licenses by acquiring PillPack in 2018, and Amazon has since been able to **gain wholesale pharmacy licenses** in multiple states, overcoming a prior hurdle for shipping and pushing them closer to fulfilling **almost all of their supply chain** besides manufacturing. Amazon has also made other relevant moves in India through contemplating **investment in Apollo Pharmacy**, as well as by developing Amazon Pharmacy to attract business from Amazon Prime customers. When Amazon Pharmacy was recently announced, McKesson, Cardinal Health, and AmerisourceBergen **stock prices dropped by around 3%**. This demonstrates potential problems for wholesale distributors, since Amazon possesses such a large user base and pharmaceutical companies seem interested in Amazon's position to enable lowered costs across the supply chain.

43% of companies feel that they are not prepared to survive business disruptions due to lacking agility and redundancy

SOURCE

The US ePharmacy market is **predicted to reach over $150B** in 2026, demonstrating an exponential CAGR and challenging current supply chains from manufacturer to wholesaler to retailer. Because of the monopolistic or oligopolistic structure of the pharmaceutical market, as well as **inefficiencies with storing active pharmaceutical ingredients** long term, pharmaceutical manufacturers may be interested in a direct-to-consumer model operating through efficient ePharmacies, reducing reliance on wholesale distributors.

ePharmacies are predicted to **perform well in developed countries as well as developing countries**, as ePharmacies will increase customer focus on pricing and therefore impact user demand. To prepare for this change, wholesale distributors need to demonstrate agility and flexibility, and double down in emphasizing benefits they bring to partnerships with manufacturers and retailers.

Going Forward

As 2021 approaches and wholesale distributors for life science companies continue to adapt and adjust to issues brought forth by the coronavirus pandemic, their focus should remain on making the best choices related to promoting health and safety within their distribution network, as well as preventing further inventory shortages and mitigating any risk related to the impending distribution of varying COVID-19 vaccines.

The FDA recently gave life science wholesalers a reprieve by moving back the enforcement date by three years for product identifiers on saleable returned product before continued distribution. Wholesalers should take advantage by enabling cold-storage capacity and distribution, continuing best practices for social distancing and product handling, and improving their relationships and partnerships with key manufacturers, to not only further growth, but mitigate future concerns regarding priority.

Leading technologies, such as IoT sensors, AI-enabled robots or drones, and blockchain can further a mature wholesaler's operations and increase competitive advantage, especially considering potential for industry disruption by ePharmacies. Most importantly, continued action and improvement leads to the greatest success within the wholesale industry.

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