Examining Technology-Driven Trends in the Clinical Supply Chain

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Now that COVID-19 vaccine distribution is well underway, pharma and biotech companies are applying lessons learned from the pandemic to the clinical supply chain and new technology solutions. Pharmaceutical industry leaders are examining what they have learned, and whether they can apply key takeaways from the unprecedented COVID response to other therapeutics. In all of this, technology is key. The pandemic proved that healthcare is increasingly dependent on technology, which will only continue as time marches forward.

Three specialists—spanning a biopharmaceutical data strategist, a technology solutions partner, and a supply chain manager for a pharmaceutical company—recently met at the Global Clinical Supplies Group (GCSG) 2021 US Virtual Conference, held April 26-29, 2021. The panelists shared their unique experiences with technology in the clinical supply chain during the COVID-19 pandemic. This paper summarizes highlights of the discussion, lessons learned from the pandemic response and key takeaways as the panelists identified new technological trends for future implementation in the clinical supply chain.

Panelists' insights on the COVID-19 response

Ashish Honawar, Director and Data Strategy Business Lead for the Global Clinical Supply organization at Pfizer, reflected on the beginning of the pandemic, stating, "We saw a blip [on the map] in January 23 in Wuhan with a report that said there seems to be some kind of an event happening over there. Then fast-forward to July and you see the whole world map covered with the implications of that event."

Per Honawar, "Time was of the essence. In order to turn around the vaccine this quickly, a lot of creative thinking was required."

Manav Gautam, Manager of Clinical Supply Chain Systems and Analytics for Eli Lilly and Co., agreed, stating, "Even outside of just clinical supply, I think there was a realization of a sense of urgency and a common purpose across the board. And we had such a short time that creative thinking had to come into figuring out how to use our existing technologies in a different way."

Teamwork was also key. Honawar noted that the pandemic increased collaboration, "both within our internal and external teams, trying to work very closely with the clinical sites to make sure that these drugs were administered in the right way."

Being proactive made a difference as well. According to Andrea Ruosi, CEO and Founder of AX for Pharma 365, an ERP solutions partner that specializes in pharma, biotech and life sciences, the COVID-19 pandemic has "shown us that we can be proactive and improve forecasting and predictive analytics, and other technology, as compared to natural disasters such as hurricanes, where the response typically is reactive."

The lessons learned during COVID "can help us adapt more dynamically to changing situations," Ruosi said. "The pandemic has shown there's opportunity for centralized systems, agencies and providers to share information, since we're all trying to produce better therapeutics together."

Examining the greatest challenges in implementing technologies

"There's no dearth of challenges," said Honawar. "One of the challenges in business adoption is asking if it's going to save you time and save you money."

Communication and standardization also remain an issue. Ruosi noted, "We're coming up with new templates to implement in a faster way. The challenge is communication. The opportunity is standardizing and accelerating this technology while also reducing costs."

Meet the three panelists

Ashish Honawar

Data Strategy Business Lead, Pfizer

Ashish is an accomplished business intelligence, data strategy and analytics lead with extensive experience in identifying data analytics needs and helping clients gain insights into complex business problems. He has spearheaded several data visualization and data management projects to generate deep business insights and influence key business decisions. He has a Master's degree in Marketing Management and Bachelor's degree in Computer Engineering.

Andrea Ruosi

CEO and Founder, AX for Pharma 365

Andrea is an Enterprise SaaS executive and investor focused on delivering the highest possible quality in enterprise system strategy and implementations to the pharmaceutical, biotech, medical device and clinical supplies industries. Starting from a strategic assessment of a company's business needs and opportunities, he advises on optimizing processes and implementing existing technology like ERP, LIMS weighing & dispensing, business intelligence for the pharma and biotech industries, and how to select and deploy emerging technology like AI, ML, and RPA. Andrea has a Master's degree in Management and Industrial Engineering.

Honawar added, "When you start collaborating with your external partners and going to third-party systems, integration frequently becomes the weakest link in the overall goal that you're trying to achieve for end-to-end visibility. Agreeing on standards is a challenge. Just having one character off can lead to cascading failures across these systems."

Training employees to work with new technologies is another issue. Honawar stated, "People are so constrained for time. It's really hard for them to take some time out and do the traditional training pieces, especially when there's a ton of training already required in our highly regulated industry."

Gautam concurred, stating, "It takes a lot of work to implement a new technology."

Adapting technology to fit individual requests also poses a problem. Explained Honawar, "The other danger that we run into is in responding to these urgent requests. Frequently, we build point solutions, which is something that's useful for that kind of instance. And then you end up dying a death of one thousand cuts where you are now saddled with point solutions, and they don't align to the overall strategy or way of working."

Manav Gautam
Manager, Clinical Supply Chain Systems and Analytics, Eli Lilly and Company

Manav has a diverse background in the pharmaceutical, finance and information technology industries which fuels his passion for technology and leveraging it for clinical supply chain. Since joining Lilly in 2012, he has held various positions of increasing responsibilities spanning clinical trial supply management, demand planning, distribution, temperature excursion and IRT/RTSM supporting various technology solutions focused on improving patient/site experiences and optimizing business operations. Prior to joining Lilly, Manav was an Information Technology consultant and has over a decade of experience in the clinical supply chain domain. Manav holds a Bachelor's degree in Information Technology.

Technologies poised to impact the clinical supply chain in the future

Ruosi shared an array of new technologies with the panel. First, he discussed augmented reality technologies, such as Microsoft's HoloLens and Remote Assist. These systems can, among other things, maintain remote radiology machines. Ruosi stated, "You know how expensive it is to have the technicians come in. Instead, we can guide someone locally through this technology to locally maintain a machine."

Artificial intelligence for managing patient enrollment is another hot topic. Ruosi explained, "Microsoft Israel is actually looking at destructured data regarding patients and assessing which ones are the best candidates for future trials. We know that enrollment is the critical point as one of the highest costs that has very high variability."

Automated testing is another critical subject. Ruosi shared that when it comes to systems validation, "they're all moving to the cloud; the FDA is moving to computer software assurance from computer system validation."

Robotic process automation (RPA) is "the biggest trend in technology today," according to Ruosi. He explained that it "can be used internally or externally…this is another thing that, coupled with machine learning, artificial intelligence, and Internet of Things (IoT), creates a photocopy in the digital world of our physical process and helps us monitor it."

Honawar agreed that "with intelligent automation and IoT, fine-tuning all these inputs into forecasting plays a big role and might be the next big thing."

Blockchain is also considered a hot technology. Manev shared that it "has the potential to change the way we do our business in the future." While we're still in the learning phase, "there's clear benefits, such as the obviation of the need for middlemen, because it's so transparent, any transaction once made kind of stays there. It cannot be edited or modified and is viewable by all parties."

Manev also mentioned PharmaLedger, which is a consortium of different companies that come together to determine how to best incorporate blockchain into our supply space.

Key lessons learned during the pandemic

When asked to explain the biggest lessons learned over the last year, the panelists offered insightful words. Gautam stated, "Be open to change."

Similarly, Honawar noted, "Don't be afraid to innovate. But make sure that it is part of a bigger plan. Have a coordinated strategy for implementing new technology and for making sure that it makes sense to implement."

Ruosi offered a process-focused insight, stating, "Identify processes where you think a system could help you. Don't be shy to go to your IT department and ask."

As we forge ahead more than one year after the start of the pandemic, we believe new technologies in the supply chain will continue to drive innovation and help reach more patients around the world.

GCSG is greatly appreciative of the panelists' perspectives and looks forward to continuing this important conversation at the GCSG 2022 US Conference on May 1–4, 2022, in San Antonio, TX.