Informatics Solutions for Pharma Labs

How informatics is helping solve challenges in the pharma industry, and what lab leaders should consider when selecting informatics solutions

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The pharmaceutical industry has seen increasingly rapid change in recent years, presenting a variety of challenges for laboratories. Rachel Muenz, managing editor of *Lab Manager* partner brand, G2 Intelligence, recently spoke with Kate Wearden, principal product marketing manager at Waters Corporation, about how informatics can help solve many of these issues. Wearden also discusses the most interesting developments in informatics and what pharma lab leaders should look for when selecting an informatics solution for their facility.

Q: What are some of the biggest challenges for today's pharmaceutical labs?

A: Pharma labs are currently facing many challenges, but I think one of the biggest is as a result of how rapidly the pharmaceutical landscape is changing. This is further complicated by the rise in advanced therapy medical products (ATMP), such as cell and gene therapy. Whether it's the accelerating pace toward digital transformation, the increasing complexity of supporting human heath, or the volatile economic climate, pharma labs are continually expected to do more with less—less time, money, fewer resources—and any progress labs make to help overcome these challenges can come with their own challenges. For example, the burden of having to train staff on new technologies or the time it takes to implement new processes and then see the benefits. If change is not implemented in the right way, it can result in a whole host of additional struggles for the pharmaceutical laboratory.

Q: How can informatics solutions help solve these challenges?

A: The right informatics solution implemented in the right way can have a profound impact on the success of pharma labs. If we take a step back and consider more broadly the key objectives driving pharma labs to look for solutions, two core elements stand out. The first is scientific acceleration. The pharmaceutical industry is facing increasing pressure to find new solutions that

support human health and deliver those solutions quickly and safely.

The second, closely related driving force, is the need for efficiency and productivity. As mentioned earlier, the pressure to do more with less is greater than ever and, as a result, labs are continually looking for ways to increase their output. While informatics solutions that provide greater scientific acceleration are vital, I see labs focusing more and more on increasing efficiency and productivity. Informatics solutions that provide more efficient and effective lab management such as better asset utilization tools, efficient scheduling and planning, easier compliance and data integrity, and even informatics tools that provide workflow integration can greatly benefit pharmaceutical labs in overcoming their challenges. However, the way these solutions are implemented can be key to their success. Supporting the digital transformation of the lab by providing flexibility and scalability is critical to adapt to the changing environment. This is why connectivity is playing such a large role in the evolution of the pharmaceutical lab today.

Q: How should pharma labs evaluate informatics solutions for their labs?

A: It's critical for labs to assess not just the informatics solutions themselves, but also how they fit into the digital transformation objectives of the lab and organization as a whole. Assessing informatics solutions on the usual points

such as cost, functionality, vendor, compliance, etc. is important; however, informatics solutions should also be assessed in the context of how they are going to continue to provide value to the organization now and in the future. Is it flexible? Scalable? Will it grow and adjust as the needs of the pharma lab grow and adjust? Choosing a solution from a vendor that not only provides a strong product but also supports the lab in their journey to becoming a lab of the future is critical to long-term success.

Q: What are some key mistakes pharma labs can make when choosing informatics solutions for their labs and how can they avoid these issues?

A: The pitfalls of choosing the right informatics solution are not all that different to the pitfalls of any purchase. It can be tempting to rip out and replace existing informatics solutions that have been successful in the past in favor of something completely new. Often, the impact of opting for completely new solutions, especially those not designed to fit seamlessly within the existing ecosystem of the laboratory, is overlooked and can significantly impact the efficiency and productivity of a laboratory. I would always advocate choosing modern informatics solutions that augment the existing informatics ecosystem of the lab, enhancing and complementing the existing solution rather than replacing it entirely. Not only does this approach enable easier and faster implementation of new digital innovations, reducing the training burden and lab

downtime, but it is also often more cost effective and carries less risk. Labs can integrate new solutions while they continue leveraging their current informatics solutions, reducing disruption to the operations of the lab.

Q: What do you feel are some of the most interesting new developments in informatics solutions for pharma labs?

A: I've mentioned digital transformation a few times already but I strongly believe that informatics solutions designed to support labs in their digital transformation are the most interesting that we are seeing emerging. Predominantly because the potential they offer for both scientific acceleration and efficiency and productivity benefits is so significant. These solutions have the ability to genuinely evolve the landscape of pharmaceutical development and manufacturing. More specifically, the connected lab is something that I think will soon become the standard for pharma labs. The value of the lab is only realized fully when their data is available and accessible across the enterprise.

We are already seeing labs embrace adoption of the cloud and software-as-a-service (SaaS) but there are many labs that are yet to fully realize the significant impact connectivity has on their ability to maximize efficiency and productivity. Lab management and scientific data management solutions that are integrated and intelligent, possibly even those that leverage AI, are also emerging.

It's essential for tools like these to not only integrate seamlessly into the lab but also operate holistically. Silos are being broken down every day in the pharmaceutical lab in favor of collaboration, better compliance, and data sharing, and any informatics tool that can help support that is something to be excited about.

Q: How do you think these informatics trends will continue to develop farther into the future?

A: Ultimately, I think the current focus on increasing efficiency and productivity is going to continue. As Pharma 4.0 advances, we are definitely going to see an increase in more widespread adoption of Industry 4.0 technologies and innovations in achieving this goal. Artificial intelligence, the Internet of Things, advanced robotics, big data are all technologies we have only just begun to see the potential of for improving efficiency in the pharmaceutical lab. As we strive to improve and prolong our quality of life, the demand for pharmaceutical solutions will increase and labs will continue to feel the pressure of delivering product to market faster while ensuring safety. However, the good news is that the potential for connected informatics solutions to help labs overcome this challenge is truly vast, as long as leaders are willing and ready to adopt them.

Prior to joining Waters, Kate Wearden worked in a variety of marketing roles—including marketing communications,

events management, and internal communications—within a range of industries (fast-moving consumer goods, business-to-business, and civil service).

Kate's 11 years at Waters have been spent in various marketing roles, including demand generation and product marketing. Most recently, Kate was involved in the launch of waters_connect™ for quantitation software, the Xevo™ TQ Absolute instrument, and the Alliance™ iS HPLC System. Kate now works in the connected science business segment responsible for product marketing of waters_connect™ cloud software solutions, including waters_connect™ System Monitoring.