



Current Innovations in Global Pharma Labeling

Five industry experts discuss labeling challenges and trends in modernization.

Sheetal Kulkarni-Alur, Executive Director, Head of North America Regulatory Affairs, LEO Pharma A/S

Laura Johnson, Senior Director of Sales, Life Sciences, Loftware Inc.

Deb McNaughton, Vice President of Global Labeling, Publishing & Product License Support, Global Regulatory Operations, Pfizer Inc.

Brandon Stempo, Principal Consultant, Regulatory Affairs Labeling, Opus Regulatory Inc.

Cham Williams, Associate Director, Safety, Regulatory and Quality Solutions, IQVIA Inc.

INTRODUCTION

The competitive environment of the global pharmaceutical industry and its regulatory complexities make the labeling process a considerable challenge in today's markets. Strategically implemented [labeling technologies, however, may help address various issues](#).¹ A panel of five industry experts recently discussed their concerns, processes, and outlook for labeling with *Pharmaceutical Executive* and Loftware Inc. The dialog included discussion around standardizing global labeling operations, integrating labeling with existing business applications, streamlining regulatory updates and compliance, increasing supply chain efficiency and agility, and strategizing deployment options for digitalization.

Loftware is the world's largest cloud-based Enterprise Labeling and Artwork Management provider which helps companies improve accuracy, traceability, and compliance while improving the quality, speed, and efficiency of labeling.

STANDARDIZING GLOBAL LABELING OPERATIONS

According to Cham Williams, Associate Director, Safety, Regulatory and Quality Solutions, at IQVIA, the basic procedures of the labeling process are consistent throughout the industry, as far as the assessment of a labeling change, the need to execute that labeling change to create the appropriate content, receiving internal approval, obtaining

authority approval, and then distributing it for artwork and packaging. What differs between companies, however, is the way these steps are executed and their timing. Although it is challenging to standardize labeling across the industry, individual organizations can work towards standardization while still allowing for some flexibility.

Deb McNaughton, Vice President, Global Labeling, Publishing & Product License Support, Global Regulatory Operations at Pfizer commented that labeling can be standardized to a point, but flexibility is necessary to address nuances within the major steps of a business process. "You have to be realistic about leaving flexibility in the process to do what makes sense for certain products, scenarios, or countries," she continued.

Sheetal Kulkarni-Alur, Executive Director, Head of North America Regulatory Affairs at LEO Pharma A/S agreed, adding that, "Some level of flexibility is necessary, in terms of the type of product. For example, the process for a generic is not going to be the same as a process for a branded product because you have a core data sheet in one case; in the other case you have reference labels that you need to follow. One of the main SOPs we have is the [global labeling process](#),² which is a critical process to have in place in any pharmaceutical company. But then you have tweaks depending on the product portfolio you have."

Brandon Stempo, Principal Consultant, Regulatory Affairs Labeling at Opus Regulatory believes standardization helps with end-to-end labeling, which incorporates different things. "You're talking about content development, versus artwork development and launch materials, and the customers for those things are very different. Your supply chain and your commercial launch folks are very different from the clinical development people who develop content," he said. Stempo rationalized that standardization helps establish continuity between different aspects of end-to-end label development, ensuring that content development is aligned to the operational side of labeling.

Some level of standardization also helps with organizations that grow through acquisition, as witnessed by Laura Johnson of Loftware. "Whenever

we have customers that acquire a new entity, I think it's important for them to work together on their processes and be able to bring that new organization up to speed and onto their systems of record very quickly," she said.

Finding a strategic balance between standardization and customization, therefore, is essential. Companies with diverse portfolios need to manage many product nuances. McNaughton shared that Pfizer's global process disburses several scenarios and each one covers the gamut of circumstances, such as a safety change, new development product, or first-time core data sheet. The relevant process is followed according to the situation at hand. "There might be 12 scenarios and that may sound like voluminous, but it really helps people just say, 'Okay, here's what's in front of me right now. This is the path I need to take.' And the path of those 12 scenarios is very similar, but fit for purpose," she explained.

Williams provided an example regarding need for flexibility by discussing the case of translation, explaining that companies can be too rigid and say that translation must be done on the core label before it gets distributed, or may allow for that translation to be done after the core label has been distributed locally and then make changes for local markets. He added, "I agree with Deb [McNaughton] in terms of providing the ability to execute, to having a central spine or framework, but the flexibility to pull and push those things that are needed for that appropriate response."

Kulkarni-Alur agreed that flexibility is necessary for addressing differences in local markets and requirements. "In those markets, you need to have processes in place for waivers or deviations. And then we need to have a process to document that deviation," she said.

Stempo pointed out that although there is very little black and white guidance regarding it, many companies have a minimum set of standardization within their labeling from a compliance perspective. "You need to handle certain changes certain ways," said Stempo. "And there's an expectation that we're doing that in a consistent way. We need to be able to demonstrate that we're doing that in a consistent way through our processes and procedures." He explained that there is a minimum set of standards related to certain types of labeling changes and a balance must be found based on an organization's internal structure and teams.

Regarding collaborations using cloud-based systems versus local servers, Williams believes the industry has become confident with cloud solutions that allow for accessibility by a much wider audience. "Having a cloud solution allows for all those stakeholders in the labeling process to participate simultaneously," he observed. However, he also highlighted that it can be difficult for a large company to have multiple servers synchronizing globally, with everyone communicating at the same time. McNaughton commented that the industry still uses a mix of both cloud-based and local servers but appears to be moving toward the

sharing of information using the cloud. Johnson shared that many of Loftware's clients work with third parties that are performing different functions on their behalf, such as via a translation house. Having the capability to extend access to relevant systems through cloud-based technology is becoming more prevalent. "They're collaborating, really, in the same systems as the core users or the brand owners," she added.

INTEGRATING LABELING WITH EXISTING BUSINESS APPLICATIONS

Collecting the right data from the right resources is important to any business, but as pharma is a very highly regulated industry, data collection and organization is especially crucial. Many different types of challenges are associated with product or label-specific data collection to meet regulatory requirements. Integrating labeling via more automated processes with existing business applications such as enterprise resource planning applications, manufacturing execution systems, or product lifecycle management software helps ensure the collection and delivery of accurate, consistent data while eliminating the potential risk of duplication errors.

When it comes to compliance, Stempo shared that organizations feel they must determine what launching the labeling material means to an auditor or inspector, and what that timing is. The process entails the generation or printing of artwork, the packaging of artwork, distribution to a warehouse, and then sending it out to the market. It is unclear how far that needs to be tracked and who needs that information. Content development for labeling, artwork tracking, and distribution information may all be in separate systems, so the key is determining how those systems can communicate without manual processes in between.

Williams added that information must be gathered to make more informed decisions around making a strategy for execution. "You've got technologies such as regulatory intelligence that are coming on board that help regulatory professionals to not manually go out and try and get as much information of precedence around the label decision from other companies or other products in the same suite," he said. "It provides the ability to use technology to go out and get that information in a much quicker manner to allow you to make a much more informed decision." Williams further explained that this doesn't make the decision for an organization. Rather, it provides more appropriate information.

Distribution of some information may be automated, but the majority of companies still rely largely on manual processes. "I don't think the systems are really talking to each other when it comes to that. So, it's hard to have traceability," said Stempo. He added that he sees value in the integration of the systems, but it is not currently prevalent in the industry.

McNaughton agreed. "I think sometimes we get into the trap of thinking the process is just this very clean, linear data. That would be

lovely, but it doesn't work that way. We are very challenged with putting that spider web together," she said. She further explained that she feels integration would be easier with a new company just starting out, or with a small company with a limited set of products or core data sheets. Achieving standardization using automated processes can be more challenging for larger companies with a sizable volume of products, licenses, and changes. As such, the process is currently more manual than stakeholders prefer. However, McNaughton shared that Pfizer is "steadily making progress in connecting some of those pieces of information so that it can be less manual, although it's a journey."

"How do we get insights from all the information that we have? Because it can be very powerful, but it's got to be connected and aggregated and synthesized in a meaningful way. I mean, that's the exciting part too. It's a challenge, but it's an opportunity," reacted McNaughton.

Data is typically shared on an as-needed basis between collaborators, but information that could provide valuable insights may slip through the cracks. According to Stempo, more metadata is being collected with newer systems, but is frequently entered manually. "The ideal situation would be if we had an end-to-end tracking from the core data sheet preparation to local labels to what's in the finished pack. But that's one thing we are still missing in most pharmaceutical companies. It's not an easy thing to do," suggested Kulkarni-Alur.

During the labeling process, there may be different teams working on various aspects and using different data collection systems. This leads to multiple handoffs, with people on one team not always realizing what may be important to subsequent teams downstream. Essential data may not be captured early on and must be sought later. "I don't know if I can think of another process that spans the depth of the labeling process department's divisions that it touches. It's really wide, and that just adds to the challenge," said McNaughton.

Johnson acknowledged that companies spend years developing their systems and tend to use them for a long time. It is very difficult to move from a legacy process to a new one. However, she is seeing a shift in the industry from disjointed systems to a central repository of information from multiple systems. "The labeling solution is looking at that data lake for the aggregate information rather than having to integrate with multiple different systems to gather it," she shared.

STREAMLINING REGULATORY UPDATES AND COMPLIANCE

In terms of how companies can navigate regulatory complexities such as diverse requirements in different regions or translation challenges, Williams recommends that componentization could be an ideal approach for handling the data. Currently, large documents that contain all the information are authored but cause compliance issues when just a single portion of the document is changed.

Additionally, having only one large document requires document relationships to be defined. With separate components, however, those difficulties disappear. If the data is componentized, as suggested by Williams, data is automatically placed in the components and moves through the process. "It goes from development through to content, to authoring, to approval," he explained. "If there's a change, somebody doesn't have to go back and republish the document. That information gets automatically updated and you're notified," he added.

Williams believes companies will get to that point in incremental stages. It will start with understanding how the documents are related, then how they are broken down into appropriate pieces and how those pieces get reused across different areas. "People must move toward authoring documents differently. Not as one big slab of information, but as multiple pieces. Once they get comfortable with that, the pieces can be extracted and worked with individually," he suggested. That would allow the information to move through the whole process without having to duplicate and manually hand off work each time. McNaughton agreed, adding, "Component is going to be the way to go if you're ever going to get some of those big technical advances and efficiencies in the process."

Regarding different regulations in different countries, the experts agreed on the importance of having a core data sheet and documenting any deviations or exceptions from local regulations. The core data sheet is a company position, whereas any other document at a country level is a health authority negotiated document. McNaughton pointed out that companies sometimes get forced to include information from health authorities that they may or may not agree with. Those become negotiated documents, and the core is the overall risk benefit profile as the company sees it. It is not always a linear process.

Significant challenges arise with regulations when there are big changes that require content highlighted in relevant sections to be edited for hundreds of products. This type of change could become a whole remediation project in and of itself, and companies must find a way to manage it. "I think fundamentally strong labeling governance is super important when it comes to this," said Stempo.

Kulkarni-Alur pointed out that timelines can vary by country. For example, in some countries submissions cannot overlap in the timeline. Any changes after submission must wait until a decision is made for the initial document, and then the modification can be submitted. In addition, Stempo related that some emerging countries may limit the number of variations a company can have per year. As such, companies must be very thoughtful as they balance the importance of different variations.

With the myriad of submission pathways in the US, Europe, and around the world, companies must keep information well organized. Kulkarni-Alur commented, "Especially for Europe, and you're talking about a

centralized procedure, you have one label. But then you're talking about nationals and DCPs, or decentralized procedures. Then you have all sorts of different labels, potentially in different countries. A global labeling process is vital for handling these differences in labels."

McNaughton reminded the panel that it is important to always be anchored on the data and the science, reminding them of the overall purpose of having a core data sheet. "In Pfizer's case, we're a data-driven company and we rely on our core data sheet. We put content in there that we can defend and rationalize because of the data that we have."

The panelists remarked that the labeling team is a collection of experts, and they may disagree with authorities and even push back when told to add something to a label that conflicts with their data. Sometimes the regulatory agency will reconsider, and sometimes it will not. Documentation is vital in these cases. In some instances, a company may decide not to sell a product in a particular country due to what they consider unreasonable impositions.

Stempo recommended that smaller companies and mid-size companies carefully define the fundamental things that need to be tracked, such as deviations and exceptions. Other countries may watch what Europe or another country has imposed regarding labeling, and question why labels for different countries may vary. "It's really important to define those processes early and be proactively thinking about them as you create these documents and submit these filings," he said.

INCREASING SUPPLY CHAIN EFFICIENCY AND AGILITY

The Covid-19 pandemic had an impact on the pharma labeling supply chain, which led to several lessons learned. It demanded early conversations between regulatory and manufacturing functions that proved to be beneficial and will continue, especially for new product launches. The pandemic emphasized the need to connect systems and data across many functions, including regulatory and supply functions. Williams noted that having a system to show the current status of a process and informing the supply chain earlier in that process allows for more effective planning. This can avoid, for example, disposing of millions of labels because a change is coming only two months later. Business process visibility with the supply chain incorporated within it lends agility and helps prevent wasted time and resources.

Johnson pointed out that flexibility of organizations and their systems was found to be critical while employees worked remotely during pandemic shutdowns. Associates were used to going to the office and having access to everything they needed through their desktop rather than at a remote location. Working from home had a large impact on not only the production, but any changes in labeling or updates. Furthermore, many companies still require manual signoffs, which presented significant challenges during the pandemic. That has led to conversations and future planning by organizations that are reliant on dated systems and now need to have a more flexible way of operating. They must be able to make

changes from a remote facility and share those changes across the supply chain electronically, rather than in a printed format.

All of the experts agreed on the benefits of eLabeling. According to Williams, on-demand printing of componentized labels is advantageous because the necessary pieces are being approved along the way. This precludes waiting for an entire label or document to be approved at the end. Stempo explained that he observed a notable increase in organizations trying to validate new printers during COVID. McNaughton noted the significance of the printing exception for the COVID vaccine, as issued by the CDC, for which the products were shipped without labeling and a code was made available to be scanned by prescribers, patients, and caregivers for access to a specific product's emergency use information (EUI). EUI resources made available on the CDC website provided everyone access to real-time information regarding information about emergency use circumstances related to FDA-approved medical products that may not be included in or differ in some way from the information provided via the FDA-approved labeling.³ This is something the pharma labeling industry has wanted for many years in the US. In some cases, both printed labels and electronic versions are available.

Panelists rationalized that with eLabeling, prescribers and patients have much more accurate information in their hands, as updates are immediately available, and the delay of printing updated labels is eliminated. "In the US," McNaughton commented, "considerable waste is generated by the printing of labels that are not utilized. A large percentage of medication is repackaged at the pharmacy after it is received from the manufacturer. When repackaged, the original printed label does not reach anyone but the pharmacist, who usually looks up the information online." Notably, other markets are considering the shift to utilizing QR codes and housing all information online, which benefits patients and prescribers. Kulkarni-Alur agreed and highlighted how common older versions of labels appear on packaging despite newer information being made available via the internet.

As suggested by Kulkarni-Alur, one option to prevent this is to have the pharmacist print the label from one of the online resources, since they are already printing labels for the customer's package. This can circumvent supply chain delays and ensures that the most up-to-date version is provided to the patient.

Global eLabeling is the right way to go, according to McNaughton, with exception when needed. "You don't want to not make the information available, but it's fundamentally how do you get the most accurate, comprehensive information to who needs it, by the easiest and fastest means possible? It's not paper coming out of the plant," she said. McNaughton continued to explain that she feels the US is lagging behind other countries in this issue. "I know there are some challenges,

from a government perspective, in terms of legislation that prevents the FDA from really moving as far as they want in the direction of eLabeling. But hopefully necessity showed some benefits there and that we can keep on that journey with them,” she said.

There is an appropriations rider in the legislation that prevents the FDA from using its funding from the government to advance eLabeling. It remains in the legislation because of paper lobbyists. As such, the FDA’s hands are tied, to some extent. Additional issues have inhibited eLabeling implementation in the US, including concerns that some rural areas may lack reliable access to the internet, and that power outages at hospitals may prohibit physicians from accessing the information. Stempo believes that solutions can be developed for these obstacles, however.

DEPLOYMENT OPTIONS AND DIGITALIZATION

Using the cloud offers scalability, according to Williams. As a company grows and engages with external partners, a cloud-based system makes it easier to on- and off-board partners regarding access to systems and information. “In terms of the technology, most times now the advantage of the cloud is multi-tenants in one big cloud, one platform,” he said.

For regulatory operations, the cloud can share the relevant content in a more efficient manner. Most of the validation is done upfront by a cloud system. The base is done and then configurations must be confirmed.

Williams noted that the cloud offers an advantage in that requirements and technology are always changing and the overhead for companies to maintain their systems can be a burden. With all the different systems that need to communicate for labeling, it is difficult to find the right balance between ease of access and customization.

As the benefits of integrated labeling become more transparent across the industry, so does its adoption by pharma companies. Automated systems help enable customers to navigate the complexities associated with new product development and reduce potential risks associated with manual processes. It has been reported that nearly half of companies are interested and investing in cloud platforms, specifically (49%).⁴

However, just as reported in the 2023 Gartner CIO and Technology Executive Survey⁴, the panel agreed that most companies are not looking to completely scrap their systems and start over. Typically, incremental improvements are implemented to address the worst pain points at a given time. Upgrades usually involve patching processes together or allowing visibility between systems to help move the process along. In response to this, some cloud system vendors can integrate or communicate with other popular systems for a more streamlined

process. Problems are resolved as quickly as possible, and then other improvements are introduced in a more phased approach. “It’s more [about] incrementally looking at the areas that would provide the highest level of improvement, and then [determining] how organizations can look to continue that and build on that in the future,” said Johnson.

FINAL THOUGHTS

Wrapping up the discussion, McNaughton shared some final thoughts for the group, acknowledging the potential benefit of various technologies and moving to a componentized format. However, making changes to processes and systems can be difficult and organizations should take a calculated approach. “Be very thoughtful and deliberate and spend a lot of time figuring out what your best use case is,” she said. Oftentimes, companies reach for ‘the highest star’ and it doesn’t work. As recommended, they should start small to pilot the change and talk to vendors and others to determine what attributes make a good case for a new technology that will lead to success. “We all want a fix now. We want to fix yesterday, and we want it to apply to all of our products. But we have to be willing to maybe break it up a little bit and do something different for a subset of products, or just find the right use case instead of going for the big bang.” Johnson added the point that companies embracing the move towards digital transformation, including cloud-based enterprise labeling solutions, will immediately garner benefits for all of their labeling needs and increase their readiness to scale in the future. Cloud adoption for enterprise labeling ultimately will help companies improve accuracy, traceability, and compliance while improving the quality, speed, and efficiency of their labeling practices.

Visit [www.pharmexec.com/URL TBD] to watch videos featuring roundtable participants as they talk more about Current Innovations in Global Pharma Labeling. ^{PE}

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