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A New Era of Smarter Food Safety?

If it seems to you that the number of food recalls are increasing, you've correctly identified an alarming trend in food production. A recent report from Public Interest Research Group (PIRG) says food recalls are indeed becoming more common. The document reports an increase in the number of U.S. food recalls total 10% between 2013 and 2018, with a peak of 905 in 2016. And the health and safety of consumers is at risk - salmonella, hepatitis, e.coli and others all pose health threats to consumers, with an estimated 1 in 6 people contracting a foodborne illness annually according to the Centers for Disease Control and Prevention.

In response to this trend, the Food and Drug Administration is taking action. Its Deputy Commissioner Frank Yiannas is championing "A New Era of Smarter Food Safety." This strategic blueprint will outline how FDA plans to simplify and modernize the food safety system - with technology as its foundation. The goal is to create a more digital, traceable and safer food system. According to Yiannas, "Smarter Food Safety is people-led, FSMA-based (Food Safety Modernization Act), and technology-enabled."

From technology to culture, here are the foundations of the FDA's New Era:

Tech-Enabled Traceability and Foodborne Outbreak Response:

Looking at technologies, data streams, and processes to greatly reduce the time it takes to track and trace the origin of a contaminated food and respond to public health risks.

Smarter Tools and Approaches for Prevention:

Using new data analysis tools and predictive analytics to help the FDA and stakeholders identify and mitigate potential food safety risks better, more efficiently, and advance the preventive controls.

Adapting to New Business Models and Retail Food Safety Modernization:

Advancing the safety of new business models (e-commerce and home delivery), and traditional business models (retail food establishments.)

Food Safety Culture:

Promoting and recognizing the role of food safety culture on farms, in facilities, and in homes. Doing more to influence what employees and companies think about food safety and how they demonstrate a commitment to this work. Educating consumers on safe food handling practices.

What does this New Era mean for food & beverage manufacturers?

Traceability is key

The "New Era" recognizes that traceability is more important than ever. Food businesses - producers, processors and manufacturers must be able to quickly identify the source and scope of any issue. This capability enables the business to be prepared and respond to any incident that may occur so that the impact may be minimized and any erosion of confidence may be restored. The FDA states there is a great need for "traceability standards" so investigators will have the information they need, when they need it, to track down implicated food during outbreaks and recalls.

The implication is that food businesses should begin now to prepare for additional technology investments to meet any new traceability standards, particularly those that will reduce time to execute a recall. Food businesses should review their processes and technologies and experiment with tools used by other industries for tracking and tracing, for example: logistics businesses, transportation and shipping industries, ride sharing communities, consumer engagement platforms (e.g., Google's "Near Me" capability). Key technologies used include blockchain (distributed ledgers), sensors, the Internet of Things, big data tools, and artificial intelligence. The FDA believes that these technologies offer great potential to dramatically alter the speed and effectiveness of preventing, tracing, and responding to outbreaks, so food businesses should take notice.

Blockchain, in particular, is proving to be of particular value to the food industry's traceability needs. Among other uses, the ledger technology has been used to track and trace food supply chains. As an example, Walmart has employed blockchain to trace food back to its origination in a mere 2.2 seconds. FDA Commissioner Scott Gottlieb has said food suppliers should experiment with blockchain because it could link outbreaks "to a specific grower, specific farm and a specific distributor."

Recordkeeping

Related to traceability, recordkeeping is a focus of regulators as well. Though many food businesses have excellent recordkeeping processes in place today, a significant number still use manual methods. As well, the FDA has expressed concerns about a lack of uniformity across the industry that is necessary for timely traceback when health officials identify likely sources of foodborne outbreaks. Therefore, food businesses should evaluate their recordkeeping capabilities to ensure they can respond to a request within the required 24 hours of a request. Digital recordkeeping facilitates a prompt and complete response, keeping food businesses in compliance.

Technology is the Foundation; Data is the Commonality

The critical role of technology in meeting food safety needs brings the next-level questions - those of how to handle the resulting data. In an October 2019 meeting hosted by the FDA and attended by food producers and other industry leaders, several data-related concerns and requests were raised by attendees:

- Consider the issues related to sharing sensitive data along the supply chain
- Speak a common language and creating data standards, along with necessary minimum data elements for traceability
- Improve communication related to data sharing as well as more meetings with FDA and stakeholders, especially during outbreaks
- Show industry the ROI of the data
- Provide a roadmap or recommendation for companies on where they can begin on their traceability journey

These concerns highlight the magnitude of the data linked to food safety being produced worldwide. And according to experts, today a limited number of tools developed within the big data domain are applied in food safety. In particular, advanced traceability systems in food safety monitoring may require tools and infrastructure that have more big data characteristics than those currently deployed.

What's promising, is that the tools and technology exist today to manage this data and, indeed, to modernize and transform the entire food production, processing and delivery system. Now it's up to the entire industry to deploy that technology in order to more reliably deliver safe food products to consumers.

SOURCES:

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