Technology's Role in Safer Medication Management

Healthcare leaders discuss the key trends that will shape medication management from end to end in 2025

Medication management remains one of the most challenging aspects of patient care. From writing accurate prescriptions to ensuring patient adherence, the medication journey is filled with potential hazards that can impact patient outcomes.

In the webinar, "The Future of Medication Management: Industry Leaders Talk Trends for 2025," sponsored by DrFirst, three healthcare leaders discussed how technology is transforming this critical aspect of care. Topics included providing comprehensive clinical data at the point of care, helping patients stick with their prescriptions by improving discharge workflows and overhauling the prior authorization process.

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TOM PICKERING, PharmD | Medication History Program Coordinator, Pharmacy Services | Cone Health

"I think something that doesn't get enough attention is just how complex medication management is," said Tom Pickering, PharmD, Medication History Program Coordinator, Pharmacy Services at North Carolina-based Cone Health. The implementation of DrFirst's medication history product in 2021 marked a turning point for the health system, he said. The impact was particularly significant for elderly patients, with medication histories now available for 98% of patients aged 65 and older.

One of the most meaningful technological advances has been the development of clinical-grade artificial intelligence (AI) for easier processing of medication data. Cone Health's medication reconciliation workflow, for instance, has seen a remarkable boost in efficiency, with 86% of prescription instructions (sigs) being improved by AI and a 13% increase in patient prescription details that weren't previously available. These improvements have contributed to a 40% increase in satisfaction for medication reconciliation staff.

Eric Alper, MD, Senior VP, Chief Quality Officer and Chief Clinical Informatics Officer at UMass Memorial Health, reflected on the evolution of medication management since the early 2000s. "Before, I had no information," he said. "Now, I've got too much, and I've got to figure out exactly what the patient is actually taking."

Solution providers are responding with more advanced technologies to turn all that data into instant, easily digested clinical insights. Colin Banas, MD, MHA, DrFirst's Chief Medical Officer, explained that the company's narrowly focused AI, in use for over a decade and protected by eight patents, helps achieve semantic interoperability for medication data. "Because it's specifically designed for use in a healthcare setting, our clinical-grade AI would rather give you *no* answer than give you the *wrong* answer," he emphasized.

Addressing medication management concerns

Looking to 2025, healthcare organizations are focusing on several key challenges. Prior authorization has emerged as a critical issue. "Medication prior authorization has been consuming more and more time on the primary care physician's side," Dr. Alper noted. "I think delays related to prior authorizations create a patient safety problem. Patients don't have access to medications in a timely way."

The lack of transparency in the prescription process also remains a significant concern. As Dr. Banas observed, "I have more transparency into my Domino's Pizza order than I do to a life-saving medication that I've ordered for my patient, which is crazy."

Healthcare organizations are particularly focused on the complexities of medication management as they move into 2025. According to Pickering, healthcare providers must now navigate an expanding array of medications, including entirely new drug classes that emerge periodically. Treatment regimens have also become more intricate, often involving various delivery methods like weekly injections and multiple insulin types. Because of these changes, medication management now demands an even larger share of clinicians' time.

This complexity is driving innovations in transition-of-care processes. Healthcare systems are expanding the role of clinical pharmacists in discharge planning, with early data showing promising results. As Pickering explained, Cone Health's pharmacists have gotten more involved in discharges, trying to review orders and coordinate with doctors before a patient leaves the hospital. The impact is measurable: "We're showing a trend in our data that those patients that we do have an intervention on ... have a slightly lower rate of readmission or re-presenting to the ED," he said.

Dr. Alper agreed that managing discharge orders is top of mind for 2025. "Patients who are being discharged are at increased risk," he added. "With more and more of these expensive medications that patients sometimes get prescribed in the hospital, they wind up getting to the pharmacy and they've got a $1,000 bill that they need to pay to continue the life-saving medications they're on. Sometimes they choose not to."

AI's role in safer medication management

In the future, healthcare leaders expect AI to further streamline processes. Pickering envisions AI-guided patient interviews for medication histories: "There are lots of ways that AI could guide them through what we really need. We could do more med histories faster."

Dr. Alper's vision focuses on simplifying the prior authorization process. "If I could wave my magic wand, I'd be able to say, 'For this patient, show me the medication

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that ought to be prescribed that's in this particular category.' And then it would guide me through that prior authorization process in a way that would make it as easy as possible and as transparent and visible as possible for everyone involved, including the patient," he said.

At UMass Memorial Health, the value of AI became apparent during its integration of Harrington Hospital, when the DrFirst solution successfully converted 88% of medication entries into structured data within its Epic EHR system. Dr. Alper agreed that being able to leverage DrFirst's AI to parse out Harrington's legacy data into patients' medication history was "a huge time saver."

Enhancing patient safety is a priority for 2025

Core medication safety initiatives remain central to 2025 planning, particularly around high-risk medications. "We're always working on improving medication safety, titratable drips in the ICU and making sure that we're taking care of patients with insulin, with heparin anticoagulants," Dr. Alper noted. "Managing opioids and doing that responsibly in the ambulatory setting is going to continue to be a focus as well."

The commitment to ensuring that, as Dr. Banas said, "every discharge is a safe discharge," is what's driving new approaches to medication management. Healthcare leaders are increasingly focused on being "as proactive as possible on the prior authorization side, when the patient is in the hospital before their discharge, making sure that you give them a supply when they actually leave the hospital, making sure you … start to connect the dots for the primary care physician," as Dr. Alper described.

The journey to safer medication management is still evolving. With paper charts and manual reconciliation processes largely things of the past, new challenges have emerged with the digitization of healthcare. Yet, as these healthcare leaders demonstrate, the combination of human expertise and advanced technology is creating a safer and more efficient medication management process for both providers and patients. As Dr. Banas reminded everyone, "When you don't get these things right, patients get hurt."

To watch the full webinar, click here.