Cone Health Finds Medication History for 93% of Patients by Connecting with Local Pharmacies and Leveraging AI

Clinicians are Spending More Time Providing Care and Less Time Manually Gathering, Entering, and Confirming Medications

Greensboro, North Carolina

2,482 beds

5 hospitals

3 ambulatory care centers

3 outpatient surgery centers

5 urgent care centers

2 retirement communities

120+ physician practices

EHR: Epic

With more than 100 care locations, Cone Health is one of the largest and most comprehensive health networks in the Greensboro, North Carolina, region. The health system has been recognized for excellence in patient safety, with the Leapfrog Group awarding multiple hospitals with "A" grades in 2020 and 2021, and CareChex ranking Cone's hospitals in the nation's top 10% for patient safety in 11 clinical categories.

The Challenge

Patient interviews don't always yield the best results and external medication history sources often don't provide the detailed information clinicians need before medication reconciliation. To gather missing information, it's common for clinical staff to make numerous calls to local pharmacies during medication reconciliation at admission, transitions of care, and discharge.

The dangers of incomplete medication history records have been widely documented, with the Journal of General Internal Medicine reporting as many as 5.3 medication errors per 100 orders,[1] and the MARQUIS Med Rec Collaborative finding that 1 in 100 medication errors results in an adverse drug event (ADE).[2]

At Cone Health, a team of pharmacy technicians had access to an external medication history source within their Epic electronic health record (EHR) system, but information was often missing. As a result, they needed to call pharmacies to gather and confirm a patient's medication list, then enter the information manually into Epic, which increased the likelihood of human error and the potential for ADEs.

Clinical leadership at Cone Health recognized that they had an interconnected problem of staff productivity, patient safety, and potential readmissions that all stemmed from a lack of access to accurate and actionable medication history.

The Solution

In late 2020, Cone Health integrated MedHx[SM] with SmartSig[SM] in its Epic EHR. The AI-powered medication history solution significantly improved the amount and quality of relevant and normalized medication information available directly in the clinical workflow to do an effective medication reconciliation.

DrFirst provided enhanced data beyond basic national pharmacy and pharmacy benefit manager (PBM) sources. By establishing relationships with local and independent pharmacies that serve Cone Health's patients, the health system could receive the most complete prescription fill information.

Along with more accurate and readily available patient medication data, SmartSig uses patented AI to safely infer missing data and translate sig terms into consistent, structured language that's automatically prepopulated into the organization's EHR system. With important information readily available, the need for phone calls to local pharmacies and manual entry of medications in the patient chart is greatly reduced, as is the potential for errors.

Workflow enhancements and better patient safety combined with accurate medication history help hospitals and health systems meet The Joint Commission's National Patient Safety Goal to reduce negative patient outcomes associated with medication discrepancies.

[1] http://tools.hospitalmedicine.org/resource_rooms/imp_guides/MARQUIS/Marquis_Manual2011.pdf

[2] https://pubmed.ncbi.nlm.nih.gov/7790981/

By the Numbers

- Now finding medication history for 93% of patients and 98% for high-risk patients over the age of 65

- Staff satisfaction increased by nearly 40%

- 69 local and independent pharmacies providing data directly within the EHR

- Over 2.8 million additional fills provided

- 20 million clicks and keystrokes avoided

The Results

The overall effort to implement MedHx with SmartSig was less than eight hours with a simple URL swap and configuration in Cone Health's Epic medication history query interface. And because the integration provides medication history data directly within native Epic workflows, no additional staff training was needed.

"MedHx has been a serious improvement from our previous medication history vendor. It's more data, it's better data, and it's a lot faster to import," said Thomas Pickering, PharmD, Administrative Coordinator, Transitions of Care. "Part of my job at Cone Health is leading and mentoring pharmacy technicians who gather medication histories. It's a hectic and difficult job, so providing any tools that help them do their job better is something that I take very seriously."

Now, 69 local and independent pharmacies serving the patient population in North Carolina are sharing data with Cone Health. Within the first 90 days of going live, these connections provided over 2.8 million additional prescription fills that otherwise would have been gathered and entered manually by clinicians.

Staff supporting the medication reconciliation process now receive medication history data for 93% of their patients, and 98% for high-risk patients over the age of 65.

Along with an overall improvement in data found, patient medication history is more comprehensive, with the majority of records including important prescription instructions, or sigs. And while time savings and data quality are important metrics, staff satisfaction with the process of collecting, verifying, and documenting a patient's medication history increased by nearly 40% after the first 90 days of going live.

"**DrFirst did a really good job of identifying and onboarding the local pharmacies in our area that filled the majority of our patient prescriptions.** We're now seeing substantially more prescription fills than we saw from our previous vendor, and a lot of those are high-risk meds for patients over 65. We're getting very close to what I call 'the holy grail' of medication history where **every prescription fill record is at our fingertips.**"

—Thomas Pickering, PharmD
Administrative Coordinator, Transitions of Care, Cone Health