SmartSig™

King's Daughters Reduces 30-Day Readmissions by 11.3% With AI-Powered Medication Reconciliation

KING'S DAUGHTERS
MEDICAL CENTER

Brookhaven, MS

Non-Profit Acute Care Facility

99 Licensed Beds

Established in 1894

EHR: MEDITECH

"The team believes that the improved accuracy of medication dosage accounts for a significant portion of the decrease in readmissions, possibly due to a decline in post-discharge adverse drug reactions."

—Joe Farr, RN
Clinical Applications Coordinator
King's Daughters Medical Center

The Challenge

An estimated 66% of data from the nation's largest medication history database is missing essential sig information—the important short-hand prescribing instructions for dosage, route, and timing of medications. To prevent adverse drug events, hospital staff and clinicians must confer with other providers and pharmacies to gather missing sig data or fill in missing sig information.

At King's Daughters Medical Center, virtually all patient records had incomplete medication histories and thus required manual intervention by nurses at the point of care. Nurses had to manually transcribe sig information from the patient's medication history into the current visit list in the EHR—a process that required extra time and was prone to error, potentially endangering patient safety.

The Solution

IT leaders chose to improve their medication history source with SmartSig, a patented AI-powered solution that uses natural language processing and machine learning to streamline the medication reconciliation process. By automating the transcription of sig data and codifying sigs into standard terminology, such as "by mouth" versus "oral," the automated process helped staff resolve gaps by supplying alternative drug IDs for best-case drug matching and details for incomplete or uncommon sigs. Once medication history was normalized, it was clinically actionable and able to trigger safety checks for drug interactions or allergy alerts.

The Results

Implementation of SmartSig at King's Daughters reduced the number of incomplete or error-filled patient medication records, which in turn minimized pharmacy call-backs, workflow disruptions, and patient treatment delays. It also significantly reduced the average number of "clicks" required for medication reconciliation, resulting in additional time and financial savings.

After implementing the tool, medication reconciliation required a total of **45,000 fewer clicks** per month, compared with pre-implementation data. The resulting time savings of 34 hours per month for clinicians (404 hours/year) translates into **more than $11,000 in recaptured nursing productivity over a 12-month period**, based on 19,390 annual patient visits and an average of five medications per patient.

More significantly, the solution appears to have contributed to improved patient safety and health outcomes. In the first seven months following the implementation of SmartSig, King's Daughters' **overall 30-day readmission rate fell by 11.3%**, from 6.2% prior to implementation to 5.5% post-implementation.

DrFirst®
Unite the **Healthiverse™**