



# 4 Things AI Can Do for Your Epic EHR Today

Does the term “AI” make you cringe? You’re not alone. Nearly a third of healthcare executives say artificial intelligence is one of the most poorly defined and improperly used terms, along with other over-used buzzwords like “disruption” and “digital transformation.”

## What’s possible with AI in healthcare right now?

We can’t count on AI to cure cancer yet or even diagnose it accurately. But the truth is, if given a specific job and strong guardrails, AI can safely support healthcare professionals—and it can do it today.

Here’s an example: AI is the major force behind a huge leap forward in medication reconciliation at major hospitals and health systems. In fact, AI is doing these 4 things today with impressive results:

- 1. Translate national drug codes (NDCs)**—Created and hosted by drug databases such as Multum, First Databank, and Elsevier, NDCs often don’t match between sending and receiving systems, so they appear as free text in your EHR. AI can safely translate NDCs so drug and sig information display properly and clinicians can quickly understand a patient’s medication history.
- 2. Make sigs consistent**—There are hundreds of variations for the important patient directions in a prescription. “Take 1 tablet by mouth once daily” can be entered as many as 832 different ways.<sup>1</sup> PO, by mouth, orally, tab, tablet are just a few examples. Unlike a static table that must be maintained, AI can normalize sigs from multiple sources in real time and drive consistency within your EHR.
- 3. Infer and prepopulate missing data**—Free text due to differing NDCs, variations in sig terms, and missing data all prevent the clean import of medication information into the discrete fields of your EHR. AI can translate free text, prepopulate information, and reduce the need for manual entry and associated errors. For example, if “Lisinopril 20mg tablets” is in the patient record, but dose, route, and frequency are missing, AI can safely infer 1 TAB, PO, DAILY based on the duration, dispense quantity, and statistically common prescriptions.



“We now have **more data, better data, and data that’s a lot faster to import**. Part of my job is leading and mentoring a team of pharmacy technicians that handle gathering medication histories. It’s a hectic and difficult job, so providing **tools that help them do their job better** is something I take very seriously.”

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

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“Previously, there were discrepancies with the data, sig information did not come through discretely, and our team was very frustrated with the amount of missing information. Now, our team feels more equipped to do their jobs, and feels like **they have a good starting point with the medication history provided** to lead a productive med interview with our patients.”

—Jillian Foster, PharmD,  
VP of Pharmacy,  
Baptist Memorial Health Care

# 4.

**Convert data at scale**—As hospitals and health systems merge or adopt new EHRs, data migration is a challenge for many CIOs. Manual migration and mapping are costly and time consuming, and often result in a significant loss of data quality. AI can process and normalize drug and sig information at scale, leveraging standards (CCD, HL7, FHIR) to process hundreds of thousands of lines of clinical data in hours.

DrFirst has been using AI to safely translate and infer medication history data since 2015. Our patented AI solutions leverage the power of natural language processing and machine learning to eliminate manual entry, reduce avoidable errors and ADEs, and provide clinicians with data they can trust. [See how leading health systems use our patented AI in their Epic EHR systems.](#)



**“To save time and improve quality** of medication history data when consolidating EHRs, we developed a data conversion process using an AI engine that cleans and structures data using clinical and statistical context. This **normalized the medication data** while addressing discrepancies and variations from the old EHRs, inferring missing data with context from medication histories to prevent blank fields while **avoiding labor-intensive manual entry.**”

—Robert Lackey, M.D., FAAFP,  
Chief Medical Information Officer,  
WellSpan Health

## AI IN THE PAST

### Poor Definition, Big Expectations

Promises and predictions about the power of IBM Watson seemed to be everywhere 10 years ago, but details were sparse and vague.<sup>2</sup>

Technical professionals didn't take Watson seriously, media and marketing professionals took it too seriously, and ultimately healthcare executives were slow to adopt the solution.

## AI IN THE PRESENT

### It's All About Application

AI is now widely used to translate speech to text, but the average word error rate (WER) is still far from perfect.<sup>3</sup>

Consider the accuracy rates of these major tech companies:

- Amazon - 73% (27% WER)
- Microsoft - 78% (22% WER)
- Google - 79% (21% WER)
- Rev.ai - 84% (16% WER)

This mistake threshold may work for simple consumer applications, but healthcare providers can't accept these risks to patient safety. That's why we need to focus on specific tasks where AI can support healthcare professionals—safely.

## SOURCES

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