

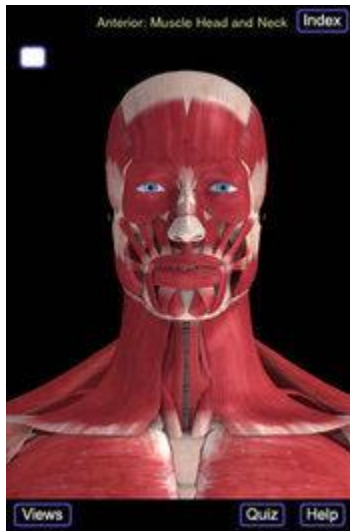
2-D Barcodes Can Automatically Update EHRs

Cook Children's, Microsoft, Athenahealth, and drug makers Merck and Sanofi Pasteur develop system that allows smartphones to scan vaccine label information into e-health records.

By Marianne Kolbasuk McGee, [InformationWeek](#)

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A new 2-D barcode application developed through collaboration between Cook Children's Health Care System, e-health record vendor Athenahealth, Microsoft, and two large drug makers can help clinicians and parents of pediatric patients to more easily manage vaccination information.

The system developed by Children's Health Care System, AthenaHealth, Microsoft, and vaccine makers Sanofi Pasteur and Merck enables the nation's first use of the 2-D barcodes on vaccines, allowing information about the drug to be automatically added to patients' personal EHRs using scanners or smartphones.

Data loss is a symptom of ineffective information protection and control.

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The use of 2-D barcodes on vaccines is allowed under a recently published guidance from the U.S. Food and Drug Administration that exempts a requirement to use 1-D or linear barcodes on vaccines.

Unlike linear barcodes, 2-D barcodes can contain more information about the labeled product, said Ryan Champlin, VP of operations at Fort Worth, Texas-based Cook Children's, an integrated health delivery network that includes a medical center, a 300-physician group, and 60 outpatient offices.

[EHRs are popping up everywhere. Read [Free Mobile EHR For iPhone, iPad, Android](#).]

By utilizing the 2-D barcodes, additional information about a vaccination can be instantly scanned into the patient's records as well as supply chain and inventory systems, said Champlin.

"The vaccine vials are tiny, there isn't much real estate" to include a lot of information on the drug label or on a 1-D barcode, he said. So, a vaccine's product ID number, expiration date, and lot number typically would need to be visually read by a nurse, jotted down on paper, and then entered into an electronic health record, he said. "That opens the door to errors," he said.

However, the 2-D barcodes can contain that product information in the small symbols, and when the image is scanned by Cook physicians it automatically updates patients' AthenaHealth's Web-based digital records system.

While Cook clinicians use small handheld scanners, the barcodes can also be scanned using smartphones. That allows patients' parents or guardians to use their own phones to scan the barcode during a patient visit, and input vaccination information automatically into their child's [Microsoft HealthVault](#) personal e-health record, Champlin said.

"We envision HealthVault being a lifetime record for patients to add and bring their medical information wherever they get care," he said.

"This whole project plays into the bigger effort to make healthcare [safer](#) and less expensive," he said.

"Many vaccines today require boosters, and no one remembers that time they received their last vaccine, like a tetanus shot," he said. That often leads to patients being under or over vaccinated, he said.

While the 2-D application works with the [Athenahealth](#) EHR system used by Cook Children's physicians, Champlin said the advancement of work by Cook, Athenahealth, Microsoft, and the two vaccine makers would allow "any e-medical record vendor to add a 2-D barcode interface" for compatibility with its EHR products, as well.

The [collaboration](#) between Cook, Athenahealth, Microsoft, Merck and Sanofi Pasteur was essentially a demonstration project to "prove we can get experts to use these barcodes" for vaccination information management in clinical settings, he said.

Each vaccine maker first needs to have its drug labels approved by the FDA before being used for 2-D barcode scanning applications such as this, Champlin said.

Besides updating patient's digital records, the scanned barcode information can also be automatically sent to a state's vaccine registry and be used to reorder a replacement for the administered vaccination. Cook is currently working on adding the inventory system capabilities to its deployment, said Champlin.

The 2-D barcode application builds on an [existing alliance](#) between Athenahealth and Microsoft that allows data exchange between Athenahealth's practice management and EHR systems and Microsoft's HealthVault and Amalga software.

Not every application is ready for the cloud, but two case studies featured in the new, all-digital issue of InformationWeek Healthcare offer some insights into what does work. Also in this issue: Keeping patient data secure isn't all that hard. But proposed new regulations could make it a lot harder. [Download it now.](#) (Free with registration.)

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