Startup commercializes software to improve quality of care for pediatric patients

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Two members of the Indiana University School of Medicine have launched a startup to commercialize software targeting improvement in pediatric patient care.

The promise of information technology has been to improve quality, cut costs and increase patient satisfaction. By themselves, electronic health records, or EHRs, have failed to achieve those aims. Software that adds functionality to EHRs can assess patient risks, help physicians identify problems earlier and better document care quality. The result is earlier detection and treatment of problems and better health outcomes for children.

Dr. Stephen Downs, president, and Tammy Dugan, chief technology officer, founded Digital Health Solutions LLC. The company's first software product is CHICA, or Child Health Improvement through Computer Automation. Dugan said the mission behind starting Digital Health Solutions was to make the software available beyond Indianapolis to improve the quality of care of children nationwide.

"It's a population that doesn't get as much attention because of the reimbursement structures in hospitals," Dugan said. "We have a great piece of software, and we have had a lot of interest from people over the years. We want to get it out there so kids can benefit from it.

"CHICA has been in use at Eskenazi Hospital clinics for over a dozen years for more than 50,000 visits," she said. "It is mature, production-

level software."

Downs said [health care providers](link), including pediatricians, struggle with managing the thousands of primary care guidelines and recommendations for each patient visit.

"CHICA addresses this challenge by screening families in the waiting room," he said. "Families receive an electronic tablet upon arrival that asks 20 questions. Based on the family's responses, the software uses its prioritization process to select the most important issues for the physician to address during the visit. The family can provide information on a wide range of topics, including general preventive counseling, asthma, attention deficit hyperactivity disorder, autism, domestic violence, iron deficiency, lead exposure, maternal depression, tuberculosis and more. It also allows physicians to alert patients to problems that may otherwise be overlooked."

"The integration is intuitive and requires little provider training," Dugan said. "When doctors access a patient's electronic health record, or EHR, an embedded link allows them to visit CHICA. Once the doctors have checked all the boxes, indicating how they responded to the alerts, the information is submitted as a block of text to EHR [software](link) that can then be incorporated into the provider's note, thereby streamlining clinical documentation."

"The underlying technology for CHICA can also be adapted for adult or specialty care areas," Downs said. "We are currently working to develop a new module for gastrointestinal specialists."

Along with improving patient quality of care, CHICA offers other benefits for health care providers.

"Payers of health care are looking for ways for providers to demonstrate

superior-quality care," Downs said. "The system captures data that improves and demonstrates the quality of care, which could be used to improve reimbursement. It also collects patient-reported information that can't be captured any other way. My colleagues and I have conducted a number of research studies using the data.

"At various scientific meetings, I am routinely asked, 'How do we get CHICA?' Tammy and I launched Digital Health Solutions as a mechanism to distribute it to anyone who wants it."

Provided by Indiana University

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