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Final Copy of Case Study

Status:
Laureate

Year:
2013

Organization Name:
Miami Children's Hospital (MCH)

Organization URL:
www.mch.com

Project Name:
Miami Children's Hospital Telehealth Platform

Please select the category in which you are submitting your entry:
Health

Please provide an overview of the nominated project. Describe the problem it was intended to solve, the technology or approach used, how it was innovative and any technical or other challenges that had to be overcome for successful implementation and adoption. (In 300 words or less.)

Miami Children's Hospital (MCH) is working to help doctors -- its own as well as others around the world -- apply the latest advances in specialized pediatric medical care to improve outcomes and save children's lives. Over the past three years, MCH has built a telehealth infrastructure that helps its doctors to access crucial patient and medical information more quickly wherever they are, as well as to consult and share best practices remotely with fellow practitioners. The platform includes Citrix desktop and application virtualization, unified communications technologies from Cisco, and telepresence and video conferencing powered by Citrix and Vidyo. Doctors working at MCH use high-definition images to diagnose patients, prepare for surgery, communicate with care teams, and help parents understand medical procedures and gain confidence in their children's prognosis. Digital images of every pediatric surgery are captured and stored alongside real-time post-operative metrics in the patient's electronic medical record, and are also used in teaching materials. Videos of surgeries are shared through social media sites so others can benefit from the hospital's specialized techniques.

MCH's doctors use the telehealth infrastructure to consult remotely with hospitals around the world, making its advanced expertise available to patients who may be hundreds of miles from the nearest subspecialists. Unlike typical siloed telehealth systems, the MCH platform has seamlessly integrated and operationalized capabilities to enable doctors to consult with, diagnose and prescribe treatment for remote patients as if they were in the same room. Mobile applications under development will provide access to remote care in a retail setting, such as a kiosk in an airport or cruise terminal. A parent will sit in a booth, initiate a video session and get timely information and advice from a doctor without the need for an in-person appointment.

When was this project implemented or last updated? (Please specify month and year.) Has it incorporated new technologies and/or other innovations since its initial deployment? (In 300 words or less.)

The initiative began in April 2010 with the implementation of desktop virtualization and application virtualization. The new electronic medical record system went live in April 2012. The MCH telehealth infrastructure went live and began enabling remote patient consultations in February 2012, and the hospital's complete telehealth center went live in August 2012.

Is implementation of the project complete? If no, please describe the project's phases and which phase the project is now in. (In 300 words or less.)

The core elements of the MCH telehealth infrastructure have been fully implemented. The hospital is currently continuing to operationalize the capabilities it makes available, including the development of new models for staffing, payment and reimbursement. As the first initiative of its kind in the industry, the telehealth infrastructure represents an ongoing project that is never truly "complete." As new technologies are approved by the FDA and come onto the market, MCH works to bring them into its system -- for example, a new brain scanner application now available for the iPhone. The platform will continue to evolve and push the leading edge of telehealth and healthcare IT.

Please provide at least one example of how the technology project has benefited a specific individual or organization. Feel free to include personal quotes from individuals who have directly benefited from the work. (In 300 words or less.)

"In the past, information about patients was extremely difficult to get: call a hospital, get a secretary to pick up, get the nurse, have the nurse pull the most recent laboratory reports and read them to me," says Dr. Redmond Burke, Chief of Pediatric Cardiac Surgery at MCH and the founder of its Congenital Heart Institute. "Lives could get lost in those few minutes." Now, Burke can access all of the hospital's critical information systems anywhere, on any device, in real time. "Surgeons rely on precise images to diagnose patients and show someone an operation. Having Hi-Def technology makes all of our information, imaging, teaching materials, as well as our clinical materials, more valuable. They're more usable, and we can make better decisions," says Burke. The same capabilities help him give hope to his patients' parents. "I know they're going through the most stressful moment of their lives. I can show them on a computer screen my hands doing that operation and my patients recovering afterwards. That's really empowering for a patient and very reassuring for a family. They know that their baby can

live." Once surgery is complete, Burke shares images with his teammates so they know what to look for post-operatively, and with other doctors who will treat the patient in the future. "We store those in our electronic medical record so that information remains available to me over that child's lifetime." A pioneer in his field, Burke shares videos of his operations to help others put his innovations to work for their patients. "I could never go and speak to the surgeons in every country in the world, but I can communicate with them using IT and social networking. That global element will drive the future of innovation in medicine."

Would this project be considered an innovation, a best practice or other notable advancement that could be adopted by or tailored for other organizations and uses? If yes, please describe that here. (In 300 words or less.)

More than a best practice, the MCH Telehealth Platform represents the future of medicine. Access to information is a critical challenge for care providers of all kinds; every minute saved not only speeds the delivery of care, but also frees more time for doctors to interact with patients. As tablets and other mobile devices become ubiquitous in healthcare settings, the ability to access clinical systems, EMRs and other resources anywhere, on any device, in real time will have a profound impact on patient outcomes. Access to specialized pediatric care is severely constrained in the U.S., and even more so around the world. The MCH Telehealth initiative shows how expertise in this and other specialized fields can be made more broadly available. Doctors can consult with peers remotely to aid diagnosis; in cases where they will travel to deliver care firsthand, they can share crucial information beforehand with the local team. The call center currently under development at MCH points to another key best practice: making one-to-one medical expertise available even when people can't see a doctor in person. Today, healthcare consumers typically rely on website information of varying quality, the anecdotal advice of friends, folk wisdom or simply their own guesswork. Now, they will be able to consult face-to-face with a qualified practitioner to diagnose their condition and learn what options are available for their continued care. In each of its many use cases, the MCH Telehealth Platform reflects key priorities for healthcare of every type: improving patient outcomes through more informed decisions, lowering the cost of care by enabling more accurate diagnoses, and making high-quality care accessible to more people in more places.

If there are any other details that the judges should know about this project, please note them here. (In 300 words or less.)

MCH isn't waiting for healthcare reform to run its course before introducing next-generation systems and models. Today, various state and federal laws stand in the way of the hospital's telehealth service. For example, the state of Florida does not allow doctors to receive Medicare or Medicaid reimbursements for care provided remotely, and does not allow doctors to prescribe medicine during a remote consultation. While MCH works to have the applicable laws modernized, it has also reached out internationally to regions that allow the accepted practice of telehealth. MCH signed its first major telehealth contract with Vatican City in early 2012, and has since signed agreements with the cities of Medellin, Colombia, and Quito, Ecuador. Other areas for expansion include Russia, Costa Rica and the Cayman Islands. MCH is also working with large retail chains, airlines and cruise ship lines to make its telehealth consultations more

widely available to travelers and other patients. When federal and state governments in the U.S. do adopt laws that sanction the use of telehealth technologies, MCH will be ready with a telehealth infrastructure that has been fully operationalized and proven in thousands of consultations with patients around the world.