



The Computerworld Honors Program

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Final Copy of Case Study

YEAR:
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STATUS:
Laureate

Organization:
UPMC (University of Pittsburgh Medical Center)

Organization URL:
<http://www.upmc.com>

Project Name:
eVisits at UPMC: Increasing Convenience with Reduced Cost for Patients and Providers

What social/humanitarian issue was the project designed to address? What specific metrics did you use to measure the project's success?

At UPMC, eVisits were developed to make healthcare more accessible and to drive improvements in quality. eVisits can be thought of as an "online house call" where a patient with Internet access can receive a consultation for one of a specified set of medical symptoms. eVisits are conducted through a secure Internet portal using questionnaires that are designed to elicit medically relevant data. eVisits particularly benefit patients who have difficulty traveling due to age or physical condition and who do not require an in-person visit. Also, patients with episodic or chronic conditions can be cared for from the comfort of their own home. eVisits allow physicians and staff to avoid back-and-forth phone calls with patients and they ensure that patient messages are not given to others in the household (especially important with regard to HIPAA regulation compliance). Plus, appointment slots open up as more patients are served online, increasing the convenience for patients who do not use eVisits. eVisit questionnaires are consistent from patient to patient, leading to a more consistent application of care and providing a rich data source for analyzing care and driving improvements in quality. The eVisit program has physicians staffed to provide responses during extended hours and, because physicians can respond using mobile devices, patients can obtain increased access to their physicians. The eVisit program is targeted at UPMC's patient population of over 4 million. Currently, there are over 83,500 patients registered to use the secure patient portal and approximately 77% of them have access to the eVisit feature. Since April 2009, when eVisits became reimbursable, more than 3,000 eVisits

have been submitted, with 1,777 eVisits total conducted in 2011. Recent analyses have shown that patients age 34-49 submit the most eVisits followed by patients age 50-64.

Please describe the technologies used and how those technologies were deployed in an innovative way. Also, please include any technical or other challenges that were overcome for the successful implementation of the project.

The eVisits functionality was initially developed using code from electronic medical record (EMR) vendor Epic Systems, particularly their ambulatory EMR with the patient portal module, which run on Windows servers. Custom web page designs and software builds have been repeatedly implemented in the years that followed. The Internet transactions are carried out using Microsoft Active Server Pages (ASPs) and the security is provided using Microsoft's Internet Authentication Service (IAS). The database was built using InterSystems Cache. While companies in many industries, such as banking and airlines, routinely offer online transactional services to both lower operating costs and increase customer self-service and convenience, this model has not been widely applied to healthcare. While there were some technical obstacles to overcome, the larger factors affecting the successful outcome of the program were structural. First, physicians could be hesitant to adopt eVisits. To address this, the processes for handling eVisits were designed to integrate into the existing daily workflows that physicians were comfortable with from in UPMC's electronic medical record application. Second, without a framework for fee-for-service based eVisits, physicians could have been reluctant to give their time. To resolve this issue, questionnaires were developed for specific conditions by analysts working with physician medical directors to ensure that data gathered for eVisits would be medically relevant for participating physicians. Then, data was gathered on the demand for eVisits using a pilot in select offices with eVisits offered free of charge for a limited time. This pilot revealed significant demand from patients. Also, in 2008, CPT code 99444 became available to physicians to use for billing for online patient services and related communications. This change and the collected pilot data were presented to several local insurance payers and eVisits became reimbursable from multiple payers in April 2009.

Please list the specific humanitarian benefits the project has yielded so far.

Ease of access: The eVisits feature is regularly tested using Internet Explorer 8, FireFox 3.x, and Google Chrome on Windows and Safari 5.X on Mac OS X. Patients can use practically any Internet connection at any time of the day (24/7) to submit an eVisit. Improved quality of care: eVisits use detailed questionnaires that are not modified in any way by office staff, ensuring that medically relevant data is not "lost in translation." Also, eVisits are completed by patients at their own pace, allowing for thorough answers from patients and affording physicians with more time to research a patient's problem without having the patient wait. eVisit questionnaires are consistent from patient to patient -- compared to in-person visits or telephone conversations -- leading to a more consistent application of care and creating a rich source of data for analyzing care. Plus, with each eVisit, patients validate their demographic information. Affordability: For patients who have insurance that covers eVisits, the cost is typically consistent with the copay for an office visit. As more insurers reimburse for online care, more patients will have the opportunity to receive care at the same out-of-pocket cost as office-based care. Improved continuity of care: Unlike free-standing retail clinics and urgent care settings, eVisits are integrated with UPMC's electronic medical record, so any eVisit data can be added to a patient's longitudinal record upon physician review and approval. Increased convenience and environmental-friendliness: Because eVisits allow patients that do not require an in-person visit or who have difficulty traveling to visit a physician from home or work, there is a reduction in transportation and parking issues (and a reduction in fossil fuel usage). Plus, with eVisits, more appointment slots become available for patients who do not use eVisits.

Please provide the best example of how the project has benefited a specific individual, enterprise or organization. Feel free to include personal quotes from individuals who have directly benefited from the work.

Perhaps the best examples of the benefits of eVisits are expressed in the following verbatim comments from patients: "This is fantastic. My physician got back to me in less than about 30 minutes and the entire visit was easy! I love eVisits." "Thank you for offering this service. It is effective, easy to use, time and money saving. Thank you, again." "I think this is a brilliant idea. Saves me time and money for treating little things. I still would come to the office for bigger concerns. I also feel more confident in the information I am receiving because it is from my doctor." "It's good as it is for now. Most times I know my problems before I see the Dr. and I live miles away so this works great for me." "I am immensely grateful you offer e-visits. I am a chronic sufferer of sinus infections and the symptoms are always the same. It saves me so much stress and headache when I am already not feeling well to know I do not have to drag my 3 children to the Dr. office with me. Thank you." "This was my first eVisit and I anticipated some difficulty navigating through the pages. I am very pleased to say that this Grandma had no problem at all and was very pleased with eVisit and will definitely use it in the future. Thank You." Physicians also enjoy the convenience of being able to provide care for certain conditions anywhere there is an Internet connection. Interestingly, some physicians have conducted eVisits in many parts of the world and even in airports while traveling.