



The Computerworld Honors Program

Honoring those who use Information Technology to benefit society

Final Copy of Case Study

LOCATION:
Pittsburgh, PA, US

ORGANIZATION:
UPMC

YEAR:
2011

ORGANIZATION URL:
<http://upmc.com>

STATUS:
Laureate

PROJECT NAME:
Building the Broader Community

CATEGORY:
Health

PROJECT OVERVIEW

UPMC's interoperability efforts are shining examples of pushing innovation in the space of health information technology to the farthest reaches possible. Patients are increasingly mobile, and their medical information is often scattered amongst multiple physicians, systems and institutions versus one comprehensive medical record. UPMC has created a platform that is able to effectively connect these dots throughout the continuum of care – providing for the first time an ability to effectively and accurately create a complete patient record that provides a full picture of the patient that is both actionable as well as available in the clinical workspace. This approach has transformed clinical care at UPMC, elevating the level of care possible to new heights. Several projects have taken place within this initiative to connect clinicians and caregivers around the patient and to use technology as an enabler to support improved clinical outcomes through intelligent data presentation and exchange. In November 2010, UPMC went live with its integration with Google Health as one of the few health systems that currently allows patients to link their health data to their Google Health profile. Google Health pulls data such as immunizations, laboratory tests, and medications from provider (both inpatient and outpatient) and payor divisions of UPMC into one integrated personal health record (PHR). By exporting this data into Google Health, the patient has a completely portable record that allows data integration from other sources including labs and retail pharmacies to give the patient a better overall view of their health. In March 2011, UPMC will be going live with a solution called MedLink to address “last mile connectivity” between UPMC and affiliates including physicians, skilled nursing facilities, and public health organizations. MedLink acts as a replacement for faxing and allows for a more secure method of transmission and guarantees delivery. MedLink's goal is to improve provider relations and support of physician compliance as well as reduce paper records. MedLink can deliver patient data into an affiliated physician's EMR, send it via an electronic file, or deliver it directly to a printer. UPMC has developed MedLink to allow for easy “plug and play” integration with affiliates depending on their vendor solution. Future plans include the addition of physician preferences regarding delivery

method including delivery to mobile devices. Another technological innovation that is in the final testing phase is the transmission of immunization data to the Pennsylvania State Immunization Information System (PA-SIIS), a statewide registry. With implementation planned for March 2011, UPMC will be ahead of the industry in sharing data bi-directionally with a state immunization registry. Any immunization data currently stored in UPMC's inpatient or outpatient EMR will be sent to the PA-SIIS with the patient's UPMC enterprise master patient index (EMPI) number and added to the statewide registry. Additionally, once a patient checks into a UPMC facility, the PA-SIIS database is queried based on the EMPI and the data is then sent back to dbMotion, UPMC's interoperability solution. The data can then easily be viewed in dbMotion by any clinician at UPMC.

SOCIETAL BENEFITS

The primary benefit is in providing medical professionals with an up-to-date, comprehensive patient record by aggregating records from different sources, formats, and locations. These capabilities lay the foundations for services that can be developed per the needs of each network, i.e. public health monitoring, patient-centric medical consultation, and advanced alerting.

PREVIOUS PROJECT UPDATED/EXPANDED?

The project is an expansion on UPMC's existing interoperability project with work currently being completed for MedLink and PA-SIIS integration to be rolled out in March 2011.

PROJECT IMPLEMENTATION COMPLETE?

No

PROJECT BENEFIT EXAMPLE

There are several strong examples of how interoperability solutions at UPMC have been crucial at the point of care and have potentially saved lives. At one UPMC hospital, a patient that was admitted to the emergency department complaining of abdominal pain was referred for a standard workup. A nurse consulted the dbMotion screens (UPMC's interoperability solution), which pull together patient data from disparate sources across the enterprise, and discovered that the patient had a history of an aortic aneurysm. The patient was immediately sent for a CT scan which revealed an acute dissection with the likelihood of a rupture. The operating team was mobilized. Prior to transfer to a tertiary care center, the nurse also noted via dbMotion that the patient was taking a blood thinner and appropriate therapy was initiated during transfer thus preventing further delay of surgery and most certainly saving the patient's life. In another situation, a young man arrived at the emergency department with abdominal pain and was scheduled for a CT scan of his abdomen requiring IV contrast. He had received past treatment in other hospitals where an allergy to IV contrast was documented and was also noted in his outpatient chart in an ambulatory EMR. This allergy was recorded in three disparate sources and the patient could conceivably have received this dye if he not been able to relay this information himself. The absence of interoperability increases the potential for life-threatening complications; however, by referencing the interoperability solution, the doctor had a complete picture and could immediately prescribe the appropriate care thus avoiding serious, if not fatal, consequences. As UPMC moves further toward complete interoperability with providers and patients, we will see new situations arise where interoperability will play a key role in patient safety and satisfaction. While the environment may change and technology may evolve, the bottom line is that UPMC must continue to innovate in order to fulfill the ever-growing need to exchange information between hospitals, providers, systems, and now patients in order to create a



complete and interoperable patient record.

IS THIS PROJECT AN INNOVATION, BEST PRACTICE? Yes

ADDITIONAL PROJECT INFORMATION

With the implementation of UPMC's solutions to connect with physicians, patients, and other external sources, it paves the way for UPMC to effectively demonstrate Meaningful Use in 2011 and beyond. All of the projects within this initiative were brought about by a need to connect and share information before Meaningful Use was even a priority. These projects have been in development for several years and after the initial phases are rolled out, additional functionality will be added in order to keep up with demand, future healthcare regulations, and technological advancements. An additional key benefit to these solutions is the reduction of errors. With the creation of MedLink, affiliates will be able to receive complete and accurate patient information from UPMC facilities whereas before, faxed information may have not been complete or delivered in a secure manner. Connecting with the PA-SIIS immunization registry provides physicians and patients with a robust picture of the patient's immunization history rather than relying on older paper records or the patient's memory. The transmission system possesses the intelligence to be able to properly match patient demographic information in the event that the PA-SIIS returns multiple potential matches, in most cases, without the need for human review. Having this immunization data readily available also prevents duplicate and unnecessary immunizations. Interoperability has enabled greater levels of patient care, patient safety and quality as well as physician efficiency across UPMC even as it strives to redefine the boundaries of what is a true accountable care organization.

