

Creating Health-e-cITi: An Inspired HIE Solution



Problem

Despite the growing prevalence of electronic medical records in healthcare facilities throughout the country, coordination of care among institutions can still be a nightmare. Individual systems are rarely interoperable; data standards breed chaos due to lax enforcement of HIPAA guidelines; health plans are reluctant to participate particularly if the cost to implement new technology is prohibitive; and patients still approach their own health care choices passively, ill-equipped to make informed decisions.

In order to overcome these challenges, hospitals are often charged with the task of solving — costly — underlying technological problems. Care is outdated, uncoordinated, and out-of-band because providers don't have access to the most up-to-date patient information; that patient information is often locked in different "silos," or storage locations, such as state immunization agencies, Medicaid, hospitals, and labs; and point-to-point integration of information among disparate facilities can require expensive user interface development in order to avoid redundant workflow such as data entry — of the same data multiple times.

The Challenge: Newark Beth Israel Medical Center

Newark Beth Israel Medical Center (NBI), a member of the St. Barnabas Healthcare System, is a 673-bed regional care facility that serves as a major referral and treatment center in the northern New Jersey area, as well as a not-for-profit teaching hospital. With 300,000 outpatient visits and 25,000 admissions annually, NBI wanted to connect patients and partner institutions through an interoperable health information exchange that would offer a comprehensive, HIPAA-compliant patient record to patients, providers, payers and other key stakeholders — including eight federally qualified health centers in Newark.

Additionally, NBI required its solution to comply with federal standards for "meaningful use of implemented technology" in order to qualify for American Recovery and Reinvestment Act of 2009 (ARRA) funding. Would this HIE improve health outcomes in measurable ways? Could participating facilities and providers stay competitive within the market by decreasing costs, increasing revenue and meeting legal requirements? The first step toward meeting these goals involved successful capture and sharing of data, and then, ultimately using that data to transform delivery of care.

Solution

By mid-2009, NBI announced plans to launch a collaborative, comprehensive electronic health information exchange, called Health-e-cITi, which would offer a shared clinical data repository to its partner institutions, physicians, other care givers and patients. The HIE, both scalable and flexible to allow for system expansion, offers a leading portal and interface engine. NBI selected

IGI to power the exchange by implementing IGI's industry-leading ORBIT® healthcare portal platform which provides a cost-efficient way to share clinical information both inside the hospital setting and with the community, external health information networks, state agencies and Medicaid. To build the internal and external interfaces, NBI selected Intel's® SOA Expressway for Healthcare. The combined solution is a collaboration between IGI and Intel that creates next generation solutions for hospitals and IDNs, and enables healthcare providers to securely exchange patient information at the point of care — key to providing better services and reducing integration costs.

This solution gives clinicians web-based access to medical records, allowing them to integrate patient information between community partners, and collaborate with administrative users of the system. The ORBIT® portal also provides a HIPAA-compliant PHR for patients, so that demographic information, events and clinical results can be aggregated into one location — a community-wide exchange that streamlines data-sharing. Using ORBIT®, the following have been implemented:

- Live clinical data sharing between NBI and Federally Qualified Health Centers (FQHC)
- Live interface to N.J.'s state immunization system and links across state lines to other systems
- Live interface to internal patient data warehouse within a single facility
- Live connection to New Jersey Medicaid to access medication histories, the first meaningful use deliverable under to Medicaid transformation grant
- Automated workflow in ED via an HL7 interface, eliminating nurses duplicate data entry

Use cases best describe Health-e-cITI's capabilities:

Immunization verification requests are streamlined through the portal. The provider must simply log on, enter patient information, and capture patient consent to submit a request for immunization data. ORBIT® HIE service formulates a query in HEDIS format and send the request to the state. The state then sends the data through the portal for the provider's review.

Providers can access medication histories from Medicaid. The provider enters into ORBIT® one of three approved patient identifiers in order to request medication history. ORBIT® HIE service formulates a standardized response extracted from stored data, and transmits a report back to the provider.

Facilities and health plans benefit from improved patient tracking via ORBIT® Universal Transfer Form. When a patient is discharged from a facility and transferred to another, all treatments and testing information is recorded in an electronic, universal transfer form that authorized providers can access through the portal, opting to view only information relevant to the next episode of care thus providing a true continuity of care (CCD) document.

Participating providers have seen immediate improvements in the delivery of services. "We are very excited about the quality of the clinical data we are now able to see electronically," said Peter Velez, MPH, President and CEO of Newark Community Health Centers. "Newark Beth Israel used to fax over appointments and other patient information which was helpful, but it did not tell the whole story. Now, we have medical record details available from NBI at our fingertips as well as access to the State immunization records and real-time Medicaid medication histories. We anxiously await the rest of the area hospitals to implement the same services as Health-e-cITI continues to evolve."



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