

Delaware Health Information Network

Principal Investigator:	Lee, Jan, M.D.
Organization:	State of Delaware
Contract Number:	290-05-0012
Project Period:	September 2005 – September 2011
AHRQ Funding Amount:	\$4,700,000

Summary: The Delaware Health Information Network (DHIN), a public-private partnership that received Agency for Healthcare Research and Quality (AHRQ) funding in September 2005, implemented a real-time electronic method for health care providers to obtain information about their patients. This project is one of six AHRQ-sponsored State and Regional demonstration projects that began in late 2004 and early 2005 to create a State or regional health information exchange (HIE).

The DHIN exchanges data among hospitals, reference laboratories, physician practices, and public health agencies through the State. Partners include consumers, physicians, hospitals, businesses, payers, government agencies engaged in health care, and reference laboratories.

The DHIN board of directors is comprised of diverse organizations representing the primary stakeholders of the HIE. They include consumers, physicians, hospitals, health plans, business, higher education, and State government agencies responsible for population health and information technology.

Project Objectives:

- Improve care of patients served by Delaware's health care system, and reduce medical errors associated with inaccurate or incomplete information available to providers. **(Achieved)**
- Reduce the time and financial costs of HIE by reducing the complexity of current distribution methods and increasing use of electronic means. **(Achieved)**
- Improve communication between health care providers and patients to provide appropriate, timely care that is based on the best available information. **(Achieved)**
- Reduce the number of duplicative tests and expedite the reporting of consultant opinions and tests/treatments between specialists and the referring physicians. **(Achieved)**
- Improve the efficiency and value of electronic health record (EHR) systems in physicians' offices, and assist physicians that do not have an EHR to better organize and retrieve test results. **(Achieved)**

2011 Activities: Due to delays in previous years of the contract, the contract was extended by 12 months which extended the project period until September 2011. Activities during this period focused on continued support of DHIN functions as well as collection of data and project evaluation.

Impact and Findings: Through implementation of technology, commitment of hospitals and reference laboratories that submit results data to the DHIN, and systematic enrollment of providers, DHIN established the infrastructure and data penetration required to carry out the objectives of this project. The reach of the project is significant and has included 75 percent of Delaware hospitals and all major reference laboratories that provide results data to over 435 provider practices with multiple users. Slightly more than 533,000 results were submitted to the DHIN from hospitals and reference labs, and more than 578,000 results were

distributed to providers. This represents an increase over the same period 1 year earlier, an increase of about 15 percent in results submitted, and an increase of about 50 percent in results sent. As of June 30, 2011, there were more than 1 million unique patients in the database.

Both the quantitative and qualitative measures demonstrated that while DHIN continues to push data to providers, those same providers are retrieving data from the DHIN at increasing rates. End users interviewed indicated that using the DHIN information was a consistent part of their workflow. Provider use of the DHIN to access information on patients presenting for treatment where a prior clinical relationship was not established in the DHIN increased ten-fold. This data, combined with interview information, demonstrates the DHIN is searched for results and reports to support effective and efficient care. Among health care providers interviewed, there was consensus that data provided in the DHIN will have an impact on care delivery including reduction in duplicate tests. This was supported with an analysis of results for tests that are often high cost and high volume. The rate of test results per unique patient sent through the DHIN in June 2011 as compared to June of 2009 was 30 percent lower for radiology exams and 33 percent lower for lab results.

DHIN has also had an effect on cost for both providers and data senders beyond those recognized from workflow improvements related to patient care. Compared to the average cost to send results using traditional methods of fax and mail, data senders serving providers who utilize the DHIN as the primary method for receiving results have saved more than 2 million dollars. Additional savings of 1 million dollars could have been realized for the same period if all DHIN member providers were committed to use the DHIN as their primary source of results reporting. By comparing the cost to interface via point to point methodology versus through the DHIN, an estimated implementation cost savings of between \$18,500 and \$28,500 can be realized by each provider practice.

Finally, several lessons were identified from the project evaluation. The focus of the lessons is closely related to measuring and delivering value from the HIE and they include:

- Organizations should plan for measurement from the beginning of the initiative.
- Organizations should continue to measure on an ongoing basis.
- Processes must be implemented to secure provider sign-off.
- The sender bears the responsibility for providing clean and useable patient data. A standardized nomenclature or identifier for tests and procedures should be established.
- The value of the HIE increases exponentially when providers interface the data to their ambulatory electronic health records.

Target Population: General

Strategic Goal: To develop and disseminate health IT evidence and evidence-based tools to support patient-centered care, the coordination of care across transitions in care settings, and the use of electronic exchange of health information to improve quality of care.

Business Goal: Implementation and Use
