

Project Title:	An Evolving Statewide Indiana Information Infrastructure State and Regional Demonstration Project (currently known as Indiana Network for Patient Care – INPC)
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Organization:	Regenstrief Institute
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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

Summary: Indiana is working to build upon established local and regional health information infrastructure initiatives, including the Indiana Network for Patient Care (INPC), an operational health information exchange (HIE) in central Indiana (Indianapolis), and then develop the electronic infrastructure across the entire State. The INPC is one of six AHRQ-sponsored State and regional demonstration (SRD) projects begun in late 2004 and early 2005 to create non-profit health information exchange (HIE). Each of the SRDs is developed using a variety of approaches (e.g., technical, business, and governance models) in order to support data sharing and interoperability on a State or regional level; conduct analyses of the role of the Medicaid program; provide an evaluation of their project; and, develop a sustainability model. The INPC HIE includes a broad array of participants and members, including physicians, hospitals, ambulatory practices, laboratories, radiology centers, health plans, State and county health departments, and immunization registries. The Regenstrief Institute, acting on behalf of the participants, created and operates the exchange and helped create the Indiana Health Information Exchange (IHIE) to establish a sustainable business model to support the HIE.

The INPC is a robust HIE that has operated since 1995 and provides population-based, longitudinal, and consistently structured coded and text patient data for citizens of Indiana. The INPC is most complete for the Indianapolis Metropolitan Statistical Area (MSA), a 3,200-square-mile region in central Indiana with 1.7 million residents, but continues to expand across the State of Indiana, which has a population of 6.4 million. The INPC currently stores data for 17 million unique patient registrations representing 9,666,439 unique individuals. The system contains clinical data for nearly the entire population of the Indianapolis MSA, patients throughout Indiana, and patients outside the State.

The INPC captures data from many sources, including hospitals, physician practices, public health departments, laboratories, radiology centers, pharmacies, pharmacy benefit managers (via SureScripts), and payers. Sources like hospitals and physician practices provide many types of data, including laboratory test results, radiology test results, cardiology diagnostic results, pulmonary function test results, gastroenterology study results, procedures performed, diagnoses assigned, transcribed reports (admission, operative, discharge), and inpatient, outpatient, and emergency department encounters.

Current INPC Participants

Organization	Number of participating locations
Hospitals	39
Laboratories	3
Imaging Centers	11
Physician Practice Groups	196
Payers	5
Public Health Departments	2

Specific Aims

- Assess the actual and/or perceived effects of HIE on productivity, service utilization, patient quality, safety, satisfaction, and ongoing marginal costs. (**Ongoing**)
- Create a sustainable business and funding model to assure the HIE's long-term survival by providing services built on top of the HIE, such as clinical messaging, quality improvement, and public health services. (**Achieved**)

2008 Activities: The INPC spent Fiscal Year 2008 (FY08) expanding its activities by bringing on new partners (laboratories, imaging centers, suburban health hospitals, emergency departments, long-term care facilities, and rehabilitation centers) and seeking to resolve several challenges related to this expansion. The INPC worked on providing additional interfaces for lab and pathology centers in hospitals that recently joined the exchange. By the end of FY08, the INPC finalized its additional interfaces with all of its new data sources.

In total, INPC has achieved data sharing with 39 hospitals, 2 national laboratories, 2 radiology centers, 3 health plans, 3 physician practice groups, immunization registries, select ambulatory practices, and others who are participating in the INPC. The INPC has expanded its activities outside Indianapolis to other surrounding geographic areas, including Evansville, Terre Haute, and Northwest Indiana. In addition, we have continued our work to develop an entirely new software platform to support the exchange.

Regenstrief Institute and the INPC play a central role in the medication hub pilot project with MidSouth eHealth Alliance (MSeHA). MSeHA and INPC are contracted to interface with multiple sources of medication information, including SureScripts-RxHub, and hospital data systems. In addition, the INPC was asked to continue its participation in phase II of the Department of Health and Human Services, Office of the National Coordinator-funded National Health Information Network (NHIN) project.

As part of its evaluation in FY09, INPC is conducting a series pilot study on physician quality reporting that includes almost 1,000 physicians. Quality measures range from use of appropriate medication for patients with asthma to cholesterol management. The INPC prompts participating physicians with patient-specific reminders such as "adjustment of medication needed." The INPC started delivering these reminders in July 2008 and will perform an analysis to test whether the intervention increases compliance to quality indicators at the patient level.

Additionally, Regenstrief is using INPC data to: 1) define community associated methicillin-resistant *Staphylococcus aureus* (CA-MRSA) cases, and 2) learn what happened to these patients before hospitalization in order to identify key community factors for developing and testing the efficacy of interventions to prevent community CA-MRSA infection in persons who experience repeated infections or who have close contacts with infected persons.

Also, Regenstrief Institute will develop and field a questionnaire and survey process to identify barriers to participation in HIE, and solicit feedback on how to overcome those barriers.

Preliminary Impact and Findings: Our previous research has demonstrated that the economic impact of making longitudinal patient data available in emergency departments is a savings of at least \$10 per visit, so expanding the INPC across the State should translate directly to lower costs of care. In addition, the evolving infrastructure has begun to enable a variety of services such as a paper-based medication history that includes clinical decision support and notification of a payer-based care manager when patients receive care in an emergency department or hospital setting.

Finally, almost 1,000 primary care providers across the Indianapolis MSA have received monthly feedback on over 20 quality measures based on INPC data. Although we have not yet formally assessed the impact of this information, we have observed the attention that practices have focused on quality improvement, as well as anecdotes about additional mammographic screening and colorectal cancers diagnosed at early stages.

Selected Outputs

We have presented on Indiana's efforts extensively nationally, giving over 100 presentations over the lifetime of the project that describe our technological, operational, and business approaches. We have also shared our learning with a variety of groups, including RAND, the Brookings Institution and National Opinion Research Center (NORC); government agencies such as the Office of Management and Budget and the Office of the National Coordinator for Health Information Technology; and Federal advisory groups such as the National Committee on Vital and Health Statistics.

In January and July 2008, this HIE participated in two in-person meetings with fellow AHRQ-sponsored SRDs to share lessons learned, share general information, and plan for upcoming project-specific deliverables, such as conducting evaluations and developing sustainability plans.

In late 2008 and onward, this HIE contributed to the AHRQ-sponsored manuscript entitled, *Liability for Regional Health Information Organizations: Lessons from the AHRQ-Funded State and Regional Demonstration Projects and Other Community Efforts*, [available online](http://www.healthit.ahrq.gov) at <http://www.healthit.ahrq.gov>.

Please see the INPC website, <http://www.regenstrief.org/medinformatics/inpc/hie-services-available>.