



# The Office of the National Coordinator for Health Information Technology

## Health Information Exchange Strategic and Operational Plan Profile

### Overview

The Delaware Health Information Network (DHIN); a public-private entity created to design, implement, and maintain public and private use of health care information; is the state-designated entity for Delaware (DE). DHIN convenes a multi-stakeholder representation body (a Public-Private Board of Directors) to recommend the overall direction and policy for HIT and HIE in Delaware. As of 2007, DHIN is an operational statewide HIE that utilizes a community master patient index (CMPI) and record locator services (RLS) to enable patient record searches of laboratory data; radiology reports; transcribed reports; and admission, discharge, and transfer (ADT) face sheets. An estimated 70% of health care providers in Delaware use DHIN to retrieve clinical results and search for patient-centric clinical summaries. DHIN has direct interfaces with EMR vendors to support results delivery directly into a patient’s electronic chart in the provider’s EMR. DHIN also supports real-time electronic reporting to the State’s bio surveillance system.

Delaware plans to roll out future functionalities in the DHIN, including lab order entry, bi-directional continuity of care document exchange (CCD), picture archiving and communication system (PACS) image retrieval, medication history, additional interfaces with EHR systems, implementation of an NwHIN referral network, and Direct functionality available in 2011 for all eligible providers and hospitals. Additional functionalities, targeted by 2013, include: connectivity to the immunization registry, administrative functions (e.g., eligibility verification, claims submissions), additional interfaces to EHR systems, medication reconciliation, quality reporting, transitions of care, radiology order entry, patient portal and PHR connectivity, and enhanced public health connectivity.

### Model and Services


DHIN offers a standardized, web-based community health record, which can be customized to the workflow of the practice and job function of the end-user. As a result, authorized users with a “need to know” can access patient demographic data, payer information, ADT data, laboratory and pathology results, radiology reports, and transcribed reports. Authorized and authenticated users can receive clinical results in three ways: electronic inbox, auto printing, and a direct interface to an existing electronic health record (EHR) system.

Consistent with meaningful use requirements, DHIN plans to empower patients by introducing a patient portal. This portal will enable consumers to access their health information, including lab results and medications; receive alerts and notifications; and obtain clinical and hospital discharge summaries at home. As an added benefit, patients will be able to complete a standardized data form at home instead of filling out paperwork on clipboards in the waiting room.

This will save time for both the patient and the provider, and eliminate the need for manual data entry.



Office of the National Coordinator for Health Information Technology  
State Health Information Exchange Cooperative Agreement Program  
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**State:**  
Delaware

**HIT Coordinator:**  
Marcy Parykaza

**Statewide HIE:**  
Delaware Health Information Network (DHIN)

**Award Amount:**  
\$4,680,284.00

**Contact:**  
Marcy Parykaza  
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[marcy.parykaza@state.de.us](mailto:marcy.parykaza@state.de.us)

**Website:**  
<http://www.dhin.org>

**Other Related ONC funding in Delaware:**

Regional Extension Centers (RECs):  
\$5,859,716.00

DHIN plans to support a variety of administrative transactions, including eligibility checking and claims submission. Similar to other data aggregation approaches, DHIN offers a flexible implementation model designed to meet data providers at their current level of technology adoption. DHIN's approach to administrative transactions intends to simplify provider and provider staff interaction with public and private payers across the state of Delaware. DHIN will do so by optimizing access to administrative transactions, such as eligibility verification and claims submission, and by creating a common payer framework where a variety of use types can interact with all payers statewide from a single user interface.



## Highlights

- **Delivery of Lab Results:** By providing all clinical reports and results in one standard format, regardless of where the test was performed, DHIN eliminates the opportunity for the misinterpretation of data. The ordering provider knows who performed the test by the logo and contact information presented on the report, while preserving branding and the necessary information for CLIA certified laboratories. DHIN also offers a standardized web-based community health record, which can be customized to the workflow of the practice and job function of the end-user. Authorized and authenticated users can receive clinical results in three ways: electronic inbox, auto printing, and a direct interface to an existing electronic health record (EHR) system. The electronic inbox provides a secure mailbox for delivering reports and results to ordering physicians and anyone copied on the order, as well as face sheets for office users. The AutoPrint option sends results directly to a network printer on the basis of the practice's printing preferences (by times of day, hours between print jobs, etc.). Physician practices that choose to receive data via an existing EHR system are set-up to connect directly through their EHR vendor, whereby a clinical result can be automatically matched with a patient record and presented to the physician in their EHR work list.
- **CCD Integration:** Over time, the DHIN will offer a range of services to support meaningful use as well as general patient care and clinical workflow. Such services include: EMR-CCD exchange as EMRs begin to support sending CCD documents to DHIN; DHIN conversion services to convert HL7 data into a CCD format (and vice-versa) in order to make it available by other systems and queries; CCD exchange for referral and consult to support the coordination of care among health care providers, as well as the State mental health services for adults and children, by facilitating the referral processes used to integrate the patient into community-based service providers; CCD aggregation services to support Social Security Administration workman compensation and disability claims; and distribution and integration to Personal Health Records (PHR) and health record banks.
- **Public Health Readiness:** DHIN connects to the state's public health bio-surveillance system for real-time delivery of reportable diseases and emergency chief complaint data. Via the emergency department (ED) admission (ADT transaction), DHIN receives the chief complaint for the patient's visit to the ED and routes it to the patient's provider, as well as to the Delaware Electronic Reporting and Surveillance System, in real-time standardized format.
- **Connectivity with Medicaid Medical Information System (MMIS):** Connection of the Delaware MMIS to DHIN will provide statewide access to authorized practitioners to enable them to view summarized Medicaid claims data. This information provides the practitioner with medical history, chronic care conditions, current and past medications, and the patient's care team. Combining claims data with the robust clinical results (such as lab tests) currently available to DHIN users is expected to dramatically improve patient safety, reduce duplicate test ordering, and prevent patients from misusing the health care system (whether through drug seeking or lack of appropriate follow-up care to the Medical Home). DHIN architecture supports a confederated model where data from Medicaid will be stored in a dedicated, secured environment. Even though automated eligibility verification is currently available through Medicaid's fiscal agent, connectivity with the MMIS through the DHIN will enable its vast network of physicians to verify Medicaid eligibility for their clients through the same system with which they access medical information. Dates of coverage, Medical Home status, Plan Coverage, and other key details are easily viewed, printed, and navigated.



- **State Funding:** Delaware has developed a sustainability model based on the degree of value that organizations will receive using the DHIN. One particular stakeholder that sees DHIN's value is hospitals. All of the hospitals in DE connected through the DHIN have shown immense support by putting the DHIN at the core of their exchange strategy and investing large amounts of money in the network. For hospitals and other types of data senders, there will be a transaction fee determined by the level of DHIN use for the receiver. Receivers (providers) will not be charged to use the DHIN.

Another element crucial to Delaware's financial sustainability is state support: in January 2011, DHIN became a public instrumentality to the state. With this designation, DHIN is required to report bi-annually to the state on their business plan and sustainability strategies, while benefits from state funding are appropriated for operational uses. Another benefit of this designation will be more agility in contracting and hiring. There is only one other entity in DE that has this designation.

- **REC/HIE on-boarding process:** The REC's first step when signing on a new provider is to assist with his/her application to participate in the DHIN. Providers are initially set-up with the auto print delivery option, which allows them time to adjust to the results delivery workflow. There is a two week DHIN provider training, followed by additional administrative training (e.g., resetting passwords, running reports, etc). DHIN will follow-up with each provider after three months.



# Meaningful Use

| <u>Landscape</u>  | <u>Strategy</u>  |
|---|--|
| <p><b><u>E-Prescribing</u></b></p> <ul style="list-style-type: none"> <li>Based on a 2008 University of Delaware survey, 57% of surveyed physicians reported that they used electronic prescribing.</li> </ul>  | <ul style="list-style-type: none"> <li>DHIN will provide electronic transmission of prescription and prescription-related information (e.g., 12-months of prescriptions, fills, etc.). Through DHIN, patient-specific clinical information can be accessed during the e-Prescribing process for the provision of clinical decision support.</li> </ul>   |
| <p><b><u>Structured Lab Results</u></b></p> <ul style="list-style-type: none"> <li>All clinical reports and results are provided in one standard format, regardless of where the test was performed. The ordering provider knows who performed the test by the logo and contact information presented on the report. Authorized and authenticated users can receive clinical results in three ways: electronic inbox, auto printing, and a direct interface to an existing electronic health record (EHR) system.</li> <li>Based on a 2008 University of Delaware survey, 51% of surveyed physicians reported that they used electronic lab results.</li> </ul> | <ul style="list-style-type: none"> <li>Lab ordering will be offered by the DHIN through a traditional EHR connected with either a bi-directional interface with DHIN or through a web-based orders application. Lab orders can be linked to a specific problem/ICD9 code and, for EMR users, the result will be linked to the order in the EMR.</li> </ul>   |
| <p><b><u>Patient Care Summary</u></b></p> <ul style="list-style-type: none"> <li>Over 800,000 patients are managed across multiple organizations within the State's Community Master Patient Index, allowing for a composite health record view in standardized CCD format across multiple care locations.</li> </ul>   | <ul style="list-style-type: none"> <li>The DHIN will offer DIRECT standard as an option to eligible providers and hospitals, in order to offer a range of services to support meaningful use as well as general patient care and clinical workflow. Such services include: EMR-CCD exchange as EMRs begin to support sending CCD documents to DHIN; DHIN conversion services to convert HL7 data into a CCD format and vice-versa, in order to make it available by other systems and queries; CCD exchange for referral and consult to support the coordination of care among health care providers.</li> </ul> |



# HIE Inventory

| Standards  |                       | Quality Improvement                         |          |
|--|-----------------------|---|----------|
| Nationwide Health Information Network Exchange Specifications  | <b>X</b>              | Care Coordination                           | <b>X</b> |
| Nationwide Health Information Network CONNECT  | <b>X</b>              | Quality Reporting                           | <b>X</b> |
| Nationwide Health Information Network DIRECT   | <b>X</b>              | Behavioral Health Information Exchange      | <b>X</b> |
| Plans to exchange with federal agencies or other states via Nationwide Health Information specifications | <b>X</b>              |   |          |
| Public Health  |                       | Lab Strategy                                |          |
| Electronic lab reporting of notifiable conditions  | <b>X</b>              | Translation services                        | <b>X</b> |
| Syndromic surveillance   | <b>X</b>              | EHR interface                               | <b>X</b> |
| Immunization data to an immunization registry  | <b>X</b>              | Policy strategy                             | <b>X</b> |
| Patient Engagement   |                       | Order Compendium                            | <b>X</b> |
| Patient Access/PHR   | <b>X</b>              | Bi-Directional                              | <b>X</b> |
| Blue Button  |                       | Alignment with CLIA                         | <b>X</b> |
| Patient Outreach   | <b>X</b>              | E-Prescribing                               |          |
| Privacy and Security   |                       | Medication History                          | <b>X</b> |
| Privacy and Security Framework based on FIPS   |                       | Incentive or grants to independents         |          |
| Individual choice (Opt In/Opt Out/hybrid)  | <b>Opt Out</b>        | Plan for controlled substance               |          |
| Authentication Services  | <b>X</b>              | Set goal for 100% participation             | <b>X</b> |
| Audit Log  | <b>X</b>              | Controlled substance strategy               | <b>X</b> |
| Administrative Simplification  |                       | Care Summaries                              |          |
| Electronic eligibility verification  | <b>X</b>              | Translation services                        | <b>X</b> |
| Electronic claims transactions   | <b>X</b>              | CCD/CCR Repository                          | <b>X</b> |
| Vendor   |                       | Directories                                 |          |
| Planning   | <b>Medicity</b>       | Provider Directory                          | <b>X</b> |
| Core Services  | <b>Ability</b>        | Master Patient Index                        | <b>X</b> |
| Plan Model   |                       | Record Locator Services                     | <b>X</b> |
| Identified model(s)  | <b>Public Utility</b> | Health Plan Directory                       | <b>X</b> |
|  |                       | Directory of licensed clinical laboratories | <b>X</b> |

*Information for this profile was obtained from the approved Operational and Strategic Plan submitted to the National Coordinator for Health Information Technology as a condition of the Health Information Exchange Cooperative Agreement. The complete plan can be downloaded at:*  
[www.statehieresources.org](http://www.statehieresources.org)



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