



2018 Services and Capabilities

DHIN Facts

The Delaware Health Information Network (DHIN) is a not-for-profit instrumentality of the State of Delaware with the statutory purpose to develop and operate a state-wide health information network integrating clinical, financial, and patient satisfaction data sources to inform decisions (16 Del Code § 10303). Expected benefits are improved communication within the healthcare community, improved efficiency and elimination of redundant testing, monitoring of population health and community health status, reduction in healthcare costs, and serving as the trusted source of information for consumers and purchasers as well as providers of care. DHIN is governed by a public-private board which includes individuals with various business, technology and healthcare industry skills committed to managing the Corporation in an efficient, effective and competitive manner. 16 *Del. C.* § 10302. DHIN is the state sanctioned provider of HIE services, and is the only public HIE in the state of Delaware.

DHIN's business model relies on a value-based fee structure amongst its various stakeholders. The DHIN also from time to time derives funds from grants. DHIN's flagship services are clinical results delivery (to ordering and "copy to" providers) and a searchable "Community Health Record (CHR)." All participants in DHIN are at minimum either users of the CHR or data contributors to the CHR or both. DHIN also offers a range of other subscription-based value-added services.

Current DHIN Services and Capabilities:

Electronic Clinical Results Delivery -- DHIN facilitates the electronic transmission of clinical data from data sending organizations, such as hospitals, commercial laboratories and imaging centers to the ordering health care provider. Data senders include all of Delaware's acute care hospitals, three border hospitals in Maryland, all commercial laboratories and approximately 95% of imaging centers serving Delaware, as well as the Delaware Public Health laboratory. DHIN supports the receipt and delivery of laboratory and pathology results, radiology reports, a range of transcribed reports (such as hospital discharge summaries, history and physical examination reports, operative reports and various others), and ADT files (electronic hospital "face sheets"). Almost all health care professionals in Delaware who place clinical orders receive their results through DHIN. DHIN processes the delivery and storage of approximately 2.5 million results and reports each month.

DHIN-to-EHR Integrations: -- As a special instance of clinical results delivery, DHIN can interface to any electronic health record (EHR) capable of connecting via a web-service interface using Health Level Seven (HL7) standard language. The advantage of such an integration over other forms of results delivery is that the end user requires no special effort or actions to receive their results – they are delivered automatically into the EHR and accessible in the normal workflow of the user. Once DHIN certifies that a single interface to DHIN pulls all data types from all data senders and these results are stored and displayed correctly in that EHR, the vendor is free to market it as a DHIN-certified results delivery interface and sell it to all their clients who are DHIN members. There are currently

certified results delivery interfaces from DHIN to 27 EHRs, representing 76% of EHR users in the state.

Community Health Record -- All clinical data from all data sending organizations is aggregated into a composite longitudinal record for each patient. This record can be queried by properly privileged users for both previously unknown patients and unknown data about a known patient. This aggregated view of the patient across geography, time and care settings is core to DHIN's value proposition. There are currently nearly 12 thousand unique users of the CHR, including nearly all Delaware health care providers, as well as a growing number of providers in neighboring states who care for Delaware residents. Other users include all Federally Qualified Health Centers, all school-based clinics, all skilled nursing facilities, 83% of walk-in/urgent care clinics, and a number of state agencies, mostly within Public Health. The Community Health Record contains health data on nearly all Delawareans, as well as patients from all 50 states, illustrating the well-known fact that we are a mobile society, and health care knows no borders.

Out-of-State Connections:

- DHIN and the Maryland state HIE, Chesapeake Regional Information System for Our Patients (CRISP) exchange ADTs based on the state of residence of the patient. CRISP also provides the infrastructure for HIEs for Washington, DC and West Virginia, which enables DHIN to receive ADT data on Delawareans who receive care in any of these markets.
- DHIN is exchanging ADTs with NJSHINE, the HIE covering the southern counties of New Jersey, on similar terms, based on state of residence of the patient.
- ADT exchange with HSX, the HIE for Southeastern Pennsylvania, has been implemented. Initially, this involves sharing information just on ED visits only from six Philadelphia hospitals. We hope to see this grow into more expansive exchange.

Single Sign-On – This service permits a connection to be established between the DHIN Community Health Record and a user's electronic health record (EHR) such that clicking a link within the EHR logs the user into the Community Health Record. This has been implemented thus far by Cerner, representing 54 user organizations. The advantage of this service is that it keeps the user in the workflow of their own EHR without requiring a separate login to access additional data in the Community Health record.

Care Summary Creation and Download -- A Continuity of Care document (CCD) can be generated from within the DHIN Community Health Record which includes all data from all data senders. The user may apply filters to limit the date range or specific data types to be included in the composite CCD. The resulting document may then be downloaded to the user's local environment, either in a pdf format, or as structured data if their EHR has the ability to consume it as such. Thus, even without an integration between DHIN and the user's EHR, the capability exists to incorporate data from the Community Health Record into the user's EHR and make it a part of their local record of care.

Medication History -- This is a value-added subscription service which allows a user of the CHR to retrieve 12 months of prescription fill history (provided by a number of national sources, to include SureScripts, health plan pharmacy benefits managers, and others) upon demand. For those who do not choose to subscribe to the full service, there is a URL link embedded in the DHIN web portal that takes the user to the Delaware Prescription Monitoring database, where they can at minimum (and for no charge) view the controlled substance fill history for the patient.

PACS Image Sharing – St Francis Hospital, Mid-Del Imaging, and Nanticoke Hospital have implemented an image sharing service through DHIN. URL links are added to the radiology reports sent into the

DHIN Community Health Record. These links interface with the source imaging system or an offline cache of recent images, giving providers the capability to view images from the DHIN CHR portal, and even compare with previous studies. The three currently participating data senders account for 11% of all imaging results sent into the Community Health Record, and span the three counties of the state.

DHIN Electronic Public Health Reporting

- DHIN connects to the state's public health bio-surveillance and electronic lab reporting system for real-time delivery of reportable diseases and emergency chief complaint data. Through the emergency department (ED) admission transactions, DHIN receives the relevant lab report or chief complaint for the patient's visit and routes it to the patient's provider, as well as to the Delaware Electronic Reporting and Surveillance System (DERSS) in real-time standardized format. By state regulation, all Delaware hospitals must send this data through DHIN to Public Health, using the most current technology standards.
- DHIN provides a web-service that enables both electronic reporting to and query of the state immunization registry, DelVax. Automating the submission of this data electronically through a web service interface improves reporting timeliness and accuracy and results in a more up-to-date record of each patient's immunization status. Currently, this service is used by 100% of Delaware hospitals, 77% of Delaware pharmacies, and 33% of ambulatory practices, with many more in various stages of testing or onboarding.
- Newborn screening consists of early hearing detection and a set of lab tests for early detection of harmful metabolic and congenital conditions. DHIN has worked with Public Health and the state's hospitals and birthing centers to enable the electronic reporting of early hearing detection testing through DHIN to Public Health. DHIN is currently working with Public Health to automate combining the results of the hearing detection and metabolic screening into a composite newborn screening report that can be delivered by DHIN to the birth hospital and the provider who will be caring for the baby.

Event Notification System: DHIN uses the ADT data coming from hospitals, emergency departments, and participating walk-in clinics to match against a watch list of patients for whom a subscriber wishes to receive notifications. Notifications can be delivered real time or batched for delivery at intervals of the user's choice. Forty nine percent of Delaware residents are covered by a health plan using this service for purposes of outreach and care coordination. Approximately 17% of Delaware's ambulatory health care providers have also subscribed to this service for purposes of care coordination and transitional care management.

Care Summary Exchange – Providers and practices using certified EHR technology (CEHRT) are able to send to DHIN a summary of care using the C-CDA standard following each ambulatory visit. DHIN makes these available for viewing within the CHR as an additional data type, and provides reports to the sending practices on the number of views of this data for purposes of Meaningful Use reporting. DHIN also makes these summaries available to patients who enroll in the state-wide PHR/patient portal and provides Meaningful Use reporting to the sending practices on a range of consumer engagement objectives. DHIN is currently exploring the feasibility of using these care summaries as the source for clinical quality reporting on behalf of the sending organizations. At this time, approximately 13% of Delaware ambulatory providers have subscribed to this service.

Consulting Services – DHIN has provided consulting services to the state of Hawaii in standing up their HIE, and has provided varying levels of consulting support to other states on specific topics.

Direct Secure Messaging – This service enables secure, encrypted point-to-point exchange of information between individual entities or organizations which have established a trust relationship, using the ONC-adopted standard for such communication. Many but not all providers receive this service directly from their EHR vendor, but DHIN offers the option for users to subscribe to this service through us if they do not already have access to it from other sources. We have a few subscribers among organizations not yet using an EHR, to include paper-based practices and provider types not eligible for the CMS EHR Incentive Program (primarily behavioral health and long term and post-acute care organizations. Adoption of this service is low.

Specimen Location for Clinical Research – This service enables DHIN to connect researchers looking for biological specimens (blood, serum, tissue, etc.) meeting specified parameters with laboratories holding specimens meeting those parameters. With patient consent, once biologic specimens have been used for the intended clinical purpose, the residuals which remain and would otherwise be discarded can be made available to researchers under IRB-approved research protocols.

Common Provider Scorecard – Under one of the initiatives of the State Innovation Model (SIM) grant received by Delaware, the major carriers and health plans have agreed on a common set of clinical quality measures, utilization metrics and cost metrics and they report this data to DHIN quarterly. DHIN then publishes a Common Provider Scorecard which enables subscribing providers to see their performance on these measures across their entire practice and also stratified by payer and health plan.

Analytics/Reporting Service – DHIN has recently launched an analytics and reporting service, used primarily by ACOs who seek to understand the activity of their patients outside their own network. Because DHIN receives data from all hospitals, labs, and nearly all imaging centers as well as a small but growing number of ambulatory practices and urgent call centers/walk-in clinics, DHIN is uniquely positioned to provide this service.

Clinical Gateway – For organizations which already have analytics tools and just need the data, DHIN is able to match incoming data from all sources against a watch list of patients provided by a subscribing organization and route a copy of the data to that organization, thus permitting them to apply their own tools for analysis. Users of this service include large health systems in support of their population health initiatives, and health plans in support of their HEDIS reporting.

Fraud Detection – DHIN is piloting a new service called “Health Check Alert” in partnership with the Delaware Division of Medicaid and Medical Assistance. Through this service, subscribing patients receive a text message alert whenever new data is received by DHIN about them, or whenever a user accesses their information in the Community Health Record. Similar to the processes used by credit card companies for fraud alerts, the patient then sends a simple reply indicating whether they do or do not recognize the activity as legitimate. The health plan is then positioned to pursue any potential fraudulent activity before the claim is paid. Additional benefits to the patient include the knowledge of who is accessing their health data, and awareness of when test results are available, both to the ordering provider and to the patient directly through a patient portal/PHR.

State-wide Patient Portal/Personal Health Record (PHR) – Because DHIN receives data from many sources, we are uniquely positioned to provide patients/consumers with access to their personal health data with minimum effort. For hospitals or practices that have already implemented a patient portal, an API connection to the DHIN data repository allows data from all sources to be retrieved and presented upon patient login to the hospital or practice portal. For those who have not yet implemented a portal, DHIN offers a co-branded implementation of the tool we are calling “Health Check Connect.” This not only provides access to the data in the DHIN data repository, but

offers additional features and functions, to include secure messaging between providers and patients, patient education resources, and interfaces to various medical devices, such as digital scales, glucometers, blood pressure measuring devices, exercise/activity trackers, and others. The patient will have the option to select their language preference when they set up their account. At launch, supported languages will be English, Spanish and Romanian, with plans to add others as fast as translators can be found to assist with the mapping.

DHIN Functionality Currently Under Development:

Health Care Claims Database (HCCD): The Delaware General Assembly passed legislation in 2016 authorizing DHIN to stand up a Health Claims Database. Reporting to this database will be required for Medicaid and state employee health plans, qualified health plans on the Marketplace, and federal sources such as Medicare. Other health plans may report data on a voluntary basis. Broad use cases contemplated include support for population health initiatives, provider risk sharing, and consumer shopping. DHIN is in the early stages of planning and implementation. Data collection is projected to begin in early 2018.

Medical Orders for End-of-Life Care – the Delaware General Assembly has enacted legislation to establish a common form and accompanying policies and procedures to incorporate patient end-of-life care preferences into a concise set of medical orders (DMOST) which must be honored across the state in all care settings. DHIN is authorized to establish a registry for these orders. We have implemented the technology platform, and are currently working with the DMOST working group to provide the necessary training, marketing, and user access.

DHIN Functionality – Future Plans

Mental Health/Behavioral Health Data Exchange – Exchange of mental health data requires more than the usual privacy and security tools. DHIN currently is able to support the granular patient consent that is necessary to restrict viewing of behavioral health data to specific individuals the patient has consented to have such access. Few behavioral health organizations in Delaware currently use electronic health records, but as this number grows, there will be value in including such data in the Community Health Record.

New data types and data sources – The social value of the Community Health Record as well as the value of the DHIN data repository is greatest if all the data are “in” and all the healthcare community is using it. The value can be augmented with the addition of:

- Ambulatory data – DHIN expects to continue a focus on the goal of widespread CCD contributions from the ambulatory setting. Currently, approximately 13% of DE providers contribute such data.
- Claims data – many elements of a claim are useful proxies for clinical information, such as procedure and diagnosis codes, as well as a complete listing of providers seen and medications filled. DHIN has a data use agreement with the dominant carrier in our market, but we have not yet implemented the data feeds.
- Medical device data – EKGs and other devices with output which is graphic or pictorial rather than primarily text or number based, as well as home glucometers and scales would provide very valuable additions to the Community Health Record and enhance care across the care continuum.

- Data from the long term and post-acute care (LTPAC) organizations – These data sources are very important to support the analytics needs of ACOs and providers considering entering into risk-bearing contracts. A small but growing number of LTPAC organizations use electronic health records, but a solid business case to entice them to participate in the information exchange ecosystem has been elusive. DHIN will continue efforts to engage this important group.

Care Gaps: Based on accepted clinical guidelines and using all data from all sources contained in the DHIN repository, DHIN would provide notification of possible gaps in care to enable proactive case management and care coordination.

Risk Stratification: Identify high risk patients for special care coordination. This is a necessary activity under some of the newer delivery and payment models, such as Patient Centered Medical Home. The cost of providing this service could be reduced if a single tool and set of risk stratification algorithms is used across the state.

Clinical Quality Measure Reporting: Practices may be reporting under multiple programs, such as Meaningful Use, MIPS, and to one or more health plans. DHIN could be the clearing house such that the practice submits all measures once to DHIN, and DHIN reports out to the various end points. DHIN aspires to become a Qualified Clinical Data Registry for this purpose.