DHIN
Delaware Health Information Network

2019 ANNUAL REPORT

DEEPENING OUR COMMITMENT. EXPANDING OUR ROLE.

We are creating a health information ecosystem that will benefit all Delawareans — contributing valuable insight to the healthcare decisions we make today and tomorrow.

MESSAGE FROM THE CEO

FY19 was another banner year for Delaware Health Information Network (DHIN). We completed an arduous, multiyear journey of technology modernization, have fully migrated to the cloud, and are using cutting-edge, cloud-native tools to manage the growing volume of data we host and the services we offer. Our new modular architecture gives us greater flexibility and control at a lower cost. Going forward, it will be much easier to upgrade or replace modular components with less time and labor.

The modernization of our platform, while labor-intensive, was "behind the scenes," but the applications that rest on that platform are highly visible to our customers and end users. Our newly refreshed Community Health Record query portal is now mobile-enabled, with a clean, crisp and modern look and feel and noticeably improved performance.

We continued our maturation of the Delaware Health Care Claims Database. We now have data covering approximately 60% of the Delaware population from ten medical and pharmacy claims submitters from 2013 forward. This represents the single largest repository of claims data the state has ever had. These data are available to authorized users to support studies of cost and utilization, quality, coverage and access, population and public health, and overall health system performance.

We look forward to working with our partners in several State of Delaware agencies to provide useful data extracts and analysis, and to working with our clinical data partners to apply the same analytic tools we use with claims to the clinical data, as well.

FY19 was our year for review by the Joint Legislative Oversight and Sunset Committee (JLOSC) of the Delaware General Assembly. I am delighted to report that the JLOSC has recommended that DHIN shall continue and has convened a task force to formulate legislation to strengthen DHIN in important ways that will benefit the Delaware healthcare ecosystem. We embrace this process, and look forward to continuing to serve our state and its citizens.

Finally, there has been a lot of "business as usual" activity, even in a year crowded with major initiatives as described above. The following pages will explore some of this activity in greater detail.

As always, we are deeply grateful to our partners, funders, customers and end users for your ongoing support of DHIN. Please enjoy this FY 2019 annual report.

Janice L. Lee

Sincerely,

Janice Lee, MD, Chief Executive Officer

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OUR INSPIRATION

Our mission statement is more than words to us. We live it. We are inspired and motivated by the opportunity to use information in groundbreaking ways. Staying on top of the latest technology puts us ahead of the curve in accuracy and efficiency. Using that technology to gain insight benefits all of us. Above all, collaborating and working together on all levels, both with each other and with partner organizations, energizes us.

MISSION

We serve providers and consumers of care through innovative solutions that make health data useful.

VISION

The relied-upon, highly trusted information hub of the health ecosystem, in which all participants both contribute and receive value, fueling a robust Learning Health System.

VALUES

Embrace the challenge.

- We are creative problem-solvers.
- We stay positive and overcome obstacles.
- We seek out learning and growth, individually and as an organization.
- We celebrate our successes, but keep moving forward.

Be accountable.

- We honor our commitments and meet our deadlines.
- We are transparent in all our dealings.
- We take "extreme ownership" of our work and go the extra mile.
- We admit our mistakes and failures and learn from them.
- We don't cast blame, we seek solutions.

Work together.

- We honor and respect our teammates and their work.
- We seek and offer help.
- We practice active listening.
- We actively communicate across workgroups and with our external partners and stakeholders.
- We don't personalize disagreements.

FY 2017 2018 **2019** 2020 2021

STRATEGIC INITIATIVES

SERVICE OPERATIONS AND MANAGEMENT:
Improve quality and delivery of technology-based services.

ORGANIZATIONAL CAPABILITIES:
Focus on organizational structure and skill set development.

CUSTOMER ENGAGEMENT AND MARKETING:
Target marketing of the right service to the right customer segment.

SERVICE OFFERING:
Manage full life cycle of service offerings.

ENTERPRISE SOLUTION AND ARCHITECTURE:
Modernize and modularize solution architecture for "best in class" solutions.

2019 STRATEGIC GOALS AND PROGRESS

In line with DHIN's strategic roadmap and approved by the Board of Directors, DHIN's 2019 goals included objectives to continue to refresh its technology, to add new services that enhance its value proposition, to greenlight the Health Care Claims Database and to elevate employee expertise. Each of these initiatives reflects DHIN's response to a changing ecosystem and desire to add value for its customers.

1 INTRODUCE PRICING STRUCTURE THAT INCENTIVIZES SENDING DHIN DATA.

The more data available in the Community Health Record, the more valuable it is to DHIN's customers.

To expand the breadth of data available through the Community Health Record — and boost adoption of discretionary services — DHIN offered reduced fees for bundled service packages to data senders who agreed to submit data. This incentive program resulted in:

- A 78% increase in Delaware and Maryland participating hospitals electing discretionary bundled services.
- A 17% growth in ambulatory providers sending continuity-of-care documents to DHIN.

2 COMPLETE ALL PHASES OF THE TECHNOLOGY REFRESH.

DHIN's long-term viability depends on technology that is modern, modular, flexible and scalable.

To that end, over the past year, DHIN moved to a new, cloud-based platform using cloud-native technology that better positions the organization for growth and managing infrastructure costs.

3 ENHANCE AT LEAST ONE CURRENT SERVICE OR INTRODUCE A NEW SERVICE TO ATTRACT NEW CUSTOMER SEGMENTS.

With all of Delaware's acute care hospitals and nearly 100% of the state's order-making physicians already participating in DHIN, establishing additional revenue streams is critical to the organization's future.

In 2019, DHIN brought in new customers through the following initiatives:

- **Connected clinical trial researchers with practices whose patients meet their criteria** — DHIN enhanced an existing service with a third-party provider to give prospective participants access to the latest beneficial clinical trials.
- **Streamlined the ability for patients to request their medical records be released to underwrite insurance policies** — This consumer-requested approach to securing the data to write insurance policies is more efficient for the insurer and creates a new revenue stream for DHIN.
- **Launched specialized message delivery, sending clinical results through a new channel** — Admission, Discharge and Transfer (ADT) data is now available to members of a hospitalist group and a specialty practice through a connection with their billing system, providing an alternative to receiving this information through an electronic medical record.

4 IMPLEMENT THE HEALTH CARE CLAIMS DATABASE (HCCD).

Healthcare claims contain a wealth of information that can steer policy and regulation and inform payers and other stakeholders to help eliminate waste and increase value of services provided.

Examples of reports the Health Care Claims Database will be able to run include:

USE CASES FOR THE HCCD

COST & UTILIZATION	QUALITY	COVERAGE & ACCESS	POPULATION & PUBLIC HEALTH	HEALTH SYSTEM PERFORMANCE
Utilization and spending for certain conditions or procedures	Preventive screenings and immunizations–variation and comparisons	Coverage trends over time	Chronic conditions prevalence, cost, quality (diabetes, asthma...)	Effects of delivery system consolidation on cost, quality, access, equity
Price transparency	Continuity of care (transitions in care setting, coverage)	Access to care, including specialty care and behavioral health	Opioid prescribing	Evaluation of new models of care and payment
Price variation among providers	Readmissions, hospital-acquired infections, preventable hospitalization	Patient cost-sharing	Connection between environment and chronic conditions	Integration of physical and behavioral healthcare
Cost-effectiveness	Preventable emergency department (ED) visits	Rate review/rate-setting	Epidemiology: trends in the diagnosis of cancers, infectious diseases, behavioral health conditions, etc.	Care coordination for special populations; e.g., dual eligibles
Low-value care		Insurance coverage		Prevalence/trends in alternative payment models
Cost of avoidable complications		Network adequacy		
Pharmaceutical cost, utilization				
Oral health cost, utilization				
Behavioral health cost, utilization				

By the end of its first year, Delaware's Health Care Claims Database contained:

- 495,000 unique records, representing more than half of Delaware residents (more to come as Medicare and Medicaid data are added).
- Claims files from 2013 to 2018 from all required payers (except one, who has since submitted and is in the testing phase).

Leveraging an initial appropriation of $2 million from the State of Delaware, DHIN and the Division of Medicaid and Medical Assistance secured additional funding from the Centers for Medicare and Medicaid Services to support the database through FY21.

5 ENSURE THAT AT LEAST 30% OF DHIN EMPLOYEES BECOME ITIL-CERTIFIED AT THE INTERMEDIATE LEVEL IN AT LEAST ONE ADDITIONAL COURSE AND IDENTIFY AND PRODUCE THE REQUIRED SUPPORTING DOCUMENTS FOR AT LEAST 70% OF DEFINED ITIL PROCESSES.

Information Technology Infrastructure Library (ITIL) is an international framework of Best Practices for IT service management. ITIL certification requires a significant commitment to both classroom instruction and program implementation. DHIN employees are working on ITIL certification at the intermediate level.

- 35% of employees were certified at the intermediate level.
- 77% of ITIL processes were fully mapped and supporting documentation produced.
- This multiyear staff development goal is scheduled to be completed by the end of FY20.

2019 HIGHLIGHTS

THE HEALTH CARE CLAIMS DATABASE (HCCD), COUPLED WITH DHIN'S ANALYTICS SERVICES, PRODUCES HEALTHCARE COST AND QUALITY REPORTS TO HELP MAKE THE PEOPLE OF DELAWARE HEALTHIER.

To populate the Health Care Claims Database, the DHIN team collects and validates healthcare and pharmacy claims, as well as enrollment and provider data from Medicare, Medicaid and the eight largest commercial health insurers in the state, creating the single largest repository of healthcare claims data in Delaware. There is enormous application for this data, including:

- Defining healthcare utilization patterns
- Evaluating healthcare spends and resulting quality of care
- Identifying access-to-care issues
- Informing population health efforts
- Providing meaningful comparisons and actionable reports to help inform policy and consumer decisions

DHIN continues to collect data and grow its analytic capabilities. Currently, the database contains claims information on more than half of Delaware residents. Requests are already being fielded for use of HCCD data for additional projects that will help improve both health and healthcare in Delaware.

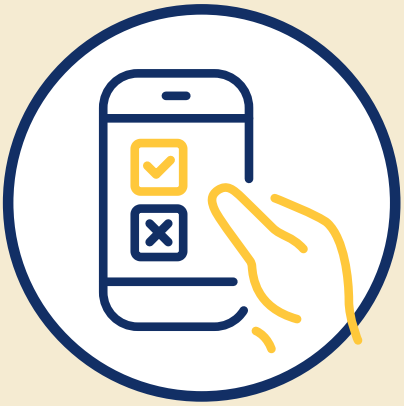
Above: Dr. Jan Lee welcomes guests to the HCCD unveiling at the University of Delaware's STAR Campus last May. Right: Guests included, from left to right, State Reps. David Bentz and Michael Smith, Lt. Governor Bethany Hall-Long, and State Rep. Ray Seigfried.

THE REIMAGINED **COMMUNITY HEALTH RECORD (CHR)** GIVES HEALTHCARE PROVIDERS MOBILE-FRIENDLY ACCESS TO THEIR PATIENTS' CLINICAL RESULTS AND CHARTS.

More hospitals and provider practices in both inpatient and ambulatory settings and state agencies are using the CHR to drive better, more informed care for their patients. The refreshed architecture, based on newer cloud platforms, is leaner, faster and easier to use, presenting patient information in a user-friendly format. The CHR now holds more than 3 million patient records, including patients from all 50 states who have been seen by a Delaware provider.

Use of the CHR has significant benefits. It has reduced the ordering of redundant tests and — along with DHIN's Event Notification Service — has helped providers know where a patient is in the care continuum and what health events or testing have taken place. That kind of information creates opportunities for timely follow-up care and better patient care compliance — both of which can contribute to fewer readmissions.

FY19 CHR USAGE GROWTH



Healthcare practitioners rely on the CHR as a critical part of healthcare delivery. In FY19, monthly chart views were up nearly 30% in the inpatient setting and 22% in the ambulatory setting. State agencies accounted for an 18% increase in CHR usage.

NEARLY **30%** ↑ INPATIENT

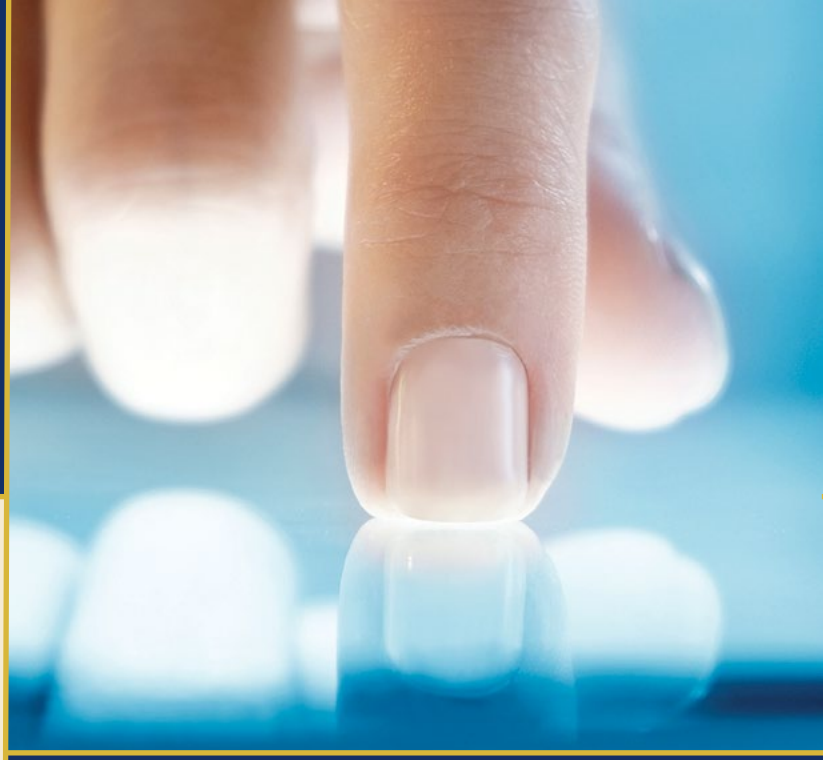
22% ↑ AMBULATORY

18% ↑ STATE AGENCIES

CLINICAL GATEWAY DATA IS HELPING TO DRIVE IMPROVED QUALITY OF CARE.

For organizations that already have analytics tools and just need the data, DHIN matches incoming data from all sources against a watch list of patients provided by a subscribing organization. A copy of the data is routed to that organization for analysis. Health plans can use this data in support of their HEDIS (Healthcare Effectiveness Data and Information Set) reporting and population health initiatives. As the Clinical Gateway has become widely appreciated for its real-time capabilities, it has been adopted by Christiana Care, Bayhealth, AmeriHealth, Highmark Blue Cross and Blue Shield, and Aledade.

CLINICAL GATEWAY HAS BEEN ADOPTED BY CHRISTIANA CARE, BAYHEALTH, AMERIHEALTH, HIGHMARK BLUE CROSS AND BLUE SHIELD, AND ALEDADE.



BUNDLING SERVICES GIVES PARTICIPATING ORGANIZATIONS MORE VALUE AND INCENTIVIZES GROWTH.

DHIN offers a bundle of eight services to hospitals — starting with results delivery, electronic medical records integration and the Community Health Record — and adding, at no additional cost, the discretionary services of continuity-of-care documents exchange, Clinical Gateway, single sign-on, Event Notification and a connection to populate existing patient portals. Bundling services has helped increase utilization of discretionary services and helped DHIN broaden its reach.

Over the past year, the number of Delaware and participating Maryland hospitals electing bundled services grew by nearly 80%, and the number of ambulatory providers submitting data to DHIN increased by nearly 20%.

DHIN WAS RECOGNIZED FOR ITS ROLE IN SUPPORTING **A PAYMENT MODEL THAT REDUCED COSTS.**

Aledade, a national company that helps independent primary care practices thrive, serves as the Accountable Care Organization (ACO) for 23 Medicare primary care private practices in Delaware. Data services provided by DHIN improved the availability of patient information for these practices, which contributed to the ACO's nearly $5.7 million savings to Medicare. The 23 practices were awarded $1.6 million — their shared savings from reducing redundancies in testing and other services. DHIN was recognized as a key partner in their accomplishment.

ENHANCING INFORMATION EXCHANGE PROVIDES BETTER COMMUNICATION FOR BETTER HEALTHCARE.

DHIN exchanges data with CRISP, Maryland's Health Information Exchange (HIE) service, and other HIE regional providers. When a Delaware resident is admitted, discharged or transferred from a hospital in Maryland, Washington, DC, southeastern Pennsylvania, southern New Jersey or select hospitals in West Virginia and Ohio, DHIN is notified, which prompts a notification about the event to the patient's home physician. (The same process occurs when residents from those states are seen at a Delaware hospital.)

Now, users of DHIN's Community Health Record can also access observation results, such as labs and clinical studies, for their patients who were seen in Maryland or Washington, DC. This enhanced exchange of clinical data can be lifesaving, particularly in situations where drug reactions may occur or other conditions are present that could cause harm.

DHIN ENGAGES WITH HEALTHCARE CONSUMERS THROUGH **SOCIAL MEDIA TO CONNECT** THEM WITH USEFUL INFORMATION ABOUT HEALTH IMPROVEMENT.

Although DHIN uses social media as one of several channels to promote its services and capabilities, the major goal is to engage with healthcare consumers while providing information that supports overall health. Using the major social media platforms, including Facebook, Twitter, LinkedIn and Instagram, DHIN promotes its own products — such as Health Check Connect, a personal health record for patients, and Health Check Alert, a healthcare fraud detection tool — and also offers links to news items about health-related information. Those links to articles about everything from product recalls to flu shots make social media more about the audience.

Taking a more strategic approach to social media has helped DHIN to develop more audience interaction and shares. Social media is a nascent concept for health information exchanges, and DHIN's foresight helped to lay the groundwork five years ago. Like other marketing initiatives, social media efforts are evaluated by analytics and comparing DHIN results with those of other HIEs. As digital content becomes increasingly valuable in engagement, the DHIN team continues to stay on top of new practices through education and continual participation in industry events and conferences.

FINANCIAL OVERVIEW

The third year of DHIN's five-year strategic plan, FY19 was expected to be financially challenging, with significant, ongoing investments made to the infrastructure. DHIN's Board of Directors and management team planned for this investment and ensured reserves never dropped below the 180-day cash-on-hand threshold set by the Board. (Actual unrestricted assets at end of FY19 were closer to 223 days, well exceeding the Board's target.)

Beginning FY19 with a Board-approved projected net loss of $1.17 million, DHIN is proud to have finished the year financially healthy, with a net loss of $67,000 — a 94% improvement in end-of-year net financial position.

OVERALL

During FY19, the organization's expenses exceeded revenues by $144,008.

In FY18, expenses exceeded revenues by $3,754,571 due to a significant decrease in non-operating revenue and significant conversion expenses related to its technology platform.

Operating revenues increased by $1,296,763 (or approximately 17%) during FY19 and increased by $313,825 (or approximately 4%) during FY18, due to DHIN providing services to the Delaware Health Care Commission to aid in the development of Delaware's Health Care Claims Database (HCCD).

During FY19, DHIN received $2,000,000 in appropriation funding from the State of Delaware to cover expenses incurred related to the development of the statewide HCCD.

During the year ended June 30, 2019, DHIN recognized $413,132 of revenue. Revenue is recognized as costs are incurred. No federal grant funding was received in FY19.

Contractual (Non-Technical) costs decreased during FY19 by $391,576. This is due to the removal of related expenses from DHIN's primary technical provider, one-time grant expenses in FY18 and the absence of strategic market analysis expenses that occurred in FY18. These decreases are partially offset by increased legal expenses in FY19.

FINANCIAL OVERVIEW cont.

Contractual (Non-Technical) costs decreased $270,653 during FY18.

Non-operating revenue increased by $249,375 (or approximately 33%) during FY18 as a result of the State of Delaware's appropriation funding in support of a grant for the HCCD and increased contributions.

These increases in revenues were partially offset by a decrease in federal grant revenue, which expired in FY18.

Non-operating revenue decreased $3,724,290 (or approximately 83%) during FY18 as a result of federal grants and contribution commitments expiring prior to or during FY18.

Implementation costs increased by $265,174 (or approximately 190%) during FY19 as a result of expenses incurred in relation to the HCCD.

Implementation costs decreased $1,176,635 (or approximately 89%) during FY18 as a result of DHIN's strategic initiative to upgrade its technology platform.

Technology refresh costs decreased by $1,363,867 (or approximately 62%) during FY19.

During FY18, DHIN incurred significant expenses in efforts to upgrade its technology platform, resulting in an increase during FY18 of $2,051,211 (or approximately 1,291%).

Licenses and software maintenance expenses represent costs for license and maintenance costs for functions implemented and data senders joined in prior years. Licenses and software maintenance decreased $458,640, corresponding to decreases in prior year initiatives, including DHIN's results delivery system, Community Health Record, Master Patient Index Event Notification System and various analytics tools.

License and software maintenance costs increased $654,641 during FY18.

Marketing expenses represent costs for outreach materials, consumer educational materials and brand awareness. During FY19, marketing expenses decreased $174,492, due to the expiration of the federal grant that provided funding for consumer branding and promotion.

During FY18, marketing expenses decreased $250,456 for the same reason.

Personnel expenses consist of costs for payroll and payroll-related expenses for employees. During FY19, personnel expenses increased $166,870. The increase was due to new employees, the annualizing of salary expenses for employees hired during the prior year and an increase in employee benefit costs.

During FY18, personnel expenses increased $764,935 for the same reasons.

Delaware Health Information Network

Statements of Net Position

June 30, 2019 and 2018

	2019	2018
Assets		
Current Assets		
Cash and Cash Equivalents	$ 5,114,272	$ 5,156,044
Accounts Receivable — Net	1,004,154	897,808
Prepaid Expenses	207,605	170,229
Total Current Assets	6,326,031	6,224,081
Capital Assets		
Property, Equipment and Software — Net	104,964	180,162
Other Assets		
Lease Deposit	6,979	6,979
Total Assets	**$ 6,437,974**	**$ 6,411,222**
Liabilities and Net Position		
Current Liabilities		
Accounts Payable	$ 1,183,101	$ 1,028,541
Accrued Expenses	246,238	226,533
Deferred Revenue	96,513	100,018
Total Current Liabilities	1,525,852	1,355,092
Total Liabilities	1,525,852	1,355,092
Net Position		
Invested in Capital Assets, Net of Related Debt	104,964	180,162
Unrestricted	4,807,158	4,875,968
Total Net Position	4,912,122	5,056,130
Total Liabilities and Net Position	**$ 6,437,974**	**$ 6,411,222**

Delaware Health Information Network

Statements of Revenues, Expenses and Changes in Net Position

Years Ended June 30, 2019 and 2018

	2019	2018
Operating Revenue		
Core Services		
Results Delivery	$ 4,395,766	$ 4,082,271
Community Health Record (CHR)	3,112,409	3,000,164
Total Core Services	7,508,175	7,082,435
Value-Added Services		
CHR — Viewing by Providers	125,109	3,050
Medication History Access	28,150	35,050
Encounter Notification Services	39,983	25,990
Image Viewing	38,056	38,056
Professional Services	126,881	97,633
Other Professional Services — DHCC	1,243,267	530,644
Total Value-Added Services	1,601,446	730,423
Total Operating Revenue	9,109,621	7,812,858
Operating Expenses		
Administration	526,068	633,962
Contractual (Non-Technical)	846,813	1,658,353
Depreciation and Amortization	75,198	75,198
Implementation Costs	404,138	138,964
Licenses and Software Maintenance	3,204,000	3,242,676
Marketing	102,113	276,605
Personnel	4,244,076	4,077,206
Technology Refresh	846,290	2,210,157
Total Operating Expenses	10,248,696	12,313,121
Operating Loss	(1,139,075)	(4,500,263)
Non-Operating Revenue		
Grant Revenue	413,132	449,263
Contributions	532,950	242,800
Interest Income	48,985	53,629
Total Non-Operating Revenue	995,067	745,692
Change in Net Position	(144,008)	(3,754,571)
Net Position — Beginning of Year	5,056,130	8,810,701
Net Position — End of Year	**$ 4,912,122**	**$ 5,056,130**

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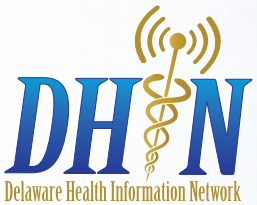
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