DHIN
Delaware Health Information Network

2018
Annual Report

Innovative Solutions that
Make Health Data Useful

Message from the CEO

Building on the momentum of its five-year strategic plan, Delaware Health Information Network (DHIN) made FY2018 a year of ambitious growth. We ramped up our new business efforts, entering new markets, such as insurance and clinical trials, for our data services and opening the door for additional partnerships in 2019.

We moved a step closer to owning our technology by converting more than thirty electronic medical record integrations to a new platform for results delivery and laid the groundwork for a larger technology transition in the coming year.

DHIN continued to collaborate with the State of Delaware on several important healthcare initiatives, including creating an end-of-life orders registry and prior authorization repository, while beginning to build the state's Health Care Claims Database. A focused effort to secure necessary funding for the database resulted in a one-time grant of $2 million from the General Assembly at the end of the fiscal year, and we look forward to sharing initial reports in the coming months.

In short, as you'll read in the coming report, DHIN continued to demonstrate its value as a prominent asset for improving the state of healthcare in the First State. On behalf of the Board of Directors and the DHIN team, thank you for your continued support.

Sincerely,

Jan Lee, MD
Chief Executive Officer

Content

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

Core Values

- Embrace the challenge
- Be accountable
- Work together

Accomplishments and Points of Pride

A Period of Transition

Fiscal Year 18 was predicted to be – and certainly was! – a year of significant change and growth for Delaware Health Information Network (DHIN).

Guided by its five-year strategic plan, the organization foresaw a year defined by a focus on the following:

Technology Conversion

To ensure that DHIN's technology can deliver for the more than 11,000 medical practitioners who rely on it, the management team evaluates and measures performance on an ongoing basis. DHIN's service offerings need to keep pace with both improved technology and increased competition.

Continuing the work that began in the previous year, DHIN's technology transition activities included replacement work for the Community Health Record, as well as medication history, image sharing and results delivery services through electronic medical record platforms. (See additional details below.)

Delaware's Health Care Claims Database

The next phase in DHIN's efforts to stand up the state's Health Care Claims Database involved perhaps its most critical component – predicting associated costs and securing needed funding. The DHIN team worked with its partners from the State and members of the General Assembly to secure funding, aiding in the Board of Directors' decision to proceed with the database development. (See details below and on page 5.)

"Run the Business" Activities

Periods of growth don't negate the importance of the day-to-day work, and the DHIN team had plenty to manage, including:

- Continuing rollout of the personal health record/Health Check Connect
- Onboarding of new data senders
- Ongoing recruitment and sales of DHIN services
- Ongoing business development partnerships

DHIN Strategic initiatives

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

Service operations and management

Improve quality and delivery of technology-based services

FY2018 Goals

Keeping with the strategic roadmap, the DHIN management team developed a series of corporate goals for FY18, approved by the Board of Directors, which steered the organization's efforts for the year.

GOAL 1

Total annualized FY17 technology costs will be reduced by at least 5% beginning in FY19 through contracting activities occurring in FY18

DHIN estimates a net savings in its FY19 technology costs of approximately $1.6 million through the technology refresh outlined in the following section. (Note: FY18 was a transition year in which DHIN incurred technology costs for running multiple platforms concurrently. As such, the team used FY17 technology costs as the baseline against which to measure cost savings.)

GOAL 2

Secure new revenue-generating contract(s) with an annualized value of at least $175K

Through strategic, focused new business activities, DHIN estimates additional annual revenue of nearly $300,000. The revenue streams will come from new service agreements with health insurers, data senders and providers.

GOAL 3

Develop a business pro forma to inform a Board of Directors' go/no-go decision regarding implementation of the Health Care Claims Database (HCCD)
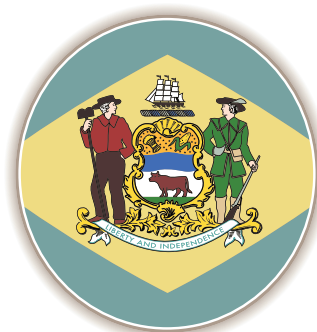
In spring of 2018, DHIN's Board of Directors approved the implementation of the Health Care Claims Database, pending a funding commitment from the State of Delaware. That commitment materialized at the end of the legislative session, with Senate Bill 236 earmarking $2M for implementation of the HCCD. Additionally, through existing State Innovation Model funding, $470,430 in Year 4 funds was unrestricted to apply to the HCCD, with another approximately $1M in carryover funds expected.

MedicaSoft

With funding secured, DHIN entered into a contract with technology partner Medicasoft to build the database.

GOAL 4

Execute Year 2 of the Strategic Plan

While not large enough to stand on their own as goals, these "run the business" activities are critical to continuing education in information technology Best Practices, informing DHIN's new business efforts and supporting the technology transition.

- Implement Information Technology Infrastructure Library (ITIL)/IT Service Management (ITSM) Framework tools and processes specific to the Strategy, Design, and Continuous Service Improvement stages of the ITSM life cycle

  - ITIL process owners assigned; key inputs, outputs, Critical Success Factors and Key Performance Indicators identified; and process maps created and signed off by all DHIN managers continue to promote this capability, as well as to pursue value-added enhancements

- Perform competitive market analysis to keep pace with an evolving industry and ensure the relevancy and value of DHIN's service offerings

  - Contracted with outside firm to conduct an evaluation of the health information sharing and technology market landscape

    - Market research included interviews with industry leaders, healthcare providers and insurers

    - Comprehensive report identified interoperability challenges; provided an overview of federal mandates related to information sharing; analyzed the national electronic medical record market; and suggested opportunities for DHIN to develop or enhance services for identified customer segments

- Execute DHIN's technology refresh plans

  - A multi-year, multi-phase conversion of DHIN's technology services to keep pace with industry Best Practices and to reduce reliance on any single vendor

    - All 10+ years of DHIN's historical data migrated to AWS Cloud
    - Clinical Gateway service replaced by new vendor, Audacious Inquiry
    - Medication History, Image Sharing and DIRECT email services staying with current vendors
    - Mirth results delivery platform implemented for DHIN's thirty electronic medical record systems (details on page 14)

- Developed a Request for Proposal for a vendor to lead the Community Health Record conversion

  - Selected a vendor- Audacious Inquiry - and partial implementation began in FY18

- Technology refresh to wrap up in FY19

GOAL 5

Normalize DHIN's clinical data per HL7 and Centers for Medicare and Medicaid Services industry terminology standards

So that clinical data can be shared between and read by multiple software applications, DHIN undertook a significant data normalization project in FY18.

All historical data has been ingested into DHIN's NXT data technology platform, terminology services applied and data indexed for ease of transfer between applications.

GOAL 6

Each DHIN staff member will take at least one ITIL/ITSM course at the intermediate level and at least 90% will achieve an intermediate level certification

All staff members took at least one intermediate ITIL/ITSM course, and 93% are certified at the intermediate level in at least one course.

An important component of DHIN's strategic plan is ongoing education and skillset development. In an effort to restructure service management to better deliver quality IT services efficiently and effectively, members of the DHIN team completed the next iteration of ITIL training. Staff members will continue ITIL study through additional courses related to service strategy, design, transition and operation in FY19. By 2020, the majority of the DHIN management team should be certified as ITIL Expert-Level practitioners.

Legislative Recognition

DHIN Honored by Delaware Legislature

In the spring of 2018, the Delaware General Assembly and Governor John Carney recognized DHIN as an "exemplary model for public-private partnerships" and a "growing health information technology organization" by signing Senate Concurrent Resolution 54. The resolution was sponsored by Senator Bushweller and Representative Paradee, with additional Senate sponsors Ennis and Henry, along with Representatives Bentz, Heffernan, Baumbach, Brady, Briggs-King, Carson, Hudson and Bryon Short. Senator Thomas Carper, a strong supporter of DHIN since his days as governor, attended the event, commending DHIN's growth and value to Delawareans.

The resolution highlighted DHIN's evolution from its founding in 1997 to becoming the nation's first operational statewide health information exchange (HIE) and among the first to have 100% participation from the acute care hospitals in its home state. In 2012, DHIN became a financially self-sustaining nonprofit, raising revenue through the support of its partners, grants and transactional income. Because of DHIN's close relationship with the State, the HIE is tasked with managing several health IT projects associated with its mission, including the Health Care Claims Database.

Legislative Recognition

DHIN Data and the State's Healthcare Benchmark

Reducing the high cost of healthcare while maintaining quality and improving the health of its citizens – achieving the "Triple Aim" - is a critical area of focus for the State of Delaware. The ability to evaluate and learn from accurate and timely healthcare data is one of the key ingredients to successfully answering the cost versus quality and access questions important to public health officials, medical providers and all Delawareans as patients.

The State recently developed an intensive benchmarking process to determine healthcare spending and quality measures. The benchmark calculation is designed to utilize state and federal economic data as a guide to set goals for cost controls. A key component to developing the benchmark is the creation of trusted metrics through which data can be systematically collected and measured.

As part of the effort to help inform the creation of the metrics, DHIN was tasked with developing a healthcare claims database, marrying clinical and claims data for an enhanced view of the return-on-investment for clinical outcomes. Connecting claims in a format that allows for matching with clinical data and the ability to run queries and reports utilizing the combined data is a valued asset, and this combined data set may indeed be another first in the nation for DHIN.
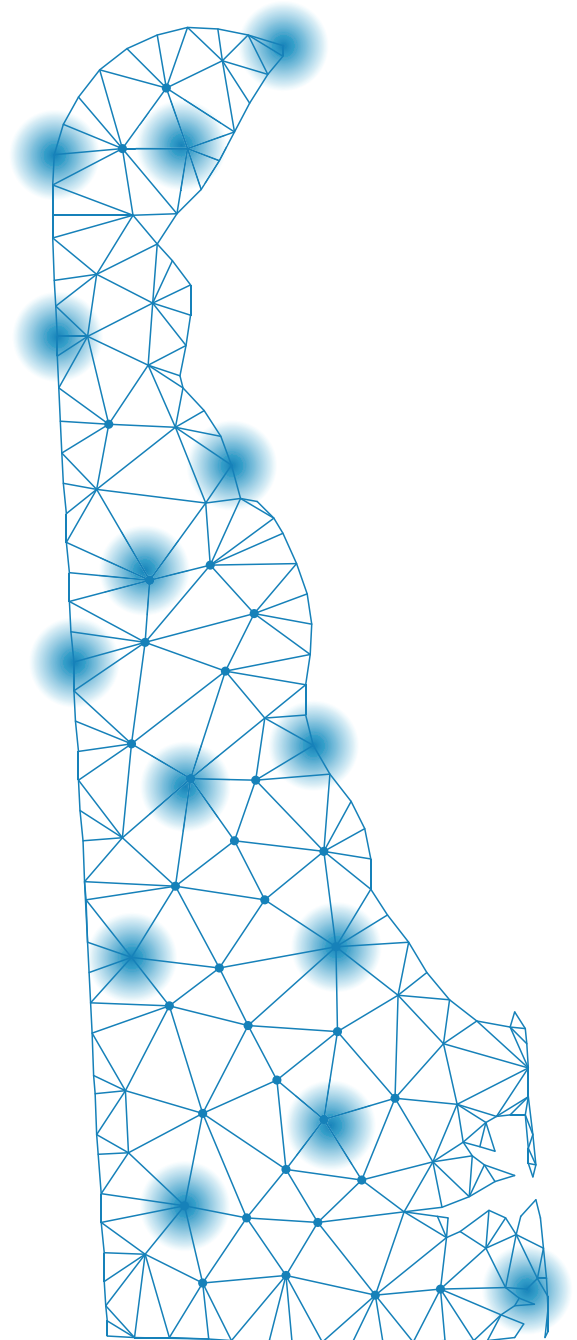
Consumers

Putting Data at the Patient's Fingertips

Consumers demanded access to their personal health data, and the healthcare technology industry took note: From wearables to healthcare tracking apps, consumers can access their healthcare data anytime, anywhere. With a data repository containing more than 2.9 million patient records shared by over 11,000 providers, it was a natural progression for DHIN to make the same data practitioners see available to the patients themselves!
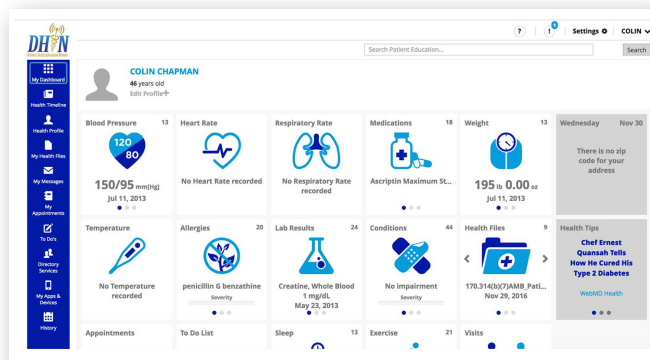
Consumer Dashboard

Supported by federal grant funding, in 2017, DHIN built a personal health record, **Health Check Connect**, to offer at no cost to patients in Delaware. Bolstered by a multi-channel marketing campaign in 2018, enrollment in **Health Check Connect**, and its mobile messaging partner, Health Check Alert, has seen steady growth.

Among the marketing tactics employed was a direct mailer (shown above) sent to more than 100,000 households statewide, featuring a gift card incentive and accompanied by a digital marketing campaign incorporating paid advertising and social media promotion. DHIN leadership has presented the PHR to national audiences as part of health information exchange and healthcare technology forums, along with demonstrations of the tool at area healthcare conferences.

In the coming year, registrants will see new functionality and even more data, making Health Check Connect a must-have for Delaware patients.

Cybersecurity

Health Data is a Currency Worth Protecting

HITRUST
CSF Certified

The growing number of online security breaches across industries and around the world is cause for global concern. Hospital and healthcare providers stay on alert about the confidentially of organizational data from risks. Nervous patients worry about the security of their sensitive personal information. DHIN remains committed to the safety of patient health information (PHI) and is recognized as one of a select group of health information exchanges certified in information security* by HITRUST (Health Information Trust Alliance). The two-year HITRUST certification is the industry "gold star" for standards of excellence in privacy and security compliance. A variety of tools are used to enhance cybersecurity, including user audits, encryption, user training, anti-spyware and anti-viral protections.

The security and privacy of health data is protected by both federal and state law, including the federal Health Insurance Portability and Accountability Act (HIPAA), Health Information Technology for Economic and Clinical Health (HITECH) Act and Titles XIX and XXI of the Social Security Act. State and federal policy makers continue to explore additional legislation and regulation to maintain the integrity of existing information and adopt penalties for organizations and individuals who are tied to online security breaches.

DHIN delivers more than 14 million clinical results annually and reports and stores 2.9 million unique patient records, including patients from all 50 states. Maintaining safe access to these records is paramount to the mission of DHIN, and ensuring the confidentially and integrity of the existing material is just as important. HIPAA-compliant data transport and storage methods that meet and exceed industry standards are utilized and tested regularly. Hackers look for vulnerable targets, where security and personnel are not trained and systems are not updated. Ongoing threats require DHIN staff and its industry partners to remain vigilant to protect the network and maintain the highest levels of privacy and security for patient and health organizations records.

*HITRUST CSF Certified: DHIN Archive, DHINFTPS01, DHIN iSpecimen Prod, Medicity, and Managed Infrastructure.

Business Development

Opening Doors: New Opportunities for DHIN Data

Ongoing business development partnerships are key to ensuring DHIN's long-term financial viability. While results delivery continues to be DHIN's "bread and butter" service, there is tremendous opportunity to offer additional data-related services to consumers and other segments of the healthcare industry. Additional revenue from new sources allows DHIN to pass savings along to the healthcare industry in the form of lower fees for data senders who participate in DHIN.

Consumers

In 2019, Delaware consumers will have access to a unique identity theft protection product from DHIN and LegalShield, an innovative service that does for healthcare consumers what a credit bureau monitoring service does for credit consumers. DHIN's Health Check Alert mobile messaging service will be coupled with LegalShield's IDShield, giving subscribers peace of mind about the safety of their personal data and a one-stop shop to protect their health care and personal information.

Through DHIN's Health Check Alert mobile messaging service, a subscriber receives a secure text message when:

- · A medical result has been delivered to his or her ordering physician
- · A medical professional has accessed the subscriber's medical record
- · The subscriber has been admitted to the emergency room or hospital

If the subscriber does not recognize an alert or encounter, he or she receives instructions to notify the appropriate party to point out the result or encounter.

The near-real time alert system is based on DHIN's results delivery platform, which receives clinical results from all Delaware hospitals and commercial lab and radiology centers, as well as patient encounter information from nearly 100 hospitals in six states and the District of Columbia. Encounter alerts notify the subscriber of the delivery of information, along with the time, date and source of the information. No specific clinical information is included in the secure texts.

Included in the combined product will be:

- Court Record Monitoring
- Credit Score Monitoring
- Credit Score Tracker
- Data Breach Notification
- Emergency Assistance
- Internet Monitoring
- SSN Skip Trace
- Social Media Monitoring
- Password App
- Payday Loan Monitoring

The combined product, expected to be the first of its kind in the marketplace, is expected to launch in late spring of 2019.

Payers

After several years of discussions, CIGNA became the first commercial payer to voluntarily subscribe to DHIN for its commercial programs. DHIN's Event Notification and Clinical Gateway services provide the insurer with a patient's clinical event to match with the corresponding insurance claim. This type of analysis helps fight insurance fraud, improves care coordination and should ultimately assist in driving down the costs of healthcare.

Life Insurers

Through a contract with Envera, now Clareto, DHIN's clinical data services are now employed by life insurers when writing policies for new customers. This clinical information service is a prime example of both the breadth and value of data services that DHIN can offer to the private sector.

Transition to Value Based Business Model

Generate actionable insights and material value that are unique and distinct to the services provided by DHIN.

Create new services

Attract new customer segments

Reduce or eliminate costs for sending DHIN data
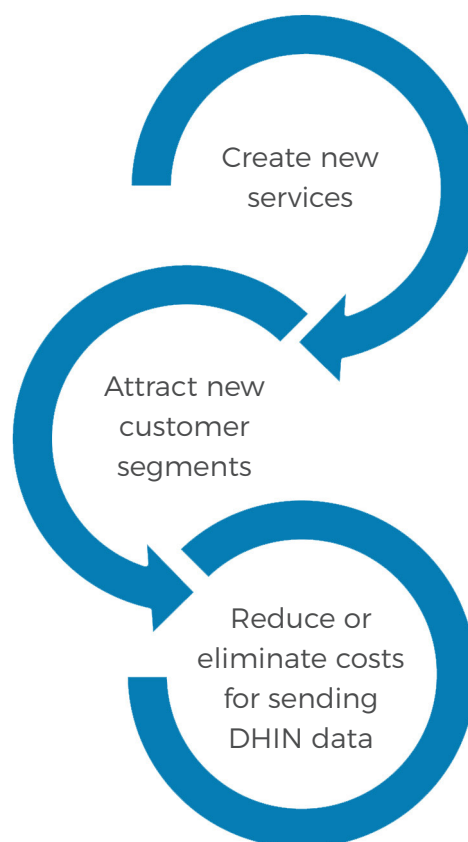
Results Delivery

First Phase of System Conversion a Success

In late spring 2018, the DHIN team converted 280+ practices and 30 electronic medical record systems over to a new platform, Mirth Results Delivery. Dedicated team members, with support from Zen Healthcare, logged more than 1,350 hours to replace the long-standing Novo Grid delivery system with Mirth Results. Despite several isolated performance issues, the conversion overall went smoothly, with practices still able to access results through clinical inbox, autoprint and search functionality.

The Mirth transition was the first of DHIN's technology transition projects outlined previously and paved the way for DHIN's ongoing Community Health Record replacement.

Financial Analysis

Management's Discussion and Analysis - June 30, 2018

ASSETS

CURRENT ASSETS	2018	2017
Cash and Cash Equivalents	$5,156,044	$7,763,955
Receivables-Net		
Trade	803,822	736,457
Federal	-	2 99,748
Prepaid Expenses	170,229	498,823
TOTAL CURRENT ASSETS	**$6,130,095**	**$9,298,983**

CAPITAL ASSETS		
Property and Equipment-Net	180,162	255,360

OTHER ASSETS		
Lease Deposit	6,979	6,979
TOTAL ASSETS	**$6,317,236**	**$9,561,322**

LIABILITIES AND NET POSITION

CURRENT LIABILITIES		
Accounts Payable	1,028,541	551,966
Accrued Expenses	226,533	196,667
Deferred Income	6,032	1,988
TOTAL CURRENT LIABILITIES	**1,261,106**	**750,621**
TOTAL LIABILITIES	**1,261,106**	**750,621**

NET POSITION		
Invested in Capital Assets, Net of Related Debt	180,162	255,360
Unrescricted	4,875,968	8,555,341
TOTAL NET POSITION	**5,056,130**	**8,810,701**
TOTAL LIABILITIES AND NET POSITION	**$6,317,236**	**$9,561,322**

NOTES:

Total assets exceeded total liabilities by $5,056,130 at the close of FY 2018.

At June 30, 2018 and 2017, net position was not subject to external or internal restrictions.

Total unrestricted net position decreased $3,679,373 (or approximately 43 percent) during FY 2018.

During FY 2018 and 2017, DHIN purchased $0 and $66,488 of capital assets, respectively. Total depreciation and amortization expense during FY 2018 and 2017 was $75,198 and $64,184, respectively.

Accounts payable increased by $476,575, an 86 percent increase, as of June 30, 2018 when compared to June 30, 2017. The increase was a result of services performed for the technology refresh project prior to June 30, 2018.

Financial Analysis - Continued

OPERATING REVENUE	2018	2017
CORE SERVICES		
Results Delivery	4,082,271	3,787,146
Community Health Record (CHR)	3,000,164	3,096,332
TOTAL CORE SERVICES	**7,082,435**	**6,883,478**
VALUE ADDED SERVICES		
CHR - Viewing by Providers	3,050	2,000
Medication History Access	35,050	26,690
Encounter Notification Services	25,990	28,599
Image Viewing	38,056	38,056
Professional Services	628,277	520,210
TOTAL VALUE ADDED SERVICES	**730,423**	**615,555**
TOTAL OPERATING REVENUE	**7,812,858**	**7,499,033**
OPERATING EXPENSES		
Administration	6 33,962	5 73,990
Contractual (Non-Technical)	1,658,353	1,509,042
Depreciation and Amortization	75,198	64,814
Implementation Costs	138,964	1,315,599
Licenses and Software Maintenance	2,074,475	1,796,617
Marketing	276,605	527,061
Operations	1,168,201	1,211,382
Personnel	4,077,206	3,312,271
Technology Refresh	2,210,157	158,946
TOTAL OPERATING EXPENSES	**12,313,121**	**10,469,722**
OPERATING LOSS	**(4,500,263)**	**(2,970,689)**
NONOPERATING REVENUE		
Grant Revenue	449,263	2,200,537
Contributions	242,800	2,209,200
Interest Income	53,629	60,245
TOTAL NONOPERATING REVENUE	**745,692**	**4,469,982**
CHANGE IN NET POSITION	**(3,754,571)**	**1,499,293**
NET POSITION - Beginning of the Year	**8,810,701**	**7,311,408**
NET POSITION - End of Year	**$5,056,130**	**$8,810,701**

NOTES:

During FY 2016, DHIN was awarded a reimbursable federal grant for the purpose of promoting HIT Adoption and Health Information Exchange Across the Continuum of Care. The grant made available to DHIN totaled $2,752,758. During FY 2017, DHIN was awarded a post-award amendment in the amount of $625,000. Revenue is recognized as costs are incurred. During the years ended June 30, 2018 and 2017, DHIN recognized $449,263 and $2,200,537, respectively. The grant expired on July 26, 2017. This combined with the expiration of a $1M contribution commitment during FY 2018 resulted in a $3,724,290 decrease in nonoperating revenue.

The Organization's operating revenues increased by $313,825 (or approximately 4 percent) during FY 2018 as a result of increased revenue from DHIN's core services.

Administration expenses represent overhead costs such as rent expense, supplies, computer support, meeting expenses, and travel. Implementation costs expenses represent costs directly related to the implementation of new functions, new data types, Electronic Medical Records (EMR) vendor interfaces, and new data senders.

NOTES - continued:

Contractual (Non-Technical) costs increased $149,311 during FY 2018 as a result of contract and project management including ongoing HITRUST certification.

Implementation costs decreased $1,176,635 (or approximately 89%) during FY 2018 as a result of DHIN's strategic initiative to upgrade its technology platform.

Licenses and software maintenance expenses represent costs for license and maintenance costs for functions implemented and data senders joined in prior years. License and software maintenance costs increased $277,858 during FY 2018 as a result of functions implemented in prior years, including DHIN's results delivery system, Community Health Record, Master Patient Index, Encounter Notification System, and various analytics tools.

Technology refresh costs represent costs related to development, hardware, or software service contracts in support of DHIN's updated technology platform. Technology refresh costs increased $2,051,211 during FY 2018 as a result of DHIN's efforts to upgrade its technology platform.

Marketing expenses represent costs for outreach materials, consumer educational materials, and brand awareness. Marketing expenses decreased $250,456 due to the expiration of the federal grant which provided funding for consumer branding and promotion.

Personnel expenses consist of costs for payroll and payroll-related expenses for employees. Personnel expenses increased $764,935 due to new employees, annualization of salary expense for employees hired during the prior year, and increase in employee benefit costs.

DHIN Board of Directors

James L. Collins
State of DE, Dept. of Technology & Information

Randall Gaboriault*
Christiana Care Health System

Donna Goodman, CMPE*
Westside Family Healthcare

Jeffrey E. Hawtof, MD, FAAFP
Beebe Medical Center

A. Richard Heffron*
Delaware State Chamber of Commerce

Dr. Randeep Kahlon
Christiana Care Health System

Jonathan Kauffman, D.O.
Bayhealth Medical Center

Ann Kempski
State of DE, Health & Social Services

William Kirk, III, Esq.*
Retired: Highmark Blue Cross Blue Shield

Brenda Lakeman
State of DE, Director of State Wide Benefits

Stephen Lawless, MD*
Nemours/AI DuPont Hospital for Children

Kathleen S. Matt, Ph.D., Dean
University of Delaware, College of Health
Science

Nathan Merriman, MD, MSCE
Gastroenterology Associates of Delaware

Troy McDaniel
State of DE, DMMA

Remy Richman
AETNA

Stephen Saville
OGH, LLC | Workforce Solutions

Meredith Stewart-Tweedie*
Christiana Care Health System

*Executive Committee member

DHIN Staff

DHIN Staff

Ali Charowsky
Executive Assistant

Andy Gillan
EHR Integration Project Analyst

Ashley Green
Technical Support Specialist

Brandy Strauss
Project Manager

Brooke Clogg
Technical Support Specialist

Cathy Paulish
Project Manager

Eddie Armor
Business Relationship Manager

Ed Seaton
Business Relationship Manager

Erica Hutchinson
Network and Operations Analyst

Garrett Murawski
Business Relationship Manager

Jamie Rocke, Director
Business Relationship Management

Jan Lee, MD,
Chief Executive Officer

Jeff Reger
Privacy and Security Compliance Manager

Jody Wilson
Network and Operations Manager

Jonathan Val
Network & Operations Systems Analyst

Lynn Misener
Senior Project Manager

Mark Jacobs
Chief Information Officer

Michael MacDonald
Senior Business Relationship Manager

Michael Procak
Supervisor, Service Desk

Michael Sims
Chief Financial Officer

Michele Ribolla
Chief Financial Officer

Pier Straws
Health Informatics Data Analyst

Randy Farmer
Chief Operating Officer

Randy Wise
Junior Program Manager

Richard Wadman
Senior Program Manager

Samuel Adarsh
Network and Operations Analyst

Stacey Haddock Schiller
Director of Marketing

TerriLynn Lynn Palmer
Project Manager

Brent Gaines
Contractor

Nikos Economidis
Contractor

DHIN SAVES TIME, IMPROVES PATIENT CARE, AND SAVES LIVES.

Delaware Health Information Network

107 Wolf Creek Blvd., Suite 2

Dover, DE 19901

Phone: (302) 678-0220

Fax: (302) 645-0398

Email: info@dhin.org