

A close-up portrait of a young man with dark hair and glasses, looking intently at a computer screen. The background is blurred, showing a computer monitor and office equipment. The lighting is soft, with a blue tint from the screen.

SIMPLE GUIDE

# **An All-Inclusive Approach to Interoperability and Data Optimization**

**Mirth®**  
by NextGen Healthcare

# TABLE OF CONTENTS

**Chapter 1:** Interoperability Roadblocks .....5

**Chapter 2:** Data Processing.....6

**Chapter 3:** Data Warehousing..... 12

**Chapter 4:** Data Insights ..... 15

## Introduction

For years, interoperability primarily consisted of private practices sharing health information with hospitals and other ambulatory care facilities in their community. It was about making sure all parties involved in improving a patient’s health were on the same page—and had the ability to access the most current and accurate health records at the point of care.

Fast forward to today, interoperability is light years ahead of what it used to be, especially in complexity, value, and demand. Technology companies, hospitals, HIEs, payers, medical providers, pharmacies, remote monitoring device companies, and other health-related organizations depend on fast and secure data exchange to achieve their goals.

In this e-book, you’ll learn how Mirth® by NextGen Healthcare ensures you achieve the health data exchange outcomes your organization needs to succeed.

Many large and respected healthcare organizations across the globe rely on Mirth by NextGen Healthcare to integrate and streamline the sharing of health information in a cost-effective and secure manner.

In service to our mission to improve healthcare, we've developed a family of solutions that are built to make it easier to integrate data across disparate systems.

### MIRTH CONNECT

**1Bn+** Clinical transactions exchanged daily

**30+** Countries with active deployments

**5M+** Downloads



## MIRTH FAMILY OF SOLUTIONS



### **Mirth® Connect** by NextGen Healthcare

**Effortlessly exchange, translate, and route healthcare messages across different systems.**

- Drag-and-drop ETL workflow builder
- Built-in scripting engine for complex logic
- Painless translation between data formats
- Supports common healthcare standards: HL7v2, FHIR, DICOM, X12, XDS/XCA, & more



### **Mirth® Fully Managed** by NextGen Healthcare

**Benefit from interoperability on-demand.  
Deployed in the cloud with 24x7x365 support.**

- Interfaces built and managed on your behalf
- Cloud auto-scaling with disaster recovery
- Guaranteed high availability SLA
- Continuous review and correction of errors



### **Mirth® Health Data Hub** by NextGen Healthcare

**Seamless clinical data normalization and aggregation.**

- Built-in enterprise master patient index
- Integrated automated workflow engine
- Robust data access control tools
- Comprehensive API support



### **Mirth® Health Data Hub Insights** by NextGen Healthcare

**Direct access to patient, clinical, and operational data sets.**

- Managed data pipeline (no ETL)
- Query-ready data sets
- Integrated data catalog and query library
- Self-service analytics

## CHAPTER 1

# INTEROPERABILITY ROADBLOCKS

A seamless stream of health data must be readily accessible to provide meaningful insights, whether for a doctor treating a patient, a public health agency monitoring at-risk patient populations, or a medical software company refining its solutions.

Roadblocks include:

### **Projects slowed by ineffective tooling and overburdened engineers**

Poor tooling can frustrate developers and slow down the time-to-value for organizations looking to optimize data exchange.

### **Data silos isolate important context and insights from key stakeholders**

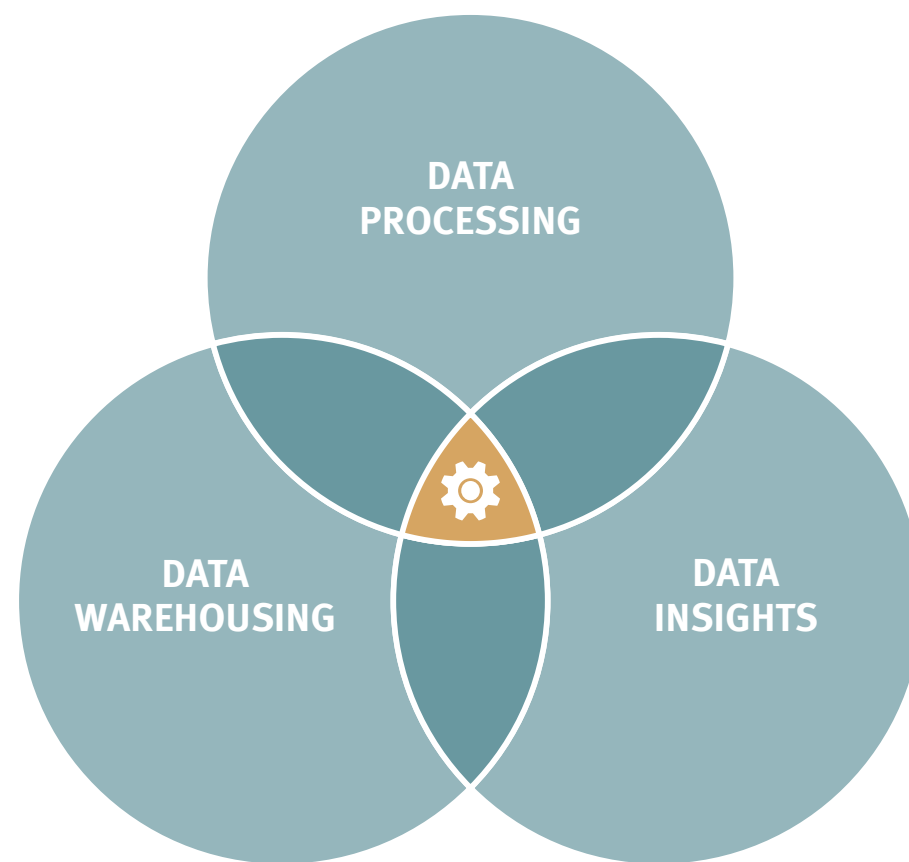
Data owners are responsible for making their data available at the point of care. Providers rely on the complete picture to make informed decisions.

### **Complex data demands more efficient workflows to facilitate adoption**

As systems over time become more complicated, it's important that workflows simplify to prevent burdening users with new complexity. Regardless of the type of organization, Mirth can help overcome the challenge of integrating, aggregating, and leveraging healthcare data and help set the course to meet strategic goals.

**Effective interoperability can best be visualized as the unification of data processing, data warehousing, and data insights.**

To achieve that interoperability sweet spot, organizations must have the time and resources needed to make these three components work synergistically. Let's take a closer look at Mirth solutions and services available to your organization today to help you achieve your goals.



## CHAPTER 2

# DATA PROCESSING

Similar to an interpreter who translates foreign languages into one you understand, **Mirth® Connect by NextGen Healthcare** translates message standards into the one language your system can understand. Whenever a "foreign" system sends you a message, Mirth Connect's integration capabilities expedite the following:

**Filtering:** Parse incoming messages and intelligently filter based on simple rules or scripting.

**Transformation:** Easily convert incoming messages from one format to another using a simple drag-and-drop editor, or JavaScript editor to support complex mapping logic.

**Data Ingestion:** Receive or poll data directly using built-in HTTPS, TCP, SFTP, HL7, DICOM, Web Service Sender, or File-based connectors. Expand your connector options with extensions.

**Routing:** Support simple and complex data workflows using a robust set of routing tools to send data to external systems or other channels within Mirth Connect.

**Whether you need to connect many internal systems or are building a product of your own, Mirth Connect delivers highly flexible integration tooling for any organization tasked with data integration.**

### OVERVIEW OF EXTENSIONS

Leverage our comprehensive library of 15+ extensions to integrate even faster with Mirth Connect. View a full list of [extensions and their benefits](#).

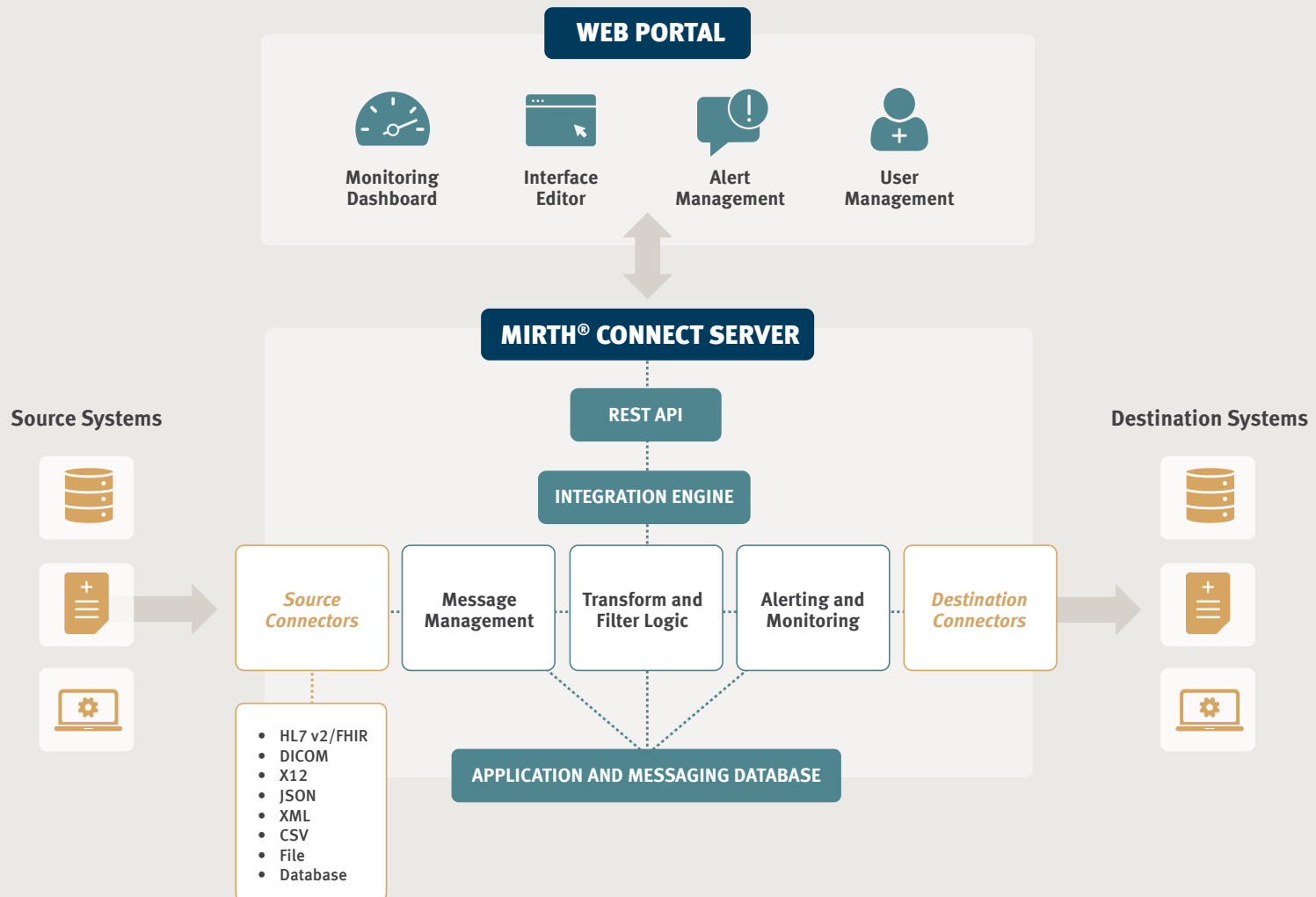
### MIRTH CONNECT E-LEARNING COURSES

Get your team up to speed quickly and use best practices to set your organization up for success with Mirth Connect. Learn more about [Mirth Connect Training and Certification](#).

### MIRTH CONNECT PROFESSIONAL SERVICES

Not sure where to begin with data integration? Need guidance on how to start? Our professional services team is composed of interoperability experts who are ready to help ensure your success. Learn more about [Mirth Professional Services and Consulting](#).

# MIRTH CONNECT ADMINISTRATOR




“ Mirth Connect is so user-friendly you could sit with someone for a couple of hours and get them up and running. In the old system, it would take specialist training on the Integrated Development Environment (IDE) and technology. Whereas due to the simplicity of the scripting, it opened up the skillset to web developers, script administrators, and others. ”

**Daniel Dryhurst**

**Senior Digital Solutions Delivery Engineer**

**St Helens and Knowsley Teaching Hospitals NHS Trust**



Mirth Connect has achieved the Office of the National Coordinator for Health Information Technology (ONC Health IT) 2015 Edition Cures Update certification. This certification signifies that Mirth Connect complies with all applicable certification requirements in support of the 21st Century Cures Act.



**Mirth® Connect**  
by NextGen Healthcare



## Simplify data exchange in the cloud

**Mirth® Fully Managed by NextGen Healthcare\*** offers healthcare organizations an efficient, cloud-hosted solution to address complex interoperability and data integration challenges. This cost-effective service replaces traditional DIY solutions with NextGen Healthcare expertise, 24x7x365 support, and resilient infrastructure.

**Simplify data exchange, reduce your interoperability burden, and allow your team to prioritize unlocking growth for your business.**

With Mirth Fully Managed,, your organization can achieve enterprise-grade interoperability faster and cheaper without the need for a dedicated in-house team. Take advantage of:

**On-Demand Integration:** Leverage a team of interoperability experts to plan, build, and manage your integrations from kick-off to go-live.

**Real-Time Error Monitoring:** Ensure your interfaces run smoothly with automated alerting and human error review.

**Cloud Scaling:** Automatically scale cloud resources to meet your interface's processing demand.

**Analytics & Reporting:** Gain insights into integration performance and workflow outcomes.



**Mirth® Fully Managed**  
by NextGen Healthcare

“The channels and features within Mirth Connect allow you to build integrations quickly. If I'm asked on Monday to integrate a new system into the hospital network, it will be installed and ready for testing in a week.”

**Óscar González**  
**Software Analyst**  
**Bahía Software**

## CHAPTER 3

# DATA WAREHOUSING

**Mirth® Health Data Hub by NextGen Healthcare** is an all-in-one data aggregation solution that includes an Enterprise Master Person Index (EMPI) and a clinical repository. The solution provides comprehensive, continuous access to aggregated patient health data to meet the demands of HIEs, hospitals, and large ambulatory practices.

### Key Features:

**Open API:** An API-first approach enables access to data and full system configuration. Take advantage of the robust API to expedite implementation, adoption, and facilitate innovation.

**Data Aggregation:** An integrated EMPI puts the patient at the center of the platform with a longitudinal record consisting of clinical content (supporting USCDI v1), encounters, and custom data extensions. Natively supports HL7 2.x, CDA, and FHIR data. Easily view aggregated data from the web-based provider portal or access via the open API.

**Workflow Engine:** Automated workflows for encounter notifications and clinical content can be implemented fully through an API or a portal. Publish using direct secure messaging, worklist, or discrete transactions via Mirth Connect channels (FHIR, HL7, IHE XDS.b/XCA).

**Data Access Controls:** A robust role-based framework allows you to control user permissions and access to clinical data. Consent management enables granular control over data sources, data constraints for behavioral health (42 CFR Part 2 Compliant), as well as sensitive and confidential data.

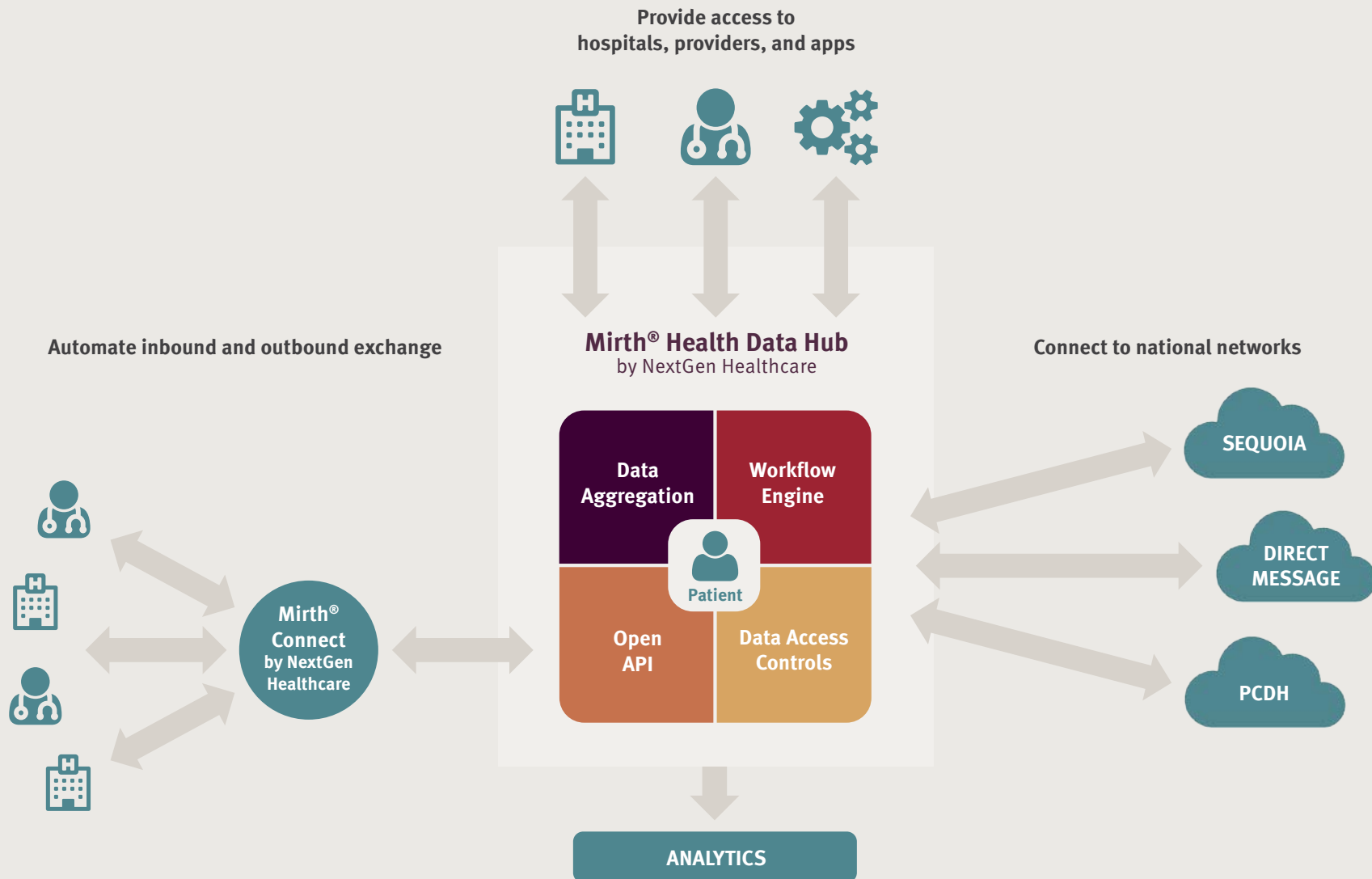
This solution natively supports the most common workflows, including automated encounter notifications, document delivery, message routing, and centralized consent management for a network of data sources.

Mirth Health Data Hub is a robust, reliable, and performant platform that will lower client ownership costs, enable systemwide connectivity, and support long-term growth needs for HIEs, hospitals, and ambulatory practices.



**Mirth® Health Data Hub**  
by NextGen Healthcare

# PLATFORM FOUNDATIONS



“ A longitudinal view into patients’ data provides a holistic view of the patient for physicians to improve their workflows and provide better care. ”

**Nicole Bigelow**  
**Principal Architect**  
**Resili Health**

## CHAPTER 4

# DATA INSIGHTS

**Mirth® Health Data Hub Insights** is a modern data warehouse that supports evolving care delivery models overwhelmed by increasing volumes of data. Made possible through a partnership with Snowflake and phData, this solution drives operational efficiency, automates repetitive tasks, and unlocks analytic innovations for Health Data Hub clients.

Health information organizations also benefit from a set of tools and services, along with support from a community of insights peers. Direct access to an analytic data set makes it easier to leverage your data in a way that will benefit the healthcare delivery community.

Health Data Hub Insights is easy to use, affordable for emerging data-focused organizations, and supports a wide range of reporting and analytic use cases (operational, clinical, descriptive, predictive) powered by data from Health Data Hub.



**Mirth® Health Data Hub Insights**  
by NextGen Healthcare

## Key Features:

**Managed Data Pipeline:** We activate, maintain, monitor, and configure the data pipeline from Health Data Hub to Health Data Hub Insights on your behalf, so that you can focus on using data to generate value. Configure and fine-tune your pipeline's scope and loading frequency to meet your business needs.

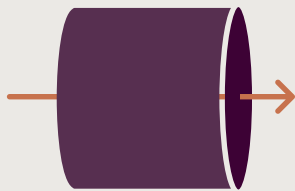
**Managed Data Warehouse:** Similar to your data pipeline, our team can manage all aspects of your data warehouse infrastructure. Supported by security best practices and business continuity tooling, your data will always be available when you need it.

**Flexible Tooling Support:** Health Data Hub Insights supports a wide array of analytic tools and programming languages, such as SQL, Python, Power BI, Tableau, QuickSight, and more. This enables you to bring your data to the tools your team is most comfortable with.

**Analytics-Ready Data:** More than 60 clinical data types supported out-of-the-box and 130+ modeled tables are ready for direct querying and reporting. Enrich your reporting by integrating third-party data sets seamlessly from the Snowflake Data Marketplace.

## MIRTH HEALTH DATA HUB INSIGHTS

### Data Pipeline



- Managed pipeline service
- Near real-time data flows
- Configurable in scope and frequency

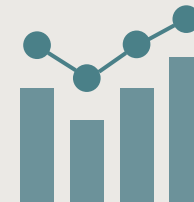
### Insights Data Warehouse

Powered by Snowflake



- Managed data cloud
- Customer segmented data
- Role-based access control
- Data catalog

### Data Access



- Self-service data analytics
- Create and share curated models
- Pre-built connectors

“What stood out was the extensible API and programming interfaces, including the ability to create our own data products on top of the platform. During the installation, NextGen Healthcare kept us well informed, and the integration developers were extremely helpful.”

**Carmen Hughes, MBA**  
**Executive Director, HIT Division**  
**HI-BRIDGE Solutions and HI-BRIDGE HIE**

# BETTER STARTS HERE.

Contact us at 855-510-6398 or [mirthconnectsales@nextgen.com](mailto:mirthconnectsales@nextgen.com)

Implementing meaningful interoperability has a tangible clinical and financial impact. With it, you can do more with less, bend the cost curve, improve scalability, and minimize risks.

## BELIEVE IN BETTER.®

CH\_041725\_All-InclusiveApproachtolInteropandDataOp

© 2023–2025 NXGN Management, LLC. All Rights Reserved. NextGen is a registered trademark of NXGN Management, LLC.

All other names and marks are the property of their respective owners.

[nextgen.com](https://nextgen.com)

**Mirth®**  
by NextGen Healthcare