CONNECTIV|IT|Y

**MUCH MORE THAN I.T.**

GALEN
HEALTHCARE SOLUTIONS

Population Health Management

Rapid, Secure, Efficient Participant Connectivity— powered by GalenETL

Introduction

Health Information Exchange (HIE) allows health care providers to access and share a patient's medical information securely and electronically, providing a unified view of patient data across healthcare organizations. Population Health Management (PHM) similarly aggregates patient data into a single, actionable record which facilitates improvement of both clinical and financial outcomes. Both enhance clinicians' workflow and their ability to connect, coordinate, and collaborate on patient care quickly and easily.

Today's HIE and PHM systems need to provide seamless data liquidity and care coordination. However, healthcare organizations frequently struggle with last-mile connectivity from their clinical system of record to the receiving system.

Galen Healthcare Solutions recently partnered with North Carolina Health Information Exchange (NC HIE) and North Carolina Community Care Networks, Inc. (CCNC) to provide connectivity to over 330 of their participating practices. Thanks to Galen's proven methodology and the GalenETL solution, practices can now realize the benefit of NC HIE and CCNC suite of products with more speed, accuracy, and efficiency.

ALL 100 NC COUNTIES
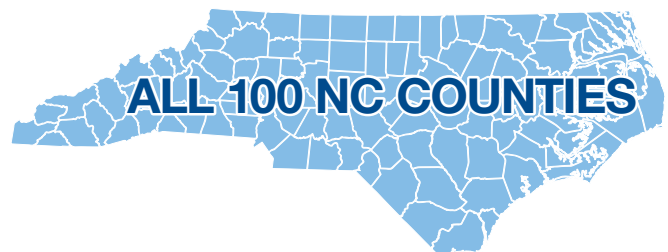
Client Background

CCNC is a health care collaborative network founded in 2001 focused on finding innovative approaches to population management that improves health and reduces costs in the state of North Carolina for Medicaid recipients. In an independent evaluation, CCNC was found to have saved nearly $1B from 2007-2010.

NC HIE is a nonprofit organization that was incorporated in April 2010 and selected as the State Designated Entity (SDE) in that same year. It provides a set of secure, scalable information services that promote the access, exchange, and analysis of healthcare information. These capabilities enable participating practices to improve medial decision-making, coordination of care, and health outcomes while controlling health care costs. As the SDE, NC HIE is responsible for the execution and oversight of the state's HIE strategy, including the completion and submission of its HIE Strategic and Operational Plans. NC HIE also administers the statewide health information exchange, a secure, standardized electronic system through which providers can share important patient health information.

The use of this system promotes the access, exchange, and analysis of health information.

CCNC & NC HIE enable participating organizations to:

- Save time and reduce paperwork
- Facilitate more informed treatment decision-making
- Improve care coordination, provide higher quality of care, and deliver better health outcomes

5000 PRIMARY CARE PROVIDERS

1800 PRACTICES

90% OF PCPs IN NC

1.4 MILLION MEDICAID PATIENTS

- 300,000 Aged, Blind, Disabled
- 150,000 Dually Eligible

22,000 UNINSURED
>20,000 PRIVATELY INSURED

14

NETWORKS

EACH NETWORK AVERAGES:

- 1.4 Medical Directors, 1.0 Psychiatrist
- 42.8 Local Care Managers
- 1.8 Pharmacists
- Multiple disciplines: RN, LCSW, RD,...

Project Background

In August 2014, CCNC & NC HIE enlisted Galen Healthcare Solutions to provide supplemental leadership and strategy following the departure of the NC HIE's IT Director. Galen supplied operational oversight, strategic planning, and HIE development, working with vendors and end-users to identify project requirements, develop solutions, and define maintenance routines. Galen's partnership with NC HIE & CCNC was extended after it was discovered assistance was needed to enhance participant connectivity, so users could fully experience the two system's benefits.

GalenETL

GalenETL Participant Connectivity Solution

GalenETL is a scalable, secure, and extensible solution with a plugin-based architecture. It serves as a major component of CCNC & NC HIE participant connectivity, offering rapid deployment and support for over 25 EHRs. The solution consists of a lightweight

utility deployed to the participant's environments, which is used to incrementally pull data from source systems to consuming systems. GalenETL supports delivery of data to the HIE in multiple formats, including HL7, CCDA, custom APIs, and flat-files. To keep stakeholders abreast of ongoing integration, GalenETL offers robust auditing and alerting capabilities. These include reports on the quantity of extracted and processed data and feedback on any performance issues that occur in the participant system during the ETL process. This allows an analyst to provide an immediate fix instead of having to wait on periodic progress assessments.

10 clinical data elements extracted from practices (allergies, encounters, medications, results, vitals, appointments, charge, document, immunization, social history)

Connectivity to **11 distinct source EHR applications** (GE Centricity, McKesson, Allscripts Professional EHR, Greenway Primesuite, eMD, NextGen, Aprima, eCW, Medinformatix, Amazing Charts, Allscripts Touchworks)

2 years of clinical data sent as part of practice historical backload into HIE.

Participant Onboarding Project Plan & Process

Galen worked with CCNC, NC HIE and all of the participating practices to create a process that would result in a sustainable model with applications across many different EMR systems. This challenge of streamlining the ongoing procedure and enhancing client efficiency created a tremendous learning opportunity for Galen. While providing remote access to the practice server was a seamless process for the majority of the practices onboarded, the team ran into obstacles with the Allscripts Pro EMR. Unfortunately, the

product employed by Galen as its Gatekeeper for access is Securelink, a solution already utilized by Allscripts Pro. Since Securelink can only be used on the server once, Galen had to look beyond its usual options for new remote service solutions, such as VPN access, and gained many valuable insights on how to enhance HIE efficiency during the process.

The Data

GalenETL was enlisted to acquire and convert data into a variety of HL7 messages, which would then be stored into a flat file and sent to the consuming system. In collaboration with the CCNC engineers, Galen quickly prototyped and delivered messages that met the appropriate specifications, often with custom coding for those that hadn't been used in the past. As the data was parsed into HL7 messages, it underwent some normalization, allowing CCNC & NC HIE to more easily process incoming data and map non-standard codes to its own specifications.

Each EHR system had its own data storage method. Some used Microsoft SQL or Oracle while others use MySQL and other database systems. During the process of developing extract from a new EHR, data investigation was performed in order to map the local EHR data to standard data sets. In some cases, this involved a middle tier database that provided faster access to a remote server and reduced the impact of an extract. After successfully mapping all of the necessary data, a set of scripts were quickly built to support other EHRs from the same vendor, allowing Galen to bring up multiple sites in a short amount of time.

The extracts, which only required read access, were typically run nightly during a defined maintenance window to reduce the performance impact on the source system. Many of the sites completed the extract in less than an hour.

Successful Results

With GalenETL and the new implementation processes, Galen can now transmit files for injection into CCNC & NC HIE in less than 48 hours on average after acquiring system access. By enlisting Galen's expertise in streamlining implementation, the client can focus on its other initiatives sooner. With the Galen team readily available to handle new questions and resolve outliers, CCNC & NC HIE can continue to expect success in their operations.

"The Galen team proved to be collaborative and nimble. Their GalenETL solution was instrumental in empowering our organization to efficiently, rapidly and effectively connect our participant healthcare organizations to realize the tangible benefits of care coordination fueled by CCNC."

FRANK JACKSON,
Chief Information Officer,
Community Care of
North Carolina

Rapid, **reliable**, **secure**, and **scalable** interoperability between health information systems, helping our clients deliver **connected** solutions.