

HIMSS Interoperability & Health Information Exchange Community



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HIMSS Interoperability Case Study - Atrium Health, July 2018



Background

[Atrium Health](#) is one of the leading healthcare organizations in the Southeast and one of the most comprehensive, not-for-profit systems in the country. Their more than 900 care locations include:

- Academic medical centers
- Hospitals
- Freestanding emergency departments
- Healthcare pavilions
- Physician practices
- Outpatient surgical centers
- Laboratories
- Rehabilitation centers
- Home health agencies
- Nursing homes
- Hospice and palliative care
- Pharmacies
- Imaging centers

Atrium Health, formerly known as Carolinas Health System, was the first organization in North and South Carolina to achieve [HIMSS EMRAM Stage 7](#) in both the acute and ambulatory environments, signifying the highest levels of Electronic Medical Record adoption, and positioning Atrium Health in the top 5 percent of healthcare organizations nationwide. Currently, 11 hospitals and more than 380 practices are Stage 7 validated. [The full list of validated Stage 7 providers is available on the HIMSS Analytics webpage.](#)

As reported by [EHRIntelligence.com](#), Atrium Health and [Novant Health](#) reached an agreement to exchange patient health data between their Cerner and Epic EHR technologies in 2017. This patient health data is exchanged through Cerner's Health Information Exchange (HIE) and the [Sequoia Project's eHealth Exchange](#). The interoperability established between Cerner's [CommonWell Health Alliance](#) and [Epic](#), which exclusively supported [Carequality](#), has served to push the healthcare industry closer to true interoperability and minimize information blocking.

Jonathan Sherman, FACHE, Information & Analytics Services Director at Atrium Health, was interviewed about the processes, roles, technology, and change management approach used during the organization's interoperability implementation. He also discussed lessons learned and a look forward to where Atrium Health might further advance and increase their interoperability capabilities to serve patients.

The Challenge

While Atrium Health had been sharing information with the community via an HIE since 2011, they were looking for a way to improve upon the user experience and workflow of their current system. According to Mr. Sherman, "Cerner's HIE seemed to allow us to do that, while also working with another existing partner vendor."

Roles and Responsibilities

Atrium Health recognized the importance of having clearly defined roles and responsibilities, and of promoting collaboration during this project. Additionally, the organization recognized it was important to have a champion of the project, as well as get buy-in from others in the organization who would be affected.

Mr. Sherman stated, "Our CIO was the primary champion, while we also have an Interoperability Collaborative made up of other Information and Analytics Services (IAS) leaders, physician champions, and other leaders outside of Information Services that see the value of sharing clinical information electronically with others outside of Atrium Health. [Gaining] buy-in was easy once everyone saw how easy the tool was to use and that we were collectively working to improve patient care delivery in our region."

Technical and Interoperability Approaches

The technical team sought input from the current users to determine a process for developing an interoperability architecture. Since they were searching for a tool that would work better for users within Atrium Health, they needed a solution that was not only easy to connect to other systems, but easy for end users to access and use to find information. Mr. Sherman explained, "We used input from our Interoperability Collaborative and other physicians to identify the first partners we wanted to connect to via the new Cerner HIE. Some were existing exchange partners, while others were new." This input included information such as what type of data would be best to upload first to the HIE.

The team leveraged existing technology and current systems to support Atrium Health's Interoperability Strategy. According to Mr. Sherman, "The ease of implementation and

connection to other partners helped us support our goal of connecting to other partners quickly and effectively to promote improved patient care.”

In order to overcome challenges they encountered along the way, Atrium Health utilized existing internal resources to accomplish the technical aspects of the project. Externally, the primary vendor was prepared to support interoperability as well. Mr. Sherman elaborated, “We already had a team that was very experienced in health information exchange, but working with the Cerner HIE team was a refreshing experience compared with our legacy vendor. There are always going to be challenges with HIE because it is not just you and your vendor partner, but there is also a connection partner and their vendor that must be ready to work with you to connect. It takes hard work and a lot of patience.”

Outcomes and Reporting

Atrium Health quickly met their goals for external connections and access. There is also some empirical evidence available regarding clinical and quality measurement improvements. They have tracked:

1. The number of external connections to their HIE
2. Total users (both internal Atrium users and external users via the portal)
3. Total logins on a monthly basis.

According to Mr. Sherman, “We exceeded our initial goal, which was to exceed our previous application[’s] users and accesses by doubling it in the first full month of use.” They have also documented anecdotal improvements such as:

- Physicians reporting they did not have to order additional tests for a patient
- Nurses identifying drug seeking behavior in some patients
- The Health Information Management (HIM) department stating they are faxing fewer records.

They do not yet have final studies to identify patient outcomes, satisfaction or cost savings; however, they are confident that they will see evidence of these metrics improving soon.

Clinical Transition

Users at Atrium Health quickly adjusted to the HIE portal, adopting it into their clinical workflow. Mr. Sherman stated, “Our team did a great job of communicating with end users and creating educational material. Thankfully, the HIE portal is easy to access via Millennium [The Cerner EMR] and easy to use.”

Change Management

Throughout this endeavor, Atrium Health recognized the need for business processes such as change management, internal communications and training to supporting

successful implementation. They have recognized there may have been gaps in some instances, and they continue to develop their processes from this learning experience.

Mr. Sherman stated, “We worked closely with our physician leaders to present at their leadership groups (Acute, Ambulatory, ED, and Behavioral Health) to let them know about the pending changes. We did onsite visits to our hospitals and standalone EDs to help communicate and train individuals and groups. We worked with our corporate communications department and training resources to create materials and used all methods of communications to help spread the word. It seemed to work very well, but we also had some physicians mention that they never heard anything about it, or heard from the radio and not internal communications. We’re still working through our maturity and learning as we go, but we’re a very large organization and that takes time.”

Cost and Budget

The budget for this project came from a pre-established budget for HIE within the organization. They considered the investment in terms of time, overhead and human capital. They expect that future savings will offset initial impact, as Mr. Sherman explained, “We justified the change with projected savings over a five-year term. We saw some initial year one and two increases, but are looking forward to significant savings in year three of Cerner HIE utilization.” Also contributing to savings, they did not need to add new staff and have even reduced their team by the equivalent of one full-time worker.

Ongoing Challenges

Atrium Health continues to face many challenges in achieving interoperability. They continue to work with partners to add connections and progress in expanding interoperability with the objective of improving workflow. Mr. Sherman expanded, “We face them [challenges] each day as we do not feel we are implementing additional partner connections as quickly as we could. Some of that is the challenge of working with external partners and vendors, but we also seem to come across recurring issues.” These persistent challenges include timeliness of paperwork being received, as well as making sure vendors are contracted for the work and implementation efforts on both ends.

Mr. Sherman continued, “We’re still working toward the best way to achieve interoperability. We look forward to implementing the capability to use data reconciliation and easily pull clinical information from external sources like the HIE into our EMR. We are also hoping our connections to CommonWell and Carequality (which are in process) will give us many more connections at once with minimal effort, but [we are] also a little nervous because we have not been able to see exactly what those

connections will look like and how it may impact existing workflows that our users are happy with.”

Lessons Learned

Key lessons were learned during this effort. For Atrium Health, they recognized the importance of involving physicians and champions early on. Mr. Sherman gave the following advice for others approaching similar projects: “Get physician input and champions early to help with input and communications. Temper expectations as you go and set realistic timelines to implement various stages.”

Regulatory

Regulatory requirements were not a driver for this interoperability effort. “We’re well beyond initial Meaningful Use requirements. Our primary driver was workflow improvement and an ability to improve patient care and physician satisfaction,” Mr. Sherman explained.

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