

Integration Engines: Conquering Interoperability Challenges

Transformational technology offers a simplified approach to internal and external health data integration and exchange

Hospitals have made significant strides in achieving interoperability with ambulatory care providers and other hospitals outside their organization over the past several years. A survey conducted by the American Hospital Association found that last year 76 percent of non-federal acute-care hospitals could electronically exchange lab results, radiology reports, clinical care summaries or medication lists with outside facilities, compared to just 41 percent in 2008.

Nonetheless, integration obstacles remain for hospitals as they assimilate new entities, with merger/acquisition transaction volume up 14 percent in 2014, according to the 2015 Health Care Services Acquisition Report published by Irving Levin Associates. Due to ongoing shifts in reimbursement models toward value-based care, smaller entities are ready to merge with larger systems to stay afloat financially, according to the report. And once combined, these organizations naturally take on coordinated internal initiatives aimed at establishing and improving connected patient care.

M&A integration strategy: incorporating and coordinating clinical initiatives

UnityPoint Health of West Des Moines, Iowa, prides itself as being one of the nation's most integrated health systems, affiliated with 32 hospitals and 280 physician clinics spanning nine geographic regions and accommodating 4.5 million patient visits per year. Yet achieving that scale has put the organization's IT strategists to the test. "We are in what I would consider a challenging environment due to the rapid change in healthcare and the pace at which our organization is conducting mergers and acquisitions," said Heidi Rozmiarek, UnityPoint's assistant director of development.

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Michelle Brown
Epic Data Integration Director
Providence Health & Services

Rozmiarek worked for more than 10 years at Meriter Health Services in Madison, Wis., before the health system affiliated with UnityPoint in 2014. UnityPoint is now “folding down” multiple electronic health record (EHR) systems en route to a consolidated Epic environment. “As we speak, we are in a bit of a house-divided atmosphere,” she explained. “We actually have three interface engines in our environment due to mergers and acquisitions. Specifically, from an interoperability perspective, the teams I have in that space are tasked with two key pieces: getting the systems to talk to each other and moving data between the systems.”

Integration engines speed development

Healthcare organizations across the country are discovering how the technology Rozmiarek cited — interface engine software — can streamline their approach to internal and external data integration and exchange.

Renton, Wash.-based Providence Health & Services, the third largest not-for-profit health system in the United States, replaced legacy interfaces when moving to an Epic environment several years ago. “When we got into it, we were basically building an HL7 engine and it was strangely painful,” said Michelle Brown, Epic data integration director for Providence. “We needed to go back and look at this

decision. When we did, we went from red to being green in two weeks because of what you can actually program in Corepoint,” she added, referring to the integration engine rated No. 1 from 2009-2014 by vendor performance research firm KLAS. “We can build interfaces very quickly and we do not need developers to do it,” Brown said.

Luke Dufrene, director of business information systems at Franciscan Missionaries of Our Lady (FMOL) Health System in Baton Rouge, La., agreed with Brown’s assessment that an integration engine equipped with a graphical user interface brings operational efficiencies. “You do not need a specific skill set [to use the technology],” he said. “Somebody who knows SQL could easily get up and running on it; even people who do not know SQL could — with just a little bit more of a learning curve.”

FMOL Health System utilizes between 350 and 400 interfaces, and Dufrene estimated about a 10-fold decrease in development time with its new integration engine compared to previous products. The efficiency gains also translate to operators who monitor the interfaces at Franciscan. “Our operators are not sitting there watching the screen for changes,” he pointed out. “They get alerts so they can do other tasks they were not previously able to do.”

Matt Fleming, director of HIE at Baptist Health in Birmingham, Ala., shared a similar experience after the health system switched EHRs and installed a new integration engine. “The older system was manual and command-driven in ways of configuring different actions,” he said. “[The new engine] is more intuitive, has a graphical-based configuration and is easier to set up and troubleshoot issues. Now when there is an issue, even the junior members of our group can resolve it.”



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Data integration drives clinical efficiencies

Enhancements in data integration and exchange also extend beyond IT operations into the clinical realm, supporting the caregiving mission of hospitals and health systems.

Imagine workflow meetings attended by informaticists and physicians talking about potential improvements. “With my folks, the lead cardiology person is in those meetings discussing how they are going to [address] their workflow issues through integration,” explained Providence’s Brown. “It is a really different paradigm.”

Consensus among IT leaders reveals that lack of true interoperability puts clinicians at a disadvantage. “We discover workflows every day where something is being done in a manual way because we have not gotten to that space yet or the systems have been challenged in exchanging data with each other,” said Rozmiarek of UnityPoint. “It slows down care delivery. It slows down how quickly we can get results and information to the provider to help patients.” FMOL Health System’s Dufrene added, “We had one unit using a different EMR, and they would physically walk paper from their clinic up to the cardiovascular unit. Being able to interface the results eliminated those manual processes.”

Conversely, when implemented in the right way, clinical integration can open up new opportunities and eliminate instances of human error.

At the University of Mississippi Medical Center in Jackson, Miss., which supports the state’s only academic health science center and a faculty group practice of 500 physicians, disparate applications tended to work in silos with basic transactional communication among

various systems. An integration engine now facilitates bi-directional communication, enabling the passage of consistent messages across distinct systems and positively shaping clinical workflow in the process, according to chief information officer David Chou.

Chou pointed to an example with medical device integration: “The patient monitor is fully automated and integrated. Whether it is with patient monitoring, smart pumps, anesthesia machines, those kinds of devices allow efficiencies where clinicians can focus more on taking care of the patient versus having to perform manual tasks from an IT perspective.”

Integration technology binds essential processes

Aside from bringing efficiencies to everyday requirements, integration engines enable interface analysts to develop solutions quickly without having to rely on application vendors for point-specific fixes. In addition, tools previously only available from third parties are now built into new engines with software upgrades provided semi-annually. Consequently, analysts can devote time to more expansive projects, such as exchanging health information with other organizations regionally or nationally.

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Chou at University of Mississippi added, “The way I view the integration engine, it is just as critical as our enterprise EHR – the glue that holds everything together.... Moving forward, we are all focused on a journey for interoperability to have that one patient record shared across any healthcare entity. The integration engine will be critical to getting there.” Without an integration engine, healthcare organizations would have to resort back to relying on application vendors for point-to-point integration. It would be a “security mess” without a common architecture, according to Chou.

FMOL Health System’s Dufrene also emphasized that interoperability could reconcile a healthcare organization’s transition from one system on the inpatient side to another for outpatient functions. “We have two different portals, with interfaces going back and forth,” he explained. “If an interface did not exist, we would really have two separate portals.”

Simplifying connections with opportune technology

As these accounts illustrate, interoperability initiatives previously thought to be too complex and time-intensive can be intuitive and transformational. Integration engine technology makes a difference in the following key areas:

- **Systems management.** Enabling disparate systems to connect and exchange data with one another. Speeding up interface creation without reliance on vendors and converting existing interfaces when migrating to new platforms.
- **Staff management.** Empowering IT teams to devise creative solutions via visual interfaces. Leveraging internal staff resources rather than using contract services. Saving staff time by providing precise alerting and error-correction messages.
- **Clinical workflow.** Eliminating paper-based processes and other manual workarounds. Integrating medical device technology at the point of care.
- **Capacity forecasting.** Supporting quick scaling in a virtual environment, instead of by adding hardware. Consolidating source code control.
- **Strategic planning.** Paving the way for health information exchange with other hospitals and physician practices in support of value-based care programs. Applying integration capabilities to enterprise business platforms beyond healthcare applications.

Today’s hospitals and health systems are ready to take on the challenges of interoperability with solutions that communicate point-to-point in the same language. In doing so, they will enrich patient care, boost clinician productivity and leverage valuable IT resources.



About Corepoint:

Corepoint Health delivers a simplified approach to internal and external health data integration and exchange for hospitals, radiology centers, laboratories, and clinics. Corepoint Integration Engine has been named the #1 interface engine for six consecutive years, 2009–2014, in the Best in KLAS: Software & Services report. Our software solutions help healthcare providers achieve interoperability goals and create operational leverage within their care organization. For more information, visit www.corepointhealth.com.