SCOTTSDALE INSTITUTE

INSIDE EDGE

Optimization: Clinical Performance Defines a New Era in Healthcare

EXECUTIVE SUMMARY

At first glance, the term 'optimization' may suggest post-implementation tweaks to an IT platform in order to derive optimum performance. While that's an accurate definition on a technical level, optimization is really about the seismic shift occurring today at leading health systems, many Scottsdale Institute members, to an environment defined by clinical outcomes.

To date this environment is obviously inchoate, or imperfectly formed, but the clinical transformation predicted a decade ago is taking root not only on technical, process and knowledge levels but culturally and economically as well. Optimization involves sophisticated new governance structures and management roles that are quietly but rapidly forming a new center of gravity in the healthcare delivery enterprise.

Boston Med

Boston Medical Center is the Rodney Dangerfield of healthcare systems in the city of Boston. It doesn't get the national visibility of Brigham & Women's, Massachusetts General or even Boston Children's Hospital, all featured on ABC's summer reality drama, "Boston Med," whose title alone should have earned BMC a role.

Maybe BMC is just too busy to care. A 639-bed tertiary care center that serves as the teaching hospital for Boston University Medical School, BMC is the largest safety net hospital in New England and the nexus for its own network of 15 community clinics in Greater Boston. Its ED treated 131,288 patients last year.

That's why BMC, which serves as Boston's public hospital, provides a good proving ground for clinical optimization on a community level.

It already had a head start when Joel Vengco arrived three years ago as BMC's chief applications officer. "BMC was largely already digitized," he says. "The EHR was already implemented at its 16 organizations, including the hospital and clinics."

He believes that BMC's IT situation reflects the country as a whole. "Many of us have some kind of EHR, yet we're not able to share information. We essentially put records into a computer but still needed to fax stuff to doctors." Physicians would end up using two records a day—the electronic one and a paper copy. Like many people, Vengco longed for the equivalent of the banking system, in which all transactions, no matter where they occurred, would show up in the system.

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With the Clinical Information Exchange (CIE) in place, BMC has enlisted SI Corporate Sponsor Carefx to develop applications for the CIE platform that solve business problems or functional requirements.

Joel Vengco, Chief Applications Officer, Boston Medical Center

"We didn't have that. We had medication lists or diagnoses fragmented in three different places. I wanted to figure out, since we had our records digitized, how we could share information using our own local EHR without having to create hundreds of point-to-point interfaces. We came up with the Clinical Information Exchange, which is an HIE," he says.

Vengco says BMC underwent the same progression described by National HIT Coordinator David Blumenthal, MD: 1) Deploy an EHR; 2) Make that EHR interoperable with other EHRs.

"That's what we did with CIE, which allows the comprehensive digital record to follow a patient who sees a physician in clinic in the afternoon and ends up at the ED in the evening," he says.

Besides providing the most accurate and timely information for a clinician caring for that patient, the CIE streamlines workflow by eliminating unnecessary calls and faxes and eliminates the need for those costly point-to-point interfaces. In contrast, interfaces would have become exorbitantly costly taking into account 16 sites multiplied by the number of labs and other nodes required to feed the EHR.

Instead the CIE uses a software "broker" that effectively says, 'Here's information regarding a patient from the lab or other data source that you can request be sent to you.'

"It's more of an on-call services model. I just ping the information exchange to get the information and through its ability to manage the patient's identification it will pull from the different repositories and push back to you the user," says Vengco.

This model is how many RHIOs—now HIEs—have been built and what the National Health Information Network (NHIN) is moving toward, he notes.

Liberating the data

BMC co-developed the CIE technology with GE, which was interested in developing record-locator-service software to position itself in the market for HITECH and Meaningful Use. "That gave me the leverage to increase the scope of the project," says Vengco. When he came on board in the fall of 2007, the humble goal was merely to be able to exchange lab results. With GE's weight behind the initiative, the CIE also added medications, problem lists, allergies, immunizations and consult notes. Current works in progress are ED and radiology notes and discharge summaries.

"We're now at the point at which the data is liberated," he says, meaning codified and standardized according to national standards such as SNOMED and LOINC. "Now it's not subject to proprietary codes and can therefore be used for computation, analysis and true interoperability. It's semantic interoperability at its best," says Vengco, whose background is medical informatics. The effort required BMC to hire pharmacy and other types of informaticists to develop the required software codes.

"You really need those individuals to vet the standards." He's thankful for the collaboration and government initiatives that have made it possible for health sys-

tems like BMC to arrive at this point in clinical optimization. "Without HITECH and the push by the Feds and standards bodies, the vendor community would never have accommodated interoperability. Why would they want to? That's what certification is all about. It forces them to abide."

With the CIE in place, BMC has enlisted SI Corporate Sponsor Carefx to develop applications for the CIE platform that solve business problems or functional requirements. One example is referral-management software that allows the patient data to automatically flow from the primary care physician to the specialist at the time of referral. That has already helped BMC recoup a whopping $6 million to $7 million a year in better referral management.

Conclusion

Clinical optimization is a complex, all-encompassing movement that requires new governance structures built around evidence-based best practices, new leadership built around physician executives like the CMO and CMIO, and a collaborative team-based culture driven by data analytics. Like a blacksmith's bellows, HITECH and Meaningful Use are heating the elements into a new alloy of improved patient safety, quality of care and efficiency.

If it all sounds incredibly daunting, it is.

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