

## From Chaos to Change: The Evolving Role of the CMIO

Achieving the vision of improving patient care through technology is more complex than the majority of Americans understand. An organization's ability to successfully navigate the path from implementation to a fully optimized electronic medical record (EMR) relies heavily on the leadership of the Chief Medical Information Officer (CMIO).

As part of an ongoing series to advance best practices in EMR adoption and value, Dearborn Advisors hosted a roundtable discussion on the evolving role of the CMIO in March 2010. Thirty-five individuals, including 14 physicians from healthcare organizations throughout the United States, participated. The discussion was led by CMIOs at various stages of EMR evolution. The speakers included:

- ◆ **Robert Whitcomb, MD, Elmhurst Memorial Hospital, Elmhurst, IL**  
Stage of EMR evolution: Implementation  
Primary vendor: MEDITECH
- ◆ **Angela Tiberio, MD, Spectrum Health Services, Grand Rapids, MI**  
Stage of EMR evolution: Stabilization / Optimization  
Primary vendor: Cerner / Epic
- ◆ **David Levin, MD, Sentara Healthcare, Norfolk, VA**  
Stage of EMR evolution: Optimization / Transformation  
Primary vendor: Epic

John Brill, MD, Dearborn Advisors' Chief Medical Officer (CMO), facilitated the discussion.

### Roadmap to Success—or Failure

No matter how large or small, organizations embrace information technology in stages. The early stages, implementing and stabilizing the system, require significant work and resources. The substantial value of an EMR, however, takes shape during the later stages, when the system is mature, incorporates evidence-based content and has become integral to physicians' daily practice.

As too many hospitals know, any number of factors can derail an EMR project. Often, by the time the system is installed and stable, the organization has reallocated its resources to other needs and projects. Many organizations stumble on the issue of physician adoption. As David Levin, MD said during the roundtable discussion, "If you think physician adoption is easy, you're not paying attention." Yet, many organizations have progressed beyond this point to reap the value of their investment and efforts. These organizations' experiences can help other organizations realize the potential to transform patient care through strategic use of technology.



### About Dearborn Advisors, LLC

Dearborn Advisors, LLC is a professional services firm that partners with healthcare organizations to maximize their return on clinical information technology investments. Dearborn has a unique leadership position in clinical adoption and clinical systems deployment. This allows the firm to achieve its mission: to add value for clients by providing advisory services that measurably enhance performance.

## The CMIO Leads the Way

CMIOs have a unique role in advancing clinical systems. As Angela Tiberio, MD told the group, “The CMIO must be both visionary and tactical — keeping one foot solidly planted in the strategic camp while periodically getting into the weeds to keep the project on track.” As an organization moves from implementation into optimization and transformation, the CMIO role evolves into one of aligning technology with quality measures.

At all stages, seven key tenets are essential to the CMIO and the organization’s ultimate ability to realize value.

### 1. Success requires a plan

Rolling out an EMR introduces significant change into healthcare operations and clinical workflows. To effectively manage wide-scale change, the CMIO needs a plan, based on a methodology that outlines specific steps and phases.

All three CMIO speakers have a plan to which they constantly refer. Each plan establishes rules of the road, key players, structures, and accountabilities. The plans help ensure no important processes or people fall through the cracks along the way. As their projects progress through each stage, the CMIOs use their plans to assess progress and maintain forward momentum.

### 2. Governance is essential

One of the first things Robert Whitcomb, MD did in the new role of CMIO at Elmhurst Memorial Hospital was set up formal governance structures. By recreating the physician advisory committee and adding a clinical advisory committee, Elmhurst engaged physicians in formal structures sanctioned by the medical staff. Similarly, Spectrum Health Services formed a multidisciplinary governance group to involve its key players.

While the make-up of the committees varies, both organizations understood the importance of involving their clinical users up front, and created structures to formalize their ongoing participation.

### 3. Communicate, communicate, communicate

The management maxim, *it is impossible to over-communicate during periods of major change*, holds true during all stages of EMR implementation. Dr. Levin recognizes that fear is at the root of many physicians’ concerns. Communication and transparency are essential, he said, to address these concerns and dispel the unspoken fears that feed them.

As a relative newcomer to his role, Dr. Whitcomb did not have established communication channels to work with. “Currently, most communication is word of mouth,” he said. “We are experimenting to see what works.” The hospital is testing several communication methods, including placing flat-screen TVs in the doctors’ lounge with looping updates and introducing a physicians-only email system.

### Seven key tenets to realize value

1. Success requires a plan
2. Governance is essential
3. Communicate, Communicate, Communicate
4. Personalize physician value
5. Every click impacts workflow
6. Measurement defines progress
7. The vision is the driver

#### 4. Personalize physician value

Communication also needs to be personal, conveying the potential value of the EMR for each individual physician. “Physicians are physicians,” all of the speakers stressed. Both employed and private practice physicians can become a barrier to adoption if they don’t see how the system will benefit them and the way they practice medicine.

The H1N1 virus gave Sentara Healthcare an opportunity to directly demonstrate the value of its EMR. The organization quickly implemented order sets and documentation templates in all its facilities when the potential health threat became evident. Using its mature EMR, Sentara monitored patient volumes and distributed supplies to facilities that needed them most. The situation demonstrated how the EMR could be used strategically; helping physicians deliver better, more timely care. “The physicians really felt they were practicing state-of-the-art medicine,” Dr. Levin said.

#### 5. Every click impacts workflow

To gain physicians’ trust, workflow must remain front and center throughout the system design. Dr. Whitcomb focused right away on improving usability by introducing single sign-on (using Sentillion). “With this solution, physicians sign on once a day and then ‘tap and go’ with their ID badge,” he said. He also standardized the hospital’s order sets, reducing the number from 900 to less than 300, and minimizing clutter for physicians as they place orders.

Dr. Levin works closely with IT, analyzing every click and constantly pushing the department to build the most efficient clinical system possible. To foster cohesion between the groups, he holds clinical symposiums for non-clinicians. As a result, the people who build and maintain the system see how their work directly impacts clinical care.

#### 6. Measurement defines progress

Spectrum Health Services uses informatics to measure progress toward its long-term strategic goal, improving patient care. As the organization’s EMR continues to evolve and mature, Dr. Tiberio considers analytic informatics the next important step in aligning Spectrum Health Services’ technology with its clinical quality initiatives.

At Sentara Healthcare, Dr. Levin set up an office of knowledge management and analytics to optimize the organization’s vast data assets. As the system reaches new levels of maturity and adoption, he sees ever-greater opportunities to transform care. “There are so many hidden behaviors in a paper world,” Dr. Levin said. “We now have the opportunity to standardize care in a way we never could before.”

#### 7. The vision is the driver

Patients are at the heart of all three organizations’ information technology vision. Dr. Tiberio is driven to resolve a question too commonly asked by patients: “If FedEx can tell me the location of my package anywhere in the country, why can’t you find my test results?” Patients, Dr. Tiberio said, provide the most important reason for healthcare providers to stay focused on their EMR vision.

At Sentara Healthcare, the question, “what would we do if the patient were at the center of this conversation?” brings many planning meetings back to the organization’s original EMR objectives. The road from implementation to transformation is a long and bumpy one. Having a vision and revisiting it often provides the impetus to keep going.



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## About the Speakers

### Robert Mason Whitcomb, MD

Robert Whitcomb, MD is CMIO for Elmhurst Memorial Hospital (EMH), a non-profit community hospital servicing Elmhurst IL and the surrounding suburbs. Dr. Whitcomb assumed the recently established CMIO position after practicing at EMH since 1993. Prior to accepting the CMIO position, Dr. Whitcomb was the Physician champion for the PICIS Caresuite implementation initiative.

### Angela R. Tiberio, MD

Angela Tiberio, MD is Physician Consultant at Dearborn Advisors and acting CMIO at Spectrum Health Services, a regional health system serving western Michigan. Prior to working full time in Medical Informatics, Dr. Tiberio was Board Certified in Internal Medicine and practiced as a hospitalist. She has served as CMIO and Associate Vice President at Rush University Medical Center in Chicago; as Medical Director of Medical Informatics at Spectrum Health System; and Assistant Professor of Medicine at Michigan State University.

### David Levin, MD

David Levin, MD is Vice President of Medical Informatics for Sentara Healthcare, a non-profit integrated delivery system based in southeastern Virginia. He has over 20 years experience in diverse areas including quality improvement, patient safety, hospital and group practice operations, credentialing, and disease management. Most recently, Dr. Levin served as the lead physician for Sentara eCare, a regional health information organization based on the EPIC EMR, which recently achieved HIMSS Analytics Level 7 certification.

### John H. Brill, MD

John H. Brill, MD has over 20 years of clinical experience. In addition to consulting with Dearborn Advisors, Dr. Brill is an Assistant Professor of Medicine at Rush Medical College. Prior to his role as Dearborn's Chief Medical Officer (CMO), Dr. Brill served as CMIO, Associate Vice President, and Associate CIO at Rush University Medical Center in Chicago. Dr. Brill practices general internal medicine part-time in Chicago and speaks nationally and internationally on medical informatics topics, especially Computerized Provider Order Entry (CPOE) and physician adoption of clinical information systems.

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### From tactics to strategy: The CMIO's unique role

As the title implies, the CMIO serves as a bridge between the needs of the medical staff and the realities of information systems.

As an organization moves from implementation to transformation, the CMIO role evolves into one of aligning technology with quality measures — a true progression from chaos to change.