

**Response to Questions for
the HIT Standards Committee – Implementation Workgroup
Hearing on Implementation Starter Kit:
Lessons & Resources to Accelerate Adoption
By
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5-minute commentary to be read to the Panel

Chairman Chopra and Members of the Implementation Workgroup, my name is David Muntz and I am a Senior Vice President and the Chief Information Officer for Baylor Health Care System, a large faith-based, not-for-profit healthcare delivery system in North Central Texas with more than 3,800 physicians on active staff and 19,000 employees serving patients at more than 140 entry points. I serve as Chair of the College of Healthcare Information Management Executives (CHIME), which has responded to the CMS NPRM on Meaningful Use. These comments, (attached) enumerate issues, which others preparing for meaningful use, should carefully consider. Also attached is, “The Role of Change Management in Successful Implementations, “ referenced in my testimony.

Though I intend to share our experiences, I want to try to speak to problems and solutions that will affect both eligible professionals and eligible hospitals regardless of size or organization. I’m going to answer the question, “In executing this roadmap, what do you feel is your greatest challenge and why?”

Successful implementation of an Electronic Health Record is the result of many complex, coordinated activities. These activities include new technology, new processes and new behaviors on the part of clinical staff. The primary job of a nurse, therapist, physician or other clinician is to provide care to the patient, NOT to use a computer or other device – this is secondary to the reason they are at the bedside. And yet, as we are moving technology and software across our hospitals, we expect these individuals to blend these new tools into their interactions with patients such that that relationship is not interrupted, but is enhanced. If we achieve this goal, we support the mission of transforming clinical care delivery with enabling technology. However, this does not happen without process redesign, change management support, training, rehearsals, strong leadership and coaching to support the paradigm shift that each caregiver must experience to think of the information and tools in a new way.

Key success factors in E.M.R. implementation include a solid change management plan which addresses how the leadership in an organization supports people and operational readiness and behavior change. Communication activities, such as town halls with front-line staff led by senior organizational leaders, newsletters, websites, emails, one-on-one meetings and roadshows, help create an awareness of what changes will occur with new system activation. Process redesign is critical as we change how information flows to and from caregivers and how they organize and deliver their care to the patients. Consideration of both thoughtflow and workflow needs to be given when designing the E.M.R. to support practice and not make it more difficult. Training, simulation labs, dress rehearsals – all these are activities that provide exposure to the “new ways”. Turning on a new system is like refueling a plane in mid-air. Care doesn’t stop, nurses still have to give meds and change bandages, teach the patients, take them to surgery and feed newborns. This is happening at the same time they are changing how they interact with information, making quick decisions, protecting patient privacy and acting in an emergency. A real and dramatic challenge.

Installation of computer technology is easy, implementation is a bit harder, but the more difficult task is transitioning from current practice to a new, improved care delivery model. This will happen with better access to information and the ability to use this information for clinical decision-making at the bedside. Clinical transformation is even more important and difficult. This means, the actual care of the patient is transformed to a new level because of the combination of better information, better practices, and caregivers who are more skilled at accessing and using information in a new way.

The invention of the stethoscope is an example of a tool that transformed care because it enabled the physician to gain information about the patient they did not have before – a combination of technology, people learning new information and then using that information to improve the patient’s outcome. There are many examples of this today.

We perform a critical task in IT when we lead design and implementation of these tools. With adequate attention to moving the people side of change forward along with the technology, we will experience benefits – not just a greater number of E.M.R. installations or implementations, but clinical transformation as a result of our collective efforts.

Not every eligible professional or eligible hospital has the resources to perform all of the functions which have been discussed, but all of them will be installing or upgrading an EMR to meet the meaningful use requirements. Every professional or hospital must find the means to manage their transition to ensure sustainable, successful change. This is

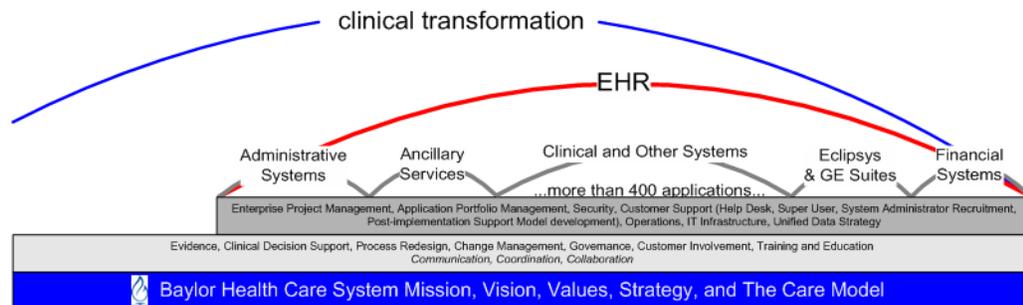
what I believe is the biggest challenge for us all. My concerns include the tempo and tolerance for these changes. I completely agree with Dr. Blumenthal's optimism when he said at HIMSS last week, "I think the wind is at our back in so, so many ways." But to extend his metaphor in a way he did not intend, it's like the impact of the jetstream on a wide range of aircraft, sometimes speeding the trip, sometimes blowing aircraft off course. Some of us will use ultralights and some will travel in squadrons. In any case, that wind should hurry along our efforts, but the ride can be very bumpy and until we reach our destination, there are many elements of risk and concern. We must make sure that we all have a clear fix on our common destination though our origins vary significantly, and hope that the regulators will recognize just how many different ways there are to achieve the final goals and encourage, rather than control the glide paths. We are happy and privileged to submit our documents, which describe our efforts to further this cause.

What are the two or three areas related to meeting meaningful use and the quality reporting requirements that you anticipate you will focus on to ensure your organization's readiness? Describe your approach, use of technology, and solution to meeting MU/quality reporting.

The EHR has been a major focus at our institution for a very long time. The EHR is but one component of our larger effort at Clinical Transformation which was initiated with the encouragement of a Board Resolution adopted in 2004. All of our EHR related activities fall under the umbrella of Clinical Transformation (see Figure 1 below). Though many attempts to define Clinical Transformation have been made, perhaps the best explanation was offered by the Chair of our Board's Clinical Transformation Advisory Board Committee. He said Clinical Transformation will enable Baylor "to hardwire STEEEP" where STEEEP is safe, timely, equitable, efficient, and effective patient centered care.

Figure 1. Relationship between clinical transformation, electronic health record (EHR), and information systems

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- The goal of all activities is to improve adherence to STEEEP (safe, timely, effective, efficient, equitable, patient centered care) which can be summarized as "hardwiring STEEEP."
- The number of applications will be reduced through a concerted effort to achieve Systemness with broad stakeholder involvement.

The introduction of the proposed regulations did stimulate a discussion about the plans we had underway. We have already worked hard to capture data and share it to advance clinical processes which ultimately lead to improved outcomes as described in the Department of Health and Human Services Office of National Coordinator's picture that bends "...the Curve Towards Transformed Health." Our ultimate goals¹ are very consistent with the intent, but our pathway would have been different. We have made the conscious decision that the best way for us to achieve the goals spelled out by the Presidents is to implement the systems as were initially imaged with only slight modifications due the specifics of the regulations.

Quality Reporting

The most significant impact on our existing plan has to do with the required quality reporting. As an organization we spend a great deal of resources on chart abstraction. Thus we are very motivated to modify the processes, but reporting directly from the EHR was not part of those plans. Our original intent was to use our existing tools to stage the data in our quality reporting repository (operational data store for the technical reader) and submit the data to agencies as we have done previously. . Part of the rationale for that approach is to expand the use of this quality repository beyond the minimum reporting requirements to help us bend the curve as described earlier. If we rush to meet the Stage 1 criteria before we have deployed our enterprise wide designed EHR in our hospitals and ambulatory settings, we will have to suboptimize our processes to gather some of the numerators and denominators required to compute the proposed metrics.

In both our hospitals and in the ambulatory settings, we hope to produce the data necessary to support our quality efforts as a result of re-engineered workflows. We want the activities of documentation and ordering to produce the data we are currently collecting manually through chart abstraction. The efficiencies and efficacies of such an approach will be substantial. When we are successful with the implementation of our current vendor products, the technologies will provide us with integrated tools to facilitate the collection, analysis, and reporting of actionable information. We're fortunate that our primary vendor was the highest rated in one trusted industry source survey as the premier provider of this kind of technology.

¹ Goals:

- Adoption of electronic health records by hospitals and physicians
- Participation in a health information exchange
- Strengthening of patient privacy and security laws which at a minimum satisfy regulatory requirements, but more important, assure our stakeholders that their information is properly protected

Quality Impact

Interestingly enough, preparation for the EHR has already had a significant impact on the culture and practices in both our hospitals and ambulatory care settings. Some of the improvements have to do with quality, satisfaction of staff and patients, and financial performance. As part of our Clinical Transformation efforts, we knew it would be important to develop standardized, though flexible, order sets. Some of our facilities have legitimate uniquenesses that must be honored. The gathering together of physicians and other caregivers involved in provision of care for pneumonia, for example, initiated discussions between and among individuals who might not have otherwise had a reason to meet. Synergy produced wonderful innovations and helped all of the participants in the discussion. We measured and saw statistically significant improvements in care when unnecessary variation was eliminated.

All stakeholders were beneficiaries of such efforts. Development of each order set, discussion of each workflow can have similar effects. Collaboration is a wonderful requirement and result of preparation for clinical transformation and implementation of the EHR.

My advice to others who are preparing for this journey is to read the College of Healthcare Information Management Executive's (CHIME) 27-page response to the proposed regulations with the attachments. There are issues enumerated there which all participants should carefully consider.

Describe your roadmap for moving from where you are today to demonstrating the Level 1 "meaningful use" criteria and achieving the CMS incentives.

We have created an incremental approach to implementation. Like every other participant in this process, Baylor Health Care System is a heterogeneous environment with products from a wide variety of vendors, probably many more than smaller participants. Like all other participants, we are carefully examining and planning the interfaces and workflows. As was said elsewhere, we are not modifying our timeline to meet the earliest adoption period. We will have some hospitals and clinics that will be ready prior to 2013, but the enterprise will not be ready until then. Even after the announcement of the criteria, we reaffirmed our plans to make sure that all criteria were considered, but still based our plans on what we believed will make us successful as an enterprise. The patient is at the center of everything we do and we must not allow speed to divert our focus.

As to our implementation approach, it is relatively pedestrian, but very effectively executed. Our team began very early to discuss design criteria,

long before the Stimulus was announced. We gathered more than 1,000 staff and physicians to discuss goals and approaches. Design criteria were agreed upon. Goals were established. A Vision was created. A project plan was laid out and a budget proposed and approved. We have taken those products and tested them against what we understand thus far of the meaningful use objectives and adjusted our plans and budgets accordingly.

We are in the process of standardizing major applications which feed into the EHR. We are concurrently rolling out an enterprise wide lab information system, radiology information system with PACS and speech recognition capabilities, and our primary EHR vendor products, which we designate as the clinical centerpiece applications. We engaged our primary HIS (health information system or clinical centerpiece application) vendor to help perform a gap analysis to ensure that we will be able to fill every gap. Obviously, we will need to repeat that step after the requirements are finalized. The biggest gaps we have are quality reporting, CPOE, and physician documentation processes.

The clinical centerpiece application has the capability to do both CPOE and physician documentation, but we have not completed order set development nor have we agreed upon optimal workflows for all clinicians, not just the physicians. We do have a team in place to address those two issues. Please refer to the introductory comments and the attached PowerPoint presentation which details our efforts in this regard. What we haven't determined yet is how to address quality reporting as discussed earlier.

Another couple of factors that have major implications for us are the HIE and PHR. Please see the next section for a discussion on those.

In executing this roadmap, what do you feel is your greatest challenge and why?

See the first section of this document.

Outline your approach, use of technology, and implementation plan for meeting the requirements for:

**Personal health records;
HIE content standards;
HIE transport standards; and
Quality reporting.**

The PHR question has been associated with our discussions of HIEs. Though we could purchase a product from any number of vendors, we believe that the best approach is use a personal health record. We are

impressed with Microsoft's HealthVault optimistic that Google Health will figure out a way to exchange data efficiently and effectively with HealthVault. Our primary HIS vendor decided to use Microsoft's HealthVault instead of creating a vendor specific product. We support that approach. Our discussions now have to do with which portal approach to use and how to exchange data between patients, professionals, and hospitals. Those workflows are critical, our major concern is to make sure we understand the source of data, then figure out how to synchronize it properly. For example, how does one resolve conflicting allergy information between multiple repositories without adversely impacting the patient? We struggle with how one identifies and validates a source of truth. There are many other similar issues, though this is probably one of the more challenging to resolve. We do expect to use our HIE as the exchange mechanism.

In regard to HIEs, we have worked on this issue for more than six years when the term RHIO was popular. Several attempts to create a regional exchange failed to produce a sustainable model. The technology solutions for RHIOs were and now HIEs are relatively easy to identify and implement. The greatest challenges are governance, security, privacy, and confidentiality, and sustainability. We will use our clinical data consumers, the physicians, to help determine what data should be shared, on what basis, how quickly, and in what format. Again, the technology barriers to do this are low compared to the human factors and workflow implications. We are interested in connecting to an HIE that allows us to participate not only in local activities, but in the NHIN. Frankly, we'd like to see a national patient identifier utilized to resolve patient identification challenges, but are puzzled by the reactions from both the national level government officials and from privacy and security advocates who seem unwilling to enter into discussions, though other countries have successfully resolved this problem.

There has not been universal agreement upon which content standard to adopt, but we're confident that we could handle either CCR or CCD, or even other standards which may be developed. We currently have a very sophisticated interface team and a single interface engine which minimizes some of the efforts at interface infrastructure.

Comments about quality reporting have been expressed elsewhere.

Thank you for the opportunity to share these thoughts with you.