

# MEANINGFUL USE FOR HOSPITALS THE TOP TEN CHALLENGES

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## Meaningful Use Addresses Five National Health Policy Goals:

- Improve quality, safety, efficiency, and reduce health disparities
- Engage patients and families
- Improve care coordination
- Improve population and public health
- Ensure adequate privacy and security protections for personal health information

For Stage 1 Incentive payments hospitals must meet 14 mandatory and 5 of 10 other requirements to demonstrate meaningful use.

One trap to avoid is to focus too much on the measures that will be required to qualify for incentive payments and not enough on achieving the overall goals.



The HITECH provisions of the American Recovery and Reinvestment Act of 2009 provide billions of dollars for the adoption and use of Health Information Technology (HIT) by Medicare and Medicaid providers over the next 10 years. To receive the financial incentives beginning in 2011, eligible physicians and hospitals must achieve “Meaningful Use” of a certified electronic health record (EHR). In addition, in order to avoid penalties to Medicare rates, eligible providers and hospitals must be engaging in meaningful use by 2015. Understandably, much attention is now focused on meaningful use — what it is and how to get there. The discussion below first reviews meaningful use as defined for the hospital in Stage 1 and then the top ten challenges that hospitals need to focus on and master to achieve truly meaningful use. The discussion is based on the final rule for Stage 1 of meaningful use released on July 13, 2010. A companion document on the top challenges for eligible providers is also available at: [Meaningful Use for Eligible Professionals: The Top Ten Challenges](#).

## What Is Meaningful Use in the Hospital?

The requirements for meaningful use ramp up in three stages. In Stage 1, the focus is on data capture, which may necessitate adding modules to the clinical information system. The requirements for Stage 2 include demonstration that the EHR has been integrated into transformed processes and is used in health information exchange. For Stage 3, the emphasis shifts to achieving improved outcomes with new care processes enabled by the EHR. The proposed requirements for Stage 1 in 2011 and 2012 were included in the final rule, with some commentary about what will be required in Stage 2. There are 14 mandatory requirements that hospitals need to demonstrate to receive incentive payments and ten “menu requirements” of which the hospital needs to meet five (including one public health reporting measure). The hospital measures apply to some patients seen in the Emergency Department (ED) and those admitted to the hospital. A complete description of the requirements can be found in [Update on Meaningful Use](#).

In the table that follows, we have organized the requirements to demonstrate Stage 1 of meaningful use according to the EHR-enabled process. The requirements highlighted in bold are mandatory. Hospitals also need to select five of the ten additional measures (including one related to public health).

**Patient Definition for Meaningful Use Measures Based on Percentage of Patients**

Unique patients during the reporting period:

- Admitted to the hospital
- ED patients treated in observation units or otherwise receiving observation services (HCPCS Code G0378) and **not admitted**.

For patients treated in the ED and then admitted, EHR use in either setting counts toward the measure

*(CMS clarification, September 15, 2010)*

Summary of Final Stage 1 Meaningful Use — Requirements for Hospitals (Inpatient and Emergency Department, except as noted)

Stage 1 Requirements
<p><b>Functional Requirements</b></p> <p><b>Computerized Physician Order Entry</b></p> <ul style="list-style-type: none"> <li>• <b>&gt;30 percent of patients with medication orders have at least one order entered via CPOE</b></li> </ul> <p>Medication Reconciliation</p> <ul style="list-style-type: none"> <li>• Performed at &gt;50 percent of admissions and transition from one care setting to another</li> </ul> <p><b>Physician Documentation</b></p> <ul style="list-style-type: none"> <li>• <b>For &gt;80 percent of all patients</b> <ul style="list-style-type: none"> <li>- Maintain an up-to-date diagnosis/problem list of current and active diagnoses (ICD-9-CM or SNOMED CT)</li> <li>- Maintain active medication list</li> <li>- Maintain active medication allergy list</li> </ul> </li> <li>• All recorded as structured data</li> </ul> <p><b>Other Documentation</b></p> <ul style="list-style-type: none"> <li>• Record demographics for &gt;50 percent of admitted patients           <ul style="list-style-type: none"> <li>- Preferred language, gender</li> <li>- Ethnicity, race, date of birth</li> <li>- Date of death and preliminary cause, if applicable</li> </ul> </li> <li>• Record vital signs for &gt;50 percent of admitted patients ≥ 2 years of age           <ul style="list-style-type: none"> <li>- Height, weight, BP</li> <li>- Display BMI</li> <li>- Display growth chart, including BMI (pt 2-20 years)</li> </ul> </li> <li>• For &gt;50 percent of patients record smoking status (pt &gt; 13 years)</li> <li>• Incorporate clinical laboratory test results into EHR as structured data for &gt;40 percent of all clinical lab tests ordered with positive/negative or numeric results</li> <li>• For &gt;50 percent of hospital patients over age 65, record whether the patient has an advanced directive</li> </ul> <p><b>Performance Improvement</b></p> <ul style="list-style-type: none"> <li>• Drug-drug and drug-allergy checks enabled</li> <li>• Drug formulary checks enabled</li> <li>• Implement at least one clinical decision support rule relevant to high clinical priority</li> <li>• Generate at least one list of patients by specific conditions to use for quality improvement, reduction of disparities, outreach, etc.</li> </ul> <p><b>Performance Measurement/Reporting</b></p> <ul style="list-style-type: none"> <li>• Report hospital quality measures to CMS or the states (if only qualifying for Medicaid) for 15 measures use of certified EHR technology for data capture, calculation and reporting           <ul style="list-style-type: none"> <li>- For 2011: attest to accuracy and completeness of aggregate numerator, denominator and exclusions</li> <li>- For 2012: submit electronically</li> </ul> </li> </ul>
<p><b>Health Information Exchange</b></p> <p><b>Health Information Exchange: Patients</b></p> <ul style="list-style-type: none"> <li>• Provide &gt;50 percent of patients who request it with an electronic copy of their health information (diagnostic test results, problem list, medication and allergy lists) within 3 business days</li> <li>• Provide &gt;50 percent of patients requesting discharge instructions with an electronic copy of their discharge instructions at the time of discharge</li> <li>• Use EHR to identify appropriate education materials and provide to 10 percent of patients</li> </ul> <p><b>Health Information Exchange: External Providers</b></p> <ul style="list-style-type: none"> <li>• Perform at least one test of the capability to exchange key clinical information (e.g., discharge summary, procedures, problem list, medication list, allergies, test results) among providers belonging to different legal entities using different EHR systems</li> <li>• Provide summary care record for &gt;50 percent of patients for transitions in care and referrals (does not have to be electronic)</li> </ul>

Table 1 continues on next page

## EHR Implementation in U.S. Hospitals<sup>1</sup>

Comprehensive, used on all units	1.5%
CPOE for medications	17%
Physician notes	12%
Problem list	27%
Clinical guidelines (post-AMI care)	17%

Table 1 continued. Summary of Final Stage 1 Meaningful Use – Requirements for Hospitals (Inpatient and Emergency Department)

Stage 1 Requirements
<b>Health Information Exchange</b>
<b>Health Information Exchange: Public Health Authorities</b> <ul style="list-style-type: none"> <li>• Perform at least one test of the capability to submit electronic data to immunization registries where required and accepted</li> <li>• Perform at least one test of the capability to provide electronic submission of reportable lab results (as required by state or local law) to public health agencies where it can be received</li> <li>• Perform at least one test of the capability to provide electronic surveillance data to public health agencies where it can be received</li> </ul>
<b>Privacy and Security</b>
<ul style="list-style-type: none"> <li>• <b>Perform a security risk analysis before every qualifying year and implement needed changes.</b></li> </ul>

### Why Is Achieving Meaningful Use So Challenging?

First, for most hospitals, even the Stage 1 requirements are well beyond current use. Many physicians and nurses will need to transition to doing much of their work assisted by the EHR – seeking patient information, communicating, and planning care in both the inpatient and ED. In the process, much of what they write in paper charts will be documented in the EHR.

In addition, meaningful use requirements will ramp up in later stages to expecting significant changes to processes and require that the new processes deliver better outcomes – quality, safety, effectiveness and patient experience. This applies not only to direct care processes but also to quality management and quality improvement. In this way, meaningful use sets a much higher bar for implementation than the traditional interpretation of EHR use. Even hospitals where more advanced modules of the EHR are already in use will be working on optimization to meet the goals for improving safety, access, patient engagement and public health.

The timeline for achieving meaningful use is also much more compressed than traditional implementation schedules. Some hospitals have been working to implement their clinical systems for 10 years or more. New approaches to ensure rapid and safe deployment will be required.

### Why Do We Believe Meaningful Use Is Within Reach?

Unlike the ambulatory EHR, the “inpatient EHR” is a set of clinical applications implemented in increments, usually over a period of at least 3-5 years. In the absence of a common definition, the scope and set of essential functions had been the subject of considerable debate and open to interpretation. As a result, leaders in individual hospitals have defined both the destination and the path to get there quite differently.

Meaningful use – as defined for the EHR incentive program – eliminates any ambiguity about what is needed and, at a high level, provides guidance concerning how certain aspects of the inpatient EHR should be implemented. The comprehensive definition encompasses not just direct use by physicians and nurses but also secondary use of patient information in care management and quality improvement. For example, it makes crystal clear that flexible, powerful data analytics in real time (or near to real time) are needed. Also, clinical decision support must be used at the point of care to help physicians and nurses avoid errors of omission and commission and improve care overall. The hospital must look beyond its walls and plan for sharing information with patients and with unaffiliated providers who are participating in the care of patients. All of these are “essential” and no longer need be debated or delayed.

Although initial efforts to certify the inpatient EHR have leveled the playing field in the vendor marketplace to some degree, certification has addressed only certain modules of the inpatient EHR (CPOE, eMAR, related decision support and medication reconciliation) and was not designed to cover meaningful use as defined for HITECH. Certification under HITECH will ensure that vendor products in the marketplace have the necessary capabilities for both achieving meaningful use and reporting on the required measures of performance as a by-product of EHR use. Although hospitals may be pressed to keep up with vendor software upgrades, the capabilities necessary for meaningful use will be available because they are now a market requirement.

Though the scope of process change and EHR implementation is daunting, there are now enough success stories in U.S. hospitals and health systems to show that what is called for can be done. Especially in the last 3-5 years, entire health systems have rolled out comprehensive inpatient EHRs, including both CPOE and notes — throughout multiple hospitals — and achieved widespread use and adoption. Success stories are no longer limited to academic medical centers and a few pioneering community hospitals. Thus, with sufficient know-how and resources, we believe that hospitals can achieve meaningful use, even on the compressed timeline set for the incentives (and launching of the disincentives).

Finally, cost has always been a major barrier. The financial incentives — though tied to achievement rather than intentions — are generous enough to cover part of the cost involved.

Though achieving meaningful use is possible, it will not be easy. Based on CSC and industry experience, we recommend focusing on the top ten challenges discussed in the remainder of this paper. Any hospital that tackles all of these successfully will be well on the way to achieving meaningful use.

The overall theme of our advice is focusing on the goals—not the Measures. The “rules” for meaningful use have been under development for almost 2 years and they have been the source of passionate lobbying both from those who want to raise and those who want to lower the bar for being a meaningful user. This focus on the measures needs to stop. Instead the focus should be on plans for achieving the goals, and this will require going far beyond meeting the check list of the required measures. Although some areas require that the measure be achieved for 80 percent of patients, others specify 50 percent, 30 percent or even 10 percent. However the goal is 100 percent and that should be the target. In many cases, lower targets will create operational confusion and could lead to unsafe care. The reasons to achieve less than 100 percent should be related to factors outside of the hospital’s control or concerns about safety — not because the incentives will be paid based on fewer than “all patients.” In the discussion below, we highlight specific cases where hospitals need to go beyond the target to optimize safety and build a platform for the future.

## 1. Doing CPOE Right the First Time



CPOE was mentioned in the original ARRA legislation and figures prominently in meaningful use. The final rule calls for at least initial implementation in Stage 1 and more extensive use in Stage 2 and beyond (the goal is “all orders”). Past experience shows that getting CPOE right on the first try is important, because since CPOE affects almost every person and every process in the hospital, subsequent attempts after a failed or stalled

effort will encounter a great deal of resistance. The schedule for the EHR incentives adds to the importance of avoiding delays or stalled efforts. Success requires recognizing that CPOE transforms the core clinical process of the hospital: order management.<sup>2</sup> Shortcuts to the traditional, lengthy process of

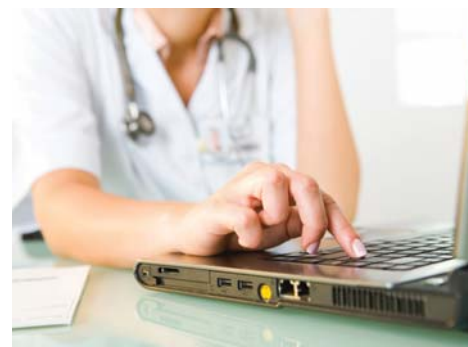
CPOE implementation must come from a highly disciplined approach to sorting through the nuances of a highly complex process with an eye toward standardization while ensuring that all the details are considered.

Hospitals should avoid the trap of an apparent shortcut allowed by the measures for meaningful use in Stage 1: 30 percent of all hospitalized patients and selected emergency department patients (treated in ED observation unit or otherwise received observation services) who have medication orders must have at least one order entered using CPOE. Operationally, this would be challenging and possibly unsafe — it would require maintaining two separate ordering processes, one with CPOE and one without. Nurses would need to look two places to see if there are new orders, some orders would have the benefit of clinical decision support at the time of ordering, others would not. Inevitably there would be duplicate and missed orders and delays in getting medications to patients in a timely way. We strongly recommend implementing CPOE for all patients, proceeding as quickly as possible from one unit to another. Although not required, CPOE orders should be transmitted electronically to the pharmacy. Because of the volume of patients, it will be important to include the ED early in the implementation rollout. Although not specifically required, we strongly recommend implementing CPOE with standard, evidence-based order sets and working diligently to make CPOE easy to use.

## **2. Helping Physicians Transition to Competent, Willing Users of the EHR**

Physicians, traditionally the most challenging user group, face the most change. Meaningful use requires not just CPOE and up-to-date medication lists, but also up-to-date problem and allergy lists for 80 percent of patients in Stage 1, with more to follow in later stages.

Even more documentation will be required to capture the data for quality reporting. Physicians actually welcome advances that benefit their work and their patients, but the value must be worth the time invested. Achieving meaningful use by physicians will require considerable efforts to deliver value through design/build and rollout and involve physicians in all related decisions.



## **3. Integrating the Right Clinical Decision Support into CPOE**

Meaningful use clearly incents hospitals to use decision support tools in CPOE to advance patient safety and quality. Application of these tools must be plugged into the quality management process in the hospital, which provides the drive, the direction and the necessary infrastructure to do it effectively. In hospitals in which order sets are still foreign territory, the first step should be a commitment to reducing undesirable variation in practice and then building a process for doing so — order sets will be one of many tools to employ. At go-live for CPOE, physicians on every unit should have order sets for admission and discharge for the top ten conditions at a minimum because order sets also speed order entry.

The requirement for Stage 1 only mandates two types of checks on all medication orders; drug-drug and drug-allergy checking. Turning off these alerts if they “over-alert” is not an option. Even if these alerts work perfectly, they don’t address the major causes of adverse drug events,<sup>3</sup> so the plan should be to move further to include checking for appropriate dosage based on patient weight and renal status, and other forms of clinical decision support.

#### **4. Starting the Record in the Emergency Department**

Hospitals must demonstrate meaningful use for both inpatients, as well as those receiving observation services in the ED. The inpatient stay for many patients actually starts in the ED, and the exact point of transition is often quite blurry as many patients wait for a bed to become available. Although care (and related documentation) in these two settings is traditionally siloed, the inpatient electronic record must start here at least for medication reconciliation, allergies and problem



list. If information available to the inpatient team about patient history and current status is incomplete, what was learned in the ED must be electronically documented again during the admission nursing assessment and physician history and physical.

Using CPOE in the ED will help ensure that orders are not missed or duplicate orders are not entered in the transition. Unless there is a clearly separate path for non-emergent patients in the ED (e.g., an urgent care clinic), ED physicians should order all medications electronically in order to have one safer process. We believe that the process model for medication reconciliation should be followed for both the problem list and the allergy list (assembly begun by nurses and other licensed professionals, finalized and signed by a physician) and that the ideal model would be to have one EHR in both the ED and inpatient setting. In hospitals that still lack a clinical system in the ED; this is the time to fill that gap.

#### **5. Managing New Types of Electronic Information**

Meaningful use highlights adding three types of patient information to the EHR — medication list, allergy list, and constantly-maintained problem list. Meeting the intent of the requirements necessitates setting up new clinical processes that clarify the accountability and processes for maintaining this information; some of which was not well-documented in the paper medical record and readily available to any clinician caring for the patient. Many hospitals have been tackling medication reconciliation, though few would claim a totally reliable process. Although medication reconciliation is not a mandatory requirement in Stage 1, we believe it is advisable in Stage 1 in order to create a truly comprehensive list of current medications. We recommend designing a common process for all three of these EHR elements to be accomplished at each change in care settings as this is the only way to ensure that the information is complete and available to all clinicians who will need it (in the ED, ICU, OR, etc.). Data captured must be coded to be available for analysis and exchange.

#### **6. Capturing the Data for Quality Performance Measurement**

Meaningful use will ultimately incorporate a comprehensive definition of the scope of the EHR, including both closed-loop medication management and clinical documentation (presumably for physicians, nurses and other licensed professionals) and also require that coded information be available for analysis. Accomplishing this will force implementation teams in hospitals to balance the amount of coded information with the time required to document in that way. How to approach the coding issue is probably the biggest challenge. We believe that quality measurement comes close to defining the priorities for coded information. Meaningful use already requires physician-maintained (or -verified) problem and allergy lists and medication reconciliation, which together provide a major portion of what is needed for core measures and other typical measures

employed in hospitals for quality management. Much of the remainder is currently buried in free-text physician documentation, especially the History and Physical.<sup>4</sup> Although allowed under Stage 1 requirements, we do not recommend an approach involving free-text documentation by physicians and later coding by others. To be available to use in quality review and in clinical decision support, this critical information needs to be available in coded format as soon as it is documented in the record. This requires designing EHR documentation templates that make the process easy for physicians, as well as meeting the needs of nurse case managers and quality nurses.



## **7. Bringing Clinical Data Analytics Up to Par**

Meaningful use points to the need for a robust infrastructure for analyzing performance by requiring quality reporting, both for internal use and for submission to outside agencies including public health authorities. The whole emphasis on outcomes reinforces the need: “you can’t improve what you can’t measure.” Because databases and analytic tools in the core clinical system are usually not up to the task, a data warehouse solution will often be required. Most hospitals have had this investment on the back burner for “some day.” That day has now come. Analytics are actually needed for different purposes: operational dashboards, real-time (or near real-time) quality reporting and automated surveillance. The smart selection will be one that can deliver analysis in all of these ways. To make good use of this new infrastructure, hospitals also must invest in analytic skills and new performance management accountabilities and processes to gain the most value. Truly meaningful use that actually leverages the ability to measure performance will position the organization to thrive in the future. The data for quality reporting must come from certified technology so existing solutions will need to be certified or replaced with a certified solution.

## **8. Sharing Data with Patients and Other Providers Electronically**

Most of the push to share information with patients and other providers has so far been focused on the physician practice setting rather than the hospital. Meaningful use changes that — on an aggressive timeline. Communicating information with patients and other providers involved in their care will be easier once it is in electronic form. However, efforts will be required to translate medical record information for patients and to assemble and verify a care summary and care instructions at discharge. The Stage 1 requirements only require a test of the ability to exchange information among care providers electronically and the requirement to provide a summary care record at transitions in care is not mandatory. However, as is true for many other requirements for meaningful use, these capabilities will be essential for functioning successfully as an Accountable Care Organization and should be a high priority for hospitals. They represent an important first step toward making continuity of information to support continuity of care a reality.

## **9. Meeting New Requirements for Privacy and Security**

To achieve meaningful use, most hospitals will be bringing much more patient information online, and this brings with it the responsibility to ramp up both privacy and security protections. HITECH takes this issue very seriously. There are already signs that enforcement efforts will be increasing. Hospitals still struggle to meet all of the HIPAA requirements fully, but headlines concerning patient information breaches in the news should provide the impetus to finish putting into place what was specified ten years ago. New changes to the HIPAA law have been proposed that are intended to strengthen and improve the effectiveness of the existing HIPAA rules. Final regulations have also been adopted that specify the security standards for the encryption and decryption of electronic health information, and for ensuring the integrity of data during transmission. The first step for hospitals should be to conduct an objective security risk assessment, covering both HIPAA and the new requirements

specified for meaningful use. The assessment should examine risk for current clinical applications, plus the applications that must be added to qualify for the EHR incentives. Hospitals should pay close attention to the impact on operations related to the proposed privacy changes especially new limits on the use and disclosure of personal health information (PHI) for marketing and fundraising, disclosure of PHI to health plans including rights to access their information, and, of course, the enforcement changes related to investigation and penalties.

## 10. Dealing with ICD-10 at the Same Time

In many hospitals, efforts are already underway to meet the October 1, 2013 deadline to transition from ICD-9 to ICD-10-CM as the medical code data set in Medicare claims. Project leaders in hospitals should resist the temptation to consider this a revenue cycle project; it must be closely coordinated with work on the inpatient EHR (especially problem list and clinical documentation). Substantial efficiencies can be gained if coding for reimbursement (medical and procedure codes, present on admission) flows directly from routine documentation. For most quality measures and for billing, physicians must document (or verify) information about conditions. Although ICD-10 coding is not required in Stage 1, in order to avoid a two-step it makes sense to consider moving immediately to ICD-10 or SNOMED mapped to ICD-10.



### Principles to Guide the Effort

The financial incentives offered by HITECH represent a unique opportunity for hospitals to invest in vastly improved clinical, administrative and quality management processes. However, the challenges of achieving meaningful use are daunting. We offer the following principles to help guide the path:

1. We already know what hospitals need to do. **Do not wait for further information to get started.**
2. Despite the financial incentives at the end of the journey, meaningful use is not just about money. **Send a clear message from the executive suite — both in words and through personal involvement — that this is the right thing to do for our patients and a must for the hospital's future.**
3. Achieving meaningful use is a huge clinical and operational change project. **Put clinical and operational executives in the lead and make them accountable for success.**
4. Clinical care is one terrifically complicated process with many interlocking subprocesses. **Work toward meaningful use as a highly coordinated effort rather than as a series of separate projects.**
5. The devil is in the details — process nuances, data and EHR functions. **Commit sufficient time and resources to ensure they are addressed in a way that is workable for every patient care unit and support clinician workflow.**
6. Business as usual in tackling process improvement — a prolonged consensus building process — takes too much time. **Learn from the experience of others and make key strategic decisions upfront to guide the process and empower knowledgeable, credible representatives of departments and clinicians to decide on the operational and tactical details.**
7. Workarounds abound and "our unit is different" is often a long-held belief. **Be prepared to take a hard line on standardized practices that are in line with industry best practices.**
8. There is no time for multiple iterations and rework. **Address the new process and the role, look, and feel of the EHR simultaneously and create operational models that are understandable for workgroup sign-off.**
9. Physicians and nurses especially will be affected by the transitions involved in achieving meaningful use. **Always look at plans for rollout with these user groups in mind to minimize relearning, optimize their work, and have patient care processes that work.**
10. Getting to meaningful use is a challenging journey and shortcuts and workarounds will lead to frustrated staff, stalled efforts, and possibly even unsafe care. **Always put getting it right the first time ahead of just getting it done.**

## Bottom Line

Faced with many complicated projects and a short period of time to get the hospital to meaningful use, hospital leaders may be tempted to do just what is needed to check off the box when it comes time to attest to accomplishments. Instead, it will be important to deliver on truly meaningful use that goes beyond the strict definitions for HITECH incentive payments to equip the hospital and staff to deliver the best possible care reliably and efficiently and to give the entire organization the performance-focused mindset and capabilities to thrive, regardless of the specifics of health care reform. Truly meaningful use is what will be needed in the future.

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