Introduction

The HITECH provisions of the American Recovery and Reinvestment Act of 2009 provide a commanding $36 billion dollars for the adoption and use of Health Information Technology (HIT) by Medicare and Medicaid providers over the next ten years. To receive the financial incentives, eligible physicians and hospitals must achieve Meaningful Use of an EHR, which raises the question, “What constitutes Meaningful Use of an electronic health record (EHR)?”

On July 16, the ONC Policy Committee unanimously approved a revised definition of Meaningful Use prepared by the Meaningful Use Workgroup. The revisions reflect the comments by the ONC policy committee members on the initial draft, the feedback at “listening sessions” held by ONC, and 792 comments that had been submitted on the draft. These recommendations (after some minor clarifications based on the committee discussion) will be forwarded to the Centers for Medicare & Medicaid Services (CMS). The final interim rule will be published by CMS at the end of December.

The Meaningful Use requirements are staged with certain criteria and measures required to receive Meaningful Use payments in 2011 and 2012, and additional requirements that must be met to receive incentive payments in 2013 and 2014, and even more in 2015. The staging of requirements was based on a balance between their importance and the ability of the industry to implement them. The working group focused on the definitions for 2011/12 and most of the changes to the initial draft involve moving requirements forward in time. The two biggest changes (and the areas where there were the greatest number of comments) are: that the measure for computerized physician order entry (CPOE) in 2011/12 is that 10 percent of all orders be entered by the provider using CPOE (the percentage was not specified in the original draft); and that incentive payments will be suspended if a provider has been found in violation of HIPAA and has not remedied the problem. The previous draft specified that payments would be suspended if a provider was reported to have violated HIPAA. The requirements for privacy and security were also clarified. CMS will require compliance with Federal regulations and state Medicaid programs will be encouraged to also require compliance with state laws to receive the Medicaid incentive payments.

The committee will also recommend to CMS that the 2011/12 requirements be required for the first adoption year (which could be later than 2011 or 2012.) However, since the incentive payment level decreases over time, to receive the maximum payment, an organization would still need to meet the 2011/12 criteria by 2012. Organizations that meet the initial set of criteria in 2011 will receive about 70 percent of their total Medicare incentive payments in 2011 and 2012.

We believe that Meaningful Use of an EHR system achieves the goals of increased quality and safety, improved efficiency and transparency, and an enhanced ability to provide patient-centered care. That should be the goal. Every organization will
want to meet the specific requirements to receive their reimbursement incentive, but Meaningful Use doesn’t start or stop there. The proposed draft requirements are consistent with this philosophy; proposed Meaningful Use requirements and measures are tied to the national goals of:

- Improving quality, safety and efficiency
- Engaging patients in their care
- Increasing coordination of care
- Improving the health status of the population
- Ensuring privacy and security

During the comment period, many people strongly endorsed this overall approach to defining Meaningful Use.

**Industry Impact**

The financial incentives in the stimulus bill provide a landmark opportunity for eligible organizations and professionals who desire a fully integrated EHR but struggle with funding and with barriers to sharing information effectively. For eligible organizations the important question now is, “How do we achieve Meaningful Use of an EHR?”

We believe that there are five key requirements:

1. Setting the right EHR goals
2. Purchasing the right EHR product
3. The right implementation of the EHR
4. The right use of the EHR by caregivers
5. Delivering the right outcomes with the EHR product

**The Right Goals**

The goal in implementing an EHR is to improve patient care. This is a major undertaking involving massive changes that will touch everyone in the organization. Busy providers will rally around the cause of safer, more efficient care. At best, they are willing to “go along with” a change that provides an extra payment to the hospital. This is especially true of community physicians who need to take time away from their practice (and their income) to lead the change, receive training, and optimize use.

**The Right Product**

Purchasing the right EHR product is an essential requirement for achieving Meaningful Use. The product must provide the applications and features to meet the quality and efficiency goals, and it must be designed to be usable by physicians. For example, if an EHR does not provide the capability to check orders for the right dose based on renal function, then use of computerized physician order entry (CPOE) will not address one of the top ten causes of preventable adverse drug events. If there is no capability to check for possible duplicate tests, then savings can’t accrue from reducing unnecessary tests. If data are not easily captured and coded, nurses will still spend time extracting the data required for quality reporting and the availability of data for quality improvement will be limited. If the system is not used because it creates inefficiencies, no benefits will accrue.

**The Right Product with Essential Capabilities: Hospital Setting**

The essential capabilities have been specified in the requirements for achieving Meaningful Use. In addition to the changes mentioned previously for 2011, the workgroup added a requirement for one clinical decision support rule for a specialty or clinical priority (a reminder or alert), and added requirements for electronic eligibility checking, submitting claims electronically, and for providing

---

For any organization about to launch a major initiative with the only goal being to get the incentive payment for Meaningful Use, our advice is to stop now.
ambulatory patients with electronic access to health information and providing inpatients an electronic copy of discharge instructions. Proposed requirements for meeting hospital incentive payment requirements for Meaningful Use of an EHR for 2011 include:

- Provider use of CPOE for at least 10 percent of orders
- Drug-drug, drug allergy, and drug formulary checking
- Implementation of one clinical decision rule
- Maintaining up-to-date problem, medication, and medication allergy lists
- Vital signs
- Lab test results
- Reminders for follow-up care
- Medication reconciliation at relevant encounters
- Providing patients with electronic copies or electronic access to their records upon request (electronic access to test results, problems, medications and allergies for ambulatory patients, and electronic copy of discharge instructions and procedures for inpatients)
- Providing patient-specific educational resources
- Providing the patient a summary of each encounter
- Exchanging “key clinical information” among providers
- Submitting electronic information to immunization registries and public health agencies
- Compliance with HIPAA and state laws for privacy and security
- Data sharing in accordance with the Nationwide Privacy and Security Framework Act

In 2013 some of the additional requirements that would need to be met for Meaningful Use include:

- Clinical (nursing) documentation
- Closed loop medication management
- Evidence-based order sets
- Specialist reporting to external disease registries
- More complete decision support at the point of care
- Management of chronic conditions using patient lists and decision support
- Barcode for medication administration
- Documentation of family medical history
- Medication reconciliation at each transition of care
- Retrieve and act on prescription fill information
- Produce and share an electronic summary care record at every transition in care

Integration with inpatient medical devices would not be required until 2015.

**The Right Product with Essential Capabilities: Ambulatory Setting**

The proposed requirements for receiving the physician office incentive payment for Meaningful Use of an EHR in 2011 are the same as those for inpatient care.

Additional requirements include:

- ePrescribing
- Generating lists of patients with specific conditions
- Progress notes

In 2013, reporting by specialists to disease registries, offering secure messaging for patient-provider communication, access to a PHR populated with clinical
information in real time and integration of data from home monitoring devices would be required. Providing access to tools for patient self-management would be required in 2015.

**Right Implementation**
Organizations satisfying Meaningful Use requirements must implement qualified EHRs in such a way that the staff can make full use of its capabilities, such as implementing:

- Full interoperability (of key features or applications, such as lab results, allergies, problem lists, medications/e-prescribing and other necessary information to promote care continuity between providers),
- Patient safety and quality reporting (clinical decision support and other functions that will improve medication safety and support population management activities),
- Clinical documentation for physicians and the rest of the clinical team that includes coded data capture for reporting purposes, and
- Training and ongoing technical assistance to physicians and the clinical team to promote optimal exchange of information.

The right implementation involves setting goals for benefits and adjusting processes and organizational governance to achieve those goals. It is essential to recognize that achieving Meaningful Use of an EHR system is a large-scale clinical change project that must be clinician-led.

**Right Use**
To meet the Meaningful Use requirements, all organizations must implement an EHR so that it is incorporated into the routine care process. This key area speaks to the effective use by clinical professionals for the purpose of delivering quality care and service.

We recommend that the “right use” of a qualified EHR is demonstrated by the following levels of adoption:

- Equal to or greater than 90 percent of care-related electronic tasks are completed by clinical professionals utilizing the EHR (e.g., entering medication orders and/or documenting progress notes)
- Direct evidence of role-based use by clinicians (e.g., physician order entry, e-prescribing, registered nurses documenting medication administration, pharmacist electronically sending pharmacy alerts to physician team, or respiratory therapist electronically entering and reporting ventilator bundle checks each shift, etc.)
- Direct evidence of quality reporting fed by electronic clinical documentation
- A close eye is maintained on the revenue cycle process, e.g., appropriate interfaces must be established and documentation should feed charge capture rather than requiring a separate electronic step in the charging process
- Evidence of benefit, for example, the number of alerts that result in a change in orders, the number of nursing hours spent in compiling quality data, the number of chronic care patients that meet the criteria for appropriate care

**The Right Outcomes**
We have always believed that organizations should leverage their EHRs to attain improvements in the quality and safety of care. This means using decision support to improve the safety of medication use, to improve the use of antibiotics in community-acquired pneumonia, to improve the use of influenza vaccination, and to prevent the occurrence of complications, such as adverse drug events. EHR systems should also track quality measures as a by-product of care, for example, using the EHR to collect the timing of the first dose of antibiotics for a
patient with community-acquired pneumonia. Achieving these outcomes requires considerable effort on the part of the provider organization; they are provided out of the box by the vendor.

The proposed measures for Meaningful Use are heavily oriented to quality results reported from the EHR, although it is recognized that some measures will need to be documented by attestation (with audits). Most of the measures in 2011 and 2013 relate to health interventions, efficiency, and outcomes. For example in 2011, the proposed measures of Meaningful Use include:

- Percent of hypertensive patients with blood pressure under control (for outpatients)
- Percent of patients with a BMI recorded (for outpatients)
- Percent of patients at high risk for cardiac events on aspirin
- Percent of smokers offered cessation counseling
- Ten percent of orders entered directly by physicians using CPOE
- Percent of patients who have eligibility checked electronically
- Percent of times a brand name medication is used when a generic substitute is available

The good news is that the ONC policy committee has committed to use existing measures (such as those used now for quality reporting) where possible in order to minimize the burden on providers for reporting on Meaningful Use.

We believe that a combination of attestation through quality reporting and simulation testing to evaluate adherence to the criteria of Meaningful Use is the best approach to providing feedback on whether an organization is achieving the goals for Meaningful Use. When hospitals (all of which were using CPOE for over 75 percent of all orders) evaluated their use of CPOE using the Leapfrog CPOE/EMR Flight Simulator, the results were surprising. Initial testing with the Leapfrog EHR flight simulator has detected serious deficiencies in implemented EHRs in the area of medication safety that, in many cases, organizations were not aware of.

**Barriers**

- Waiting too long to get started is the biggest barrier to optimizing the financial rewards for Meaningful Use requirements. The policy committee agreed to recommend to CMS that:
  1. The most liberal definition of "qualifying year" be used e.g., an organization met the requirement by the end of the year to receive incentives for that year
  2. Organizations be able to get reduced incentives for meeting the 2011/12 requirements in later years (this seems unlikely based on statements at the June 16 meeting that the payment schedule was fixed by law)
- Positioning the implementation of the EHR as a way to get incentive payments rather than one to improve care
- Not assigning clinical leadership
- Not setting goals and measuring and communicating value
- Not assigning a lead resource to manage the eligibility assessment, reporting, and attestation process that a hospital or provider will need to submit over the next four years

The goal should be to qualify against 2011 criteria in 2011.
Recommendations

• Plan to start working on this immediately
• If you are selecting a vendor, make sure they can meet all the requirements through 2013 and have a development plan to meet those required in 2015
• Start now to fill gaps based on these draft requirements that have been approved by the ONC policy committee in order to free resources to take on additional items later

If you have not yet implemented CPOE, start now. This is a large-scale change project that has to be done right and will take time.

Independent of the Meaningful Use requirements, implement CPOE with evidence-based order sets and decision support at the point of care. Order sets greatly reduce the time for ordering and reinforce evidence-based practice. Without decision support, the physician will be acting as transcriber and not receive any added value from CPOE.

Summary

The proposed definitions for Meaningful Use set a higher bar than many in the industry had advocated. However, they also reflect what is needed to achieve the goal of safe, efficient care that enables patients and providers to achieve optimal outcomes. We strongly endorse the direction of the requirements, and the proposed emphasis on care process, efficiency and outcome measures. These all support our view that the goal is better care, and EHRs are one tool that is essential to achieve that goal.

Because of the short time frames, we recommend that providers start now to prepare to meet the proposed criteria for Meaningful Use in 2011 with a fallback position of 2012. That will ensure that benefits of EHRs are received as soon as possible and that the maximum incentive payments are received.

About the Authors

David Classen, M.D., M.S., is a Senior Partner at CSC and an Associate Professor of Medicine at the University of Utah. Patty Newcomb is a Senior Consultant in CSC’s Healthcare Group. Erica Drazen is Managing Director of CSC’s Emerging Practices group. Emerging Practices is the applied research arm of CSC’s Healthcare Group.

For more information on the definition of Meaningful Use, please contact dclassen@csc.com, pnewcomb2@csc.com, edrazen@csc.com or healthcaresector@csc.com.

Transforming Healthcare with Better Information for Better Decisions