SIEMENS

# Meaningful Use in Hospitals: A Vendor Perspective

**Written Input**
**To the**

## National Committee on Vital and Health Statistics Subcommittee on Standards and Security

**April 30, 2009**

Chairman Reynolds and fellow committee members, it is my pleasure to provide input to the definition of meaningful use in hospitals. Siemens Healthcare is one of the world's largest suppliers to the healthcare industry. The company is a renowned medical solutions provider with core competence and innovative strength in diagnostic and therapeutic technologies as well as in knowledge engineering, including information technology and system integration. With its laboratory diagnostics acquisitions, Siemens Healthcare is the first integrated healthcare company, bringing together imaging and lab diagnostics, therapy, and healthcare information technology solutions, supplemented by consulting and support services. Siemens Healthcare delivers solutions across the entire continuum of care – from prevention and early detection, to diagnosis, therapy and care. The company employs around 49,000 people worldwide and operates in 130 countries. In the fiscal year 2008 (Sept. 30), Siemens Healthcare reported sales of €11.2 billion, orders of €11.8 billion, and Sector profit of €1.2 billion. Further information can be found by visiting http://www.siemens.com/healthcare.

## About Siemens and Meaningful Use Requirements:

The American Recovery & Reinvestment Act of 2009 (ARRA) calls for up to four years of Medicare incentive payments to hospitals who are "meaningful users" of certified EHR technology. At the highest level, these incentives have been developed with the goal of improving the quality of care, increasing the efficiency of healthcare and thus decreasing the cost of healthcare in the U.S. utilizing Electronic Health Records as an enabling tool.

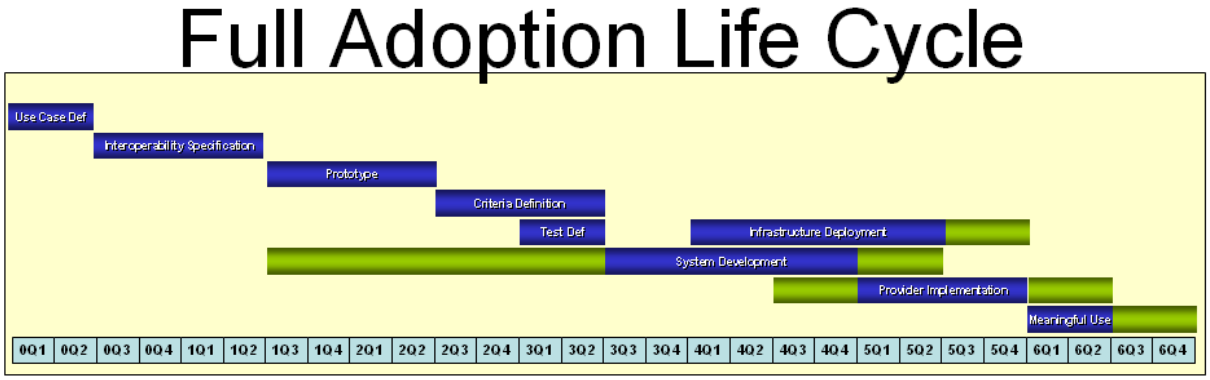
To be eligible for the payments, hospitals must use the technology in a meaningful manner; must exchange electronic health information to improve the quality of care; and, must submit clinical quality measures – and other measures – as selected by the Secretary of Health & Human Services (HHS). Further, hospitals must meet the definition within a specified time frame, which as described in ARRA, must be made increasingly stringent over time by the Secretary.

There are many views in the industry regarding how high or low the bar should be set for meaningful use. We believe that the bar should set initially be low to allow for the broadest possible adoption. Once the systems are being utilized by significantly more hospitals, true innovation will be built upon a broader base and the significant benefits will accrue. By having the bar set too high too soon, it will limit the opportunity for the most adoption, and increase the risk of not achieving the desired results.

It is also essential to balance the need for accelerated adoption of interoperable, comprehensive EHRs with the need for clinicians and hospitals to implement these in a careful and non-

disruptive fashion. To this end, we urge that the Secretary set meaningful user criteria for the initial years, especially 2011 and 2012, at achievable levels, but with a roadmap for uplift over time in expected breadth and depth of use. Such uplift should be on a 24-month cycle to allow for predictability and effective provider adoption. In addition, it is necessary to consider the impact of the required ICD10 conversion on all lifecycle timelines and budgets.

It is important to recognize the full HITECH Adoption Life Cycle, from use case definition in support of target outcomes to meaningful use where EHR use and outcome measurements are obtained, to drive continuous uplift of the bar. A 24-month cycle should allow hospitals to engage in effective change management processes, and health IT companies to make necessary modifications to their products. See, for example, the diagram below showing the life cycle from use case through meaningful use of interoperability using proven standards.




- **Use Case Definition**
  - Focus on key outcomes requiring improvement
- **Interoperability Specs**
  - Define the necessary Interoperability Specifications, including infrastructure, to support the Use Case(s) in scope
- **Prototype**
  - Test and validate both the functional and interoperability aspects of the use case in select prototype environments to gain better understanding of adoption approach
- **Criteria Definition**
  - Establish the criteria for certification.
- **Test Definition**
  - Establish the tests that measure conformance to the certification criteria
- **System Development**
  - Finalize enhancements to systems to conform to most current certification criteria, system test, beta test, and prepare for/perform certification.
- **Infrastructure Deployment**
  - Establish and expand the infrastructure necessary to interoperate across providers.
- **Provider Implementation**
  - Install and/or Upgrade to certified system versions to hundreds of customers
  - Migrate to new terminology
  - Enhance processes to support targeted outcome improvements
  - Train staff
- **Meaningful Use**
  - Demonstrate during a defined period of time (e.g., 6 months) sustained achievement of specific outcomes during the target year

The specifics around each of the components of a "meaningful user" are open to much interpretation. With that in mind, we recommend that the Secretary operate from a few guiding principles, following closely the structure and priorities for *meaningful user* established in ARRA. To maximize adoption and ensure administrative simplicity, the number of criteria should be small in number, while consistent with the statute and overall goals. The criteria should be simple, and ease of reporting should be primary and reflect the differences between hospital departments. Meaningful use criteria should be viewed as *indicators* of use of a comprehensive EHR; hence, there is no need for specific criteria for all or most EHR functions. Certification criteria and product function should, however, anticipate and support projected increased levels of meaningful use.

In implementing this provision, we urge HHS to build on applicable current reporting programs in developing meaningful use criteria that can be created well before the end of 2009 and that can be adopted by providers using certified EHRs. Meaningful use criteria should support the movement toward standards-based interoperability. Interoperability should be based on HITSP harmonized standards.

**Initial Criteria (FY 2011 & FY 2012)**
**Meaningful Use:** ***Demonstrate to HHS that the provider is using certified EHR technology in a meaningful manner.***

The impact of IT in support of clinicians with the medication management process is well known and organizations have made great strides in improving patient safety through the implementation and utilization of these tools. With greater emphasis on ensuring medication safety, organizations are focusing efforts on processes surrounding this aspect of care delivery which includes; identification of patient allergies and problems, medication reconciliation, CPOE with clinical decision support tools, medication administration with positive identification such as bar coding, and tools to support monitoring the effectiveness of the process. With that in mind, initial requirements may include:

- A hospital's EHR infrastructure which includes the major ancillary department information systems (lab, pharmacy, radiology), as well as a clinical data repository. Such systems are vital because they create the diagnostic information that clinicians require to understand the patient's status, and to make effective patient care decisions.
- Clinical documentation necessary for effective computerized practitioner order entry (CPOE). For example, to make effective patient care decisions, clinicians must have a patient's allergies, problem list, vital signs, I&Os, flow sheets, and medication list.
- Medication administration at the point of care, to assist users in performing "five rights" checking and patient safety, using positive identification such as bar coding.
- Implementation planning for and / or pilot of CPOE in at least one nurse station.

**Information Exchange:** ***Certified EHR technology is connected in a manner that provides for electronic exchange of health information, in accordance with law and standards applicable to the exchange of information, to improve quality of health care such as promoting care coordination.***

In today's healthcare settings we know that access to accurate patient information can make the difference in the care and treatment of the patient and the patient's outcome. It will become critical for EHRs to support sharing patient information across healthcare settings to ensure that clinicians have access to the patient's basic health history information such as allergies, medications and problems as patients move within their communities and across states to receive care. With that in mind, initial requirements may include:

- Ability to meet this provision by implementing one of the following criteria using HITEP standards:
    - Demonstration of the ability to exchange patient summary data upon admission and discharge, directly or indirectly, with other healthcare venues, such as physician practices, hospitals and / or via the patients' personal health record; and / or
    - Exchange of patient summary data with a certified HIE upon admission and discharge.

- Initially, it should be acceptable to send the clinical summary data as textual (rather than codified) data elements.

**Reporting of Measures**: ***Submit information to HHS on clinical quality measures and other measures (if HHS has capacity to accept electronically, which may be on a pilot basis).***

As organizations prepare for transparency, they are increasingly being required to collect, monitor and report a multitude of information. It will be the EHR that supports the collection of standardized clinical performance measures as a byproduct of care delivery, aggregates that information for clinicians to monitor trends in patient outcomes, and provides reports that demonstrate overall performance. Consistent with ARRA, the focus of this criterion should be primarily on a subset of existing NQF-endorsed measures that align with national quality and performance goals.

For transport of quality measure information, we favor the use of HITSP standards as they become available and endorsed. If some of the needed standards are still under development, with careful review, we could support the use of initial methods that are consistent with anticipated standards.

Finally, we support allowing the submission of either patient-level data or population-level computed measures so long as the process for such computation is sufficiently specified and validated and the underlying data come from the EHR. The EHR must support the ability to electronically submit measures using HITSP standards to verify that HIT meets meaningful use requirements. Examples are included in the chart below:

**Outcomes Measurement based on Function / Process**

| Outcome | Indicator | Measure |
|---|---|---|
| Patients' vital signs are accurately captured. | Data is tracked when vital signs are entered either manually or captured from electronic devices. | % of patients whose current vitals signs are available in the system. |
| Patients are administered medications according to the 5 rights. | Data is tracked when medications are administered. | % of medication doses administered with point of care with positive identification technology. |
| Patients receive safe medication orders. | Data is tracked when orders are entered into the system by a qualified practitioner. | % of medication orders entered by MD and/or practitioner. |

**Criteria (FY 2013 & FY 2014)**

Criteria for these years should be determined based on the learnings and progress against the expected goals of FY11 and FY12. Using two years as the interval between the initial definition of meaningful use and successive expansions of the definition, the following criteria are suggested.

- More extensive use of CPOE by physicians to close the medication management loop.
- Support for medication reconciliation during the admission process.
- e-Prescribing beyond the bounds of the hospital, for discharge medications conditional upon the DEA (and other appropriate bodies) allowing narcotics (Schedule II+ ) to be included.

- Hospitals electronically exchanging patient summary information with external entities such as, but not limited to, other hospitals, payers, transitional/long-term care, physician practices, patients' personal health record, and health information exchanges. Such summary information should include discrete data for demographics, allergies, medication summaries, problem lists, diagnostic tests, the patient's primary spoken language, race, and ethnicity.
- Additional Outcomes Measurement based on Function / Process. Examples are included in the chart below:

| Outcome | Indicator | Measure |
|---|---|---|
| Patients receive safe medication orders | Data is tracked when orders are entered into the system by a qualified practitioner | % of medication orders entered by MD and/or practitioner. |
| Patients' medications are correctly reconciled on admission. | Data is tracked when medications are reconciled when the patient are admitted. | % of patients whose medications are electronically reconciled within 24 hours of admission. |
| Patients' medications are correctly dispensed upon discharge. | Data is tracked when discharge medication are electronically communicated at discharge. | % of patients whose discharge medications are electronically communicated via e-prescribing standards. |
| Patients care safety effectively continues without rework or gaps in care during transitions of care. | Relevant Patient Data is provided in a timely manner from one care setting to the next when a patient is discharged. | Timely transmission of patient summary information with specified elements received for discharged patients |

EHRs will expand to support reporting measures that demonstrate the use of evidence-based care, improvements in Population Health, and ability to share patient data across transitions of care.

| Outcome | Indicator | Measure |
|---|---|---|
| Patients with Congestive Health Disease receive preventative care. | Data is entered into the Electronic Health Record. | % of patients discharged with evidence-based therapy. (aspirin, beta blockers, etc.) |
| Patients with diabetes have their disease under control. | Data is tracked longitudinally for patients with diabetes. | % of patients with diabetes whose Hgb A1C is within acceptable range. |
| Patients with chronic disease are care managed to minimize acute episodes of care. | Data is tracked longitudinally for the patients with various chronic disease and co-morbidities. | % of readmissions within 30 days for selected patient population. |

**Contact information:**

Charlene Underwood
Director, Government and Industry Affairs
Phone: 610-219-3123
Mobile: 484-919-9952
Email: charlene.underwood@siemens.com