



## **Meaningful Use: Successful Deployment of EHRs within a Community Setting**

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## Meaningful Use: Successful Deployment of EHRs within a Community Setting

Taken as a whole, Meaningful Use in Electronic Health Records (EHRs) as outlined in the American Recovery and Reinvestment Act (ARRA) should accomplish four major objectives:

- Improve the quantity and quality of data and reduce errors
- Share and collaborate with patients, providers, and other stakeholders
- Identify, measure, and track treatment patterns to improve clinical decision-making
- Ensure that information is securely shared and privacy concerns are addressed to maintain trust among all participants

EHR systems must accommodate new standards while maintaining the capability to solve old problems. Additionally, technical disparities must be addressed across the full spectrum of users with limited, partial, or advanced EHR capabilities. This is where a consumer-based solution is able to fill in gaps and allow providers to collaborate, share information, and leverage the full power of the data, with different types of data co-existing in one platform.

As the core of Meaningful Use, this platform should serve clinicians, patients, and the public health – and solve problems by specifying formats and providing:

- Privacy and security to maintain trust
- Patient consent levels that dictate who can view data and when
- User access rights, with parameters defined by various restrictions and “Break the Glass” scenarios
- Adherence to government and community regulations and policies, such as HIPAA

## Meaningful Use: Functionality Defined

The goals of ARRA are ambitious and the criteria for reimbursement are demanding. Specifically, eligible physicians, including those in solo or small practices, can receive up to \$44,000 over five years under Medicare or \$63,750 over six years under Medicaid for being Meaningful Users of certified EHRs. Hospitals that become meaningful EHR users could receive up to four years of financial incentive payments under Medicare beginning in 2011, and up to six years of incentive payments under Medicaid beginning in October 2010<sup>1</sup>. To qualify for incentives, providers (eligible hospitals and eligible professionals) must adopt certified HIT technology and use that technology in a manner that meets defined Meaningful Use requirements. The Office of the National Coordinator for Health Information Technology (ONC) released its final Meaningful Use definition in July of 2010.<sup>2</sup> In general, Meaningful Use criteria focus on achieving five overarching goals:

- Improve Quality, Safety, Efficiency
- Engage Patients and Families
- Improve Care Coordination
- Improve Population and Public Health
- Ensure Privacy and Security Protections

**More specifically, 2011 criteria call for capabilities in the following areas:**

- Electronically submit orders and capture discrete data (including ePrescribing)
- Manage current medication, allergy, and problem lists (including medication reconciliation)
- Give patients electronic access to their patient information, identification, and communication capabilities to support wellness and follow-up care
- Implement clinical decision support rules and corresponding alert functions
- Enable continuity of care document or record CCD/CCR-based data integration and interoperability capabilities at transitions in care
- Provide query and reporting capabilities to identify patients with specific conditions and support quality reporting requirements at the state and federal level
- Ensure that patient information is protected and privacy policies are adhered to

Additionally, Meaningful Use criteria will be defined in three phases:<sup>3</sup>

**Stage 1:** (by 2011) defines the baseline requirements across all five goal areas.

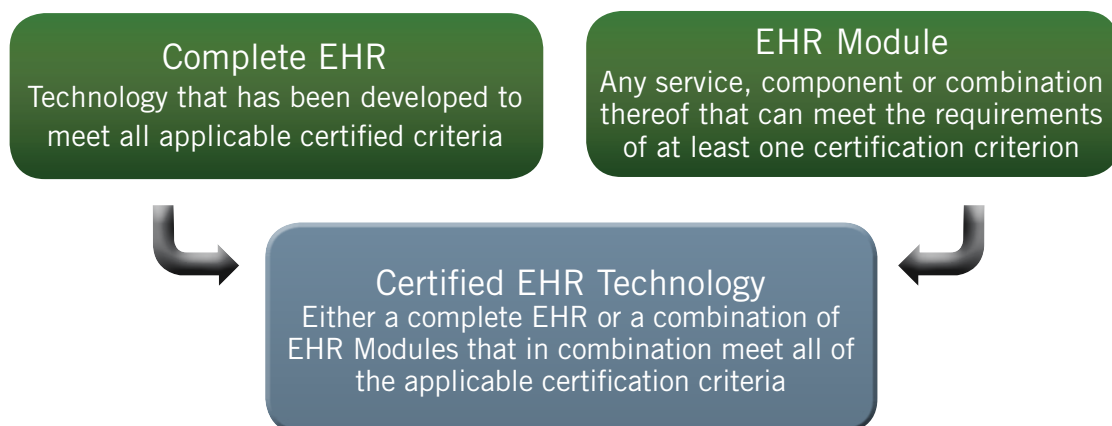
**Stage 2:** (by 2013) criteria expands with specific emphasis on encouraging the use of health IT for continuous quality improvement at the point-of-care and the exchange of information in the most structured format possible.

**Stage 3:** (by 2015) criteria expands with specific emphasis on decision support for national high-priority conditions, patient access to self-management tools, access to comprehensive patient data, and improving population health.

**To meet Meaningful Use criteria, providers have two options for certified technology:**

## Certified EHR Technology

### Two Options...



**Chart 1:** Regardless of which option a hospital chooses to implement, to meet Meaningful Use criteria EMR/EHR technology providers must conform to standards specified by the ONC.

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## Why are Community-Based Solutions Important?

The ability to solve key data issues is the most fundamental roadblock in sharing patient data and coordinating care. Because the information sits in multiple systems in multiple formats, a community-based solution must solve key data issues, which include the ability to:

- Provide and enhance patient-centered health care -- Help organizations achieve the goals of patient-centered health care through the secure and comprehensive distribution of patient information to the point-of-care at the moment-of-need.
- Make data interoperable -- The benefits of interoperability include better care coordination among providers, reduction in medical errors and duplicate tests, better patient engagement, improved clinical decision-making, enhanced capture of codes and charges, and an overall improvement in the quality of care.
- Offer ancillary benefits -- Less time is spent in the hospital for patients, elimination of paper records leading to administrative savings, better patient compliance through automated health reminders, and, according to the American College of Physicians, a 53 percent reduction in rejected claims.<sup>4</sup> HIE now standardizes this so users are able to design systems to share information back and forth.
- Address technical disparities across participants -- CareAlign™ enables full participation among providers with varying levels of EHR capabilities through its integrated capture of data across multiple IT installed systems.
- Provide a platform for communication and collaboration – Meaningful Use specifies more standard types of formats (such as CCR/CCD). It must have a secure transport layer that receives and acknowledges, an easy-to-use directory process, and documentation made available in the patient’s chart.
- Measure, track, and report from a patient rather than a practice perspective – This approach provides the means for better understanding and improving disease management of chronic diseases. It also increases the quantity and quality of data being reported on. Patient-centric dashboards and alerting capabilities let physicians and caregivers know how a patient is doing when it matters so that they can improve clinical decisions to control chronic disease across the community and the population served.
- Ensure that security and privacy rules are properly enforced to maintain trust across all parties – It is important that the solution is able to ensure patient privacy while providing physician confidence that all essential and relevant data is available to make appropriate and effective decisions affecting quality patient care.

## Successfully Deploying EHRs within a Community

On a broad scale, the ideal technology solution should have the ability to share CCD/CCR information and other meaningful criteria based upon the clinician’s role and the patient’s preferences with providers and patients alike. On the next level, it should provide quality reporting and clinical decision reporting. Finally, it should serve to improve health care for individuals and bridge the gaps between participants.

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More specifically, the solution should allow health care providers to communicate patient information across participants with flexible data storage, best-in-class patient matching, comprehensive auditing functionality as well as multiple features for ease-of-use and configurability. Such an advanced single technology solution allows clinicians to readily access, evaluate, and act upon patient information across disparate systems and can be accessed from desktop computers and mobile devices – at any time and from anywhere.

A complete, clinically focused EHR solution requires a world-class data aggregation platform, simplified user interface, and far-reaching integration capabilities. Screens should be easy to navigate, feature intuitive menus, and offer configurable views to accommodate the user's workflow. The solution should also be cost-effective, quickly installed, and require minimal staff training so that it is up and running without interfering with workflow.

Additionally, an ideal solution is scalable and offers single data storage vaults, which allow the segregation of source data by participant organizations while also enabling a longitudinal health care record to be generated for an individual patient at any of the facilities. Organizations that are part of a network of facilities have multiple vaults for numerous entities sharing their data and seeking storage in a separate, secure logical database. The solution should be adaptable to the environment and allow organizations to quickly and easily join other organizations in health care information sharing.

The patient matching system should be based upon a user's security access and a patient's opt-in status so that clinicians can access a complete patient record – regardless of where the patient was treated or which health care information technology (HIT) system housed the data. This is one of the most valuable features of any solution because it levels the playing field for all clinicians involved in care and gives everyone a complete view of the patient so they are well-informed to make the right decision.

**Below are some other features to look for:**

- configurable software
- clean screen design for easy reading
- advanced patient search options that deliver accurate, quick results
- configurable options to meet real-time information needs
- rapid presentation of new documents requiring review to eliminate shuffling through piles of paper charts
- easy-capture of patient vitals
- speedy access to current lab results
- straightforward creation of configurable patient lists for physician rounds
- simplified clinical communication that eliminates paper notes while promoting staff communications and accountability

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## TWO CASE STUDIES:

### **Health Information Exchange of Montana (HIEM)**

Northwest Montana medical facilities serve a population of 150,000+, widely dispersed across more than 45,000 square miles of mountainous terrain that poses challenges to providing effective and efficient health care.

The limited primary, emergency, and acute medical resources throughout the rural locations had a mixture of automated and manual health care records that, combined with the geographic dispersion of the facilities, made it difficult for health care providers to have complete information to assess, plan, and treat patients effectively.

The six hospitals and 25+ clinics comprising the area's health care system included St. John's Lutheran Hospital, St. Luke Community Hospital, North Valley Hospital, Kalispell Regional Medical Center, HealthCenter Northwest, Northern Rockies Medical Center, Glacier Community Health Center, and other participating clinics in Browning, Conrad, and Shelby. All had disparate legacy health care information technology on various platforms and in different locations.

Northwest Montana adopted a solution that included a phased implementation approach that first integrated existing health care technology into ICA's vaulted data allowing for the segregation of source data by participant organizations while also enabling a longitudinal health care record to be generated for an individual patient at any of the facilities. This feature was accomplished by selecting critical feeding systems, piloting the approach, and then expanding the aggregation phase throughout the community. Once the data from existing systems was aggregated into the application with its associated clinical portal for viewing a patient's complete information, strategic additions of workflow enhancements and disease management functionality were piloted. This functionality was rolled out to fill data gaps from existing systems, enhance clinical communication, and remind and alert the clinical team to abnormalities, preventive treatment, and contraindications associated with patients at the point-of-care.

HIEM EHR solutions support HIE initiatives with the addition of wellness and disease dashboards and secure clinical communication. With dashboards (specifically preventive and diabetes), every member of the care team would have a visual queue for the patient in front of them in every setting of care. If the health status of the patient was readily available to a care provider, the care provider would know the immediate cause for interaction and be able to assess any preventive care related to the patient's condition. This view creates a holistic environment and better patient health. With clinical communication in place, the HIEM hopes to better coordinate care over its widely dispersed set of patients and providers. The ability for hospitalists to communicate an after-care plan for patients who are returning to their primary care provider – and who might be over two hours away — should eliminate multiple phone calls, faxes, and patients carrying records back and forth between primary care, specialist, and hospitals. This ability to measure, track, and report across populations also maintains privacy, security, and trust while at the same time: fulfilling the final mandates of Meaningful Use; providing and measuring disease management; offering clinical decision support, providing medication management and patient access to health information, as well as quality and quality measurement and research; and providing communications to and from public health organizations.

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### **Lourdes Hospital Systems, Paducah, KY**

Paducah, KY is a small but competitive health care market with two hospitals vying for market share. Most physicians in the area are independent of the hospitals and have privileges in both facilities. Lourdes Hospital, sponsored by Catholic Healthcare Partners, serves over 12 counties in western Kentucky, southern Illinois, southeastern Missouri, and northwestern Tennessee.

Physician satisfaction is very important in order for the hospital to maintain its referral base. The competing hospital in town implemented a physician portal and local providers desired a more comprehensive solution from Lourdes. In addition, numerous manual workarounds were causing duplication of effort throughout inpatient clinical areas to satisfy the information needs of physicians performing rounds.

The hospital had implemented many specialty-specific systems over the years to complement its legacy technology system, and physicians in the community had implemented various ambulatory EHRs. Lourdes adopted a solution that involved a three-phase implementation process designed to deliver early and ongoing value to the hospital and its constituents.

In Phase One the infrastructure was put into place to aggregate clinical data from the hospital and physician offices, allowing participating physicians to access a longitudinal patient record through a Web-based portal product. In meeting the first two objectives of the project, Lourdes Hospital was able to strengthen its competitive position by providing more breadth and depth of information at the point-of-care than the other hospital in the community.

Phase Two will include inpatient flow sheets to accumulate the critical data physicians need to monitor, evaluate, and treat their inpatients. As an added benefit, physicians would be able to access this data from their office, home, or any other location with an Internet connection. Successful implementation of this phase would fulfill the third objective of eliminating duplicate manual documentation by nursing staff in the inpatient environment and increasing physician/clinical staff satisfaction.

In Phase Three the solution provider will introduce disease and wellness dashboards to assimilate clinical results so that all physicians having contact with a patient will be aware of any existing medical conditions in order to manage appropriate protocols for delivering higher quality care. This was expected to yield improvements in both physician and patient satisfaction.

### **Moving Toward Sustainable Population Health**

Adoption of usable EHRs will give physicians more quality time with the patient, improve overall health, and eliminate duplication of work using quality patient data at the point-of-care. Additionally, it will support health care decisions and -- far from interrupting workflow -- enhance day-to-day functioning on every level. But to achieve full interoperability, health care facilities must adopt a "bridge" solution that fully integrates patient information and communicates with every participant no matter what legacy system is involved -- and despite obsolete technology issues.

Ultimately, the solution must fulfill ARRA criteria for Meaningful Use not just for 2011, but well into the future. The two case studies above depict diverse health care entities which have implemented a technology platform that is flexible and configurable enough to meet their individual needs and serve as a platform for meeting Meaningful Use criteria by:

- Facilitating electronic orders and capturing discrete data
- Managing current medication, allergy, and problem lists
- Giving patients electronic access to their patient information
- Providing clinical decision support tools with alerts
- Enabling exchange and interoperability necessary for transitions of care
- Creating query and reporting capabilities to promote quality improvement
- Ensuring that patient information is protected and privacy policies are adhered to

By keeping pace with these requirements, the solution must have the power to create a streamlined, collaborative health care environment that improves quality, safety, efficiency, and engages patients and families. In the long run, optimized care coordination will improve and sustain community-wide health and have a positive impact on the country's economy — the ultimate goal of Meaningful Use.



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About Informatics Corporation of America (ICA)

Informatics Corporation of America's (ICA) health information exchange (HIE) solutions, originally envisioned by practicing physicians at Vanderbilt Medical Center, capture, integrate and provide comprehensive patient data from numerous and disparate installed systems. ICA adapts and deploys this pioneering technology to design and deliver comprehensive HIE solutions to hospitals, IDNs, communities and states generating cost efficiencies and improving patient care and outcomes. ICA's solutions align with physician workflow empowering caregivers to make informed decisions at the point-of-care with standards-based interoperability to help health care enterprises achieve operational efficiencies across multiple providers and settings. Visit [www.icainformatics.com](http://www.icainformatics.com), follow us on Twitter at [www.twitter.com/icainformatics](http://www.twitter.com/icainformatics), and Facebook at [www.facebook.com](http://www.facebook.com).

<sup>1</sup>The "Meaningful Use" Regulation for Electronic Health Records; *New England Journal of Medicine*; July 13, 2010; David Blumenthal, M.D., M.P.P., and Marilyn Tavenner, R.N., M.H.A. [http://healthit.hhs.gov/portal/server.pt?open=512&objID=1350&parentname=CommunityPage&parentid=5&mode=2&in\\_hi\\_userid=11113&cached=true](http://healthit.hhs.gov/portal/server.pt?open=512&objID=1350&parentname=CommunityPage&parentid=5&mode=2&in_hi_userid=11113&cached=true); Accessed on February 11, 2010.

<sup>2</sup>CMS Proposes Definition of Meaningful Use of Certified Electronic Health Records (EHR) Technology; U.S. Dept. of Health and Human Services; December 30, 2009; <http://www.cms.hhs.gov/apps/media/press/factsheet.asp?Counter=3564>; Accessed on February 11, 2010.

<sup>3</sup>U.S. Dept. of Health and Human Services; December 30, 2009.

<sup>4</sup>American College of Physicians; 2004.