



Meaningful Use of the Electronic Health Record by Rural Health Clinics

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Background

The use of an electronic health record (EHR) is increasingly viewed as necessary to manage and document the quality of care provided to patients and cope with the evolving demands of health reform and practice transformation. The Health Information Technology for Economic and Clinical Health Act, enacted as part of the American Recovery & Reinvestment Act of 2009 (collectively referred to as the HITECH Act),¹ committed substantial resources (\$30 billion) and created financial incentives to support the expanded adoption, implementation, and upgrade of EHRs through the Medicare and Medicaid EHR Incentive Programs. As a result, the meaningful use of EHRs has become a national priority.

The following are key provisions of the HITECH Act that contribute to the development of EHR meaningful use:²⁻⁴

1. Promoting HIT, including improving health care quality, safety, and efficiency, and the application and use of HIT standards;
2. Conducting HIT testing, including pilot testing of standards, implementation specifications, a voluntary testing program, and research and development programs;
3. Funding grants/loans and demonstration programs, including:
 - Medicaid and Medicare monetary incentives for eligible health care professionals and hospitals when they adopt and achieve meaningful use of certified EHR technology,
 - Funding to strengthen HIT infrastructure,
 - HIT implementation assistance including the creation of Regional Extension Centers to provide technical assistance to under-resourced providers, and
 - Other grant support for HIT.

The term meaningful use describes the use of EHR technology to improve care delivery in the following health outcome priority areas: 1) improving health care quality, safety, and efficiency, and reducing health disparities; 2) engaging patients and families in their health; 3) improving care coordination; 4) improving population and public health; and 5) maintaining privacy and security of patient health information.⁵ It also describes the Medicare and Medicaid EHR Incentive Programs through which eligible health care professionals (EPs) and hospitals can demonstrate meaningful use of their EHRs to improve patient care

Key Findings

59 percent of Rural Health Clinics (RHCs) report having an electronic health record (EHR) implemented for some or all of their providers and staff.

Independent RHCs were more likely than hospital-based RHCs to have an EHR in use (69 percent vs. 47 percent).

Of the 25 percent of RHCs without an EHR, close to two-thirds are smaller facilities with one or fewer physicians and mid-level providers.

Common barriers to EHR adoption by RHCs without an EHR include:

- acquisition and maintenance costs (80 percent),
- lack of capital (57 percent), and potential productivity, or
- income loss during transition (50 percent).

44 percent reported using their Regional Extension Center for technical assistance.

Of those RHCs with an EHR, 11 percent have met the Stage 1 MU standards and an additional 38 percent are close to meeting it.

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by meeting CMS defined minimum requirements on measures aligned with the above priority areas.

As developed by the U.S. Department of Health and Human Services, meaningful use standards are being implemented in three stages over the period 2011-2016 (see Figure 1).

state licensing agencies and state Offices of Rural Health to provide build a contact list. Since the lists provided to us did not cover all RHCs in the sample population, the study team contacted clinics without an email address directly to request the information. Ultimately, we were unable to obtain email addresses for 114 clinics. In most cases, the clinics

Figure 1. Stages of Meaningful Use

Stage 1: 2011-2012 Data Capture and Sharing	Stage 2: 2014 Advanced Clinical Processes	Stage 3: 2016 Improved Outcomes
Criteria Focus	Criteria Focus	Criteria Focus
Electronically capturing health information in a standardized format	More rigorous health information exchange (HIE)	Improving quality, safety, and efficiency leading to improved health outcomes
Using that information to track key clinical conditions	Increased requirements for e-prescribing and incorporating lab results	Decision support for national high-priority conditions
Communicating that information for care coordination processes	Electronic transmission of patient care summaries across multiple settings	Patient access to self-management tools
Initiating the reporting of clinical quality measures and public health information	More patient-controlled data	Access to comprehensive patient data through patient-centered HIE
Using information to engage patients and their families in their care		Improving population health

Source: HealthIT.gov. *What Is Meaningful Use?*⁶

The Stage 1 measures set for EPs consists of 24 measures; 14 required core measures and 10 menu measures.^{7,8} To achieve Stage 1 meaningful use and qualify for meaningful use incentive payments, EPs must meet CMS defined criteria for all 14 core measures and at least five menu measures.⁹ Of the core and menu measures, 16 require data submission and eight require yes/no attestation. Further information on the Stage 1 Measures can be found in the following document: *2010 Centers for Medicare and Medicaid Services (CMS) Eligible Professional Meaningful Use Table of Contents – Core and Menu Set Measures.*⁷

Rural Health Clinics (RHCs) are an important source of primary care services, with over 4,000 clinics operating nationwide.¹⁰ Little information is available on the rate of EHR adoption by RHCs. This study was conducted to identify the rates of EHR adoption among a national random sample of RHCs and the extent to which RHCs that have adopted an EHR are likely to achieve Stage 1 meaningful use.

The study drew a random sample of 660 RHCs from the June 30, 2010 CMS Provider of Services (POS) file.^{11,12} As the POS does not contain contact names or email addresses (necessary to conduct an online survey), we obtained clinic lists from

refused to provide the requested information. The most common reason provided was that the clinic’s policies did not allow email addresses to be released. Due to closures (58 clinics) and lack of email addresses, we were left with a usable sample of 488 clinics that received invitations to participate in the online survey. Our response rate for completion of the survey from the usable sample was 46.7 percent.

Phase One of the survey was conducted electronically during the spring/summer of 2011 using Survey Monkey. Due to a low response rate (67 completed surveys), the survey instrument was revised, pre-tested, and released again in March 2012. Simultaneously, continued efforts were made to update the contact information. Data collection with extensive follow up activity continued through December 2012 resulting in an additional 158 completed surveys.

Caution should be exercised in interpreting these results, due to the small “n” of our analytic file (225 clinics responded to our survey). As we undertook the analysis of subsets of the responding clinics (e.g., clinics reporting implementation of an EHR or clinics reporting performance on different meaningful use measures), the “n” for any given question was substantially smaller. As a result, few of our findings are statistically significant

and we have not reported p-values. Although not statistically significant based on the small size of the analytic file, it should be noted that we do have a rich data set on the EHR adoption of the responding clinics, performance on the Stage 1 Meaningful Use Measures, and issues related to barriers and challenges of EHR implementation. In consideration of these factors, our findings should be interpreted as a pilot study. As this policy brief is released, we are nearing completion of a more narrowly focused survey results from more than 800 RHCs with a more substantial response rate. As such, we anticipate that the findings from that survey will be more robust.

Rural Health Clinics and EHR Adoption

Fifty nine percent of respondents reported having implemented the use of an EHR for at least some of their providers and staff with 52 percent reporting its use for 90 percent or more of their practices (see Table 1). Independent RHCs were more likely to have an EHR in use in at least some of their practice (69 percent) than provider-based clinics (47 percent). Notably, more provider-based clinics (26 percent) were in the process of installing their EHRs but not yet using it compared to independent clinics (8 percent). Once fully implemented, the percentage of independent RHCs compared to provider-based RHCs using an EHR will be comparatively similar. Overall, 25 percent of respondents had not implemented an EHR.

or fewer full time physicians (MDs/DOs), 17 percent one to three physicians; and 19 percent more than three physicians. Two thirds of RHCs without an EHR had one or fewer full-time physician assistants, nurse practitioners, or certified nurse midwives. Within this group, 37 percent reported plans to acquire an EHR within the next 12 months and 46 percent had plans to acquire an EHR more than 12 months from the time of the survey. Sixteen percent either had no plans or were unsure of their plans to acquire an EHR. Among this group, the most commonly reported barriers to acquiring and implementing an EHR were: reported that the most common barriers to acquiring and implementing an EHR were the costs of acquisition and maintenance (80 percent), lack of capital (57 percent), and concerns about productivity and/or income loss during transition (50 percent).

Sources of Technical Assistance and Support

Overall, 44 percent of responding clinics reported use of their Regional Extension Center (REC) for technical assistance (TA) related to the purchase or implementation of an EHR/HIT system. RECs provide free or reduced cost technical assistance on EHR selection, implementation, and use to priority primary care providers who practice in: individual or small practices of 10 providers or less, Community Health Centers, primary care clinics, or Rural Health Clinics, public or Critical Access Hospitals, or other settings that serve uninsured, underinsured, and medically underserved populations.¹²

Table 1. Implementation of Electronic Health Records (EHRs)

	All RHCs (n=217)	Independent RHCs (n=121)	Provider-Based RHCs (n=96)
EHR in use in more than 90% of practice	51.6%	59.5%	41.7%
EHR is use for some providers and staff	7.4%	9.1%	5.2%
Begun installation by not in use yet	16.1%	8.3%	26.0%
No EHR	24.9%	23.1%	27.1%

More than 50 different EHR platforms were represented among survey participants. The six most commonly used systems are as follows:

- AllscriptsMisys (n=19)
- eClinicalWorks (n=15)
- Epic Systems Corporation (n=15)
- McKesson Provider Technologies (n=9)
- e-MDs (n=8)
- GE Healthcare/Centricity (n=8)

Clinics without an EHR (25 percent) tended to be smaller facilities with 63.5 percent employing one

Clinics without an EHR were more likely than those with an EHR to have contacted their area REC for TA (51.2 percent vs. 39.5 percent, respectively). Provider-based RHCs were more likely than independent RHCs to have received TA from a parent hospital, system, or provider network (41 percent vs. 14 percent respectively).

Provider-based RHCs were also more likely than independent RHCs to report in-house expertise (20 percent vs. 12 percent).

RHC Performance on Stage 1 Meaningful Use Measures

Eligibility

Since RHCs submit Medicare claims as a facility to Medicare Part A, rather than under the Part B fee schedule, individual RHC clinicians are not eligible for Medicare meaningful use incentives. They are eligible for Medicaid meaningful use incentives provided they can demonstrate that 30 percent (20 percent for pediatricians) of their patients are considered “needy” by virtue of receiving medical assistance from the Medicaid or Children’s Health Insurance Programs, uncompensated care from the EP professional, or services at no cost or reduced cost based on a sliding scale. Thus, we asked survey respondents about the influence of Medicaid meaningful use incentives on their decisions regarding EHR implementation and the extent to which 30 percent or more of their clinic volume represented services provided to needy individuals.

We found 67.5 percent of RHCs reported that 30 percent or more of their clinic volume was attributed to needy individuals. Overall, 66 percent of RHCs report that Medicaid meaningful use incentive provisions have affected or will affect their HIT decisions. Just over 69 percent of clinics without an EHR reported that that the meaningful use incentives will affect their decision to implement an EHR. Fifty two percent of clinics with an EHR report that meaningful use incentives will affect their decision to update their EHR to a certified system. These findings were consistent across independent and provider-based RHCs.

Likelihood of Achieving Meaningful Use Stage 1

We analyzed performance on the Stage 1 meaningful use core and menu measures sets of only the 128 RHCs that reported active use of their EHRs (defined as using their EHRs for at least some of their providers and staff). We estimated the percentage of clinics likely to achieve meaningful use of their EHRs based on meeting the standards for all 14 core measures and five of the 10 menu measures. We also estimated the percentage of clinics that are approaching or “near” meaningful use by virtue of having implemented the activities (and approaching or meeting the threshold) for 12 of the 14 core measures and four of five menu measures (see Figure 2).

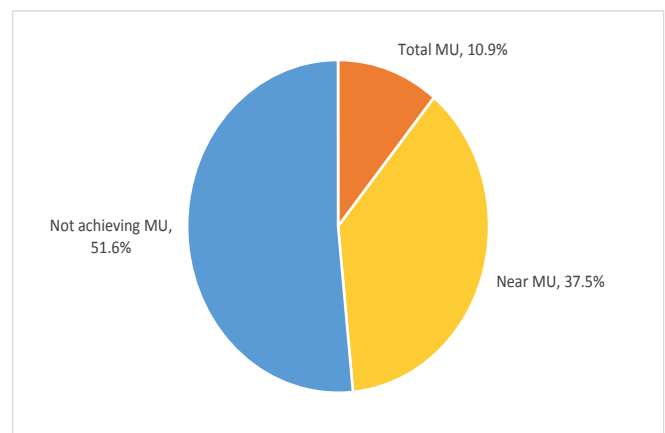
Of the 128 clinics reporting their performance on the core and menu measures, close to 11 percent (14 clinics) have met the standards for meaningful use and approximately 38 percent (48 clinics) are “near” to achieving meaningful use as described above. The remaining clinics (approximately 52 percent)

were not close to achieving meaningful use at the time of our survey.

It would appear that some RHCs are unlikely to adopt an EHR as 25 percent of responding clinics have not adopted an EHR and close to 17 percent of that group have no plans to implement an EHR or are unsure of their plans. As RHCs without an EHR tend to be smaller facilities with fewer resources, their needs related to EHR acquisition include technical assistance as well as financial support related acquisition, implementation, and maintenance. Without an EHR, the ability of these clinics to survive in the evolving health care environment is likely to be compromised. They are also less likely to be “attractive” partners in terms of networking or consolidation with other providers.

In addition, more than half of RHCs with an EHR were well short of achieving Stage 1 meaningful use compliance at the time of our survey. These clinics are likely to need TA to achieve Stage 1 meaningful use, particularly with more complex EHR functions related to information sharing, patient engagement, public reporting of quality performance, and population and public health improvement. This is very important foundational work to support RHCs as the requirements for meaningful use performance increase in Stages 2 and 3. This suggests an important and ongoing need for the services of the RECs in supporting vulnerable rural providers. While the working paper associated with this brief explores some of the barriers to EHR adoption, it appears that the investments following from the HITECH Act have not, as yet brought RHCs within range of the Institute of Medicine’s goal of eliminating most handwritten clinical data.¹⁴

Figure 2. Progress of RHCs on Meaningful Use



Endnotes

1. Health Information Technology for Economic and Clinical Health (HITECH) Act, Title XIII of Division A and Title IV of Division B of the American Recovery and Reinvestment Act of 2009 (ARRA), Pub L. 111-5, 123 STAT 115, (February 17, 2009).
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4. Committee on Ways and Means. *Health Information Technology for Economic and Clinical Health Act or HITECH Act*. Washington, DC: U.S. House of Representatives, Committees on Energy and Commerce, Ways and Means, and Science and Technology; January 16, 2009.
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6. HealthIT.gov. *Policymaking, Regulation, and Strategy: Meaningful Use*. n.d., Available at: <http://www.healthit.gov/policy-researchers-implementers/meaningful-use>. Accessed September 18, 2013.
7. The criteria for the measures requiring data submission are typically expressed as a percentage of patients covered by measure in question with the percentage established by CMS. For example, the core measure focused on the use of the EHR to maintain an up to date patient problem list requires that more than 80 percent of an EP's patients have at least one entry in the problem list or an indication of no known problems. The measures requiring a yes or no attestation require an EP to report that the feature (e.g., the ability to conduct drug-drug and drug-allergy interaction is implemented (turned on). To assess RHCs' progress towards meaningful use, we asked a multi-level question for each measure with the following options: 1) Clinic is meeting the threshold criterion for the measure necessary to achieve meaningful use; 2) Clinics is using its EHR for the tasks and functions established by the measure but without meeting the established threshold criterion; 3) Clinic's EHR has the function specified by the measure but it is turned off or not in use; 4) Respondent did not know the answer to the question; and 5) The feature is not in use.
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