

Background

In September 2008, ITUP produced an overview of health information technology (HIT) and electronic health records (EHR) for the California Research bureau entitled *Health Information Technology-Electronic Health Records: A Primer*. This piece provided a broad overview of health information technology (HIT) including definitions, costs, current implementation efforts, barriers to adoption, and a brief policy analysis.

Over the past two years, HIT has gained significant policy traction. Most notably, the American Recovery and Restructuring Act (ARRA) included a specific provision entitled the Health Information Technology for Economic and Clinical Health (HITECH) Act which made a significant investment of over \$30 billion in payment incentives to physicians and hospitals for the adoption of certified health information technology. HITECH also imposed penalties in the form of payment adjustments to Medicare fee for service (FFS) and Medicare Advantage (MA) providers who fail to demonstrate “meaningful use” of certified electronic health record technology. There are exceptions to these penalties.

While the HITECH Act contains most of the relevant HIT legislation, the Patient Protection and Affordable Care Act (federal health reform), signed into law in March 2010, laid out several timelines to define HIT criteria and delegated development of various HIT components to appropriate governmental agencies such as the Office of the National Coordinator for Health Information Technology (ONC) and Center for Medicare and Medicaid Services (CMS).

CMS has finalized several rules associated with the implementation of the HITECH Act, namely certification criteria for EHR systems and the requirement for providers to demonstrate meaningful use of a certified EHR product. These rules are intended to guide EHR developers, vendors and health providers so that incentive payments provided under HITECH for EHR adoption may be awarded. Eligible professionals demonstrating meaningful use may receive as much as \$44,000 under Medicare and \$63,750 under Medicaid over five years to adopt electronic health records *after* demonstrating meaningful use. Hospitals are eligible to receive millions of dollars in reimbursements based on reasonable costs for the purchase of the certified EHR product. Incentive payments will be discontinued after 2016, except for Medicaid providers.

Introduction

The ONC’s HIT Policy Committee has recommended five priorities for the adoption of EHR technology:

1. Improving quality, safety, efficiency, and reducing health disparities,
2. Engaging patients and families in their health care,
3. Improving care coordination,
4. Improving population and public health, and

5. Ensuring adequate privacy and security protections for personal health information¹.

To be considered for an incentive payment, the provider must be determined to be an eligible provider demonstrating meaningful use of a certified EHR product.

Incentive Programs: Eligible Professionals and Hospitals

Eligible Professionals (EPs)

An Eligible Professional means a physician as defined by the Social Security Act, which includes, with certain limitations: (1) a doctor of medicine or osteopathy, (2) a doctor of dental surgery or medicine, (3) a doctor of podiatric medicine, (4) a doctor of optometry, or (5) a chiropractor.

Eligible Medicare FFS professionals will receive incentive payments not to exceed the following amounts:

- Year 1: \$15,000 (or \$18,000 if the first payment year is 2011 or 2012)
- Year 2: \$12,000
- Year 3: \$8,000
- Year 4: \$4,000
- Year 5: \$2,000
- Any succeeding year: \$0

This brings the total maximum incentive payment to \$44,000. Since there will be no Medicare incentive payments made after 2016, for an eligible professional to obtain the maximum incentive payment, that EP will have to demonstrate meaningful use of a certified EHR product by 2012.

Medicaid EPs may begin receiving incentive payments as late as 2016 and will still be able to claim the full incentive of \$63,750 over six years (\$21,250 in year 1, \$8,500 for each of the remaining 5 years). The last year a Medicaid EP may receive payments is 2021.

¹ Tsang, Thomas, Office of the National Coordinator for Health Information Technology. *Health IT and Health Disparities*. Presentation on June 23, 2010; SHIRE HIT Teach-in, Los Angeles, California.

Table 1. Comparison of Medicare and Medicaid incentive program requirements for eligible professionals.

	Medicare	Medicaid
Incentive Program Start Date	January 1, 2011	January 1, 2010 if state is ready
Incentive Total	\$44,000	\$63,750
Funding Source	CMS	State Medicaid program
Funding Calculation	75% of allowed costs, up to cap	Flat rate to offset EHR purchase and maintenance
HPSA[†] bonus	10%	None
Minimum Patient Threshold	None	30% of patients are Medicaid (20% for pediatricians ^{††})
Penalties For Non-Compliance	Adjusted fee schedule: 2015 – 99% 2016 – 98% 2017+ – 97%	None
External Funding Allowed	Yes	Stark or Federal grants may lower incentive payment.
[†] Health Professional Shortage Area		^{††} Incentive is lowered by 33%

Eligible Hospitals

An eligible hospital is one that treats Medicare and/or Medicaid patients. Hospitals may receive payments from both Medicare and Medicaid incentive programs, unlike eligible providers who only receive Medicaid incentive payments if both Medicare and Medicaid patients are treated. Hospitals may receive incentive payments for four years or until the end of 2016, whichever comes first.

Eligible hospital incentive payments for Medicare each year is calculated as below:

Equation 1

$$\boxed{\text{Initial Amount} \times \text{Medicare Share Fraction} \times \text{Transition Factor}}$$

Initial Amount is either:

1. \$2,000,000 for each hospital with 1,149 acute care inpatient discharges or fewer, or
2. \$2,000,000 + [\$200 x (n – 1,149)], where n is the number of discharges for the hospital for each hospital with at least 1,150 but no more than 23,000 acute care inpatient discharges, or
3. \$6,370,200 for each hospital with more than 23,000 acute care inpatient discharges.

Medicare Share Fraction is calculated as below and is not to exceed 1:

Equation 2

$$\left(\frac{\text{(Inpatient Bed Days for : Medicare Part A Patients + Medicare Advantage Patients)}}{\left(\text{Total Acute Care Inpatient Bed Days} \times \left[\frac{\{\text{Total amount of eligible hospital's charges} - \text{Charity care}\}}{\text{Estimated total amount of hospital charges}} \right] \right)} \right)$$

Transition factor is set based on the first payment year a hospital receives an incentive payment and reduces each fiscal year.

Table 2. Transition Factor

	First Payment Year				
Fiscal Year	2011	2012	2013	2014	2015
2011	1.00				
2012	0.75	1.00			
2013	0.50	0.75	1.00		
2014	0.25	0.50	0.75	0.75	
2015		0.25	0.50	0.50	0.50
2016			0.25	0.25	0.25

Medicare Advantage

Section 2791(b)(3) of the Public Health Safety Act defines a health maintenance organization (HMO) as a federally qualified HMO, an organization recognized as an HMO under State law, or a similar organization regulated for solvency under State law in the same manner and to the same extent as an HMO. Since there are few federally qualified HMOs, MA organizations will primarily qualify for incentive payments as State-licensed HMOs, or as organizations regulated for solvency under State law in the same manner and to the same extent as HMOs.

A qualifying MA organization may receive an incentive payment only for EPs (eligible professionals) and must either (1) be employed by the qualifying MA organization or (2) be employed by, or a partner of an entity that through contract with the qualifying MA Organization furnishes at least 80% of the entity’s Medicare patient care services to enrollees of the qualifying MA organization. Further, the EP must furnish at least 80 percent of his or her professional Medicare services to enrollees of the qualifying MA organization and must furnish, on average, at least 20 hours per week of patient care services. MA organizations receive incentive payments for each MA EP based on the incentive payment list above for Medicare FFS EPs.

Hospitals that treat individuals enrolled in MA plans will receive a Medicare FFS hospital incentive payment partially based on the number of MA-enrollee bed-days.

There is no incentive payment amount available for qualifying MA organizations first reporting the meaningful use of certified EHRs by qualifying MA EPs after 2014. For MA organizations first reporting the meaningful use of certified EHRs by qualifying MA EPs in 2013 or 2014, the maximum potential incentive payment per qualifying EP is, respectively, \$39,000 over 4 years, and \$24,000 over 3 years.

Critical Access Hospitals

A Critical Access Hospital means a facility that has been certified as a critical access hospital under section the Social Security Act and by the state for which Medicare payment is made.

A qualifying CAH receives an incentive payment equal to the calculation below:

Equation 3

$$\boxed{\text{Reasonable costs incurred for the purchase of certified EHR technology} \times \text{Medicare Share Percentage}}$$

For CAHs, the Medicare Share Percentage is equal to the sum of the Medicare Share Fraction (Equation 2 above) and 20 percentage points, up to 100%.

Hospital-Based Exemption

An EP will be defined as being hospital-based and therefore ineligible to receive an EHR incentive payment under either Medicare or Medicaid, regardless of the type of service provided, if more than 90% of their services are identified as being provided in places of service classified under two place of service codes 21 (Inpatient Hospital) or 23 (Emergency Room, Hospital). Reassessments of EP status will be done each year using claims data from the fiscal year immediately preceding the payment year.

Meaningful Use

CMS proposed a three-stage approach to the adoption of meaningful use (MU) criteria, and has set specific objectives for Stage 1. Stage 2 criteria will be announced by the end of 2011 and Stage 3 criteria by the end of 2013².

The final Medicare and Medicaid incentive program rule on demonstrating MU, released on July 14, 2010, allows greater flexibility to meet meaningful use requirements than the proposed rule. Providers are expected to meet 15 “core” objectives and hospitals are required to meet 14, while both are required to select five a-la carte “menu” objectives to meet in Stage 1 of implementation. Providers are required to meet all additional menu objectives in Stage 2.

Stage 1 MU criteria focus on (1) electronically capturing health information in a coded format, (2) using that information to track key clinical conditions and communicating that information for care coordination purposes, (3) implementing clinical decision support tools to facilitate disease and medication management (consistent with other provisions of Medicare and Medicaid Law), and (4) reporting clinical quality measures and public health information. See appendix 1 for a complete list of Stage 1 MU objectives and associated measures as they appear in CMS’ final rule.

Stage 2 criteria, though not yet specifically defined, expand upon the Stage 1 criteria to encourage the use of health IT for continuous quality improvement at the point of care

² 75 Fed. Reg., 1852.

and the exchange of information in the most structured format possible, such as the electronic transmission of orders entered using computerized provider order entry (CPOE) and the electronic transmission of diagnostic test results. CMS may consider applying these criteria more broadly to both inpatient and outpatient hospital settings.

Stage 3 criteria, also not yet specifically defined, focus on promoting improvements in quality, safety, and efficiency with particular emphasis on decision support for national high priority conditions, patient access to self management tools, access to comprehensive patient data, and public health.

Table 3. Stage of meaningful use criteria by payment year. This table demonstrates an eligible practitioner's (or hospital's) progression through the stages of meaningful use as defined in the final meaningful use rule.

First MU EHR Year	Payment Year				
	2011	2012	2013	2014	2015
2011	Stage 1	Stage 1	Stage 2	Stage 2	TBD
2012		Stage 1	Stage 1	Stage 2	TBD
2013			Stage 1	Stage 1	TBD
2014				Stage 1	TBD
2015					TBD

Certification Definition / Process

CMS has defined two separate paths to certification. For those providers who are currently ready or will be ready to demonstrate MU of EHR technology by 2012, a temporary program will certify EHR products. On or after January 1, 2012, a permanent program will assume responsibility of EHR certification.

The temporary certification program provides a process by which an organization may apply to become an ONC-Authorized Testing and Certification Body (ONC-ATCB). This authorizes the organization to perform testing and certification of complete EHRs and EHR modules. The temporary certification program will sunset on December 31, 2011 unless the permanent certification program is not in place by that time, at which point the temporary certification program will be extended appropriately.

Permanent certification programs are designated an ONC-Authorized Certification Body (ONC-ACB). The National Voluntary Laboratory Accreditation Program, run by the National Institute of Standards and Technology, will test HIT products. Testing differs from certification in that testing refers to objective data gathered by the evaluation of software, while certification analyzes this data and ensures proper compliance with additional requirements, such as logo usage.

An organization seeking to become a permanent certification body through the ONC must first be accredited through the ONC-Approved Accreditor. This not only introduces additional rigor and objectivity to the certification process but also increases confidence in and credibility to the certified product. While the ONC will fill this accreditation role

to temporary programs, for permanent certification programs, these responsibilities will be shifted to other organizations, citing the increased capacity of the private sector to respond more rapidly to changes in HIT standards and markets.

As of July 2010, only one organization has applied to be an ONC-ATCB, the Certification Commission for Health Information Technology. CCHIT has been certifying EHR products since 2006 and currently offers two certifications: CCHIT Certified® and Preliminary ARRA until they are recognized as an ONC-ATCB.

Appendix 1: Core and menu objectives and measures to demonstrate meaningful use of certified health information technology.

CORE SET			
Health Outcomes Policy Priority	Stage 1 Objectives		Stage 1 Measures
	Eligible Professionals	Eligible Hospitals and CAHs	
Improving quality, safety, efficiency, and reducing health disparities.	Use CPOE for medication orders directly entered by any licensed healthcare professional who can enter orders into the medical record per state, local, and professional guidelines.	Use CPOE for medication orders directly entered by any licensed healthcare professional who can enter orders into the medical record per state, local, and professional guidelines.	More than 30% of unique patients with at least one medication in their medication list seen by the EP or admitted to the eligible hospital's or CAH's inpatient or emergency department (POS 21 or 23) have at least one medication order entered using CPOE.
	Implement drug-drug and drug-allergy interaction checks	Implement drug-drug and drug-allergy interaction checks	The EP/eligible hospital/CAH has enabled this functionality for the entire EHR reporting period.
	Generate and transmit permissible prescriptions electronically (eRx)		More than 40% of all permissible prescriptions written by the EP are transmitted electronically using certified EHR technology.
	Record demographics: <ul style="list-style-type: none"> ▪ Preferred language ▪ Gender ▪ Race ▪ Ethnicity ▪ Date of birth 	Record demographics: <ul style="list-style-type: none"> ▪ Preferred language ▪ Gender ▪ Race ▪ Ethnicity ▪ Date of birth ▪ Date and preliminary cause of death in the event of mortality in the eligible 	More than 50% of all unique patients seen by the EP or admitted to the eligible hospital's or CAH's inpatient or emergency department (POS 21 or 23) have demographics recorded as structured data.

		hospital or CAH	
	Maintains an up-to-date problem list of current and active diagnoses.	Maintains an up-to-date problem list of current and active diagnoses.	More than 80% of all unique patients seen by the EP or admitted to the eligible hospital's or CAH's emergency department (POS 21 or 23) have at least one entry or an indication that no problems are known for the patient recorded as structured data.
	Maintain active medication list	Maintain active medication list.	More than 80% of all unique patients seen by the EP or admitted to the eligible hospital's or CAH's inpatient or emergency department (POS 21 or 23) have at least one entry (or an indication that the patient is not currently prescribed any medication) recorded as structured data.
	Maintain active medication allergy list.	Maintain active medication allergy list.	More than 80% of all unique patients seen by the EP or admitted to the eligible hospital's or CAH's inpatient or emergency department (POS 21 or 23) have at least one entry (or an indication that the patient has no known medication allergies) recorded as structured data.
	Record and chart changes in vital signs:	Record and chart changes in vital signs:	For more than 50% of all unique patients age 2 and over seen by the

	<ul style="list-style-type: none"> ▪ Height ▪ Weight ▪ Blood pressure ▪ Calculate and display BMI ▪ Plot and display growth charts for children 2-20 years, including BMI. 	<ul style="list-style-type: none"> ▪ Height ▪ Weight ▪ Blood pressure ▪ Calculate and display BMI ▪ Plot and display growth charts for children 2-20 years, including BMI. 	<p>EP or admitted to eligible hospital's or CAH's inpatient or emergency department (POS 21 or 23), height, weight, and blood pressure are recorded as structured data.</p>
	<p>Record smoking status for patients 13+ years old</p>	<p>Record smoking status for patients 13+ years old</p>	<p>More than 50% of all unique patients 13+ years old seen by the EP or admitted to eligible hospital's or CAH's inpatient or emergency department (POS 21 or 23) have smoking status recorded as structured data</p>
	<p>Implement one clinical decision support rule relevant to specialty or high clinical priority along with the ability to track compliance with that rule.</p>	<p>Implement one clinical decision support rule relevant to specialty or high clinical priority along with the ability to track compliance with that rule.</p>	<p>Implement one clinical decision support rule.</p>
	<p>Report ambulatory clinical quality measures to CMS or the States.</p>	<p>Report ambulatory clinical quality measures to CMS or the States.</p>	<p>For 2011, provide aggregate numerator, denominator, and exclusions as discussed in section II(A)(3) of the final rule.</p> <p>For 2012, electronically submit the clinical quality measures as discussed in section II(A)(3) of the final rule.</p>

Engage patients and families in their health care.	Upon request, provide patients with an electronic copy of their health information, including diagnostic test results, problem list, medication lists, medication allergies.	Upon request, provide patients with an electronic copy of their health information, including diagnostic test results, problem list, medication lists, discharge summary, procedures.	More than 50% of all patients of the EP or the inpatient or emergency departments of the eligible hospital or CAH (POS 21 or 23) who request an electronic copy of their health information are provided a copy within 3 business days.
		Provide patients with an electronic copy of their discharge instructions at time of discharge, upon request.	More than 50% of all patients who are discharged from an eligible hospital or CAH's inpatient department or emergency department (POS 21 or 23) and who request an electronic copy of their discharge instructions are provided it.
	Provide patients with clinical summaries for each office visit.		Clinical summaries provided to patients for more than 50% of all office visits within 3 business days.
Improved care coordination	Capability to electronically exchange key clinical information (for example, problem list, medication list, medication allergies, diagnostic test results), among providers of care and patient authorized entities.	Capability to electronically exchange key clinical information (for example, discharge summary, procedures, problem list, medication list, medication allergies, diagnostic test results), among providers of care and patient authorized entities.	Performed at least one test of certified EHR technology's capacity to electronically exchange key clinical information.

Ensure adequate privacy and security protections for personal health information.	Protect electronic health information created or maintained by the certified EHR technology through the implementation of appropriate technical capabilities.	Protect electronic health information created or maintained by the certified EHR technology through the implementation of appropriate technical capabilities.	Conduct or review a security risk analysis per 45 CFR 164.308(a)(1) and implement security updates as necessary and correct identified security deficiencies as part of its risk management process.
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MENU SET

Health Outcomes Policy Priority	Stage 1 Objectives		Stage 1 Measures
	Eligible Professionals	Eligible Hospitals and CAHs	
Improving quality, safety, efficiency, and reducing health disparities	Implement drug-formulary checks	Implement drug-formulary checks	The EP/eligible hospital/CAH has enabled this functionality and has access to at least one internal or external drug formulary for the entire EHR reporting period.
		Record advance directives for patients 65+ years old	More than 50% of all unique patients 65+ years old admitted to the eligible hospital's or CAH's inpatient department (POS 21 or 23) have an indication of an advance directive status recorded.
	Incorporate clinical lab-test results into certified EHR technology as structured data.	Incorporate clinical lab-test results into certified EHR technology as structured data.	More than 40% of all clinical lab test results ordered by the EP or by an authorized provider of the eligible hospital/CAH for patients admitted to its inpatient or emergency department (POS 21 or 23) during the EHR reporting period whose results are

			either in a positive/negative or numerical format are incorporated in a certified EHR technology as structured data.
	Generate lists of patients by specific conditions to use for quality improvement, reduction of disparities, research or outreach.	Generate lists of patients by specific conditions to use for quality improvement, reduction of disparities, research or outreach.	Generate at least one report, listing patients of the EP, eligible hospital or CAH with a specific condition.
	Send reminders to patients per patient preference for preventive/follow up care.		More than 20% of all unique patients 65+ years old or 5 years old or younger were sent an appropriate reminder during the EHR reporting period.
Engage patients and families in their health care	Provide patients with timely electronic access to their health information (including lab results, problem list, medication lists, medication allergies) within four business days of the information being available to the EP.		More than 10% of all unique patients seen by the EP are provided timely electronic access to their health information subject to the EP's discretion to withhold certain information (available to the patient within four business days of being updated in the certified EHR technology).
	Use certified EHR technology to identify patient-specific education resources and provide those resources to the patient if appropriate.	Use certified EHR technology to identify patient-specific education resources and provide those resources to the patient if appropriate.	More than 10% of all unique patients seen by the EP or admitted to the eligible hospital/CAH's inpatient or emergency department (POS 21 or 23) are provided patient-specific education resources.
Improve care	The EP, eligible	The EP, eligible	The EP, eligible

coordination	hospital, or CAH who receives a patient from another setting/provider of care or believes an encounter is relevant should perform medication reconciliation.	hospital, or CAH who receives a patient from another setting/provider of care or believes an encounter is relevant should perform medication reconciliation.	hospital, or CAH performs medication reconciliation for more than 50% of transitions of care in which the patient is transitioned into the care of the EP or admitted to the eligible hospital's or CAH's inpatient or emergency department (POS 21 or 23).
	The EP, eligible hospital, or CAH who transitions their patient to another setting of care or refers their patient to another provider of care should provide summary of care record for each transition of care or referral.	The EP, eligible hospital, or CAH who transitions their patient to another setting of care or refers their patient to another provider of care should provide summary of care record for each transition of care or referral.	The EP, eligible hospital, or CAH who transitions or refers their patient to another setting of care of provider of care provides a summary of care record for more than 50% of transitions of care and referrals.
Improve population and public health. <i>(Unless an EP, eligible hospital, or CAH has an exception for all of these objectives and measures they must complete at least one as part of their demonstration of the menu set in order to be a meaningful EHR user)</i>	Capability to submit electronic data to immunization registries or Immunization Information Systems and actual submission in accordance with applicable law and practice.	Capability to submit electronic data to immunization registries or Immunization Information Systems and actual submission in accordance with applicable law and practice.	Performed at least one test of certified EHR technology's capacity to submit electronic data to immunization registries and follow up submission if the test is successful (unless none of the immunization registries to which the EP, eligible hospital, or CAH submits such information have the capacity to receive the information electronically).
		Capability to submit	Performed at least one

		<p>electronic data on reportable (as required by state or local law) lab results to public health agencies and actual submission in accordance with applicable law and practice.</p>	<p>test of certified EHR technology's capacity to provide electronic submission of reportable lab results to public health agencies and follow-up submission if the test is successful (unless none of the public health agencies to which eligible hospital or CAH submits such information have the capacity to receive the information electronically).</p>
	<p>Capability to submit electronic syndromic surveillance data to public health agencies and actual submission in accordance with applicable law and practice.</p>	<p>Capability to submit electronic syndromic surveillance data to public health agencies and actual submission in accordance with applicable law and practice.</p>	<p>Performed at least one test of certified EHR technology's capacity to provide electronic syndromic surveillance data to public health agencies and follow-up submission if the test is successful (unless none of the public health agencies to which an EP, eligible hospital or CAH submits such information have the capacity to receive the information electronically).</p>