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Perspective

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The "Meaningful Use" Regulation for Electronic Health Records

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The widespread use of electronic health records (EHRs) in the United States is inevitable. EHRs will improve caregivers' decisions and patients' outcomes. Once patients experience the benefits of this technology, they will demand nothing less from their providers. Hundreds of thousands of physicians have already seen these benefits in their clinical practice.

But inevitability does not mean easy transition. We have years of professional agreement and bipartisan consensus regarding the potential value of EHRs. Yet we have not moved significantly to extend the availability of EHRs from a few large institutions to the smaller clinics and practices where most Americans receive their health care.

Last year, Congress and the Obama administration provided the health care community with a transformational opportunity to break through the barriers to progress. The Health Information Technology for Economic and Clinical Health Act (HITECH) authorized incentive payments through Medicare and Medicaid to clinicians and hospitals when they use EHRs privately and securely to achieve specified improvements in care delivery.

Through HITECH, the federal government will commit unprecedented resources to supporting the adoption and use of EHRs. It will make available incentive payments totaling up to $27 billion over 10 years, or as much as $44,000 (through Medicare) and $63,750 (through Medicaid) per clinician. This funding will provide important support to achieve liftoff for the creation of a nationwide system of EHRs.

Equally important, HITECH's goal is not adoption alone but "meaningful use" of EHRs — that is, their use by providers to achieve significant improvements in care. The legislation ties payments specifically to the achievement of advances in health care processes and outcomes.

HITECH calls on the secretary of health and human services to develop specific "meaningful use" objectives. With the Centers for Medicare and Medicaid Services (CMS) in the lead, the Department of Health and Human Services (DHHS) has used an inclusive and open process to develop these criteria, providing an extensive opportunity for public and professional input. The department published proposed meaningful use requirements on January 16, 2010. The proposal prompted some 2000 comments. This week, the

DHHS is releasing a final regulation for the first 2 years (2011 and 2012) of this multiyear incentive program. Subsequent rules will govern later phases.

Although the intent of our January proposals has been retained and indeed affirmed through the rule-making process, the final regulation also incorporates significant changes — a response to the comments and experience that diverse stakeholders shared with us. In particular, concerns about the pace and scope of implementation of meaningful use led us to adopt a two-track approach regarding the objectives that allow practices and hospitals to qualify for incentive payments in the first 2 years of the program.

The most important part of this regulation is what it says hospitals and clinicians must do with EHRs to be considered meaningful users in 2011 and 2012. In the original proposal, we identified a broad set of objectives, all of which would need to be met. This included 23 objectives for hospitals and 25 for clinicians. The DHHS received many comments that this approach was too demanding and inflexible, an all-or-nothing test that too few providers would be likely to pass.

In the final regulation, we have divided these elements into two groups: a set of core objectives that constitute an essential starting point for meaningful use of EHRs and a separate menu of additional important activities from which providers

Summary Overview of Meaningful Use Objectives.*

Objective	Measure
Core set of objectives to be achieved by all eligible professionals, hospitals, and critical access hospitals to qualify for incentive payments	
Record patient demographics (sex, race, ethnicity, date of birth, preferred language, and in the case of hospitals, date and preliminary cause in the event of death)	Over 50% of patients' demographic data recorded as structured data
Record vital signs and chart changes (height, weight, blood pressure, body-mass index, growth charts for children)	Over 50% of patients 2 years of age or older have height, weight, and blood pressure recorded as structured data
Maintain up-to-date problem list of current and active diagnoses	Over 80% of patients have at least one entry recorded as structured data
Maintain active medication list	Over 80% of patients have at least one entry recorded as structured data
Maintain active medication allergy list	Over 80% of patients have at least one entry recorded as structured data
Record smoking status for patients 13 years of age or older	Over 50% of patients 13 years of age or older have smoking status recorded as structured data
For individual professionals, provide patients with clinical summaries for each office visit; for hospitals, provide an electronic copy of hospital discharge instructions on request	Clinical summaries provided to patients for over 50% of all office visits within 3 business days; over 50% of all patients who are discharged from the inpatient department or emergency department of an eligible hospital or critical access hospital and who request an electronic copy of their discharge instructions are provided with it
On request, provide patients with an electronic copy of their health information (including diagnostic-test results, problem list, medication lists, medication allergies, and for hospitals, discharge summary and procedures)	Over 50% of requesting patients receive electronic copy within 3 business days
Generate and transmit permissible prescriptions electronically (does not apply to hospitals)	Over 40% are transmitted electronically using certified EHR technology
Computer provider order entry (CPOE) for medication orders	Over 30% of patients with at least one medication in their medication list have at least one medication ordered through CPOE
Implement drug–drug and drug–allergy interaction checks	Functionality is enabled for these checks for the entire reporting period
Implement capability to electronically exchange key clinical information among providers and patient-authorized entities	Perform at least one test of EHR's capacity to electronically exchange information
Implement one clinical decision support rule and ability to track compliance with the rule	One clinical decision support rule implemented
Implement systems to protect privacy and security of patient data in the EHR	Conduct or review a security risk analysis, implement security updates as necessary, and correct identified security deficiencies
Report clinical quality measures to CMS or states	For 2011, provide aggregate numerator and denominator through attestation; for 2012, electronically submit measures

Summary Overview of Meaningful Use Objectives (Continued.)	
Objective	**Measure**
Eligible professionals, hospitals, and critical access hospitals may select any five choices from the menu set	
Implement drug formulary checks	Drug formulary check system is implemented and has access to at least one internal or external drug formulary for the entire reporting period
Incorporate clinical laboratory test results into EHRs as structured data	Over 40% of clinical laboratory test results whose results are in positive/negative or numerical format are incorporated into EHRs as structured data
Generate lists of patients by specific conditions to use for quality improvement, reduction of disparities, research, or outreach	Generate at least one listing of patients with a specific condition
Use EHR technology to identify patient-specific education resources and provide those to the patient as appropriate	Over 10% of patients are provided patient-specific education resources
Perform medication reconciliation between care settings	Medication reconciliation is performed for over 50% of transitions of care
Provide summary of care record for patients referred or transitioned to another provider or setting	Summary of care record is provided for over 50% of patient transitions or referrals
Submit electronic immunization data to immunization registries or immunization information systems	Perform at least one test of data submission and follow-up submission (where registries can accept electronic submissions)
Submit electronic syndromic surveillance data to public health agencies	Perform at least one test of data submission and follow-up submission (where public health agencies can accept electronic data)
Additional choices for hospitals and critical access hospitals	
Record advance directives for patients 65 years of age or older	Over 50% of patients 65 years of age or older have an indication of an advance-directive status recorded
Submit electronic data on reportable laboratory results to public health agencies	Perform at least one test of data submission and follow-up submission (where public health agencies can accept electronic data)
Additional choices for eligible professionals	
Send reminders to patients (per patient preference) for preventive and follow-up care	Over 20% of patients 65 years of age or older or 5 years of age or younger are sent appropriate reminders
Provide patients with timely electronic access to their health information (including laboratory results, problem list, medication lists, medication allergies)	Over 10% of patients are provided electronic access to information within 4 days of its being updated in the EHR

*This overview is meant to provide a reference tool indicating the key elements of meaningful use of health information technology. It does not provide sufficient information for providers to document and demonstrate meaningful use in order to obtain financial incentives from the Centers for Medicare and Medicaid Services (CMS). The regulations and filing requirements that must be fulfilled to qualify for the Health IT financial incentive program are detailed at www.cms.gov.

will choose several to implement in the first 2 years (see table).

Core objectives comprise basic functions that enable EHRs to support improved health care. As a start, these include the tasks essential to creating any medical record, including the entry of basic data: patients' vital signs and demographics, active medications and allergies, up-to-date problem lists of current and active diagnoses, and smoking status.

Other core objectives include using several software applications that begin to realize the true potential of EHRs to improve the safety, quality, and efficiency of care. These features help clinicians to make better clinical decisions — and avoid preventable errors. To qualify for incentive payments, clinicians must start employing such clinical decision support tools. They must also start using the capability that undergirds much of the value of EHRs: using records to enter clinical orders and, in particular, medication prescriptions. Only when providers enter orders electronically can the computer help improve decisions by applying clinical logic to those choices in light of all the recorded patient data. And to begin extending the benefits of EHRs to patients themselves, the meaningful use requirements will include providing patients with electronic versions of their health information.

In addition to the core elements, the rule creates a second group: a menu of 10 additional tasks, from which providers can choose any 5 to implement in 2011–2012. This gives providers latitude to pick their own path toward full EHR implementation and meaningful use.

For example, the menu includes capacities to perform drug-formulary checks, incorporate clinical laboratory results into EHRs, provide reminders to patients for needed care, identify and provide patient-specific health education resources, and employ EHRs to support the patient's transitions between care settings or personnel.

For most of the core and menu items, the regulation also specifies the rates at which providers will have to use particular functions to be considered meaningful users. Reflecting the views and experiences shared during the comment period, these rates will enable significant progress toward improving care — but are also achievable by average practices and providers in the early years.

The HITECH legislation further requires that meaningful use include electronic reporting of data on the quality of care. In the final regulation, we have simplified the January proposals for quality reporting, while still building toward a robust reporting capability that will inform providers about their own performance and will eventually inform the public as well. Clinicians will have to report data on three core quality measures in 2011 and 2012: blood-pressure level, tobacco status, and adult weight screening and follow-up (or alternates if these do not apply). Clinicians must also choose three other measures from lists of metrics that are ready for incorporation into electronic records.

The meaningful use rule is part of a coordinated set of regulations to help create a private and secure 21st-century electronic health information system. On June 18, 2010, the DHHS issued a rule that laid out a process for the certification of electronic health records, so that providers can be assured they are capable of meaningful use. The department has also issued still another regulation that lays out the standards and certification criteria that EHRs must meet in order to be certified. Finally, realizing that the privacy and security of EHRs are vital, the DHHS has been working hard to safeguard privacy and security by implementing new protections contained in the HITECH legislation.

The meaningful use rule strikes a balance between acknowledging the urgency of adopting EHRs to improve our health care system and recognizing the challenges that adoption will pose to health care providers. The regulation must be both ambitious and achievable. Like an escalator, HITECH attempts to move the health system upward toward improved quality and effectiveness in health care. But the speed of ascent must be calibrated to reflect both the capacities of providers who face a multitude of real-world challenges and the maturity of the technology itself.

As part of this process, the DHHS is establishing a nationwide network of Regional Extension Centers to assist providers in adopting qualified EHRs and making meaningful use of them. The DHHS is committed to the support, collaboration, and ongoing learning that will mark our progress toward electronically connected, information-driven medical care. We hope that providers and consumers will now join us in the effort to assure that we make the best possible use of our most precious health care resource: information about the patients we serve.

Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

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