



## Meaningful Use of Health Information Technology: Proving Its Worth?

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OVERVIEW — *Health policymakers in recent years have looked to the implementation of health information technology (health IT)—electronic health records and the like—as a means to improve quality, reduce costs, and achieve better health outcomes across populations. But implementing health IT in a meaningful way must go beyond purchasing medical records software. The U.S. Department of Health and Human Services (HHS) devised a set of measures and incentives for hospitals and eligible medical professionals within Medicare or Medicaid to mark successive stages of effective IT implementation. This issue brief discusses the history of meaningful use, the measures used to evaluate effectiveness, and the policy implications of the HHS requirements.*

There is a longstanding expectation that health information technology (health IT) holds an important key to both quality and efficiency in care delivery. Its promise takes the form of a litany: Health IT will form the basis of a national, interoperable, and secure system for the exchange of medical information among all the sites where a patient receives care; health IT will eliminate errors caused by illegible handwriting and misfiled paper; health IT will drive quality, spur competition, and make redundant testing a thing of the past. Further, it will enable a learning health care system, one marked by continuous quality improvement and measurable population health outcomes.

President George W. Bush set a ball rolling in 2004 with his vision of an electronic health record (EHR) for all within ten years and his establishment of the Office of the National Coordinator for Health Information Technology (ONC). More dollars for implementation of health IT were appropriated in the early days of the Obama Administration, along with requirements meant to ensure that the technology's use is meaningful and that it brings our health care system closer to realizing that health IT promise. Now more than ten years later, what has been accomplished? This issue brief reviews meaningful use: its history, details, and policy implications.

## BACKGROUND

The Health Information Technology for Economic and Clinical Health Act (HITECH), enacted as part of the American Recovery and Reinvestment Act of 2009 (ARRA), made some \$27 billion available to eligible professionals (EPs)<sup>1</sup> and hospitals that adopted health IT and used it to improve care delivery under the Medicare or Medicaid programs. Simply acquiring an EHR system would not suffice. In order to qualify for financial incentives, HITECH required EPs and hospitals to demonstrate effective use of certified technology, to engage in information exchange, and to report on quality measures as specified by the Secretary of U.S. Department of Health and Human Services (HHS). These principles are fleshed out in the Medicare and Medicaid EHR

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Incentive Programs (referred to by most by the shorthand “meaningful use”) under the Centers for Medicare & Medicaid Services (CMS).

Specifics were left to HHS, which crafted a three-stage process aimed at gradual improvement over a number of years. As David Blumenthal, MD, MPP, and Marilyn Tavenner, RN, MHA, (respectively the national coordinator for health IT and the principal deputy administrator of CMS) wrote at the time: “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.”<sup>2</sup> The success of the calibration embodied in the EHR Incentive Program remains an open question.

## TIMING

The meaningful use process commenced in 2011. It was planned that Stage 2 would debut in 2013, Stage 3 in 2016. Both were delayed by a year. Hospitals and EPs could enter the process at any time, though 2014 (calendar year for EPs, fiscal year for hospitals) was the last year to begin and still earn an incentive payment. After two years of success at a particular stage, providers are expected to move to the next.

Within Medicare, the potential incentive turns negative for eligible providers in 2015, when EPs and hospitals that are not deemed meaningful users will be subject to Medicare payment adjustments (that is, decreases). These begin at 1 percent for EPs and 25 percent for hospitals and grow in magnitude over time. The Medicaid EHR incentive program continues through 2021.

### Stage 1

The overall theme for Stage 1 meaningful use is data capture and sharing. HHS first proposed sets of objectives—23 for hospitals and 25 for EPs—that all would have to meet. After extensive comments on the proposed regulation, HHS modified its approach by defining a set of core objectives that all would have to meet and also offering a menu of additional objectives from which providers were permitted to choose a certain number (**TABLE 1, next page**). Hospitals had to meet 14 core objectives and choose 5 menu objectives; EPs, 15 and 5, respectively.

**TABLE 1: Meaningful Use Requirements: Objectives and Clinical Quality Measures**

*Objectives\**

	PROVIDERS	STAGE 1 (2011)	STAGE 1 (2014+)	STAGE 2 (2014)	STAGE 2 (2016)	STAGE 3 (2017)
<b>Core</b>	Eligible Professionals	15	13	17	10 <sup>†</sup>	8 <sup>‡</sup>
	Hospitals	14	11	16	9 <sup>†</sup>	8 <sup>‡</sup>
<b>Menu</b>	Eligible Professionals	5 of 10	5 of 10	3 of 6	n/a	n/a
	Hospitals	5 of 10	5 of 10	3 of 6	n/a	n/a

\* For details of objectives and measures, see: [www.healthit.gov/buzz-blog/meaningful-use/2014-meaningful-objectives-quick-reference-grids](http://www.healthit.gov/buzz-blog/meaningful-use/2014-meaningful-objectives-quick-reference-grids); [www.healthit.gov/buzz-blog/health-innovation/6-meaningful-ehr-certification-2014](http://www.healthit.gov/buzz-blog/health-innovation/6-meaningful-ehr-certification-2014); <https://www.healthit.gov/providers-professionals/step-5-achieve-meaningful-use-stage-2>; [https://www.healthit.gov/sites/default/files/stage2\\_meaningfulusespecsheet\\_tablecontents\\_eligiblehospitals\\_cahs.pdf](https://www.healthit.gov/sites/default/files/stage2_meaningfulusespecsheet_tablecontents_eligiblehospitals_cahs.pdf); <https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/Stage1vsStage2CompTablesforEP.pdf>.

<sup>†</sup> Includes one consolidated public health reporting objective with measure options.

<sup>‡</sup> Sets of recommended core objectives, one for adults and one for children.

*Clinical Quality Measures\**

	PROVIDERS	STAGE 1 (2011)	STAGE 1 (2014+)	STAGE 2 (2014)	STAGE 2 (2016)	STAGE 3 (2017)
	Eligible Professionals	6	9 <sup>§</sup> from a library of 60+ measures (all stages)			
	Hospitals	15	16 <sup>§</sup> from a library of 30+ measures (all stages)			

\* For details of clinical quality measures, see : <https://ecqi.healthit.gov/>.

<sup>§</sup> Collectively, these must cover at least three of the six domains of the National Quality Strategy: patient and family engagement, patient safety, care coordination, population/public health, efficient use of healthcare resources, clinical processes/effectiveness.

An example of a core objective is “Maintain active medication list,” for which the associated measure is that 80 percent of patients seen by the EP or admitted to the hospital must have at least one medication entry recorded (or a notation that no medication was ordered). Providers also were required to select a number of clinical quality measures on which to report, for example, blood pressure measurement and smoking cessation intervention. The reporting period was defined as 90 consecutive days in the first year of participation, a full year thereafter.

**Stage 2**

Stage 2’s theme is the advancement of clinical processes. As noted, the effective date became 2014. Providers again were allowed a 90-day rather than full-year reporting period for that year.

Stage 2 retains a core and menu structure for meaningful use objectives. In this stage, hospitals must meet 16 core objectives and three of six menu objectives; EPs, 17 plus three of six. Most Stage 1 objectives were carried over, but performance thresholds are higher in Stage 2. For example, the minimum percentage of prescriptions to be transmitted electronically goes up from 40 to 50. New core objectives were added relating to EPs' electronic communication with patients and hospitals' medication tracking.

Stage 2 objectives were further modified to harmonize with Stage 3 objectives when the latter were published in 2015 (see below), resulting in ten required objectives for EPs and hospitals, one of which must relate to public reporting.

### Stage 3

In October 2015 HHS released final rules for both the 2015 Edition Health IT Certification Criteria and the Medicare and Medicaid EHR Incentive Programs, the latter building in an additional 60-day comment period. The accompanying press release stressed that the Department had "eliminated unnecessary requirements, simplified and increased flexibility for those that remain, and focused on interoperability, information exchange, and patient engagement."<sup>3</sup>

Stated goals of the Stage 3 rule are to provide a flexible, clear framework to simplify the meaningful use program and reduce provider burden; ensure future sustainability of the Medicare and Medicaid EHR Incentive Programs; and advance the use of health IT to promote health information exchange and improved outcomes for patients. The rule aligns reporting periods for EPs and hospitals to put them both on a calendar-year cycle.

In Stage 3, core sets of eight objectives that all participants must achieve replace the earlier core-and-menu objectives model. These include increased thresholds, advanced use of health information exchange functionality, and an overall focus on continuous quality improvement.

Stage 3 requirements are optional in 2017. Providers who choose to begin Stage 3 in 2017 will have a 90-day reporting period. All providers will be required to comply with Stage 3 requirements beginning in 2018 using EHR technology certified to the 2015 Edition.

## PARTICIPATION

CMS reports 2,369 new EP registrations in EHR Incentive programs in August 2015, for a program-to-date total of 541,072. The corresponding figures for hospital registrations are 26 and 4,847.<sup>4</sup> As of April 2015, CMS reported that 95 percent of hospitals and 54 percent of EPs had demonstrated meaningful use of health IT.<sup>5</sup> These figures do not break down the stages at which such demonstration has occurred. The American Hospital Association has stated that more than 60 percent of hospitals have yet to attest to—i.e., meet the requirements of—Stage 2.<sup>6</sup> A survey conducted by *Medical Practice Insider* in conjunction with the physicians' social network SERMO found more than half of physicians intend not to attest to Stage 2 in 2015.<sup>7</sup> Sen. Lamar Alexander (R-TN, chairman of the Committee on Health, Education, Labor, and Pensions), in a statement calling on CMS to delay Stage 3, asserted that only 12 percent of physicians had so far attested.<sup>8</sup> CMS said earlier in the year that, of the 42 percent of EPs eligible for Stage 2, 15 percent had so far attested, noting that it was likely many would wait until later in the year.<sup>9</sup> (February 2016 is the deadline for attesting to 2015 use.)

## POLICY ISSUES

**Timing** — Chief among the policy concerns in late 2015 is the timing of stages and requirements. As noted above, Stages 2 and 3 were each delayed a year from the original schedule. However, providers say that making Stage 3 optional in 2017 and required in 2018 fails to recognize that many hospitals and EPs are still coming to terms with Stage 2 and does not allow sufficient time to analyze what has been learned in Stage 2 and what could be improved. Consumer representatives, on the other hand, favor a full-speed-ahead approach. EHR vendors will have to be prepared with Stage 3-compliant products by 2017. Rep. Renee Ellmers (R-NC) introduced a bill in July to delay Stage 3; in late September, more than 100 members of the U.S. House of Representatives joined her in urging the same in a letter to Office of Management and Budget Director Shaun Donovan and HHS Secretary Sylvia Burwell.<sup>10</sup>

Complicating the timing issue is the fact that new physician payment mechanisms created in the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) are set to debut in 2019. Under MACRA, physicians may choose to participate in alternative payment models (APMs), such as accountable care organizations or patient-centered medical homes, or in a merit-based incentive payment system (MIPS). Meaningful use

requirements will be folded into MIPS, but will comprise only one element used in calculating reimbursement. In October 2015, CMS issued a Request for Information soliciting stakeholder feedback on APMs and MIPS, looking toward an expected proposed rule publication date in the spring of 2016. As many have observed, there is a fair amount of uncertainty, fed further by the above-mentioned comment period on the final rule.

Some concerns that were present well before Stage 3 remain, including a fundamental design disagreement. Providers object to the all-or-nothing approach that gives no partial credit: one clears the specified threshold or one fails completely.

**Interoperability** — Key to the EHR vision, making health IT systems interoperable—able to “talk” across systems at different offices or institutions—is still elusive in practice. ONC has published and continues to refine an interoperability roadmap and standards, but many providers continue to complain of their difficulty in communicating electronically with other clinicians and facilities, pharmacies, public health registries, and patients. Of the nonfederal EHR experts interviewed by the U.S. Government Accountability Office earlier this year, 10 of 18 said that meaningful use requirements forced organizations to shift resources and attention from efforts to achieve interoperability.<sup>11</sup> Some regional health information exchanges have made progress toward interoperability, while others still struggle with governance, financing, and turf issues. A group of EHR stakeholders, including chief executive officers of leading vendor companies, recently were able to agree to “objective measures of interoperability and ongoing reporting,” but such a measurement process remains to be launched.<sup>12</sup>

**Patient engagement** — Accountability for the engagement of patients with the technology has been a bone of contention for some time. CMS originally specified that, in order for EPs to be deemed in compliance with the measure, more than 5 percent of all unique patients seen during the EHR reporting period (or their authorized representatives) would have to view, download, or transmit (VDT) their health information to a third party. Providers did not believe that they should be held responsible for the electronic capabilities and inclinations of their patients, or for coaxing reluctant patients to change. Protest was vigorous. CMS later modified the measure, prescribing that only one patient per clinician must engage in VDT. This threshold remains in effect under Stage 2.

In Stage 3, 80 percent of patients seen by an EP or discharged from the hospital or emergency department must be given timely access to VDT. Further, the information must be available via a patient's choice of application, as long as that choice conforms to the technical specifications of the application programming interface (API) of the provider's certified EHR. A single, provider-defined electronic patient portal may not suffice. Perhaps more daunting, providers are expected to instruct patients in how to authenticate their API access. Adding marketing (for patient engagement) and technical consulting functions to the physician's portfolio seems to raise the volume of the "Let doctors be doctors" chorus. Providers and consumers also seem to have differing ideas about patient-generated data. Consumer representatives press for patients' ability to enter data in their own records. Some providers envision this process as scanning in PDF documents taken from the internet, taking up space but adding little to the record's utility.

## OUTLOOK

The 60-day comment period on the final rule ends on December 15. MACRA specifics have yet to emerge. Most observers agree that health care still has a long way to go in achieving the electronic-records promise held forth in HITECH. Whether demonstrating meaningful use is a help or a hindrance remains subject to debate.

## ENDNOTES

1. Eligible professionals under Medicare are doctors of medicine, osteopathy, dental surgery or medicine, podiatry, optometry, and chiropractors. Under Medicaid, they are all of the preceding as well as nurse practitioners, certified nurse-midwives, and physician assistants (PA) practicing in a federally qualified health center or rural health clinic that is PA-led.
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3. U.S. Department of Health and Human Services (HHS), "HHS issues rules to advance electronic health records with added simplicity and flexibility," press release, October 6, 2015, [www.hhs.gov/about/news/2015/10/06/hhs-issues-rules-advance-electronic-health-records-added-simplicity-and-flexibility.html](http://www.hhs.gov/about/news/2015/10/06/hhs-issues-rules-advance-electronic-health-records-added-simplicity-and-flexibility.html).
4. CMS, "EHR Incentive Program, Active Registrations," August 2015, [https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/August2015\\_SummaryReport.pdf](https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/August2015_SummaryReport.pdf).

5. Office of the National Coordinator for Health Information Technology, HealthIT.gov dashboard: "Hospitals Participating in the CMS EHR Incentive Programs," April 2015, <http://dashboard.healthit.gov/quickstats/pages/FIG-Hospitals-EHR-Incentive-Programs.php>; and "Office-based Health Care Professional Participation in the CMS EHR Incentive Programs," April 2015, <http://dashboard.healthit.gov/quickstats/pages/FIG-Health-Care-Professionals-EHR-Incentive-Programs.php>.
6. American Hospital Association, "Getting Meaningful Use Right," fact sheet, September 9, 2015, [www.aha.org/content/14/fs-meaningfuluse.pdf](http://www.aha.org/content/14/fs-meaningfuluse.pdf).
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8. U.S. Senate Committee on Health, Education, Labor & Pensions, "Alexander: Rushing Stage 3 of Electronic Health Records Program a 'Disservice to More than 500,000 Doctors, Thousands of Hospitals and Millions of Patients,'" press release, October 6, 2015, [www.help.senate.gov/chair/newsroom/press/alexander-rushing-stage-3-rule-of-electronic-health-records-program-a-disservice-to-more-than-500000-doctors-thousands-of-hospitals-and-millions-of-patients](http://www.help.senate.gov/chair/newsroom/press/alexander-rushing-stage-3-rule-of-electronic-health-records-program-a-disservice-to-more-than-500000-doctors-thousands-of-hospitals-and-millions-of-patients).
9. iHealthBeat, "ONC: 15% of Stage 2-Eligible Professionals Attest to Meaningful Use," February 5, 2015, [www.ihealthbeat.org/articles/2015/2/6/onc-15-of-stage-2-eligible-professionals-attest-to-meaningful-use](http://www.ihealthbeat.org/articles/2015/2/6/onc-15-of-stage-2-eligible-professionals-attest-to-meaningful-use).
10. The Office of Rep. Renee Ellmers, "Ellmers Leads Letter Urging Relief for Healthcare Providers," press release, September 28, 2015, <http://ellmers.house.gov/news/documentsingle.aspx?DocumentID=963>.
11. U.S. Government Accountability Office, "Electronic Health Records: Nonfederal Efforts to Help Achieve Health Information Interoperability," GAO-15-817, September 2015, [www.gao.gov/assets/680/672585.pdf](http://www.gao.gov/assets/680/672585.pdf).
12. Health IT Outcomes, "Healthcare Vendors Agree to Interoperability Metric During KLAS Keystone Summit," October 19, 2015, [www.healthitoutcomes.com/doc/healthcare-vendors-interoperability-metric-during-klas-keystone-summit-0001](http://www.healthitoutcomes.com/doc/healthcare-vendors-interoperability-metric-during-klas-keystone-summit-0001).