

## Chapter 2

# Federal Policies and Initiatives

A number of new federal initiatives are designed to promote the adoption of electronic health records and health information exchange, and to create new care models and processes for chronic disease management enabled by these technologies. The health informatics efforts are being managed by the Office of the National Coordinator for Health Information Technology (ONC), a new federal agency created by the Bush administration to implement the goal of universal adoption of electronic health records by 2014. Major commercial health insurers have adopted their own versions of some of these programs, suggesting their impact will be health system wide. Even though I describe these initiatives separately, it is important to consider their potential cumulative effect.

### Certified Electronic Health Records

First, we need to deal with a terminology issue. Early on the term “electronic medical record” (EMR) was used to designate a computer-based patient chart. At that time the focus was generally only on the physician. Technologies like the Internet offer the prospect of engaging all stakeholders, including the patient, in a networked healthcare system where data is shared and a more complete clinical and behavioral picture is available to all. This complete picture is now called the “electronic health record” (EHR). The EMR is a component of it. It also represents a shift in mindset away from treating disease and toward maintaining health. [1]

The federal “Meaningful Use” program we will discuss next requires that providers (“eligible professionals”) install a certified EHR. A detailed discussion of certification is beyond the scope of this book, but a section of the final rule published by ONC provides a working definition: “An electronic record of health-related information on an individual that: (A) Includes patient demographic and clinical health information, such as medical history and problem lists; and (B) has the capacity: (i) to provide clinical decision support; (ii) to support physician order entry; (iii) to capture and query information relevant to healthcare quality; and

(iv) to exchange electronic health information with, and integrate such information from other sources.” [2]

ONC has approved six organizations to do certification testing and 1,426 certified products are listed on their website. Of these, 924 are “complete EHRs” meaning a purchase of this system alone provides all the tools to achieve Meaningful Use. The rest are “modular EHRs” meaning that they can be combined with other modular components to achieve Meaningful Use. An example of a modular EHR would be a system for e-prescribing. It would need to be combined with at least one other module that could provide the rest of the required functionality. This complexity and multiplicity of choices creates a problem for prospective purchasers. ONC provides an online “shopping tool” [3] but no real substantive guidance. For providers seeking such advice I offer some suggestions in Resources at the end of the book.

## Meaningful Use

In 2008 DesRoches *et al* published a comprehensive physician EHR adoption survey and introduced the distinction between “basic” electronic health record systems and “fully functional” systems. [4] Table 1 of the paper <sup>5</sup> describes in detail the difference between a “passive” electronic replacement for paper charts and a system that “actively” intervenes to help improve care quality. It provides a useful basis for understanding the concept of Meaningful Use as defined by ONC.

The American Recovery and Reconstruction Act (ARRA, the “Stimulus”) that is funding EHR deployment defines Meaningful Use as including three components:

1. The use of a certified EHR in a meaningful manner.
2. The electronic exchange of health information to improve quality of healthcare.
3. The use of certified EHR technology to submit clinical quality and other measures.

ONC was charged to define what a certified EHR is and to develop a process for certifying EHRs. It was also told by Congress to more specifically define and implement Meaningful Use of those certified EHRs. After much debate and the solicitation of external input, ONC decided to do this in three stages (Fig. 2.1).

The ARRA program funds adoption by hospitals and community-based “eligible providers”. Eligible providers are physicians and a list of other licensed health professionals. Hospitals and eligible providers each have their own Meaningful Use standards but we’ll only discuss the standards for eligible providers.

At present Stages 1 and 2 have been finalized. As shown in Fig. 2.1, Stage 1 focuses on data collection and sharing while Stage 2 introduces more advanced uses of that data to improve clinical processes and decisions. Both stages require the

---

<sup>5</sup><http://www.nejm.org/doi/full/10.1056/NEJMsa0802005>



Fig. 2.1 The Three Stages of Meaningful Use

submission of certain quality measures. Defining quality and appropriate measures is itself a complex subject. For our purposes it suffices to recognize that quality measures are typically either of *process* (did the provider frequently enough do something that is desired) or of *outcome* (did enough of the provider’s patients achieve a desired result).

The quality measures in Stage 1 are divided into 15 mandatory **Core Measures** a so-called **Menu Set** of 10 measures of which 5 must be done, 3 core **Clinical Quality Measures** and 38 optional quality measures of which 3 must be done. The Core and Menu Set measures are further subdivided into groups of measures. The groups and examples provided here use language taken directly from the government and may contain unfamiliar terms.

The Stage 1 **Core Measures** are divided into four groups and are mostly measures of process. The four groups are listed below along with an example of one of the quality measures for each group.

**Improve Quality, Safety, and Efficiency, and Reduce Health Disparities**

Example: At least 40% of prescriptions transmitted electronically to the patient's pharmacy.

**Engage Patients and Families**

Example: Provide patients clinical summaries within three business days for more than 50 percent of all office visits.

**Improve Care Coordination**

Example: Perform at least one test to demonstrate the ability to exchange key clinical information with other providers.

**Privacy and Security**

Example: Conduct or review a security risk analysis and implement security updates as necessary.

The ten Stage 1 Menu Set measures are also divided into four groups. These measures are not all mandatory; each provider must implement at least five. Again, here is one example for each of the four groups:

**Improve Quality, Safety, and Efficiency, and Reduce Health Disparities**

Example: Generate at least one report listing patients with a specific condition.

**Engage Patients and Families**

Example: Send reminders, if desired, for preventive/follow-up care for specified minimum percentages of adult and pediatric patients

**Improve Care Coordination**

Example: Perform medication reconciliation for more than 50 percent of patient transitions into the care of the physician.

**Improve Population and Public Health**

Example: Perform at least one test of EHR's capability to provide electronic syndromic surveillance data to public health agencies, and perform a follow-up submission if the test is successful.

The three core Clinical Quality measures relate to: 1) adult weight screening; 2) screening and management of hypertension and; 3) determining smoking behavior and prescribing cessation measures if appropriate. The Stage 1 and Stage 2 requirements and the full set of quality measures are summarized clearly on the Internet. [5]

In general Stage 2 raises the bar on performance requiring, for example, more health information exchange, increased e-prescribing and electronic access to digital scans and images. Of particular interest are two new Core Measures requiring that 5% of a provider's patients actually access their health data electronically and

that an equal percentage send secure electronic messages to their provider. As we'll see later on, these new core measures promote wider use of Personal Health Records and the new DIRECT approach to health information exchange. At least one useful comparison of the three stages in chart form is posted on the Internet. [6]

The specifics are the subject of debate, discussion, and negotiation. However, even a casual inspection of these examples should reveal how closely they align with the data logistic problems of chronic disease management. They are clearly designed to move electronic health record system vendors and their customers from "basic" to "fully functional" use of the technology. Finally, in many cases, they align well with the original arguments made by Dr. Larry Weed for electronic records back in the 1960's and quoted in part at the beginning of the book.

## **The Medicare and Medicaid EHR Incentive Programs**

These are complex programs we won't cover broadly here. There is an official site [7] and a good article that summarizes the programs for health providers. [8] Providers are termed "eligible professionals". The definition of this is different under the Medicare and Medicaid incentive programs but extends beyond licensed physicians in both. Eligible professionals can be reimbursed for their investment in a certified electronic health record system up to \$44,000 over five years under the Medicare EHR Incentive Program and up to \$63,750 over six years under the Medicaid program.

There are criteria for whether or not a provider practice is eligible based on their volume of Medicare or Medicaid patients. Providers cannot participate in both programs. Medicare is run by the federal government so it is uniform across the country. Medicaid is run by each state with some funding from the federal government so, as with all Medicaid policies, the details can vary by state. Those providers who do not achieve Meaningful Use by 2015 will see a downward adjustment in their Medicare payments. The amount of this adjustment will grow through 2020 when it will reach 5%. There are currently no payment adjustments under the Medicaid program.

These incentive programs were clearly designed to resolve the incentive disconnect with respect to who invests in electronic records and who benefits from them. In other words, the federal government acknowledges that the main beneficiaries will be the organizations that pay for healthcare – primarily the government itself and employers providing health insurance. As a result, the government will cover the investment for eligible professionals who install electronic records and use them in a manner that should, at least in theory, improve the quality and efficiency of healthcare. The final tally is still years off, but adoption has clearly increased and I believe this substantial investment is also paying off in ways that weren't necessarily predicted up front. It has become a driver for innovation. We will look at specific examples of these innovative new technologies in [Chapters 4 through 7](#).

## Accountable Care Organizations

The idea of producing better results while spending less may seem counterintuitive to some readers. However, it is a key assumption in most quality improvement efforts and is well accepted in other industries, such as manufacturing, where doing it right the first time, rather than inspecting for defects and fixing them after the fact, has led to substantive improvements in product quality while driving down costs.

Healthcare, as always, is different. An example of this is found in a 2004 study from Kaiser Permanente. [9] It looked at disease management programs for coronary artery disease, heart failure, diabetes, and asthma in their organization and found that “we cannot reduce costs by improving quality unless the treatments and educational interventions that we bring to the chronically ill are not merely recommended by evidence-based guidelines but are cost-saving.”

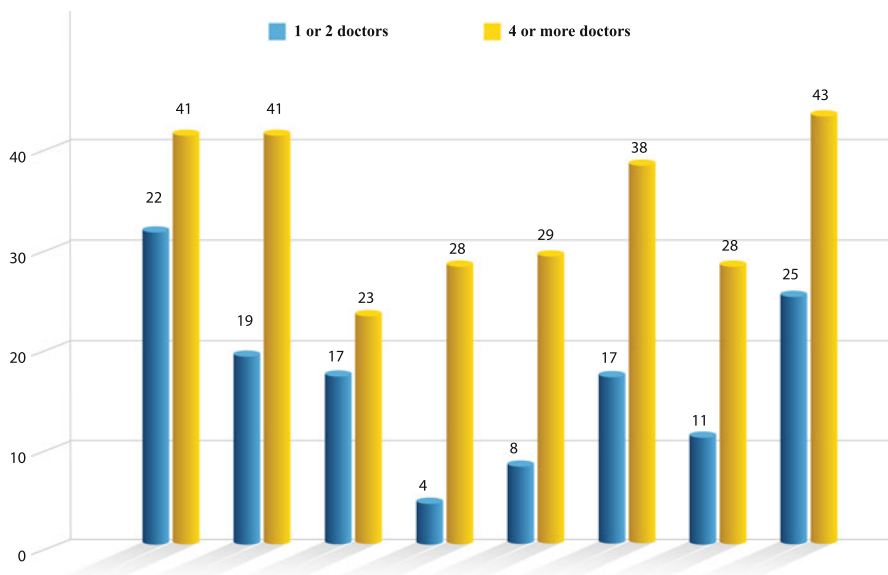
To achieve cost savings we need new care models designed to reduce cost. Such models do exist. The Robert Wood Johnson foundation advocates the Chronic Care Model [10]. The American Academy of Pediatrics, the American Academy of Family Physicians (and its Transformed subsidiary) and other groups advocate the Patient Centered Medical Home (PCMH). [11] These are similar models that emphasize a more coordinated and team-oriented approach to care that ultimately requires health information technology to manage and orchestrate new processes.

They do seem to work, if done properly. A review article found that “18 of 27 studies of the Chronic Care model concerned with 3 examples of chronic conditions (congestive heart failure, asthma, and diabetes) demonstrated reduced healthcare costs or lower use of healthcare services.” [12]

The term “Accountable Care Organization” (ACO) was first used in 2006 by Elliott Fisher, Director of the Center for Health Policy Research at Dartmouth Medical School, during a discussion at a public meeting of the Medicare Payment Advisory Commission. [13] Again, we will not delve into the details here but an article from Health Affairs [14] provides a good overview. The basic idea is to change the reimbursement model so that practitioners are rewarded for providing care at or above well-defined levels of quality *if* they do this at a lower cost than would otherwise be expected. Will this approach work?

ACOs are designed to help solve some of the basic deficiencies in our management of chronic disease by incentivizing providers to adopt the new models for chronic disease management. As we discussed earlier, one of the major problems is lack of information sharing. Chronic disease drives the substantial majority of healthcare costs. Given the fragmented nature of our health system chronic disease patients – particularly those with multiple chronic diseases – receive care from many different providers in the typical year. In this country, except in certain limited areas that do have a health information exchange, each provider delivers care with little or no knowledge of what the other providers have done.

But does this lack of data sharing actually create problems? The answer seems to be yes. The 2008 Commonwealth Fund International Health Policy Survey of Sicker Adults [15] was a telephone survey conducted from March to May 2008 of prescreened adults whose health was fair or poor based on; serious illness in past



**Fig. 2.2** More Physicians Caring for a Patient Can Lead to More Errors

2 years; or who were hospitalized; or had major surgery in past 2 years. The study showed that, among other results, specialists see patients without having their medical records around 20% of the time and that 30% of patients are discharged from hospitals without specific medication instructions. In sum, as shown in Fig. 2.2, 43% of these patients reported a medical mistake, medication error, and/or lab test error or delay when they were seen by four or more physicians versus 25% by those who were seen by 1 or 2 physicians.

The details are again beyond the scope of this book and, in part, are not yet clear, but an ACO offers to share savings with a self-organized provider group so long as it also produces quality measures at or above some pre-defined level. In practice the group might be a hospital and physician practices it owns or collaborates with. It might be medical practices, home health and long term care providers and pharmacists who band together using health information technology to deliver more coordinated care.

Much of the belief that this approach can work comes from a pilot program in ten large physician group practices (PGPs) begun in 2005 and funded by the Centers for Medicare & Medicaid Services (CMS), the huge federal agency that manages both the Medicare program to provide healthcare for the elderly and the Medicaid program for the poor and people with certain disabilities. The purpose was “to examine whether care management initiatives could generate cost savings by reducing avoidable hospital admissions, readmissions, and emergency department visits, while improving quality results”. [16] All PGPs met at least 29 of the 32 quality goals, most of which were process measures related to coronary artery disease, diabetes, heart failure, hypertension, and preventive care. Five generated Medicare savings of \$38.7 million, earning performance payments of \$31.7 million. Marshfield Clinic,



a well known and respected health system in Wisconsin, was the most successful site and earned more than half of the performance payments. Dr. Theodore Praxel, who headed the Marshfield effort, attributed their success in part to “health information technology (point-of-care reminders, being completely chartless)”.

A report on this project by the Commonwealth Fund states that:

“All of the sites participating in the PGP Demonstration have introduced some form of information technology that makes clinical data more readily available at the point of care, including EHRs and patient registries. This supports the introduction of planned visits.

These systems have improved workflow efficiencies in several ways without requiring new hires or taxing current staff. EHRs can include abnormality prompts that indicate to a provider that certain tests are missing for a particular patient. These types of prompts can improve the workflow as well as quality of care. One site includes each of the three components of the diabetic foot exam in its EHR.” [17]

So, success under an ACO does appear to increase if health information technology is used appropriately. From a provider perspective, however, this requires a substantial investment beyond whatever money is paid by the incentive programs *if* they are successful in meeting the requirements for extra reimbursement. In addition to the technology, new care models need to be put in place and this can require additional space or renovations of existing space, retraining of employees as well as hiring new kinds of employees such as care coordinators.

Reflecting on this would suggest that a health system that makes this investment would be better off if the cost could be spread out among as many patients as possible so that the benefits of success would be greater. The opportunity to do this seems to be growing as most of the major private insurers are following the trend that Medicare has started with outcome-based payment systems of their own. [18] [19] [20] [21]

Two of them have gone far beyond that. In 2010 UnitedHealth acquired Axolotl (now called OptunInsight), the largest supplier of HIE technology, and Aetna acquired Medicity, the second largest supplier. These two companies obviously see health informatics as such a strategic tool for managing outcome-based care that they want to provide the tools themselves, presumably to create competitive advantage.

Taken together these new Federal programs create incentives for providers to deploy electronic medical records and utilize them, along with health information exchange, to manage new care models that improve quality while reducing costs. At least that is the hope. The results are far from clear but I’m optimistic they will be positive, if the programs are fairly designed in a manner that allows providers to experiment and find models that work for them locally and if they are given a sufficient chance to work in our highly charged and polarized health political environment.<sup>6</sup>

---

<sup>6</sup>For an excellent discussion of the ACO concept from all the major perspectives, I strongly recommend you read the report by the Taconic Health Information Network and Community (THINC) in the Hudson Valley of NY State. [22]



## References

1. Garets D and Davis M (2006) Electronic Medical Records vs. Electronic Health Records: Yes, There Is a Difference. HIMMS Analytics [http://www.himssanalytics.org/docs/WP\\_EMR\\_EHR.pdf](http://www.himssanalytics.org/docs/WP_EMR_EHR.pdf) Accessed 19 July, 2012
2. Dimick, C Meaningful Use and EHR Certification (2010) <http://journal.ahima.org/2010/09/02/meaningful-use-and-ehr-certification/> Accessed 19 July, 2012
3. <http://oncchpl.force.com/ehrcert?q=CHPL> Accessed 19 July, 2012
4. DesRoches CM, et al (2008) Electronic Health Records in Ambulatory Care— A National Survey of Physicians. *N Engl J Med* 359:50–60
5. <http://www.healthit.gov/providers-professionals/how-attain-meaningful-use> Accessed 23 September, 2012
6. <http://www.advisory.com/Research/IT-Strategy-Council/Resources/Posters/2012/Meaningful-use-the-whiteboard-story> Accessed 23 September, 2012
7. <http://ehrincentives.cms.gov/hitech/login.action>
8. Kibbe DC (2010) A Physician's Guide to the Medicare and Medicaid EHR Incentive Programs: The Basics. *Fam Pract Manag.* 17(5):17–21
9. Firemen B, Bartlett J and Selby J (2004) Can Disease Management Reduce Healthcare Costs By Improving Quality? *Health Affairs*, 23(6): 63–75
10. <http://www.improvingchroniccare.org/> Accessed 19 July, 2012
11. <http://www.transformed.com/> Accessed 19 July, 2012
12. Bodenheimer T *et al*, (2002) Improving Primary Care for Patients With Chronic Illness: The Chronic Care Model, Part 2. *JAMA* 288(15):1909–1914
13. <http://content.healthaffairs.org/content/26/1/w44.full.html>
14. ACOs (2011) [http://www.healthaffairs.org/healthpolicybriefs/brief.php?brief\\_id=61](http://www.healthaffairs.org/healthpolicybriefs/brief.php?brief_id=61) Accessed 23 September, 2012
15. Commonwealth Fund International Health Policy Survey of Sicker Adults (2008) <http://www.commonwealthfund.org/Surveys/2008/2008-Commonwealth-Fund-International-Health-Policy-Survey-of-Sicker-Adults.aspx> Accessed 19 July, 2012
16. Iglehart JK (2011) Assessing an ACO Prototype — Medicare's Physician Group Practice Demonstration. *N Engl J Med*; 364:198–200
17. Trisolini M *et al* (2008) The Medicare Physician Group Practice Demonstration: Lessons Learned on Improving Quality and Efficiency in Healthcare [http://www.commonwealthfund.org/~1/media/Files/Publications/Fund%20Report/2008/Feb/The%20Medicare%20Physician%20Group%20Practice%20Demonstration%20;%20Lessons%20Learned%20on%20Improving%20Quality%20and%20Effici/1094\\_Trisolini\\_Medicare\\_phys\\_group\\_practice\\_demo\\_lessons\\_learned%20.pdf.pdf](http://www.commonwealthfund.org/~1/media/Files/Publications/Fund%20Report/2008/Feb/The%20Medicare%20Physician%20Group%20Practice%20Demonstration%20;%20Lessons%20Learned%20on%20Improving%20Quality%20and%20Effici/1094_Trisolini_Medicare_phys_group_practice_demo_lessons_learned%20.pdf.pdf) Accessed 19 July, 2012
18. Newcomer LN (2012) Changing Physician Incentives For Cancer Care To Reward Better Patient Outcomes Instead Of Use Of More Costly Drugs. *Health Aff* 31(4):780–785
19. <http://www.anthem.com/ca/health-insurance/about-us/pressreleasedetails/CA/2011/694> Accessed 23 September, 2012
20. Chase D (2012) Aetna's Remarkable Reinvention Underway <http://www.forbes.com/sites/davechase/2012/03/17/aetnas-remarkable-reinvention-underway> Accessed 19 July, 2012
21. Stevens S (2010) How Health Plans Can Accelerate Healthcare Innovation [http://blogs.hbr.org/cs/2010/05/how\\_health\\_plans\\_can\\_accelerate.html](http://blogs.hbr.org/cs/2010/05/how_health_plans_can_accelerate.html) Accessed 19 July, 2012
22. THINC (2011) Building ACOs and Outcome Based Contracting in the Commercial Market: Provider and Payor Perspectives [http://www.ebglaw.com/files/47636\\_Hastings-Lutes-Friedberg-THINC-ACO-Report.pdf](http://www.ebglaw.com/files/47636_Hastings-Lutes-Friedberg-THINC-ACO-Report.pdf) Accessed 19 July, 2012

Health Informatics in the Cloud

Braunstein, M.L.

2013, XVI, 98 p. 23 illus., Softcover

ISBN: 978-1-4614-5628-5