

EHR Adoption and Health Care Reform

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The amount of information associated with the health of an individual has grown exponentially in recent years. The information generated by increasing numbers of pharmaceuticals, laboratory tests, new and more sophisticated imaging studies, and detailed genetic information have exceeded the capacity of an individual physician to process. The adoption of health information technology and electronic records systems that would help to manage and process this complex array of information has lagged far behind. This viscous adoption rate contributes to the increasing cost, and inefficiency, decreasing safety, quality, and disparity of health care in the United States.

The fundamental driving objectives behind the EHR incentives program of the HITECH act and health care reform are closely aligned: improvement in the quality of health care delivery, improvement in patient safety, improved efficiency of health care, reduction in disparity between health care providers and between patient populations, coordination of care, and patient access to information. The primary technical obstacle to achieving the goals of the two is also aligned: the lack of interoperability that would allow exchange of information between electronic systems.

Large systems that were early adopters of EHR technology - VA Hospitals, Kaiser Permanente, Geisinger Clinic in Pennsylvania, Intermountain Health care in Utah - have demonstrated that access to information in a structured format enables improvements in patient safety, outcomes, and a reduction in disparity of care with attendant reductions in cost. However, expansion of these results to the larger health care system requires health information exchange that is not possible even between these institutions because of a lack of standards for interoperability.

Most hospitals in the United States are not part of a large tightly integrated system, but rather are independent or part of smaller systems. Physicians and other providers likewise are part of smaller groups, with most in practices of five or less. In order to accomplish the improvements in health care quality, safety, and efficiency that have been demonstrated in larger systems, the widely dispersed and independent elements of our health care system that exist in most communities will require a level of electronic health information exchange that currently does not exist. The EHR incentive programs, the Health Information Technology for Economic and Clinical Health Act (HITECH Act), that is part of the American Recovery and Reinvestment Act of 2009 (ARRA) stimulus legislation passed two years ago is designed to foster stepwise changes that will lead to realization of these goals.

Stage I of the EHR Incentive Programs is already initiated and covers adopting EHRs in hospitals and clinics that are capable of capturing important health information about individuals as structured data. These systems are required to have the capability of exchanging this data with other systems and to make information available electronically to patients. Stage II, which begins in 2013, is about beginning to exchange data between systems and reporting clinical quality measures and public health information such as immunizations to the appropriate governmental

agencies and registries. Stage III, which begins in 2015, is about using knowledge gained from analysis of data gathered from exchange to improve population health, to improve public health, and to reduce disparities in health care quality.

The reporting of clinical quality measures and outcomes is necessary in order to enable changes in the methods of payment for health care. A change from payment for services to payment based on outcomes has been proposed and was established as one of the goals of health care reform. This fundamental change is necessary in order to encourage improvements in health care quality and to reduce disparities across populations. It is clear from claims data that patients treated in different locations and different systems with the same diagnoses may receive care that is substantially different, both in terms of diagnostic testing and treatment, and furthermore, that these patients often have substantially different outcomes despite similar characteristics.

The use of dashboards (presentation of important parameters and statistics about a practice in a single view) and other means of enabling individual providers to see how their outcomes measures compared to those of other providers in the system has led to a substantial improvement in quality of care delivered in these systems across a broad range of illnesses and forms of treatment, including both medical and surgical management of diseases.

Pilot projects across the country with the Patient Centered Medical Home model have demonstrated the potential for improved quality and efficiency of care based on an emphasis on care coordination and information exchange. These improvements have been demonstrated particularly with the care of chronic illnesses such as congestive heart failure, asthma, and diabetes. There have also been substantial improvements in quality and reductions in cost related to reducing the number of preventable hospital and emergency department admissions in the populations cared for in these pilots.

The Accountable Care Organization (ACO) concept has evolved from the Medicare Physician Group Practice Demonstration and the Medicare Health Care Quality Demonstration, established by the 2003 Medicare Prescription Drug, Improvement, and Modernization Act. The ACO does not have a succinct definition, nor are any currently operational beyond the pilot stage. But it is generally considered to be a provider led organization with an agreement to be responsible for the care of a broad population and a commitment to improvement in quality and cost effectiveness of care with payment at least in part based on quality improvement. Most proposed models include a strong foundation of primary care, a scheme of coordination of care, and an expectation of continuous process improvement based on measurement of clinical quality and outcomes. The Patient Protection and Affordable Care Act of 2010 creates the Medicare Shared Savings program, allowing ACOs to contract with Medicare by January 2012. This legislation, among other concepts elucidated, calls for the use of evidence-based medicine and the application of evolving technologies that enable quality improvement and reductions in disparity of care. Analyses by many who have studied the concept have concluded that a successful ACO will require fully interoperable electronic health information exchange.

The conversion to the ICD-10 coding system on October 1, 2013 is an absolutely necessary step to enable outcomes measurement beyond the rudimentary efforts in the past and to enable comparative effectiveness studies. This new coding system expands almost tenfold the number

of codes that can be used clinically. The seven character alpha numeric codes capture not only a more granular diagnosis but allow coding of severity of illness and current status as well. It would, for example, allow a single code to represent a patient with moderately severe persistent asthma who is undergoing an acute exacerbation. The ICD -10 code set includes not only diagnostic, but also procedural codes that initially will be used only in the inpatient setting. The increased granularity of this new code set will require increased detail of documentation in order to accurately apply these codes. This increased detail of appropriate documentation will be greatly facilitated by EHR technology under development that includes real time computer decision support that will suggest adding appropriate details of documentation while a provider is entering clinical data about a patient. While this new code set, as does its predecessor, allows for details of a diagnosis to be “unspecified,” this is likely to result in lower payments for services and may itself be considered in the assessment of quality of care.

Although the EHR Incentives Programs are not part of the Affordable Care Act, there is an overlap of goals that include greater patient safety, improved quality of care delivered, improved care coordination, improved efficiency of care, promotion of evidence based practices, computer decision support, and reductions in disparity of care. These goals and the needs that fostered them existed long before the current EHR incentives program.