

Leveraging Health Information Technology for Accountable Care: Thoughts From the Field

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ABSTRACT

This commentary provides several reflections on the recent annual report to Congress by the Office of the National Coordinator for Health Information Technology, which highlighted the key elements in its electronic health record (EHR) incentive programs, renamed Promoting Interoperability in 2018. We discuss 3 important aspects of health information technology (IT) in connection with interoperability and accountable care: health IT as a key element to care integration and delivery by health systems, the potential harm of EHR vendor consolidation, and overcoming barriers and realizing value in providers' experience with health IT.

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Since the enactment of the Health Information Technology for Economic and Clinical Health (HITECH) Act in 2009,¹ more than \$30 billion has been paid to healthcare providers as incentives for adopting and using electronic health records (EHRs).² In 2018, CMS renamed its EHR incentive programs (formerly known as Meaningful Use) to Promoting Interoperability (PI) and signaled the federal government's prioritization of interoperability and health information exchange in its continued efforts to advance health information technology (IT) in care delivery.² In its recent annual report to Congress, the Office of the National Coordinator for Health Information Technology (ONC) highlighted the key elements in PI and its vision of the future state of health IT.³ This commentary provides several reflections on the ONC report as well as on PI, based on the authors' work in the area of health IT. We discuss 3 important aspects of health IT in connection with interoperability: health IT implementation in health systems, the potential harm of EHR vendor consolidation, and overcoming barriers to effectively using health IT in provider experience.

Health IT Is a Key Component of Integrated Care Delivery by Health Systems

An important change in the landscape of healthcare over the past 2 decades is the proliferation of health systems, resulting from horizontal and vertical integration of healthcare providers.⁴ Functioning as parent organizations to hospitals, physician groups, and potentially other ambulatory care facilities (eg, skilled nursing facilities), health systems have the promise of delivering efficient and coordinated care.⁵ A key component of integrated care delivery is the implementation and management of health IT

at the health system level. When a health system takes a centralized approach to IT, all care delivery units within the system are likely to converge to a same EHR platform or even to a single-instance installation, potentially achieving better intrasystem interoperability. The stage 2 PI criteria “encourage the exchange of information in the most structured format possible”³ and thus may further incentivize centralized IT decision making among health systems. Moreover, health systems’ postimplementation IT management strategies (eg, how the use of decision support tools is monitored) and governance (eg, the existence and the composition of an IT steering committee) directly impact the effectiveness of the actual use of health IT to improve outcomes.

However, to date, there is limited empirical understanding of health IT from a health system perspective. For example, how is health IT implemented differently across health systems? Are decisions related to health IT centralized in health systems? If so, is there still much variation in the actual use of specific health IT functionalities (eg, decision support tools) within large systems? Do health systems enhance patient access to their health records by prioritizing certain types of functionalities (eg, patient portals)? How well do ambulatory care units and hospitals within a health system “communicate” through the EHR? The answers to these questions would illuminate the role of health IT in health systems’ efforts to achieve accountable care.

Equally important, there are still many independent ambulatory care providers (ie, ambulatory clinics and other outpatient care facilities outside health systems), and we know little about their adoption and use of health IT, especially in terms of the scope of functionalities. Despite the continuing trend of consolidations, independent providers collectively may remain an important segment of care delivery in the near future. According to a recent survey, 75% of solo practitioners plan to remain independent.⁶ In the context of PI, we need insights from investigations comparing independent providers with those within health systems regarding their current use of health IT, data sharing capabilities, and strategies to address interoperability.

EHR Vendor Consolidation Is Potentially Harmful to Interoperability and Data Sharing

A competitive health IT product market would be important to the pricing and quality of EHRs, and it has been argued that competition among EHR vendors can improve interoperability.⁷ Earlier studies have found that the EHR incentive programs under HITECH enhanced competition in the EHR market, as reflected in the increased number of vendors.⁸ However, more recent trends caution against being overoptimistic about the competitiveness of the EHR market. By 2018, 2 of the leading vendors, Cerner and Epic, together captured more than half of the acute care hospitals, and their market shares continue to grow.⁹ Although less documented, there is evidence of a similar trend in the ambulatory care EHR market. Based on the Minnesota e-Health Initiative

report,¹⁰ the proportion of ambulatory clinics in Minnesota using Epic increased from 51% in 2016 to 59% in 2018.

The ongoing focus on interoperability, along with provider consolidations, may have contributed to the increasing trend of concentration in the EHR market. Based on the American Hospital Association’s Annual Survey and IT Supplement (2012–2016), a recent analysis reported that 35% of the hospitals switched to the EHR vendor of the acquiring health system within 3 years of consolidation (the proportion is likely to be higher after 3 years), whereas another 21% had the same EHR vendor before the consolidation.¹¹ Interoperability has become a key determinant in EHR vendor choices¹⁰ and is likely to be further prioritized as PI progresses to the next stage. Health information can often be exchanged more efficiently (or more easily) among EHR platforms from the same vendor. Hence, it is not surprising to see health systems and providers converging to a concentrated set of vendors. Moreover, to protect or to further increase market shares through competitive advantages, current leading EHR vendors may even strategically create barriers to information exchange with competing products, so that new adopters (or switchers) will be somewhat “forced” to choose the vendors that currently dominate the market.¹² Reduced competition may also negatively affect the innovation, quality, and pricing of EHR products in general. In light of this, PI may need to be paired with regulatory (eg, data standards that encourage information exchange among different platforms) or incentive (eg, penalties for vendors that do not facilitate data sharing with competing platforms) policies to maintain a competitive EHR vendor market.

Overcoming Barriers to Better Health IT Experience for Providers

The ONC report outlined major barriers “associated with health IT capabilities and data sharing” (eg, financial and trust barriers) and those “associated with health care providers’ experience with health IT” (eg, barriers related to documentation and usability).³ In particular, “lack of alignment with real-world clinical workflows” was mentioned among the usability issues.³ These barriers, many of which can be conceptually linked to the technology acceptance model¹³ and the resource-based theory,¹⁴ lead to frustration and lower the value of health IT as perceived by providers. The lack of interoperability is an important source of provider frustration in using EHRs,¹⁵ which in turn contributes to physician burnout.¹⁶ However, a recent study also found that the integration of ambulatory and hospital EHR systems, often an important step to improve interoperability, may decrease provider and patient satisfaction, partly due to the resulting changes in work processes.¹⁷

These findings suggest the complex and multifaceted nature of provider experience with EHRs. At the root of the problem may be the competing demand for customization and standardization at the same time. Population-based longitudinal studies are needed to help us better understand the prevalence and trends of specific barriers

among providers (eg, workflow changes or disruptive alerts), based on their actual experiences in using EHRs. Our empirical knowledge regarding barriers to effectively using health IT is particularly limited in ambulatory care. The success of PI relies on overcoming (or at least mitigating) some of these barriers. Coordinated efforts from health systems, frontline users, vendors, and policy makers are needed.

Conclusions

Health IT needs to be examined in the context of health systems' increasing role in care integration and delivery. How to promote interoperability while maintaining the competitiveness of the EHR vendor market is an important policy question to be addressed. Overcoming major barriers and improving provider experience with health IT is a key element to the success of achieving value and accountable care.

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