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Health IT systems and interoperability are critically important for optimizing performance and payment in the value-based healthcare environment. Indeed, as Vindell Washington, former National Coordinator for Health IT, and Andy Slavitt, former Acting Administrator of the Centers for Medicare and Medicaid Services (CMS), recently said, “Data is the lifeblood of the value-based payment environment.”

In order to provide truly value-added health care, providers must have access to health records and data without the inefficiencies and gaps in information that prevent them from having a comprehensive and accurate view of a patient’s condition and previous history each time they encounter the patient. If all health care providers had access to a complete longitudinal and current 360 degree view of all known factors contributing to a patient’s health status, we could avoid duplication or gaps in services and achieve better health outcomes by providing the optimal basis for shared decision making. However, collecting data in a secure and universally understandable digital form so that it may be electronically exchanged and utilized by any provider when it is needed has been anything but easy.

In fact, interoperability—simply defined as the ability of two or more systems to exchange information and the ability of those systems to use the information that has been exchanged without special effort on the part of the user—has been incredibly hard to achieve. After a decade of efforts by both Republicans and Democrats, from AHIC to HITECH, with nearly $35 billion spent to aggressively promote the adoption and effective use of electronic health records (EHRs), we have made measurable progress (see Figure 1). Nearly 90% of office-based physicians and more than 95% of hospitals have now adopted electronic health records. However, while these electronic systems are now widespread, they still rarely communicate with each other.

Larry Kocot, Principal and National Leader of the KPMG Center for Healthcare Regulatory Insight, recently noted that “despite the progress we have made in adoption of health IT, we are still not where we need to be to support the data needs of providers who are moving quickly to a value-based health care system,” where the timely access to usable and actionable data really counts. Congress recently passed the 21st Century Cures Act ("Cures Act"), which attempts to further the Health IT agenda by taking a number of steps to encourage greater usability, interoperability, and security in the exchange of health information through, among other things, establishing an HIT Standards Committee, preventing the intentional blocking or withholding of data from appropriate parties, and encouraging better patient access to their own health data. While most stakeholder reaction to the Cures Act has been generally positive, some stakeholders question whether the Cures Act does enough to stimulate “real world” interoperability. As one stakeholder put it, “interoperability is one thing, but if you can’t create a user experience that’s intuitive, evolving and serves up data in a way that makes sense to the user, then it doesn’t work.”

As the new Administration prepares to interpret and implement the Cures Act, the pressure is on to achieve the full potential of truly effective sharing and use of healthcare data. And with the growing push to alternative payment models encouraged by the ACA and accelerated by the Medicare Access and CHIP Reauthorization Act (MACRA), the pressure to get to a higher state of interoperability and meaningful data sharing will only increase.
Farzad Mostashari, Founder and CEO of Aledade and former National Coordinator for Health IT at HHS, believes that the “building blocks” for achieving interoperability are in place, but industry users have not yet realized the full value proposition of better information exchange or the long-term impacts of investment in health IT infrastructure.

For example, stakeholders, particularly IT implementers and users, must stay focused on the clinical impacts of interoperability. The adoption and use of information technology should not be seen as an end itself, but as a lever for achieving a goal such as better controlling blood pressure, improving prescribing, or supporting real-time clinical decision making.

Indeed there are a number of existing barriers to achieving the full potential of interoperability. A panel of distinguished experts discussed some of these barriers for providers, patients, payers, and vendors at an event hosted by the KPMG Center for Healthcare Regulatory Insight (see Figure 2).

Lack of Provider Access to Data

A major frustration with information exchange is the high cost and level of effort required for providers to obtain relevant data from vendors, including that entered into EHRs by providers themselves. Once data has been entered into these IT systems it can be a challenge to extract it back out, other than through chart review mode, for use by the physician to track patient care, create internal reports, conduct analysis, and assess performance. Additionally, providers often need this data held by vendors in order to satisfy reporting requirements to payers. There are a number of reasons for this challenge: vendors may view this data as a competitive advantage; they may charge exorbitant fees to have the data extracted and sent back to the provider; once extracted, the data may not appear in a format that can be easily interpreted or used by the provider; or there may be challenges in then sharing that data effectively with other providers and/or patients. Panelists challenged the government to take responsibility for addressing market imbalances that tend to put data ownership with the vendors, rather than the providers or patients, which creates unnecessarily high barriers to obtaining and using actionable data. The Cures Act does take steps to reduce intentional “information blocking” by allowing for the assessment of penalties against vendors taking such action, but the long-term impact of this enforcement mechanism is hard to know. Panelists agreed that the ideal state would be expedited provider access to real-time quality metrics with streamlined vocabulary, aligned definitions, and standardized mapping without high access or use costs for providers.

In addition, while the flow of information among providers has increased in recent years, it has still not reached critical mass (see Figure 3 and Figure 4) or met patient wishes about how easily their data can be shared. A recent Transcend Insights survey found that 97% of patients believe it is important for any health institution, regardless of type or location, to have access to their full medical history in order to receive high-quality care. Primary care provider access to full medical histories was considered extremely or very important to 87% of patients. However, only 72% of patients believe their doctors are currently equipped to easily share and access important information about their medical history. The continuing challenge will be breaking down the barriers to the secure and easy transfer of patient information between relevant providers.
**Figure 3**
Rate of hospitals notifying patients’ primary care provider upon emergency room entry

**Figure 4**
Rate of hospitals receiving and sending summary of care records electronically

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**Reporting Burden on Providers**

In addition to the high costs of obtaining access to patient data, providers face significant financial and time burdens in reporting relevant data to payers. Although some payers, including CMS, are able to generate quality and performance reports based on claims data, much of quality reporting requires providers to collect, synthesize, and transmit relevant data to payers. In fact, a recent analysis estimates that each year US physicians spend an average of 785 hours per physicians meeting quality reporting requirements.

This burden is going to increase in the years to come, particularly with increasing implementation of the Quality Payment Program under MACRA, in which provider reimbursement is adjusted based on performance. Under the Merit-Based Incentive Payment System (MIPS), in which most providers will participate, performance will be based on four categories, three of which require providers to submit data to CMS. As the maximum possible negative adjustment increases up to 9% in 2022 and beyond, the pressure to accurately collect and report data will only intensify. The increasing burdens of QPP may force some smaller practices to join with larger practices or systems with better reporting processes in order to remain competitive while participating in Medicare. In addition to potential anticompetitive impacts of such mergers and acquisitions such as increased costs, providers may lose some practice autonomy.

At the same time, in a recent report on the Quality Payment Program, the HHS Office of the Inspector General found that CMS currently lacks sufficient back-office capabilities to process incoming EHR data used for QPP reporting, potentially further complicating the process by which providers will have performance assessed in MIPS. As the QPP is further implemented, CMS and other industry stakeholders will need to better support physicians with reporting requirements to ensure that providers do not become what one panelist called “data entry clerks” who are collecting and reporting data for the sole purpose of meeting reporting requirements. Solutions need to focus on incorporating the provider experience, workflow, and causes of frustration into future health IT software development.
Lack of Patient Access to Data

More patients are demanding access to their health data and records, but many systems are often not set up to make the transfer of that information possible, let alone easy, for patients. Few patients are aware that they can ask for access to their health data, and few providers volunteer that information. Dr. Mostashari believes that patients should have access to their health data in the form that they request—including sent directly via email—provided they are willing to accept the potential security risks that such a data transfer may pose. Ultimately, the patient should own their health data, have access to it in their preferred format, and be free to use it however they like, including sharing it freely with other individuals.

As more patients gain access to their health data in a variety of forms, additional issues and challenges are likely to arise, including whether and how standards are set for the sharing of that information via online tools, smartphone apps, and other personal data storage devices and services. The certification of applications and other sharing services by a government or private entity would ensure that health data is secure, including through encryption and other protection mechanisms, but may also ultimately hinder access to data as new services and products continue to emerge.

Lack of Business Case Alignment

Aside from the barriers to interoperability posed by process, logistical, and technological hurdles, the business case for more effective sharing of health data is often lacking. Many providers today seek to meet meaningful use and other regulatory requirements in order to avoid penalties through a largely compliance based framework. This mentality of simply “checking the box” in order to satisfy requirements compromises patient care quality and loses sight of the potential for data exchange to improve the health of individuals and populations. The business case for interoperability must appeal to providers and payers and focus on the potential for data integration between clinicians to improve quality, patient satisfaction, and performance assessment, and to result in more favorable payment rates through value-based payment arrangements. Those providers and payers who have embraced alternative payment models have found new and meaningful ways to look at data to understand their patient populations and improve health outcomes.

With the growing adoption of alternative payment models (APMs) and the growing incentives under the QPP, the connection between better data sharing, improved quality, and more favorable payment should become increasingly clear. When business incentives align and interoperability becomes more closely tied to payment, there may be expedited adoption of technologies to solve interoperability challenges. At the same time, the rich data gathered and shared can help to better inform the process for creating, defining, and testing new quality measures that effectively capture true improvements in care. The seamless exchange of information builds a richer data ecosystem that can help to establish meaningful differences in quality among providers and enables more collaborative efforts to meet patient needs.

Different Systems, Different Formats, Different Needs

Despite vendor efforts to standardize EHR interfaces, if you’ve seen one EHR, you’ve seen one EHR. Though software developers for EHR vendors experience uniform challenges, the variability in the definition of information exchange and how to achieve it between different stakeholders (providers, payers, patients) varies from system to system. The result is health systems that may have multiple EHRs that fail to adequately communicate or even transmit information uniformly. When transmitting information from a primary care provider to a specialist or...
inpatient setting information may be lost, not clearly captured, or even misrepresented. Precious time and resources are spent interpreting information from an unfamiliar system that may have a different layout, data fields, language standards, or output method. As one panelist noted, we’ve succeeded at laying the pipes for data exchange, but the data is often not valuable for clinical decision-making as a result of workflow challenges and extraneous steps in data collection and interpretation. Ultimately, stakeholders must ask what information is useful (or not useful) and what information is necessary where healthcare providers are operating? Information must be presented to providers in a consumable, clinically-relevant workflow that can genuinely inform clinical decision-making.

For example, data collected on the same patient in two different systems may not recognize that it is the same patient when the records are combined or reconciled. Patient matching remains a significant challenge; different systems may not align to create a unique identifier for a given patient that can be universally shared and understood. Furthermore, the data exchange needs and capabilities can vary between specialty, clinical setting, and even region. A rural community with providers spread out over a large area will have different health IT experience than an integrated system in a metropolitan area with large support staff able to collect and report data. Furthermore, the rural health system may not be able to invest the resources to hire individuals with expertise in data collection and reporting, or train existing employers in those skills. Vendors will need to be nimble to accommodate the varied sophistication of providers, and payers must develop processes to meet providers where they are without imposing unbearable requirements and burdens.

In addition, trust among providers, payers, patients, and vendors will be necessary for the successful exchange of information. A key challenge moving forward will be building a trusted exchange network while providing autonomy at the patient level and finding the common denominator of policy and operating rules to engender trust to enable data sharing. These concerns will only magnify in light of growing cybersecurity threats.

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Paths forward

Although the challenges to attaining “real world” interoperability are numerous, a few potential solutions to improve provider and patient access to data, advance the health IT user experience, and create better standards for aligning disparate systems were highlighted at the recent KPMG forum.

Improving Access to Data

As noted, providers and patients often lack needed access to health data. One possible solution is for vendors to allow providers to access any of the data they enter through EHRs or other systems with minimal effort and at no cost. This would remove financial barriers that prevent or obstruct some providers from being able to fully leverage data collected on patients from across health care settings. Meaningful enforcement of the data blocking provisions of the Cures Act may help to prevent the intentional withholding of data by vendors; however this will depend on a meaningful definition of what constitutes unreasonable or unnecessary data blocking.

A Better User Experience Through Standards

In addition to providers being able to readily access patient health data, the creation of better EHR and other system standards would make it easier for providers to read, interpret, and use this rich information. The health IT user experience must be intuitive and fit into workflow of providers; rather than being an additional step for data entry that affects productivity or cuts into a patient’s time with the doctor, these systems should supplement and reinforce care processes. Fitting these systems into the workflow would empower more meaningful use and transfer of care records. Vendors have already been working closely with providers to design, test, and launch new IT systems to ensure usability and relevance, but this collaborative effort must continue in a meaningful way. As care processes or regulations change, the systems should continue to evolve in an iterative fashion. Finally, clearer standards for EHR data about what must be included in all EHRs and what that data looks like should help to ensure that switching between systems or using data from an unfamiliar system is as burden-free as possible.

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Public-Private Partnerships for Reporting

Even if providers become proficient and comfortable with EHRs and other health IT, they still often have significant challenges when it comes to reporting the necessary data to payers for quality and other performance measurements. In order to reduce these burdens, panelists discussed the possibility of creating a public-private intermediary to assist in data pull from providers for calculation and standardized measure reporting across payers. Rather than requiring providers to push the data outward to reporting agencies, this public-private utility would be charged with pulling data from providers, practices, or systems for calculating and reporting quality and performance measures for payers. While not all panelists were ready to fully endorse the concept without further analysis and vetting, the intermediary could do much of the legwork of converting the data into the necessary format to be used by payers (public or private) to assess provider performance. Reducing the reporting burden for providers would allow them to better focus time and energy on clinical practice and care transformation that truly improves patient care, in addition to addressing some of the existing barriers related to patient and provider access to data and differences among systems.

There are a number of considerations that must be taken into account when developing such a public-private intermediary, such as security, data rights, accreditation, and management, but such a process could be informed in part from current technological data warehouses from healthcare and other industries, as well as state health information exchanges (HIEs). Using an HIE-like organization would improve the business case for both the exchange of data and easing the burdens of quality reporting. With the increasing move to value-based payment models that rely on quality reporting to set payment rates for providers, the need for a trusted third party to help facilitate the collection and reporting of such data will continue to grow.

Reducing the reporting burden for providers would allow them to better focus time and energy on clinical practice and care transformation that truly improves patient care.
Despite progress in the increased adoption of electronic health records, many of these IT systems have still not become truly user-friendly. While many providers may be able to achieve the basic metrics of interoperability, attain certification, or satisfy meaningful use (transitioning to the Advancing Care Information category under MIPS) requirements, most have not achieved "real world interoperability" in which information transfer is seamlessly integrated into clinical practice and resulting in clear and measurable enhancements in care. In the absence of real world interoperability, patients are being treated without a comprehensive longitudinal electronic record and without a holistic understanding of all the factors affecting their health status. The challenge ahead is creating systems where providers, payers, and vendors can effectively and collaboratively collect, interpret, and use clinical data for its true purpose…improving patient care.
The Center would like to acknowledge and thank Divya Moolchandani for her research and writing contributions to this paper, and Mike Beaty, Bruce Eckert, and Sriram Krishnan for their review and critical comments.
Contact Us

S. Lawrence Kocot
Principal and National Leader
Center for Healthcare Regulatory Insight
202-533-3674
lkocot@kpmg.com

Tracey McCutcheon
Director
Center for Healthcare Regulatory Insight
202-533-5380
traceymccutcheon@KPMG.com

Ross White
Manager
Center for Healthcare Regulatory Insight
202-533-3691
rosswhite@kpmg.com

To learn more about the KPMG Center for Healthcare Regulatory Insight please visit:
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