

SHARE: Bridging the interoperability gap between EHRs

BY CHRISTY SIDOR WILLIAMS

Health information technology holds great promise for improving the quality and safety of health care. Two tools that can help deliver on this promise are electronic health/medical records (EHRs/EMRs) and health information exchange (HIE)—both the act of exchanging clinical data with outside health care entities through an EHR, and the organizations (HIEs) that facilitate the sending and receiving of data.

Health care providers may question why they should participate in an HIE when they already use an EHR system that is “capable” of sharing patient data with other providers. The answer lies in the costs and value of interoperability, and understanding what it actually takes for one health care organization with an EHR system to exchange data with myriad hospitals, specialists, labs, pharmacies, public health registries and other external partners.

INTEROPERABILITY

In health care, interoperability refers to the connections between different software applications that make it possible for unaffiliated providers to directly communicate, exchange data

and use the information that has been exchanged. It allows for efficient workflows and improves the quality of care by making the right clinical data available at the right time to the right caregiver. The goal of interoperability is a connected system of electronic health care information that is available to all doctors and patients whenever and wherever necessary. It is a major problem when everyone involved in a patient’s care does not have immediate access to complete health information. Missing medical information is the source of one-fifth of medical errors and affects one out of every seven primary care visits.¹ Many of these errors could be prevented through the interconnected use of EHR and HIE.

Adoption of EHRs has increased dramatically since 2009, when the American Recovery and Reinvestment Act set aside \$20.6 billion in incentives for hospitals and providers to purchase and use EHRs.² Nationwide, more than half of all physicians and 80 percent of eligible hospitals have EHRs in place.³ In Arkansas, more than 37 percent of office-based health care providers and 34 percent of hospitals used an EHR system in 2011.⁴

As a result of the incentive-driven demand for EHRs, thousands of unique systems are available. There is currently

no industry-wide consensus on standards that define how these disparate systems communicate with each other.⁵ This has implications even at the practice level, where single health care organizations often use many different information systems from different vendors. If these systems cannot or do not communicate, health care providers will suffer decreases in productivity and may have to use paper workarounds, which EHRs are supposed to eliminate.

Given the lack of connectivity standards, practices with an EHR system must rely on their EHR vendors to create custom, individual interfaces that link their EHR system to each outside health information system. Even when an EHR vendor claims its system has a built-in HIE, its customers must still work with each of their data partners to build both sides of an interface that will securely and accurately exchange clinical data.

This piecemeal approach can cost practices a lot of time and money. Software development fees can range from \$10,000 to \$50,000 per interface.⁶ An ambulatory practice could need six to 12 different interfaces to substantially reduce the amount of clinical and administrative data that otherwise must be manually gathered and hand-entered into the EHR system.

Interfaces are only part of the cost of health data exchange achieved through EHR system interfaces. It is common practice for vendors to charge an additional fee for annual maintenance and support of each interface. There are also costs to install the reciprocal side of each data interface. The potentially enormous expense can keep physicians from using their EHR systems to send and receive patient data. Without health information exchange across all care settings, EHRs are simply digital filing cabinets that cannot achieve their potential quality of care or cost containment.⁷

HIE INTEROPERABILITY MODEL

In contrast, the sole purpose of an HIE is to provide the infrastructure for unaffiliated EHRs, EMRs and other health information management systems to connect and share patient data. Arkansas' statewide HIE, known as SHARE—the State Health Alliance for Records Exchange—offers a simpler and less expensive way for physicians to reach outside of their practices and connect with other care settings. Through one single interface between their EHR system and SHARE, physicians can exchange data with all organizations that participate in SHARE and access a more complete view of their patients' clinical records.

This is a departure from the EHR model of interoperability, which requires practices to purchase, build and maintain multiple interfaces. In essence, SHARE does that legwork for practices and subsidizes the development expense, so practices have the benefit of connecting to SHARE one time to access multiple providers. SHARE is working with the EHR vendor community to build

interfaces to SHARE and negotiate reduced interface fees for providers.

Furthermore, SHARE magnifies the benefits of EHRs and provides advantages an EHR system alone cannot deliver. Participating physicians can, when their EHR system is capable, receive automatic alerts and full details of an encounter within their EHR system when their patients have been admitted to a participating hospital. Such notifications are critical for primary care physicians who will be responsible for coordinating care and managing the health of their patients under improvement initiatives like the Patient Centered Medical Home (PCMH). SHARE can also deliver unsolicited lab and radiology results from outside sources directly into the physician's EHR system.

SHARE has been available statewide since December 2012. It is in the early stages of adoption and is already experiencing noteworthy growth. Participating clinics and hospitals—including North Arkansas Regional Medical Center, the University of Arkansas for Medical Sciences and Jefferson Regional Medical Center—serve more than 1 million patients throughout the state. Dozens more hospitals, practices and labs are in various stages of implementation. SHARE will become increasingly valuable as providers continue to enroll and contribute patient data.

SUSTAINABLE INTEROPERABILITY

The goal of health information technology is to deliver meaningful patient data at the point of care. The EHR and the HIE together are important tools for accomplishing that goal while reducing the need for costly point-to-point interfaces. Participation in SHARE is critical for physicians

who want a streamlined, sustainable way to exchange patient data with unaffiliated health care partners. Physicians who have this capability gain access to more complete health information, which can improve patient safety and quality of care as well as decrease the cost of health-related activities.

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