CapTech®

Get Ready; Healthcare Is Speeding into the Digital Age

Written by Patrick Hooper

Others Talk,
We Listen®

WHITE PAPER

GET READY; HEALTHCARE IS SPEEDING INTO THE DIGITAL AGE

Executive Summary

Since the federal government began encouraging hospitals, physicians, and other healthcare providers to adopt electronic health record (EHR) systems more than a decade ago, numerous systems have reached the market, all of which help reduce paperwork and make medical records more accessible. Unfortunately, these systems are not interoperable, despite the fact that a major purpose of the move toward electronic records is to enable information sharing among providers.

Increased information sharing can improve the quality of care, reduce redundant diagnostic testing, and increase efficiency. To move the industry closer to that objective, the government is requiring that providers adopt interoperable systems. Many providers are ill-prepared for this.

Several highly effective EHR systems are available on the market today, but providers face the daunting tasks of implementation, making the systems and their data interoperable, managing the organizational change involved in re-training employees, and satisfying the need for data analytics (which can further improve the quality and affordability of care).

This paper discusses interoperability, the challenges it presents, and some of the solutions available to providers.

Healthcare Interoperability and Its Goals

In 2004, the Office of the National Coordinator for Health Information Technology (ONC) was created as a department within the U.S. Department of Health and Human Services (HHS) to "support the adoption of health information technology and the promotion of a nationwide health information exchange to improve health care."[1]

The ONC defines interoperable healthcare as an "ecosystem that makes the right data available to the right people at the right time among disparate products and organizations in a way that can be relied upon and meaningfully used by recipients."[2]

In short, interoperability offers a way for healthcare providers to safely, securely, and quickly share information, even though the providers may work for different organizations that use different systems. In an interoperable environment, a cardiologist could receive information that had been gathered by a patient's general practitioner prior to the patient's specialty visit. This eliminates redundancy in data collection and data entry and ensures that all providers involved in a patient's care have access to pertinent information.

Since 2004, providers have made major gains toward this goal; however, the ONC realized in 2014 that it needed to take additional steps to promote interoperability. That year, the office created a formal 10-year roadmap toward achieving the ideal interoperable healthcare system, one that would lead to smarter spending as well as healthier people.

This would be achieved, as the diagram below suggests, by gathering patient health data in large pools that would provide the basis for analyses that could predict trends, help lower costs and support more appropriate public health policies as well as quicker, more accurate clinical decisions.

The ONC envisions pooling patient data and leveraging it to improve clinical decision-making.[3]
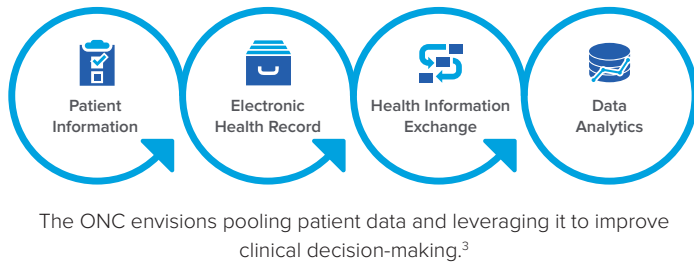
HHS officials have stated that this can be achieved by 2024, but that getting there will take work in three key areas:

- Requiring compliance with standards for interoperable systems
- Motivating compliance through appropriate incentives
- Creating a trusted environment in which electronic health information can be collected, shared, and used[4]

Incentives, Penalties, and Fees for Hospitals and Practitioners

For several years, government programs have offered incentives to encourage practitioners and hospitals to participate in electronic health information (EHI) programs. Incentives typically are monetary awards provided by federal and state government agencies. With the ONC's 10-year plan, there has been an increase in the use of incentives to encourage health practitioners to move toward healthcare interoperability. Federal incentives can be expected to dry up eventually, leaving the industry to face fees and penalties in their place.

> "Federal incentives can be expected to dry up eventually, leaving the industry to face fees and penalties in their place."

The most familiar program is Meaningful Use (MU), a federal program offered to Medicare and Medicaid providers. Incentive payments available through the program are available for a limited time; additionally, the program recently began imposing financial penalties on Medicare and Medicaid providers who have not adopted EHRs.

The MU program was created in 2009, when the Health Information Technology for Economic and Clinical Health (HI-TECH) Act was signed into law as part of the American Recovery and Reinvestment Act. With assistance from the ONC, the Centers for Medicare and Medicaid Services (CMS) has been using the MU program to encourage health providers, technology providers, and payers to adopt EHRs through federally funded incentives. The program establishes timelines and other requirements that these entities must meet to receive annual monetary rewards. However, the MU program has encouraged only early adopters. The incentives "will not always be available, and financial penalties [were] scheduled to take effect in 2015 for Medicare and Medicaid providers who do not transition to EHRs."[5]

States offer incentives as well, but it is not clear how long these will last nor whether the states will eventually begin replacing them with penalties. The most prominent incentive-based model is the State Innovation Model,[6] in which 28 states were participating as of May 2016. States are also implementing fee-based incentives, mandating that providers have a connection to the health information exchange (HIE) — the standardized, secure health IT infrastructure that allows the flow of electronic health records between providers and from providers to patients.[7]

While states are imposing some fees and penalties, these are highly targeted and do not reach the extent of the federally mandated fees and penalties associated with the MU program. Through the MU program, the federal government in 2015 began taking 1% payment adjustments from entities that collect Medicare and Medicaid payments but have not made the transition to EHRs. This means that 1% of the federal funding that would have been provided to such practitioners or hospitals is now deducted from the payment. The adjustments are scheduled to increase 1% a year, up to a total of 5%.

The requirements that eligible providers are expected to meet through the MU program today are deemed to be at Stage 2 of 3. In other words, the requirements are not yet at their strictest. Stage 3 requirements will be in effect by 2018. This means that even those Medicare/Medicaid providers who are using EHRs and meeting current requirements will face additional challenges on the road ahead. These are discussed in the next section.

Standards for an Interoperable Health System

The basis of the MU program for Medicaid and Medicare practitioners is being rolled into the Medicare Access and CHIP Reauthorization Act (MACRA), a newer law passed in 2015. MACRA is expected to expand the population of practitioners eligible for incentive payments beginning in January 2017.[8]

The MU program is based on a series of building blocks: vocabulary/code sets, content, structure, transport, security, and services. Within each of these areas, the federal government has established standards that are to be met by practitioners and hospitals to achieve Meaningful Use. While implementing a standard EHR solution will help providers meet many of these standards, several hurdles will remain.

> " Professionals will be required to meet 20 total objectives in order to be eligible for MU incentives. "

For example, each practitioner/hospital today uses their own set of terms for procedures, ailments, allergies, prescriptions, and so on. With MU, providers must use standard terms set by the ONC, and these terms must be used across the organization.

Also, providers today frequently email or fax patient information to specialists, so that the specialists can have the information for review when patients arrive. With MU, that method of communication will not meet security standards, and changes in the communication process will have to be made.

In addition, professionals will be required to meet 20 total objectives (and eligible hospitals, 19 objectives) in order to be eligible for MU incentives. An example of an objective is that smoking status must be recorded for 80% of a practitioner's patients. Another example is that a practitioner must e-prescribe for 50% of his or her patients. These requirements will increase over time.

A list of all objectives that must be met in order to be certified for Stage 3 in 2018 is provided in the Appendix.

Implementing EHR Systems for Interoperable Healthcare

The leading vendor of EHR systems is Epic Systems Corp., which provides a client-server, on-premise solution. Epic provides "individual, customized installations for each client; [and has] a reputation for near-flawless implementation," according to Forbes.[9] "While Epic systems seem to be able to communicate with other Epic systems with relative ease, communication outside of Epic seems more problematic."

Epic's biggest competitor is Cerner Corp., which also offers a client-server solution. In July 2015, Cerner and IBM jointly won a $4.3 billion, 10-year contract to provide the U.S. Department of Defense with an EHR system.

A smaller company that is nonetheless widely recognized is athenahealth Inc., the latest entry in the cloud-based industry. The company is proving to be the leader in low-cost, subscription-based, off-premise solutions.

All three companies provide widely used solutions, but practitioners and hospitals that implement these will nonetheless face challenges as they seek to meet HIE standards. Among these challenges are the need to follow protocols and procedures such as HL7, a widely used standard for facilitating communication between two or more clinical applications; the Systemized Nomenclature of Medicine, which includes codes, terms, synonyms, and definitions used in clinical documentation and reporting; and data encryption, which provides security in accordance with federal requirements.

Beyond these are numerous additional challenges that practitioners and hospitals must overcome as they move toward interoperability: choosing the right EHR system for the organization; implementing the EHR system within the current infrastructure (and possibly replacing an existing system or systems); analyzing terms and practices currently in use so that these can be altered to meet new standards; and finally, training staff to adapt successfully to the changing environment.

While these challenges are daunting, they are not impossible. One key to success is working with a technology partner that has extensive experience with interoperability and the technical and regulatory issues it presents.

Conclusion

The ONC has made it clear that its goal is to bring the healthcare industry into the digital age, turning the current system into one that leverages the potential of data to help ensure value-based, quality care for everyone.

Reaching this objective could be expensive for providers who lack the tools and resources to meet the aggressive timeframes and other requirements the ONC has established. Practitioners and hospitals looking to avoid financial penalties will have to choose an EHR system, invest additional money and time to implement the system, train staff to use it, and then work with the government to obtain available financial incentives and avoid costly penalties and fees.

While the government's methods of EHR adoption may be aggressive and hard-to-swallow, having a trusted technology partner assisting through the process can ease the pain significantly. CapTech has the proven strategy, experience and resources to help practitioners and hospitals meet these challenges and succeed in the digital age.

CapTech has the expertise and experience to help providers make this important transition. From business analysis and project management to data quality and organizational change management, CapTech has helped clients in healthcare and other industries achieve regulatory compliance while improving business operations.

AUTHOR BIO

Patrick Hooper | phooper@captechconsulting.com | 844.373.4025
Patrick is a senior consultant in CapTech's Data & Analytics practice based in Richmond, VA. He has more than ten years of experience leading cross-functional teams to develop, automate, and improve business systems and processes. He has proven success with multiple platforms, especially Oracle EBS, leading projects from inception to completion using standard Software Development Lifecycle practices.

End Notes

[1] "About ONC." Undated publication. Office of the National Coordinator for Health Information Technology. Available at https://www.healthit.gov/newsroom/about-onc.

[2] "Connecting Health and Care for the Nation: A Shared Nationwide Interoperability Roadmap." Undated publication. Karen DeSalvo, Office of the National Coordinator for Health Information Technology. Available at https://www.healthit.gov/sites/default/files/nationwide-interoperability-roadmap-draft-version-1.0.pdf. See page 17.

[3] "Connecting Health and Care for the Nation: A 10-Year Vision to Achieve an Interoperable Health Infrastructure." March 29, 2016. Office of the National Coordinator for Health Information Technology. Available at https://www.healthit.gov/sites/default/files/ONC10yearInteroperabilityConceptPaper.pdf.

[4] "Connecting Health and Care for the Nation: A Shared Nationwide Interoperability Roadmap." Karen DeSalvo, Office of the National Coordinator for Health Information Technology. Available at https://www.healthit.gov/sites/default/files/nationwide-interoperability-roadmap-draft-version-1.0.pdf. See page 4.

[5] "EHR Incentive Payment Timeline." 2014. Office of the National Coordinator for Health Information Technology. Available at https://www.healthit.gov/providers-professionals/ehr-incentive-payment-timeline.

[6] "State Innovation Models Initiative: General Information." May 16, 2016. Centers for Medicare and Medicaid Services. Available at https://innovation.cms.gov/initiatives/state-innovations/.

[7] "Health Information Exchange (HIE)." May 12, 2014. Office of the National Coordinator for Health Information Technology. Available at https://www.healthit.gov/providers-professionals/health-information-exchange/what-hie.

[8] "MACRA, the End of Meaningful Use, and Beyond." Aug. 1, 2016. S. Mace, Health Leaders Media. Available at http://www.healthleadersmedia.com/finance/macra-end-meaningful-use-and-beyond.

[9] "Epic Challenge: What The Emergence of an EMR Giant Means For the Future of Healthcare Innovation." June 9, 2012. D. Shaywitz, Forbes. Available at http://www.forbes.com/sites/davidshaywitz/2012/06/09/epic-challenge-what-the-emergence-of-an-emr-giant-means-for-the-future-of-healthcare-innovation/#2643041d7c54.

Appendix: Stage 3 Objective Requirements

The requirements cited here apply to Medicare and Medicaid providers and are part of the federal Meaningful Use program. Currently, Stage 2 requirements are in effect. The Appendix presents a summary of Stage 3 requirements.

The Appendix includes a number of acronyms/initials that merit explanation. Many are explained in the Appendix itself. Others, in order of appearance, include:

- EP: Eligible provider
- EHR: Electronic health record
- CEHRT: Certified electronic health record technology
- CQMs: Clinical quality measures
- API: Application programming interface

Objective	Associated Measures (Attestation or threshold)
Protected Patient Health Information	EPs must attest YES to conducting the security risk analysis upon installation or update to the new Edition of certified EHR Technology.
Electronic Prescribing (eRx)	More than 80% of all permissible prescriptions written by the EP are queried for a drug formulary and transmitted electronically using CEHRT.
Clinical Decision Support (CDS)	EPs must satisfy both measures in order to meet the objective: • **Measure 1 –** Implement five clinical decision support interventions related to four or more CQMs at a relevant point in patient care for the entire EHR reporting period. • **Measure 2 –** The EP has enabled and implemented the functionality for drug-drug and drug-allergy interaction checks for the entire EHR reporting period.
Computerized Provider Order Entry (CPOE)	An EP must meet all three measures in order to meet this objective: • **Measure 1 –** More than 80% of medication orders created by the EP during the EHR reporting period are recorded using CPOE; • **Measure 2 –** More than 60% of laboratory orders created by the EP during the EHR reporting period are recorded using CPOE; and • **Measure 3 –** More than 60% of diagnostic imaging orders created by the EP during the EHR reporting period are recorded using CPOE.

Objective	Associated Measures (Attestation or threshold)
Patient Electronic Access to Health Information	EPs must satisfy both measures in order to meet the objective:

• **Measure 1 –** More than 80% of all unique patients seen by the EP (i) The patient (or patient-authorized representative) is provided access to view online, download, and transmit their health information within 24 hours of its availability to the provider; OR (ii) The patient (or patient-authorized representative) is provided access to an ONC-certified API that can be used by third-party applications or devices to provide patients (or patient-authorized representatives) access to their health information, within 24 hours of its availability to the provider.

• **Measure 2 –** The EP must use clinically relevant information from CEHRT to identify patient-specific educational resources and provide electronic access to those materials to more than 35% of unique patients seen by the EP during the EHR reporting period. |
| **Coordination of Care through Patient Engagement** | EPs must attest to the numerator and denominator for all three measures, but would only be required to successfully meet the threshold for two of the three proposed measures to meet the objective:

• **Measure 1 –** For more than 25% of all unique patients seen by the EP actively engage with the electronic health record made accessible by the provider. An EP may meet the measure by either: (i) patient view, downloads, or transmits to a 3rd party their health information; or, (ii) patient access their health information through the use of an ONC-certified API that can be used by third-party applications.

• **Measure 2 –** For more than 35% of all unique patients seen by the EP during the EHR reporting period, a secure message was sent using the electronic messaging function of CEHRT to the patient, or in response to a secure message sent by the patient.

• **Measure 3 –** Patient-generated health data or data from a non-clinical setting is incorporated into the certified EHR technology for more than 15% of all unique patients seen by the EP. |

Objective	Associated Measures (Attestation or threshold)
Health Information Exchange (HIE)	EPs must attest to the numerator and denominator for all 3 measures, but would only be required to successfully meet the threshold for 2 of the 3 proposed measures to meet the objective: • **Measure 1 –** For more than 50% of transitions of care and referrals, the EP that transitions or refers their patient to another setting of care or provider of care: (1) creates a summary of care record using CEHRT; and (2) electronically exchanges the summary of care record. • **Measure 2 –** For more than 40% of transitions or referrals received and patient encounters in which the provider has never before encountered the patient, the EP incorporates into the patient's EHR an electronic summary of care document from a source other than the provider's EHR system. • **Measure 3 –** For more than 80% of transitions or referrals received and patient encounters in which the provider has never before encountered the patient, the EP, performs a clinical information reconciliation. The provider must implement clinical information reconciliation for the following three clinical information sets: Medication, Medication allergy, and Current Problem list.
Public Health and Clinical Data Registry Reporting	Providers must attest YES to three of the following five measures: 1. **Immunization Registry Reporting –** The EP is in active engagement with a public health agency to submit immunization data and receive immunization forecasts and histories from the public health immunization registry/immunization information system (IIS). 2. **Syndromic Surveillance Reporting –** The EP is in active engagement with a public health agency to submit syndromic surveillance data from a non-urgent care ambulatory setting for EPs. 3. **Case Reporting –** The EP is in active engagement with a public health agency to submit case reporting of reportable conditions. 4. **Public Health Registry Reporting –** The EP is in active engagement with a public health agency to submit data to public health registries. 5. **Clinical Data Registry Reporting –** The EP is in active engagement to submit data to a clinical data registry.

Resources

How to Attain Meaningful Use

https://www.healthit.gov/providers-professionals/how-attain-meaningful-use

EHR Implementation Steps

https://www.healthit.gov/providers-professionals/ehr-implementation-steps

Interoperability Training Courses

https://www.healthit.gov/providers-professionals/interoperability-training-courses

HealthIT.gov

https://www.healthit.gov/providers-professionals/ehr-incentive-programs

Interoperability Roadmap

https://www.healthit.gov/sites/default/files/nationwide-interoperability-roadmap-draft-version-1.0.pdf

Accountable Care Organizations

https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/ACO/index.html?redirect=/ACO

CMS Presentation at HIMMS 2016

https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/HIMSS16_26EHR2015_2017-.pdf

Current List of State Levers

https://www.healthit.gov/policy-researchers-implementers/health-it-legislation-and-regulations/state-hit-policy-levers-compendium

Final Stage 3 EHR rule is out, but HHS signals more changes ahead – modernhealthcare.com

http://www.modernhealthcare.com/article/20151006/NEWS/151009952

New EHR law offers providers and CMS some flexibility – modernhealthcare.com

http://www.modernhealthcare.com/article/20160104/NEWS/160109993