The National Health Information Technology Landscape

LEARNING OBJECTIVES

- To be able to discuss some of the most significant influences shaping the current and future health information technology landscapes in the United States.
- To understand the roles national private sector and government initiatives have played in the advancement of health information technology in the United States.
- To be able to describe major events since the 1990s that have influenced the adoption of health information technologies and systems.

Since the early 1990s, the use of **health information technology (HIT)** across all aspects of the US health care delivery system has been increasing. **Electronic health records (EHRs),** telehealth, social media, mobile applications, and so on are becoming the norm—even commonplace—today. Today's health care providers and organizations across the continuum of care have come to depend on reliable HIT to aid in managing population health effectively while reducing costs and improving quality patient care. Chapter One will explore some of the most significant influences shaping the current and future HIT landscapes in the United States. Certainly, advances in information technology affect HIT development, but national private sector and government initiatives have played key roles in the adoption and application of the technologies in health care. This chapter will provide a chronological overview of the significant government and private sector actions that have directly or indirectly affected the adoption of HIT since the Institute of Medicine landmark report, *The Computer-Based Patient Record: An Essential Technology for Health Care,* authored by Dick and Steen and published in 1991. Knowledge of these initiatives and mandates shaping the current HIT national landscape provides the background for understanding the importance of the health information systems that are used to promote excellent, cost-effective patient care.

1990s: THE CALL FOR HIT

Institute of Medicine CPR Report

The Institute of Medicine (IOM) report *The Computer-Based Patient Record: An Essential Technology for Health Care* (Dick & Steen, 1991) brought international attention to the numerous problems inherent in paper-based medical records and called for the adoption of the **computer-based patient record (CPR)** as the standard by the year 2001. The IOM defined the CPR as "an electronic patient record that resides in a system specifically designed to support users by providing accessibility to complete and accurate data, alerts, reminders, clinical decision support systems, links to medical knowledge, and other aids" (Dick & Steen, 1991, p. 11). This vision of a patient's record offered far more than an electronic version of existing paper records—the IOM report viewed the CPR as a tool to assist the clinician in caring for the patient by providing him or her with reminders, alerts, clinical decision–support capabilities, and access to the latest research findings on a particular diagnosis or treatment modality. CPR systems and related applications, such as EHRs, will be further discussed

in Chapter Three. At this point, it is important to understand the IOM report's impact on the vendor community and health care organizations. Leading vendors and health care organizations saw this report as an impetus toward radically changing the ways in which patient information would be managed and patient care delivered. During the 1990s, a number of vendors developed CPR systems. However, despite the fact that these systems were, for the most part, reliable and technically mature by the end of the decade, only 10 percent of hospitals and less than 15 percent of physician practices had implemented them (Goldsmith, 2003). Needless to say, the IOM goal of widespread CPR adoption by 2001 was not met. The report alone was not enough to entice organizations and individual providers to commit to the required investment of resources to make the switch from predominantly paper records.

Health Insurance Portability and Accountability Act (HIPAA)

Five years after the IOM report advocating CPRs was published, President Clinton signed into law the **Health Insurance Portability and Accountability Act (HIPAA)** of 1996 (which is discussed in detail in Chapter Nine). HIPAA was designed primarily to make health insurance more affordable and accessible, but it included important provisions to simplify administrative processes and to protect the security and confidentiality of personal health information. HIPAA was part of a larger health care reform effort and a federal interest in HIT for purposes beyond reimbursement. HIPAA also brought national attention to the issues surrounding the use of personal health information in electronic form. The Internet had revolutionized the way that consumers, providers, and health care organizations accessed health information, communicated with each other, and conducted business, creating new risks to patient privacy and security.

2000–2010: THE ARRIVAL OF HIT

IOM Patient Safety Reports

A second IOM report, *To Err Is Human: Building a Safer Health Care System* (Kohn, Corrigan, & Donaldson, 2000), brought national attention to research estimating that 44,000 to 98,000 patients die each year because of medical errors. A subsequent related report by the IOM Committee on Data Standards for Patient Safety, *Patient Safety: Achieving a New Standard for Care* (Aspden, 2004), called for health care organizations to adopt information

technology capable of collecting and sharing essential health information on patients and their care. This IOM committee examined the status of standards, including standards for health data interchange, terminologies, and medical knowledge representation. Here is an example of the committee's conclusions:

- As concerns about **patient safety** have grown, the health care sector has looked to other industries that have confronted similar challenges, in particular, the airline industry. This industry learned long ago that information and clear communications are critical to the safe navigation of an airplane. To perform their jobs well and guide their plane safely to its destination, pilots must communicate with the airport controller concerning their destination and current circumstances (e.g., mechanical or other problems), their flight plan, and environmental factors (e.g., weather conditions) that could necessitate a change in course. Information must also pass seamlessly from one controller to another to ensure a safe and smooth journey for planes flying long distances, provide notification of airport delays or closures because of weather conditions, and enable rapid alert and response to extenuating circumstance, such as a terrorist attack.

- Information is as critical to the provision of safe health care—which is free of errors of commission and omission—as it is to the safe operation of aircraft. To develop a treatment plan, a doctor must have access to complete patient information (e.g., diagnoses, medications, current test results, and available social supports) and to the most current science base (Aspden, 2004).

Whereas *To Err Is Human* focused primarily on errors that occur in hospitals, the 2004 report examined the incidence of serious safety issues in other settings as well, including ambulatory care facilities and nursing homes. Its authors point out that earlier research on patient safety focused on errors of commission, such as prescribing a medication that has a potentially fatal interaction with another medication the patient is taking, and they argue that errors of omission are equally important. An example of an error of omission is failing to prescribe a medication from which the patient would likely have benefited (Institute of Medicine, Committee on Data Standards for Patient Safety, 2003). A significant contributing factor to the unacceptably high rate of medical errors reported in these two reports and many others is poor information management practices. Illegible prescriptions, unconfirmed

verbal orders, unanswered telephone calls, and lost medical records could all place patients at risk.

Transparency and Patient Safety

The federal government also responded to quality of care concerns by promoting health care transparency (for example, making quality and price information available to consumers) and furthering the adoption of HIT. In 2003, the **Medicare Modernization Act** was passed, which expanded the program to include prescription drugs and mandated the use of electronic prescribing (**e-prescribing**) among health plans providing prescription drug coverage to Medicare beneficiaries. A year later (2004), President Bush called for the widespread adoption of EHR systems within the decade to improve efficiency, reduce medical errors, and improve quality of care. By 2006, he had issued an executive order directing federal agencies that administer or sponsor health insurance programs to make information about prices paid to health care providers for procedures and information on the quality of services provided by physicians, hospitals, and other health care providers publicly available. This executive order also encouraged adoption of HIT standards to facilitate the rapid exchange of health information (The White House, 2006).

During this period significant changes in reimbursement practices also materialized in an effort to address patient safety, health care quality, and cost concerns. Historically, health care providers and organizations had been paid for services rendered regardless of patient quality or outcome. Nearing the end of the decade, payment reform became a hot item. For example, **pay for performance (P4P)** or value-based purchasing pilot programs became more widespread. P4P reimburses providers based on meeting predefined quality measures and thus is intended to promote and reward quality. The **Centers for Medicare and Medicaid Services (CMS)** notified hospitals and physicians that future increases in payment would be linked to improvements in clinical performance. Medicare also announced it would no longer pay hospitals for the costs of treating certain conditions that could reasonably have been prevented—such as bedsores, injuries caused by falls, and infections resulting from the prolonged use of catheters in blood vessels or the bladder—or for treating "serious preventable" events—such as leaving a sponge or other object in a patient during surgery or providing the patient with incompatible blood or blood products. Private health plans also followed Medicare's lead and began denying payment for such mishaps. Providers began to recognize the importance

of adopting improved HIT to collect and transmit the data needed under these payment reforms.

Office of the National Coordinator for Health Information Technology

In April 2004, President Bush signed Executive Order No. 13335, 3 C.F.R., establishing the **Office of the National Coordinator for Health Information Technology (ONC)** and charged the office with providing "leadership for the development and nationwide implementation of an interoperable health information technology infrastructure to improve the quality and efficiency of health care." In 2009, the role of the ONC (organizationally located within the US Department of Health and Human Services) was strengthened when the **Health Information Technology for Economic and Clinical Health (HITECH) Act** legislatively mandated it to provide leadership and oversight of the national efforts to support the adoption of EHRs and **health information exchange (HIE)** (ONC, 2015).

In spite of the various national initiatives and changes to reimbursement during the first decade of the twenty-first century, by the end of the decade only 25 percent of physician practices (Hsiao, Hing, Socey, & Cai, 2011) and 12 percent of hospitals (Jha, 2010) had implemented "basic" EHR systems. The far majority of solo and small physician practices continued to use paper-based medical record systems. Studies show that the relatively low adoption rates among solo and small physician practices were because of the cost of HIT and the misalignment of incentives (Jha et al., 2009). Patients, payers, and purchasers had the most to gain from physician use of EHR systems, yet it was the physician who was expected to bear the total cost. To address this misalignment of incentives issue, to provide health care organizations and providers with some funding for the adoption and **Meaningful Use of EHRs,** and to promote a national agenda for HIE, the HITECH Act was passed as a part of the **American Recovery and Reinvestment Act** in 2009.

2010–PRESENT: HEALTH CARE REFORM AND THE GROWTH OF HIT

HITECH and Meaningful Use

An important component of HITECH was the establishment of the Medicare and Medicaid EHR Incentive Programs. Eligible professionals and hospitals that adopt, implement, or upgrade to a certified EHR received incentive payments. After the first year of adoption, the providers had to prove successfully

that they were "demonstrating Meaningful Use" of certified EHRs to receive additional incentive payments. The criteria, objectives, and measures for demonstrating Meaningful Use evolved over a five-year period from 2011 to 2016. The first stage of Meaningful Use criteria was implemented in 2011–2012 and focused on data capturing and sharing. Stage 2 (2014) criteria are intended to advance clinical processes, and Stage 3 (2016) criteria aim to show improved outcomes. Table 1.1 provides a broad overview of the Meaningful Use criteria by stage.

Through the Medicare EHR Incentive Program, each eligible professional who adopted and achieved meaningful EHR use in 2011 or 2012 was able to earn up to $44,000 over a five-year period. The amount decreased over the period, creating incentives to providers to start sooner rather than later.

Table 1.1 Stages of Meaningful Use

Stage 1: Meaningful Use criteria focus	Stage 2: Meaningful Use criteria focus	Stage 3: Meaningful Use criteria focus
Electronically capturing health information in a standardized format	More rigorous HIE	Improving quality, safety, and efficiency leading to improved health outcomes
Using that information to track key clinical conditions	Increased requirements for e-prescribing and incorporating lab results	Decision support for national high-priority conditions
Communicating that information for care coordination processes	Electronic transmission of patient summaries across multiple settings	Patient access to self-management tools
Initiating the reporting of clinical quality measures and public health information	More patient-controlled data	Access to comprehensive patient data through patient-centered HIE
Using information to engage patients and their families in their care		Improving population health

Source: ONC (n.d.a.).

Eligible hospitals could earn over $2 million through the Medicare EHR Incentive Program, and the Medicaid program made available up to $63,500 for each eligible professional (through 2021) and over $2 million to each eligible hospital. As of December 2015, more than 482,000 health care providers received a total of over $31 billion in payments for participating in the Medicare and Medicaid EHR Incentive Programs (CMS, n.d.). See Table 1.2 for primary differences between the two incentive programs.

Within the ONC, the Office of Interoperability and Standards oversees certification programs for HIT. The purpose of certification is to provide assurance to EHR purchasers and other users that their EHR system has the technological capability, functionality, and security needed to assist them in meeting Meaningful Use criteria. Eligible providers who apply for the EHR Medicare and Medicaid Incentive Programs are required to use certified EHR technology. The ONC has authorized certain organizations to perform the actual testing and certification of EHR systems.

Other HITECH Programs

Many small physician practices and rural hospitals do not have the in-house expertise to select, implement, and support EHR systems that meet certification standards. To address these needs, HITECH funded sixty-two **regional extension centers (RECs)** throughout the nation to support providers in adopting and becoming meaningful users of EHRs. The RECs are primarily intended to provide advice and technical assistance to primary care providers, especially those in small practices, and to small rural hospitals, which often do not have information technology (IT) expertise. Furthermore, HITECH provided funding for various workforce training programs to support the education of HIT professionals. The education-based programs included curriculum development, community college consortia, competency examination, and university-based training programs, with the overarching goal of training an additional forty-five thousand HIT professionals. Funding was also made available to seventeen **Beacon communities** and **Strategic Health IT Advanced Research Projects (SHARP)** across the nation. The Beacon programs are leading organizations that are demonstrating how HIT can be used in innovative ways to target specific health problems within communities (HealthIT.gov, 2012). These programs are illustrating HIT's role in improving individual and population health outcomes and in overcoming barriers such as **coordination of care,** which plagues our nation's health care system (McKethan et al., 2011).

Achieving Meaningful Use requires that health care providers are able to share health information electronically with others using a secure network for HIE. To this end, HITECH provided state grants to help build the HIE

Table 1.2 Differences between Medicare and Medicaid EHR incentive programs

Medicare EHR Incentive Program	Medicaid EHR Incentive Program
Federally implemented and available nationally	Implemented voluntarily by states
Medicare Advantage professionals have special eligibility accommodations.	Medicaid managed care professionals must meet regular eligibility requirements.
Open to physicians, subsection (d) hospitals, and critical access hospitals	Open to five types of professionals and three types of hospitals
Same definition of Meaningful Use applied to all participants nationally	States can adopt a more rigorous definition of Meaningful Use.
Must demonstrate Meaningful Use in first year	Adopt, implement, or upgrade option in first year
Maximum incentive for eligible professionals is $44,000; 10 percent for HPSA (health professional shortage area).	Maximum incentive for eligible professionals is $63,750.
2014 is the last year in which a professional can initiate participation.	2016 is the last year in which a professional can initiate participation.
Payments over five years	Payments over six years
In 2015 fee reductions (penalties) begin for those who do not demonstrate Meaningful Use of a certified HER.	No fee reductions (penalties)
2016 is the last incentive payment year.	2021 is the last incentive payment year.
No Medicare patient population minimum is required.	Eligible professionals must have a 30 percent Medicaid population (20 percent for pediatricians) to participate; this must be demonstrated annually.

Source: Carson, Garr, Goforth, and Forkner (2010).

infrastructure for exchange of electronic health information among providers and between providers and consumers. Nearly all states have approved strategic and operational plans for moving forward with implementation of their HIE cooperative agreement programs.

Affordable Care Act

In addition to the increased efforts to promote HIT through legislated programs, the early 2010s brought dramatic change to the health care sector as a whole with the passage of significant health care reform legislation. Americans have grappled for decades with some type of "health care reform" in an attempt to achieve the simultaneous "triple aims" for the US health care delivery system:

- Improve the patient experience of care
- Improve the health of populations
- Reduce per capita cost of health care (IHI, n.d.)

Full achievement of these aims has been challenging within a health care delivery system managed by different stakeholders—payers, providers, and patients—whose goals are frequently not well aligned. The latest attempt at reform occurred in 2010, when President Obama signed into law the Patient Protection and Affordable Care Act (PPACA), now known as the **Affordable Care Act (ACA).**

Along with mandating that individuals have health insurance and expanding Medicaid programs, the ACA created the structure for health insurance exchanges, including a greater role for states, and imposed changes to private insurance, such as prohibiting health plans from placing lifetime limits on the dollar value of coverage and prohibiting preexisting condition exclusions. Numerous changes were to be made to the Medicare program, including continued reductions in Medicare payments to certain hospitals for hospital-acquired conditions and excessive preventable hospital readmissions. Additionally, the CMS established an innovation center to test, evaluate, and expand different payment structures and methodologies to reduce program expenditures while maintaining or improving quality of care. Through the innovation center and other means, CMS has been aggressively pursuing implementation of **value-based payment** methods and exploring the viability of alternative models of care and payment.

The final assessment of the success of ACA is still unknown; however, what is certain is that its various programs will rely heavily on quality HIT to achieve their goals. A greater emphasis than ever is placed on facilitating patient engagement in their own care through the use of technology. On the other end of the spectrum, new models of care and payment include improved health for populations as an explicit goal, requiring HIT to manage the sheer volume and complexity of data needed.

Value-Based Payment Programs

Shortly after the ACA was passed, CMS implemented several value-based payment programs in an effort to reward health care providers with incentive payments for the quality of care they provide to Medicare patients. In 2015, the **Medicare Access and CHIP Reauthorization Act (MACRA)** was signed into law. Among other things, MACRA outlines a timetable for the 2019 implementation of a **merit-based incentive payment system (MIPS)** that will replace other value-based payment programs, including the EHR Incentive Programs. MIPS will use a set of performance measures, divided into categories, to calculate a score (between 0 and 100) for eligible professionals. Each category of performance will be weighted as shown in Table 1.3.

Health care providers meeting the established threshold score will receive no adjustment to payment; those scoring below will receive a negative adjustment, and those above, a positive adjustment. Exceptional performers may receive bonus payments (CMS, n.d.).

Alternate Payment Methods

Providers who meet the criteria to provide an **alternate payment method (APM)** will receive bonus payments and will be exempt from the MIPS. Although there are likely to be other APMs identified over time, three types are receiving a great deal of attention currently: **accountable care organizations (ACOs), bundled payments,** and **patient-centered medical homes (PCMHs).** ACOs are "networks of . . . health care providers that share responsibility for coordinating care and meeting health care quality and cost metrics for a defined patient population" (Breakaway Policy Strategies for FasterCures, 2015, p. 2). Bundled payments aim to incentivize providers to improve care coordination, promote teamwork, and lower costs. Payers will compensate

Table 1.3 MIPS performance categories

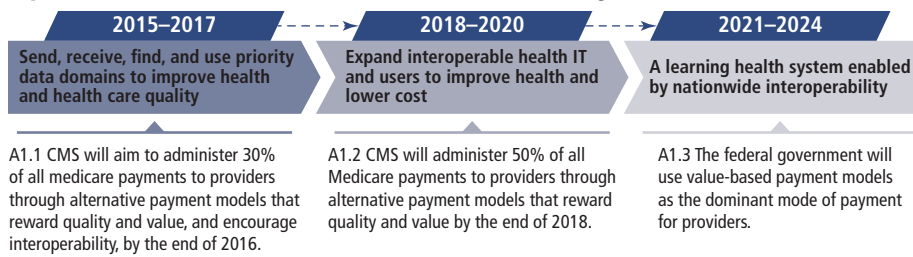| Category	Weight (%)
Quality	50
Advancing care information	25
Clinical practice improvement activities	15
Resource use	10

providers with a single payment for an episode of care. PCMHs are APMs that are rooted in the private sector. In 2007, four physician societies published a joint statement of principles emphasizing a personal physician–led coordination of care. All of the APMs rely heavily on HIT. ACOs and PCMHs, in particular, require that HIT support the organization and its providers in the carrying out the following functions:

- Manage and coordinate integrated care.
- Identify, manage, and reduce or contain costs.
- Adhere to evidence-based practice guidelines and standards of care; ensure quality and safety.
- Manage population health.
- Engage patients and their families and caregivers in their own care.
- Report on quality outcomes.

HIT Interoperability Efforts

Despite efforts dating back to the first reports on the need for adoption of computerized patient records, complete interoperability among HIT systems, which is key to supporting an integrated health care delivery system that provides improved care to individuals and populations while managing costs, remains elusive. The federal government, along with other provider, vendor, and professional organizations, however, recognize this need for interoperability. The ONC defines interoperability as "the ability of a system to exchange electronic health information with and use electronic health information from other systems without special effort on the part of the user" (ONC, n.d.a). Interoperability among HIT encompasses far more than just connected EHRs across systems. Home health monitoring systems are becoming commonplace, telehealth is on the rise, and large public health databases exist at state and national levels. True interoperability will encompass any electronic sources with information needed to provide the best possible health care.

Some of the more notable efforts toward **HIT interoperability** include the efforts by the government under the direction of the ONC and several other national public and private organizations. In 2015, the ONC published "Connecting Health and Care for the Nation: A Shared **Nationwide Interoperability Roadmap,**" a ten-year plan for achieving HIT interoperability in the United States. Figure 1.1 summarizes the key milestones identified in the ONC road map. The ultimate goal for 2024 is "a learning health system enabled by nationwide interoperability." The goal of the learning health system is to

Figure 1.1 Milestones for a supportive payment and regulatory environment

2015–2017	2018–2020	2021–2024
Send, receive, find, and use priority data domains to improve health and health care quality	Expand interoperable health IT and users to improve health and lower cost	A learning health system enabled by nationwide interoperability
A1.1 CMS will aim to administer 30% of all medicare payments to providers through alternative payment models that reward quality and value, and encourage interoperability, by the end of 2016.	A1.2 CMS will administer 50% of all Medicare payments to providers through alternative payment models that reward quality and value by the end of 2018.	A1.3 The federal government will use value-based payment models as the dominant mode of payment for providers.

Source: ONC (2015).

improve the health of individuals and populations by "generating information and knowledge from data captured and updated over time . . . and sharing and disseminating what is learned in timely and actionable forms that directly enable individuals, clinicians, and public health entities to . . . make informed decisions" (ONC, 2015, p. 18).

Health Level Seven International (HL7), a not-for-profit, **ANSI (American National Standards Institute)**–accredited, standards-developing organization, is focused on technical standards for HIE. The HL7 **Fast Healthcare Interoperability Resources (FHIR) standards** were introduced in 2012 and are under development to improve the exchange of EHR data. About this same time Healtheway, now **the Sequoia Project,** was chartered as a nonprofit organization to "advance the implementation of secure, interoperable nationwide health information exchange" (Sequoia Project, n.d.a). The Sequoia Project supports several initiatives, including the **eHealth Exchange,** a group of government and nongovernment organizations devoted to improving patient care through "interoperable health information exchange" (Sequoia Project, n.d.a). Unlike HL7, which focuses on technical standards, eHealth Exchange's primary focus is on the legal and policy barriers associated with nationwide interoperability. Another Sequoia initiative, Carequality, strives to connect private HIE networks. Another private endeavor, **Commonwell Health Alliance,** is a consortium of HIT vendors and other organizations that are committed to achieving interoperability. Commonwell began in 2013 with six EHR vendors. In 2015, their membership represented 70 percent of hospitals. Provider members of Commonwell register their patients in order to exchange easily information with other member providers (Jacob, 2015).

Although HIT has become commonplace across the continuum of care, seamless interoperability among the nation's HIT systems has not yet been realized. One author describes the movement toward HIT interoperability in the United States not as a straight path but rather as a jigsaw puzzle with multiple public and private organizations "working on different pieces"

(Jacob, 2015). Interoperability requires not only technical standards but also a national health information infrastructure, along with an effective governing system. Concerns about the misalignment of incentives for achieving interoperability remain. Most experts agree that technology is not the barrier to interoperability. Governance and alignment of agendas among disparate organizations are cited as the most daunting barriers. Because of its potential to affect seriously the progress of interoperability, in 2015, the ONC reported to Congress on the phenomenon of **health information blocking,** which is defined as occurring "when persons or entities knowingly and unreasonably interfere with the exchange or use of electronic health information" (ONC, 2015). The report charged that current economic incentives were not supportive of information exchange and that some of the current market practices actually discouraged sharing health information (DeSalvo & Daniel, 2015).

SUMMARY

Chapter One provides a brief chronological overview of the some of the most significant national drivers in the development, growth, and use of HIT in the United States. Since the 1990s and the publication of *The Computer-Based Patient Record: An Essential Technology for Health Care,* the national HIT landscape has certainly evolved, and it will continue to do so. Challenges to realizing an integrated national HIT infrastructure are numerous, but the need for one has never been greater. Recognizing that the technology is not the major barrier to the national infrastructure, the government, through legislation, CMS incentive programs, the ONC, and other programs, will continue to play a significant role in the Meaningful Use of HIT, pushing for the alignment of incentives within the health care delivery system.

In a 2016 speech, CMS acting chief Andy Slavitt summed up the government's role in achieving its HIT vision with the following statements:

The focus will move away from rewarding providers for the use of technology and towards the outcome they achieve with their patients.

Second, providers will be able to customize their goals so tech companies can build around the individual practice needs, not the needs of the government. Technology must be user-centered and support physicians, not distract them.

Third, one way to aid this is by leveling the technology playing field for start-ups and new entrants. We are requiring open APIs... that allow apps, analytic tools, and connected technologies to get data in and out of an EHR securely.

We are deadly serious about interoperability. We will begin initiatives… pointing technology to fill critical use cases like closing referral loops and engaging a patient in their care.

Technology companies that look for ways to practice "data blocking" in opposition to new regulations will find that it won't be tolerated. (Nerney, 2016)

Many of the initiatives discussed in Chapter One will be explored more fully in subsequent chapters of this book. The purpose of Chapter One is to provide the reader with a snapshot of the national HIT landscape and enough historical background to set the stage for why health care managers and leaders must understand and actively engage in the implementation of effective health information systems to achieve better health for individuals and populations while managing costs.

KEY TERMS

Accountable Care Organizations (ACOs)

Affordable Care Act (ACA)

Alternate payment methods (APM)

American Recovery and Reinvestment Act

ANSI (American National Standards Institute)

Beacon communities

Bundled payments

Centers for Medicare and Medicaid Services (CMS)

Commonwell Health Alliance

Computer-based patient record (CPR)

Coordination of care

eHealth Exchange

Electronic health records (EHRs)

e-prescribing

Fast Healthcare Interoperability Resources (FHIR) standards

Health information blocking

Health information exchange (HIE)

Health information technology (HIT)

Health Information Technology for Economic and Clinical Health (HITECH) Act

Health Insurance Portability and Accountability Act (HIPAA)

Health Level Seven International (HL7)

HIT interoperability

Meaningful Use of EHR

Medicare Access and CHIP Reauthorization Act (MACRA)

Medicare Modernization Act

Merit-based incentive payment system (MIPS)

Nationwide Interoperability Roadmap

Office of the National Coordinator for Health Information Technology (ONC)

Patient-centered medical homes (PCMHs)

Patient safety

Pay for performance (P4P)

Regional extension centers (RECs)

Strategic Health IT Advanced Research Projects (SHARP)

The Sequoia Project

Value-based payment

LEARNING ACTIVITIES

1. Investigate the latest Meaningful Use criteria for eligible professionals or eligible hospitals. Visit either a physician practice or hospital in your community. Have they participated in the Medicare or Medicaid EHR Incentive Program? Why or why not? If the organization or provider has participated in the program, what has the experience been like? What lessons have they learned? Find out the degree to which the facility uses EHRs and what issues or challenges they have had in achieving Meaningful Use.

2. Evaluate different models of care within your local community or state. Did you find any examples of accountable care organizations or patient-centered medical homes? Explain. Working as a team, visit or interview a leader from a site that uses an innovative model of care. Describe the model, its use, challenges, and degree of patient coordination and integration. How is HIT used to support the delivery of care and reporting of outcomes?

3. Investigate one of the Beacon communities to find out how they are using HIT to improve quality of care and access to care within their region. Be prepared to share with the class a summary of your findings. Do you think the work that this Beacon community has done could be replicated in your community? Why or why not?

4. Explore the extent to which health information exchange is occurring within your community, region, or state. Who are the key players? What types of models of health information exchange exist? To what extent is information being exchanged across organizations for patient care purposes?

5. Investigate the CMS website to determine their current and proposed value-based or pay-for-performance programs. Compare one or more of the programs to the traditional fee-for-service payment method. What are the advantages and disadvantages of each to a physician provider in a small practice?

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