



The Role of Health Information Technology in Accountable Care

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Overview

The concept of accountable care and the potential for accountable care organizations (ACOs) continue to generate significant buzz in the healthcare industry. Despite considerable ambiguity on what accountable care looks like (or will look like), there is near uniform agreement that information technology is a key enabler of accountable care. Electronic health records (EHRs), health information exchanges (HIEs), disease registries, eHealth and full-spectrum clinical and business analytics are but some of the vital technologies and capabilities that must be implemented and optimized to effectively provide a continuum of quality care in a cost effective manner.

This paper discusses accountable care and the shift it is driving in the healthcare industry, with a focus on the critical role of information technology (IT) in managing risk and overcoming the hurdles associated with the integration of care and shared accountability among providers, hospitals and payers. The paper also describes technologies and capabilities necessary for accountable care and performance-based reimbursement. Lastly, it presents critical factors for information technology planning and management in an accountable care environment based on Impact Advisors' experience as a trusted advisor for some of the industry's leading care organizations.

Accountable Care Basics

One of the most talked about provisions of the Patient Protection and Affordable Care Act of 2010 is the development of *accountable care organizations (ACOs)*. In an ACO, groups of hospitals, physicians and other care providers assume responsibility for the quality, cost and overall care provided to a defined population of Medicare beneficiaries. ACOs that meet quality performance requirements, while keeping costs under a defined threshold, are eligible to share in the savings achieved.

The voluntary [Medicare ACO program](#), the Medicare Shared Savings Program, began in January 2012. It represents the latest step towards shifting from a purely volume-over-value payment model to one based on effectiveness, stewardship and "gain sharing" where bonuses or wage increases are linked to better outcomes as opposed to increased profits (Piper, 2010).¹ In accountable care programs, participants will share in a percent of the savings, and in some cases, risk-paying penalties if costs for the assigned population exceed a defined level.

Many organizations, while embracing the care coordination aspects of accountable care, do not plan to participate in the Medicare ACO program. A fall 2011 study by KLAS found that only a third of the 197 providers interviewed plan to pursue the Medicare ACO designation, though the majority agree that accountable care is the way of the future². Instead, many organizations are forming their own ACOs or ACO-like models but using different vernacular, such as "organized systems of care." Although the specifics may vary, there is broad understanding that this new model of care will require "rewiring" of many of the human, organizational and intra-organizational tenants.

¹ Piper, K. "The New Accountable Care Organizations and Medicare Gain-Sharing Program." *American Health & Drug Benefits*, 3(4), pp 261–262. 2010.

² Accountable Care Providers Forge the ACO Trail, KLAS, September 2011.

Shifting Paradigms

Accountable care, whether delivered through a sanctioned Medicare ACO or through an “ACO-like” delivery model, brings risk and challenge. To be successful, providers and organizations must shift from being silos of volume-based activity to being effective at:

- **Managing Risk** – The keys to managing risk will be care coordination and a deliberate shift to proactive caring for patients to improve outcomes and cost-effectiveness. Given healthcare’s legacy of fragmented care and multiple uncoordinated handoffs, a variety of changes are needed to institutionalize care coordination and information sharing across organizations and geographies. Sending patients and health information “over the fence” will not suffice; individuals and organizations must take responsibility for working collaboratively and efficiently.

A second vital requirement for managing risk in an accountable care environment is to use information and resources to monitor care for patients in the most cost-effective setting. From in-home monitors to patient advocates to practice guidelines to patient panel dashboards, ACOs must use resources and data to more proactively manage patients’ health, medical care and outcomes, and ultimately financial risk.

- **Collecting, Analyzing, and Reporting Data** – Medicare ACOs will be required to report on its participating providers and patients to facilitate beneficiary assignment, ensure achievement of quality measures (clinical processes, outcomes and patient experience) and manage costs and risks. All accountable care organizations, regardless if they are part of the Medicare ACO program, will need to be effective at aggregating, analyzing and acting quickly on information.
- **Empowering Constituents** – To create truly patient-centered systems of care where primary care physicians can efficiently provide and coordinate services and patients can participate in their own care, health information must be readily available and exchanged to enable shared understanding and decision making.

The Role of HIT in Enabling Accountable Care

To facilitate the organizational and financial changes accountable care requires, healthcare organizations must leverage a portfolio of technologies, including but not limited to: electronic health records (EHRs), disease registries, eHealth solutions, health information exchanges and advanced data analytics. Each of these and their importance in the move towards accountable care is discussed below.

Electronic Health Records (EHRs)

Inpatient and ambulatory *electronic health records (EHRs)* are foundational systems for accountable care. EHRs provide the nucleus of information about patients. Robust exchange or full integration of care and treatment information between inpatient and ambulatory sites is vital; such data-sharing markedly increases collaboration among providers and can aid in making informed medical decisions about a patient’s care.

ACOs will also be accountable for care delivered outside inpatient and ambulatory settings and must be prepared to integrate clinical and financial data from their long-term

care facilities, home health care, and other care continuum EHRs and information systems to best manage the care and costs of their patient populations. From an IT evolution standpoint, home health, long-term care, and rehabilitation hospitals are generally not as advanced as inpatient and ambulatory settings. This poses challenges in the robustness of EHR/system functionality, adoption and data interoperability.³ ACOs must proactively address the data and information deficiencies in the continuum as well as ensure the data is shared across disparate systems.

Disease Registries

A second important technology for ACOs is *disease registries*, which are used to track patients with specific diseases and diagnoses to ensure they are receiving appropriate care. While the use of disease registries is growing, particularly in ambulatory settings, they are far from pervasive. Many providers simply do not have experience with managing patient populations. For others, there may be limited understanding of how disease management system capabilities differ from those of an EHR, or a belief that their EHR provides full registry capabilities.

Even when disease registries are in place, many times they are not integrated with EHRs. As a result, another silo of data emerges—or even *silos* if patients with multiple chronic diseases are being tracked in separate registries. This may result in a disease registry becoming a “shadow” EHR⁴ and that key patient clinical data will not be accessible to others who seek it in the enterprise EHR. In an ACO environment, disease registries will bring the most value when they are integrated with (or native to) the EHR.

Leading EHR vendors are working to enhance disease registry capabilities into their products or are improving the integration capabilities to niche disease registry products. These developments underscore the importance of carefully managing the care of chronically ill patients, especially where there is collective responsibility for managing the risks of the patient population.

eHealth

eHealth is a broad term encapsulating the growing number of ways technology is used to engage consumers in managing their health and medical care, including the use of personal health records (PHRs) and smart phone/mobile health applications. Traditionally, telemedicine has encompassed services such as e-visits and e-consults, and remote monitoring. The range of patient-centric health technologies is expanding, and in many ways the distinction between traditional telemedicine solutions and e-health tools is blurring. For example, home monitoring systems are less invasive, more mobile and more patient-friendly than ever before.

Personal health records (PHRs), despite their limited adoption to date, have the potential to play an important role in accountable care. PHRs, particularly those tied directly to care providers' EHRs and that allow secure messaging and other advanced functionalities, connect patients to their health information and provider communities.

³ Andrews, J. “When Will LTC Get Serious about IT?” *McKnight's Long Term Care News*, 32(1). <http://www.mcknights.com/when-will-ltc-get-serious-about-it/article/193346/>. 2010. Accessed January 9, 2012.

⁴ Amatayakul, M. “HIPAA Reins in Shadow Charts, Independent Databases (HIPAA on the Job Series).” *Journal of AHIMA*, 74(9), 16A-C. 2003.

Capitalizing on this relationship and information flow is especially valuable for those with multiple and/or chronic conditions being managed in a risk-sharing model of care. Researchers at the Cleveland Clinic identified a relationship between the use of the Cleveland Clinic PHR and the number of both actual clinical encounters and diagnoses in the patient's EHR problem list. They concluded the PHR sees more use from sicker patients who are greater consumers of healthcare.⁵ Successful accountable care organizations will take advantage of this engaged cohort and further develop capabilities that help them manage specific—and often costly—medical conditions.

While PHR adoption has languished to date, the adoption of smartphone health and wellness applications is growing exponentially. By 2015, 500 million smart phone users worldwide will use a mobile health (mHealth) application⁶ for everything from tracking medications, managing symptoms and monitoring use of healthcare benefits. ACOs should tap into this trend and deploy secure provider and/or patient mHealth solutions that enable engagement, real-time care management and appropriate use of resources.

Telemedicine hold great promise for helping manage care and services in a way that is cost effective and meets patients' and providers' needs. Historical barriers to telemedicine adoption—limited network and technology capability, poor reimbursement and the “physical-ness” of healthcare⁷—are being addressed and it is predicted the market will grow rapidly and be a \$3.6 billion (annual) industry by 2014.⁸ Much of this growth will be fueled by organizations seeking to use technology to proactively monitor health and manage care of patient populations for which they are financially responsible.

Health Information Exchange (HIE)

Health information exchange (the verb) and *Health Information Exchange* (the noun) technology are the plumbing of accountable care. There is a proliferation of HIE planning and development across the country driven by the HITECH Act and emerging standards. While many public HIE activities have stalled out before actually exchanging data, or have lacked sustainable funding, the many lessons learned from these efforts has helped evolve a more nimble and financially capable public HIE model.

Private or “enterprise” HIEs are growing rapidly in number. Enterprise HIEs help large organizations extend their reach and tighten relationships with affiliated hospitals and providers in a relatively cost effective manner. Affiliated hospitals and providers can continue to use legacy EHRs and “own” their patients data, but data and patient flow (via referrals) are improved. The data exchange helps facilitate patient care, risk management and analytics for quality improvement and care optimization.

Data and Analytics

The aggregation and analysis of information from multiple clinical and business systems—i.e. EHRs, financial systems, case management systems and pharmacy systems—helps paint a broader picture of the care delivered, cost and outcomes. The

⁵ <http://www.epic.com/recognition-news.php>. Accessed January 9, 2012.

⁶ Larkin, H. “mHealth.” *H&HN Magazine*. April 2011.

⁷ Boukus, E.R., Grossman, J.M., & O'Malley, A.S. “Physicians Slow to E-mail Routinely with Patients.” *Center for Studying Health System Change*, 134. <http://hschange.org/>. 2010. Accessed January 9, 2012.

⁸ “Report: Telemedicine Spending to Approach \$3.6B Annually by 2014.”

http://www.cmio.net/index.php?option=com_articles&view=article&id=19073. October 11, 2009. Accessed January 9, 2012.

ability to acquire, normalize and analyze data is essential for coordinating and managing patient care and the financial risks typical in accountable care models.

Health plan data has historically been primarily claims and utilization data. This data will remain very important but needs to be integrated with clinical information to help determine and promote quality and cost effectiveness. In addition to having access to traditional health plan data, ACO-like entities must have strong actuarial capabilities that can be used to identify, stratify and manage high-risk patients and populations.

Provider organizations' reporting and analytics capabilities are generally less mature than those of health plans and too often limited to disparate silos of information. The adoption and use of *data warehouses (DWs)* on the provider side has been slow and is largely limited to academic medical centers and integrated delivery systems.⁹ In addition, extraction and application of the data in the warehouse is dependent on data quality and consistency—the endemic “garbage in/garbage out” problem that plagues the healthcare industry where data standards have been limited.

In the healthcare system of the future, regardless of whether it is formally participating in an ACO-like program, data analytics and clinical and business intelligence will be essential. Data from EHRs, provider profiling systems, disease registries, revenue cycle and supply chain systems must be normalized, compiled and manipulated into real-time reports and dashboards on utilization, cost, trends and comparisons to outcomes and financial targets.

IT and Accountable Care: Critical Success Factors

It will take months, if not years, for ACOs to bring the value envisioned by their architects. This evolution will bring insights into the strategies, relationships, financial models and patient care approaches that will be most effective. However, even now the long-term importance of health information technology in accountable care is undisputable. Below, Impact Advisors provides four critical success factors for organizations to consider when preparing to form or join an accountable care organization.

- 1. Lay a Solid Clinical Systems Foundation.** Address today's requirements in a way that also effectively builds for *future* programs and requirements. Develop IT strategies, design IT-enabled workflows and establish clinical informatics expertise to help the organization adapt to immediate demands while preparing for the horizon—Stage 2 meaningful use, ICD-10, increased clinical decision support and the integration of eHealth and telemedicine into standard operations.
- 2. Optimize the User Experience.** Implementing new technologies and achieving broad and full adoption is extremely challenging. Often, organizations fall short of capitalizing on the value of their investments – workflows are not optimized, end user adoption lags, the system is not used to its full capacity. In a care ecosystem where everyone shares accountability for cost and quality, users must receive the appropriate training and support they need to effectively perform their roles. They

⁹ Finch, K., Murphy-Barron, C., & Mirkin, D. “Nuts and Bolts of ACO Financial and Operational Success: Calculating and Managing to Actuarial Utilization Targets.” *Becker's Hospital Review*. <http://www.beckershospitalreview.com/>. 2010. Accessed January 9, 2012.

must also be continually engaged in refining systems and data and their usage to ensure the information gathered during and around care processes can be used to positively influence patient outcomes, improve operations, and/or be used in aggregate to inform larger clinical and business decisions

- 3. Focus on System Integration and Data Exchange.** Given the importance of “collective information” in an accountable care environment, organizations must ensure their internal systems and data management capabilities are developed and that secure data exchange channels are broadly for sharing information. Start with basic exchange of orders, results, medications, and problems and but plan to move to a richer set of discrete data from across the ACO and beyond that can be aggregated and analyzed for real-time management of patient and financial risk.
- 4. Be Disciplined with Data.** There is no silver bullet in healthcare IT. Accountable care will require a portfolio of technology solutions, but also discipline and investment in resources that know what data matters, how to get at it and present it in a way that is valuable in managing utilization, outcomes and financial risk. Building an analytics-based culture will require focus on improving reporting capabilities, making reports actionable for stakeholders, and providing the right job measures and incentives so people use the information to affect positive change.

Summary

The ACO “concept” will, regardless of the fate of healthcare reform, have a lasting impact on the healthcare industry. Many organizations are embracing accountable care with or without official Medicare designation, and view rapidly evolving technology as a key facilitator in moving from their current siloed and volume-based practices to organizations focused on communication, collaboration and value. Success for these organizations will be determined by their ability/willingness to prepare for, invest in and fully capitalize on appropriate technologies.

About Impact Advisors

Impact Advisors is an award-winning firm providing high-value strategic and implementation services to help healthcare clients drive clinical and operational performance excellence through the use of technology.

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