

Journey to High Value Healthcare: The Board's Role in Clinical Transformation

The American Hospital Association's



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Monograph Series

About the Author

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Overview

As the American health care industry prepares to transition to value-based health care, health care organization leaders and boards must drive an aggressive change agenda. Survival will depend on the organization's ability to transform care practices, respond to new reimbursement systems and redefine health care business models.

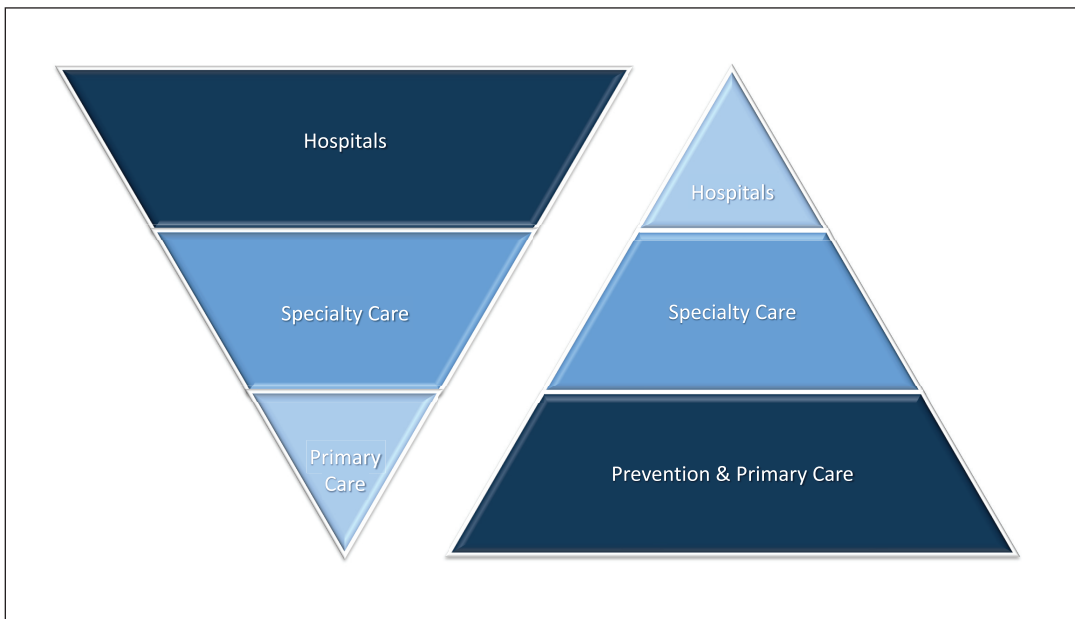
Journey to High Value Healthcare: The Board's Role in Clinical Transformation provides a guide for boards and the health care C-Suite as they align strategies, decision-making tools, processes, information technology and people to build new organizational capacity for clinical transformation. Information will be the cornerstone for the high-performing, accountable health system of the future. This publication defines the role of the board in overseeing this transition and explores the concept of an Information Technology (IT) Committee of the board. It also discusses the importance of meaningful use of electronic health records in developing the necessary foundation for accountability. Eight strategies are identified to help boards develop a clear plan and evaluate progress toward *accountable* meaningful use. Surveys of 107 health system CEOs and industry benchmark data provide a snapshot of where the health care industry is today and the gaps we must overcome. Assessment questions will help boards critically examine their own institution's progress.

Today's health system is fragmented, specialized and duplicative. Disruption is necessary to drive the health care industry toward reinvention. Transformation can be defined as an ongoing strategy of care delivery excellence that demonstrates measurable improvements in quality, service and cost reduction through the redesign of people, processes, information and technology. Transformation leadership is required at the highest levels of the industry and within each organization to create the health system of the future.

Introduction

The pace of change for health care providers is overwhelming at best. The demands of health reform, clinical integration, new reimbursement methods, deployment of electronic health records, implementation of ICD-10 (used by health care providers to classify, code and ultimately reimburse all diagnoses, symptoms and procedures associated with hospital care in the United States), quality reporting and ever increasing regulation are putting significant strain on organizations with tight budgets, limited capital and inadequate resources. The broader goal of many of these initiatives is to “flip” the health care triangle and manage chronic disease through prevention and expansion of primary care services. The implications of this transformation are profound as depicted in Figure 1.

Figure 1: Goal of Many Health Care Reform Initiatives



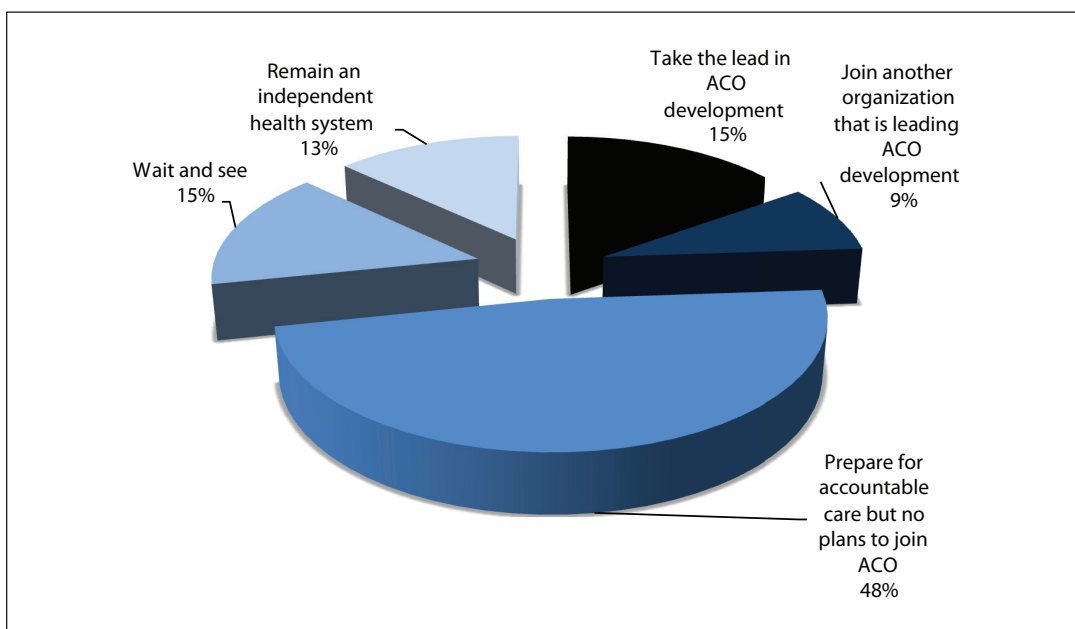
The need for transformation is based on the reality that chronic conditions account for 75% of the total costs of health care today and that 45% of Americans have one or more chronic conditions. Prevention or delay in the onset of health conditions can have a significant impact on the cost of care and quality of life. If the health care industry focuses on flipping the triangle while simultaneously reducing duplication and waste in the system of care; decreasing errors; and eliminating incentives for high-volume, low-value, procedural-based care, we can overcome many of the challenges we are facing.

However, reaching this goal will escalate the need for change and transformation for health care providers.

Most health systems undertake strategic planning initiatives, service excellence programs, core measure reporting, management scorecards and annual budgeting efforts. Typically, these initiatives have incremental pay-offs, but for the most part things pretty much remain the same year to year. Success in this era of radical reform and reinvention will require a very different set of capabilities. According to Janet Corrigan, President and Chief Executive Officer of the National Quality Forum, “Care is fragmented, unsafe and inefficient. Achieving higher levels of performance requires organizational capacity, including information technology (IT) and specialized expertise, not present in most settings.” Boards and senior managers must determine the appropriate level of investment required to build capacity within their own health systems.

When surveyed for the purpose of writing this publication, the majority of health system CEOs indicate they will prepare for accountable care but not join a specific Accountable Care Organization (ACO). Those who will take the lead in forming an ACO, join another organization that is leading ACO development, wait and see, or remain independent are fairly equally distributed as seen in Figure 2.

Figure 2: CEO Perspectives on Health System Role in ACO Development



Whether striving to build an Accountable Care Organization or preparing to be a good partner in response to new models of care and reimbursement, each organization should solidify its vision, understand the strategies required for the future and begin to build organizational capacity for transformation.

Performance in the future must be efficient, effective, relevant and accountable. Outcomes in patient care, stakeholder satisfaction, revenue management, market penetration and population health improvement must be sustainable. Organization capacity for transformation will require investment in skilled resources; strategic leadership; information technology; program, project and process management; and collaboration with new partners. This monograph provides an understanding of the current environment, identifies the gaps that must be closed and provides a strategic framework for boards and senior leaders to build upon.

Organizational Capacity for Transformation

Historically, most health providers have capabilities in patient care, revenue cycle management, supply chain management and other skills required to operate hospitals and physician practices. As information systems have become more prolific, information technology departments have expanded to include clinicians, project managers and process improvement specialists. Yet, most organizations do not have the capacity to drive a number of the simultaneous changes needed to transform and prepare them for success in tomorrow’s health care system as seen in Figure 3.

Figure 3: Simultaneous Changes Required for Transformation

TODAY	FUTURE
Fragmented Care	Coordinated Care
Organized Around Providers	Organized Around Patients
Payment for Volume	Payment for Value
Facilities Focused	Information Focused
Physician Accountability	Care Team Accountability
Paper	Electronic
Episodic, Hospital-Based Care Models	Longitudinal, Multi-Site Care Models
Inconsistent, Variable Practices	Efficient, Evidence-Based Care
Data Silos	Robust Information Exchange

A health system’s organizational capacity is defined in simple terms as its potential to perform. More specifically, in the context of transformation, this capacity encompasses an organization’s ability to successfully apply its skills and resources including leadership, people, information technology, finances, process management, knowledge, culture and relationships with other organizations, to accomplish its mission, execute on specific goals and satisfy stakeholder expectations in the high-value health care marketplace of the future.

The Health Information Technology for Economic and Clinical Health Act (HITECH) is part of the American Recovery and Reinvestment Act authorized by the Centers for Medicare & Medicaid Services (CMS) to provide a reimbursement incentive for physician and hospital providers who are successful in becoming meaningful users of an electronic health record (EHR). These incentive payments begin in 2011 and gradually phase down. Starting in 2015, providers are expected to have adopted and be actively utilizing an EHR in compliance with the “meaningful use” definition or they will be subject to financial penalties under Medicare. The ultimate goal of meaningful use of an electronic health record is to enable significant and measurable improvements in population health through a transformed health care delivery system. The vision is one in which all patients are fully engaged in their health care and providers have real-time access to all medical information and tools to help ensure the quality and safety of the care provided, while also affording improved access and elimination of health care disparities. (Office of the National Coordinator—Meaningful Use Workgroup 2009).

“Relatively few healthcare organizations have adopted the core applications needed for the healthcare system of the future. However, the HITECH incentives are likely to increase their use and to establish the regional health information technology necessary to foster innovation and to improve performance. The HITECH provisions can be seen as laying the groundwork for the payment reform provisions of the healthcare reform legislation.”

John Glaser, CEO, Siemens Healthcare and former CIO, Partners Healthcare

The meaningful use (MU) of electronic health records when coupled with organizational capacity-building strategies will provide the foundation for clinical transformation. Long considered the Trojan Horse of health reform, MU is key to re-engineering the relationship between hospitals and doctors, driving the shift to value-based payment, encouraging patients to manage their own care and supporting the redesign of reimbursement and care delivery models. Whether organizations are destined to lead the development of Accountable Care Organizations and new delivery models, participate in accountable care or just survive in an outcomes-based payment/reimbursement system, new decision-making structures will need to ensure:

- Care is patient-centered and coordinated across provider venues, not just the inpatient stay.
- Systematic processes encourage standardization and evidence-based practice.
- Transparent operations ensure clear authority and responsibility for point-of-care decision making.
- Engaged patients, who understand prevention, are involved in their own care.
- Cost reduction and quality improvement measures are in place.
- Investment in information technology is coupled with care delivery redesign.

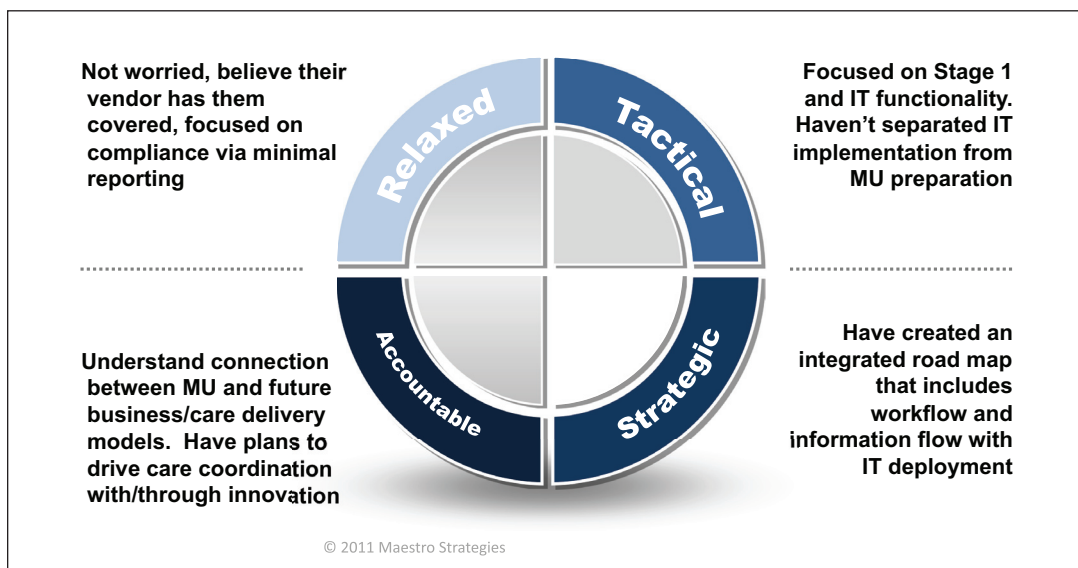
Stepping Up to Accountable Meaningful Use

Simply put, MU means providers need to demonstrate the use of certified EHR technology in ways that can be measured significantly in quality and in quantity. Achievement of MU is based on a complex set of criteria and will be staged in three steps over the course of the next five years:

- Stage 1: Adopting and implementing certified EHRs in hospitals and physician practices.
- Stage 2: Using the information from EHRs to support clinical decision making.
- Stage 3: Improving the outcomes of care.

From a strategic perspective, organizations typically fall into one of four categories in their approach to MU, as shown in Figure 4 and further described below.

Figure 4: Strategic Approach to Meaningful Use



The categories can be summarized as follows:

- **Relaxed** — These organizations are not worried. They have confidence in their health information technology (HIT) vendor, to a fault. They feel they are implementing “certified electronic health record” technology, and they will do just enough to get by. These health systems have bought into a common misperception—that implementing EHR technology automatically demonstrates meaningful use. Typically, it’s an 80/20 split of responsibility: 80% of the decisions and work lie on the shoulders of the health system and only 20% of the effort belongs to the vendor. Providers must ensure that systems are woven together with a planned strategy, work flow, information flow and job design. Systems must be efficient prior to implementation, and users must understand and adopt the technology.

- **Tactical** — Many organizations are approaching MU as a tactical endeavor. They are heads down with their focus on Stage 1. Leaders have not looked over the horizon to make sure they lay the foundation for future stages. They have a clinical system application plan but have not developed a plan for MU. While they recognize the mutual responsibilities of the vendor and provider, they only view MU from the perspective of technology implementation.
- **Strategic** — Health systems at this level view information technology as a strategic asset. They understand that successful MU of EHRs is not an IT project but an organizational change project.

Over 50% of US hospitals are relaxed or tactical

(Source: Maestro Strategies MU Readiness Assessments and Surveys)

These health systems have created an integrated road map that includes workflow and information flow redesign prior to implementation of systems.

Careful not to automate broken processes, they invest heavily in clinical informatics, process redesign and project management.

- **Accountable** — The future of health care is focused on using information in new and different ways to redesign care delivery and reimbursement models across venues of care. Only a few organizations are planning for the accountable MU of EHRs. Yet they serve as the standard for the entire industry. They are looking forward and designing evidence-based systems of care, providing decision support at the point of care and aggregating information to manage populations.

EHR ≠ Meaningful Use

The prevailing misperception is that implementing Epic, Cerner, McKesson, Meditech, Siemens, Allscripts, or any other EHR complies with HITECH requirements and incentive qualification.

EHR implementation is only one component—MU depends on workflow, evidence-based clinical practice, measurement and reporting.

The Role of the Board

The ability to capture, analyze and act on clinical and financial information will be the primary strategic asset of high-performing health care organizations. The current pace and expense of decisions related to these changes will have far-reaching implications. A number of sources describe the challenges ahead:

- 86% of CEOs believe by 2016 IT operating and capital budgets will more than double (Future Scan 2011).
- 79% of CEOs believe that hospitals will dedicate a sizeable portion of their EHR budgets to train physicians on effective use of EHRs (Future Scan 2011).
- 55% of hospitals expect that they will incur penalties for not complying with MU by 2015 (AHA Trend Watch April 2010).
- The average start-up cost per bed is \$80,000 – \$100,000 (for the average 200-bed hospital). Stimulus funds will pay for less than one quarter of the cost (McKinsey & Co., August 2010).

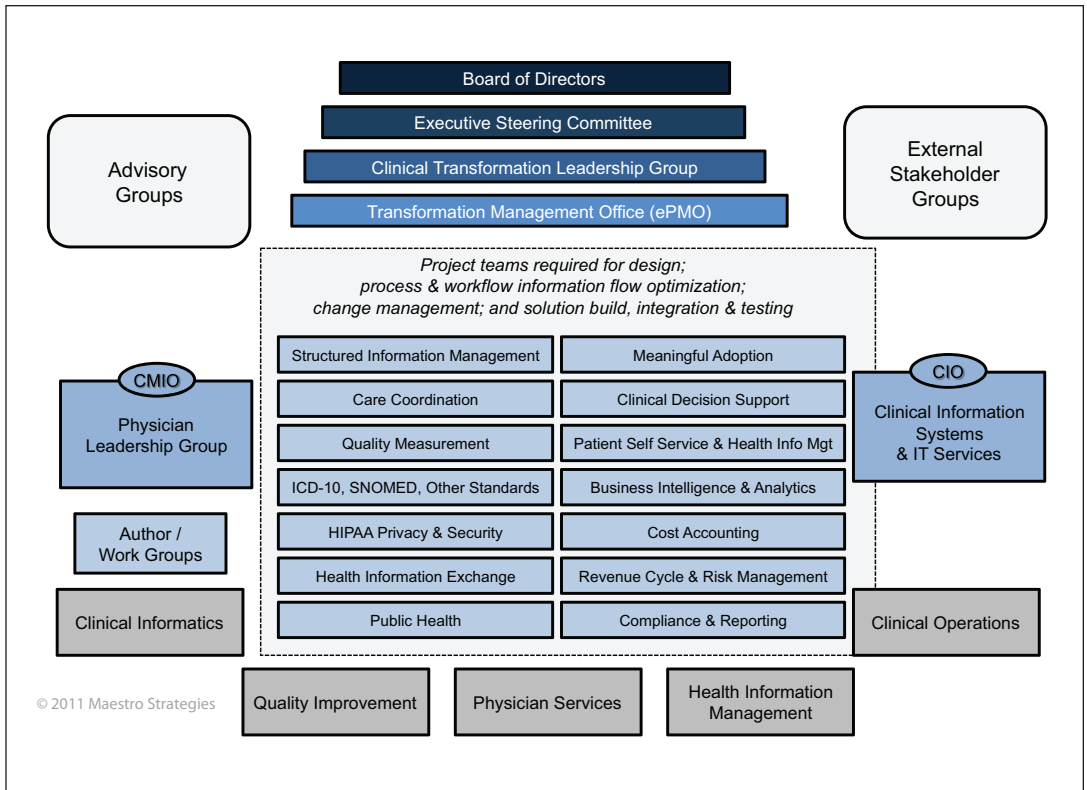
- 31% of hospitals have implemented Computerized Physician Order Entry (CPOE) on at least one unit. Those hospitals that have deployed CPOE and other facets of MU typically have 20% higher staffing levels in IT than their peers without CPOE (Maestro analysis of HIMSS Analytics data, June 2011).
- 70% of survey respondents say that IT is still regarded in their institutions principally as a support function rather than a strategic one (The Economist Survey of U.S. Healthcare CIOs, October 2010).
- It is likely that all hospital boards will have a committee or subcommittee on hospital quality and patient safety by 2014. Boards will devote more of their meeting time to discussing quality than to discussing financial performance (AHA Environmental Scan 2010).

Most health care boards, however, have limited visibility into IT strategy, operations and management. According to the CEOs we surveyed, IT issues are typically addressed at meetings of the full board or within the board finance committee once or twice a year. More than 60% of boards do not have members with IT experience. Outside of not-for-profit health care, legislative and regulatory mandates such as the Sarbanes-Oxley legislation have changed the relationship between technology leadership and the board to one that is more structured and formal. Given the role of IT within changing health care regulatory requirements, future payment methodologies, and the inherent risk of these efforts, it is incumbent that hospital boards establish IT committees or at a minimum recruit members with information technology expertise to capably discharge their oversight responsibilities. Specific responsibilities of the board should include:

- Aligning technology strategy with business strategy.
- Appraising and critically reviewing the progress of major IT initiatives, budgets and decisions.
- Expanding the board's overall understanding of information technology issues, challenges and consequences.
- Fostering communication among leaders of medical informatics, information technology, clinical transformation and the board.
- Reviewing management processes, financial and security policies, controls and reporting structures.

Governance of clinical transformation should begin at the board level and extend throughout the organization. The executive team, clinical steering committees, physician advisory groups and working teams should ensure participation and ownership of work redesign, evidence and standards development, systems implementation, as well as awareness building, communications and education. Figure 5 illustrates a conceptual model of clinical transformation governance and participation across the enterprise.

Figure 5: Clinical Transformation Governance Model



Eight Strategies for Accountable Meaningful Use

There are eight strategies for accountable meaningful use that should be led at the highest levels of the organization with oversight by the governing board.

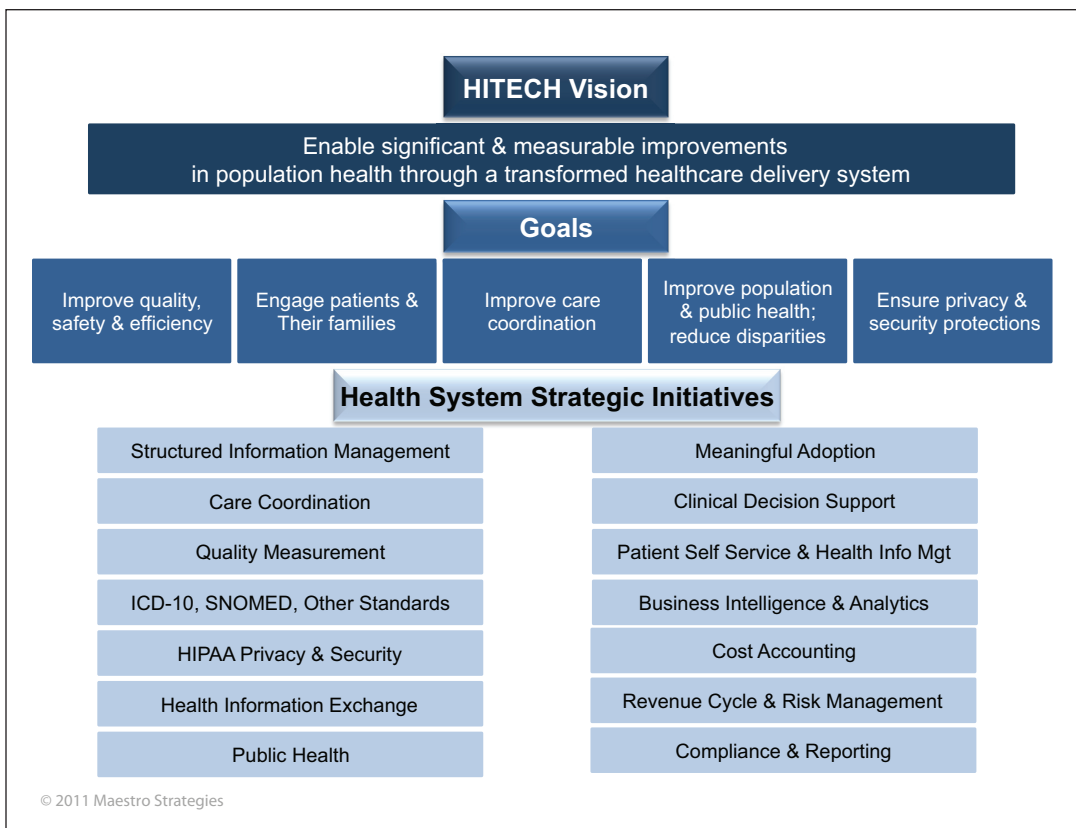
1. Build Transformation Awareness, Clear Vision and Leadership
2. Deploy Interoperable Electronic Medical Records Across All Sites of Care
3. Build EHRs with Evidence-Based Medicine in Mind
4. Explore Medical Trading Area Health Information Exchange
5. Expand Patient Engagement Strategies
6. Develop Real-Time Quality Measures
7. Initiate Cross-Continuum Process Redesign
8. Develop Business Intelligence and Analytics Capabilities

The sections that follow will explain each strategy, give a brief overview of the readiness of most organizations to address the strategy and provide assessment criteria that boards and hospital executives can use to evaluate their organization's progress.

1. Build Transformation Awareness, Clear Vision and Leadership

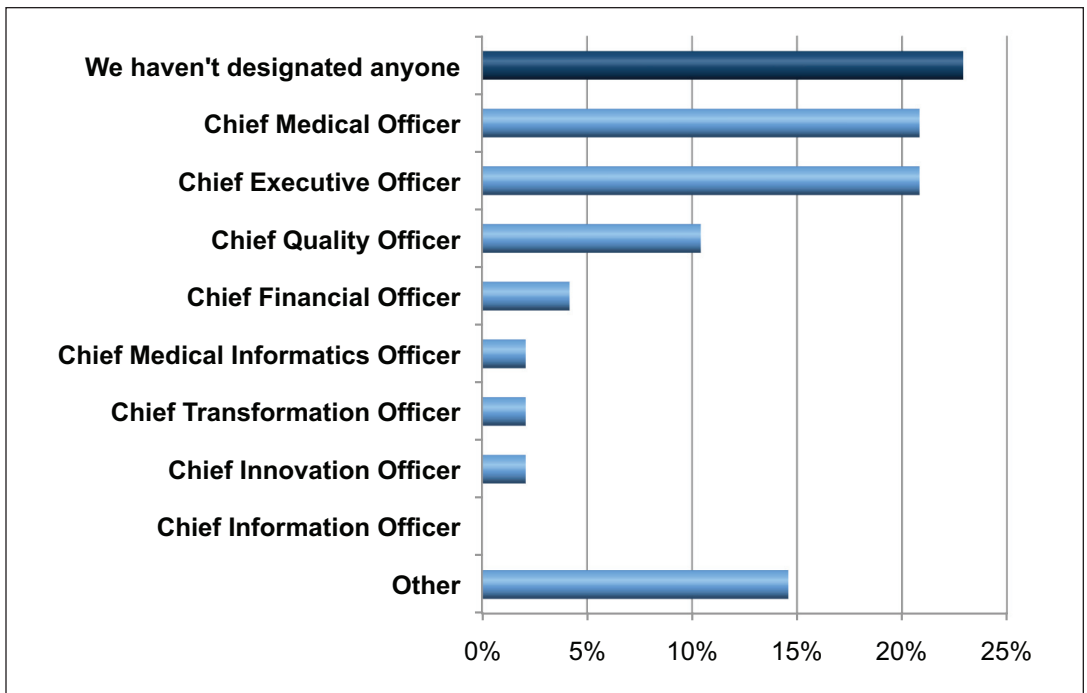
Historically, the focus of boards, CEOs and medical staff leadership has been on strategies to grow market share, develop service lines and build new facilities. As the health care industry shifts from transaction-based to outcomes-driven payment, this focus must shift. Boards will need to provide oversight on quality improvement and outcomes measurement, patient engagement, clinical integration and care coordination, population health improvement, expansion of prevention and primary care and protection of patient privacy and security. Figure 6 illustrates the vision of the HITECH Act and its goals as defined by the Office of the National Coordinator for HIT and the health system strategic initiatives needed to respond.

Figure 6: Vision, Goals and Related Health System Strategic Initiatives



The majority of hospital CEOs we surveyed indicate that they have not designated a leader for clinical transformation. Those organizations with an identified leader typically cited the Chief Executive Officer or the Chief Medical Officer. Responsibility for clinical transformation is illustrated in Figure 7. This graphic also illustrates emerging positions such as Chief Transformation Officer and Chief Innovation Officer.

Figure 7: Responsibility for Clinical Transformation

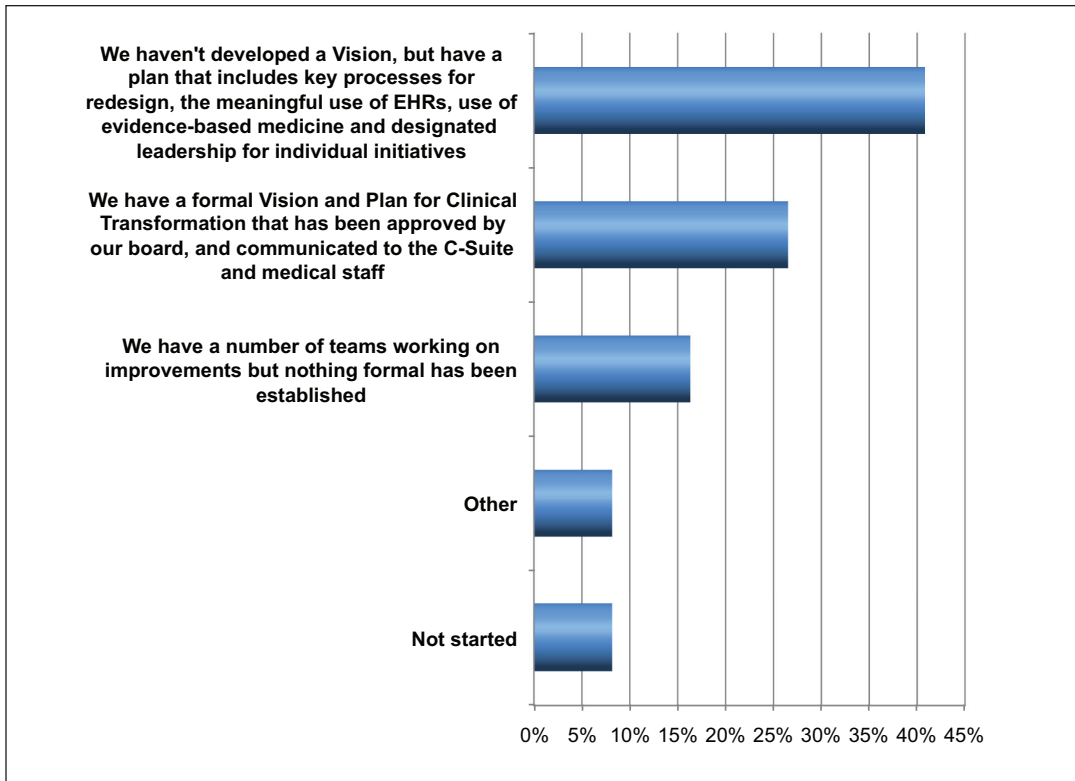


However, a dichotomy exists when organizations are surveyed regarding MU responsibility. Over 45% of respondents indicate that the Chief Information Officer is leading MU efforts. On the surface this makes sense. However, most CIOs do not have authority when it comes to quality measurement and outcomes improvement, physician workflow and adoption, clinical documentation strategies or the use of evidence-based medicine standards—the very foundation of both MU and clinical transformation. In addition, readiness assessments in organizations around the country find that the C-Suite is often unaware of the need for involvement by other executives such as the CFO, CNO, CMO and CQO. Many view it as an “IT project” focused only on stimulus dollars.

If MU is the platform for clinical transformation, the CEO should lead the development of a vision and formal planning effort to integrate clinical transformation and MU initiatives. This vision and plan should be communicated to the board and reviewed on a routine basis. As shown in Figure 8, the majority of health systems do not have a vision but have a plan for process redesign, MU of EHRs, use of evidence-based medicine and leadership of individual initiatives.

Accountable care organizations, patient-centered medical homes, chronic care networks and other emerging models of care delivery must be tested and deployed at the local level. While initial changes will focus on redesigning processes within enterprises, longer-term efforts will drive transformation and innovation across sites of care and entire communities.

Figure 8: Existence of Formal Vision and Plan for Clinical Transformation



Assessment Questions

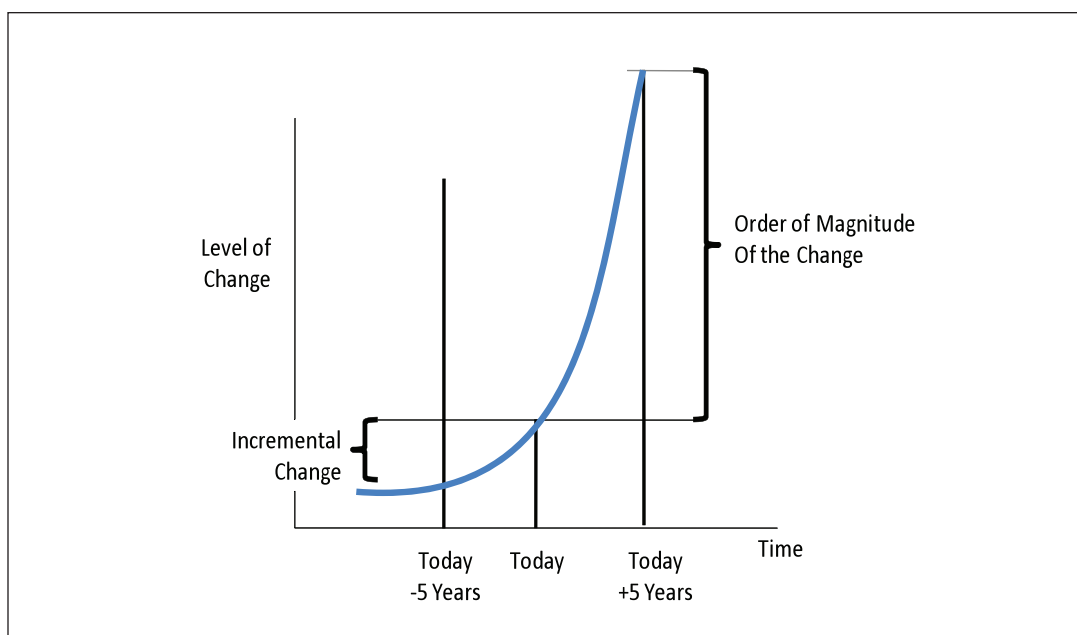
- Has your organization educated board members, the C-Suite, and the medical staff regarding MU and its relationship to clinical transformation?
- Does your organization have a vision and plan for clinical transformation?
- Is your CEO uniting leadership of quality improvement, information technology and clinical integration initiatives?
- Have enterprise strategic plans and IT strategic plans been updated based on MU requirements?
- Who owns MU at your organization? Are others involved in addition to the CIO?
- Does your organization have a transformation governance structure in place?
- Does the board have dedicated Quality and IT Committees?
- Have you designated a clinical transformation leader?

2. Deploy Interoperable, Structured Electronic Health Records Across All Sites of Care

The health care industry's understanding and use of information technology has evolved through several phases over the last 40 years. Initially focused on financial systems, use of information systems soon mirrored the hospital organization. Software applications were built to serve individual hospital departments such as radiology and the laboratory. In the 1980s, enterprise systems such as scheduling, registration and supply chain management were emphasized. A decade later, health care information technology leaders recognized the challenges of nonintegrated systems (that is, many systems from many different vendors). In addition to being costly, information did not flow well across these disparate systems. Selection of core or primary vendors became the standard (one to three key vendors providing the majority of an organization's software). In the early 2000s, the seminal report from the Institute of Medicine, *To Err is Human*, shifted the industry's attention to error reduction and patient safety, with new focus on medication management, computerized physician order entry and clinical documentation systems.

Today's emerging phase is one that moves the health care industry from health information systems that serve the hospital or physician practice to patient-centered records (a record that follows the patient across the entire continuum of care) and concentrates the industry's efforts on quality measurement, clinical decision support, personal health records, disease management, health information exchange and knowledge management. This period will be more challenging than all of the previous combined—primarily due the magnitude of change (See Figure 9) and the investment required to accomplish these changes simultaneously.

Figure 9: Level of Healthcare Change



Part of the challenge is that the traditional electronic medical record was primarily designed to:

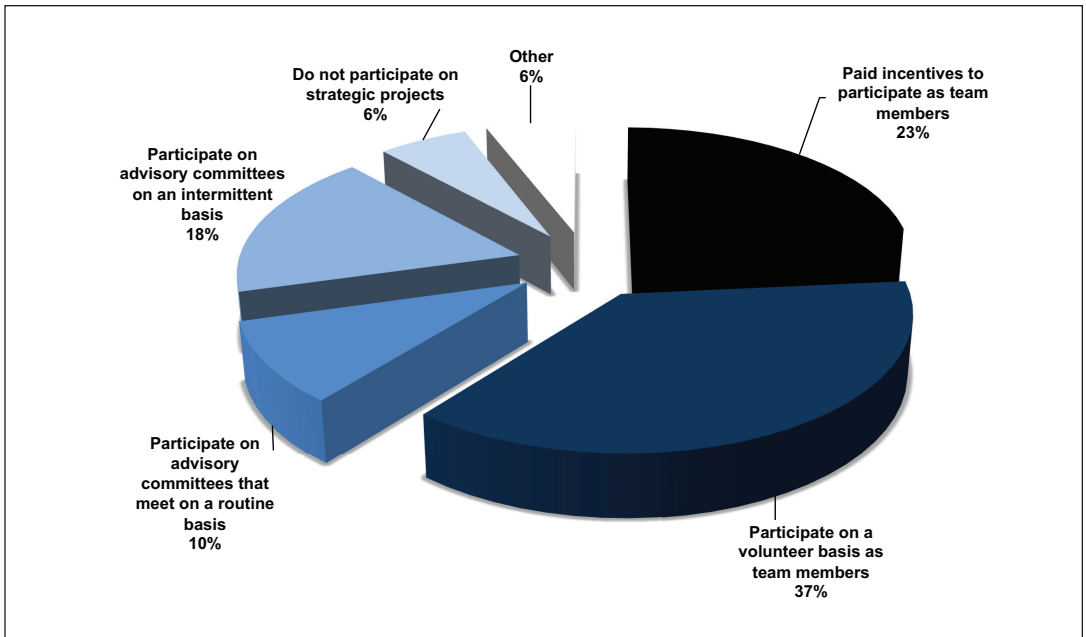
- Support clinical care documentation within one enterprise.
- Ensure proper billing.
- Emphasize compliance and prevent litigation.
- Ensure proprietary ownership of the HIT “footprint” by the vendor.
- Mirror the paper record.
- Include images or snap-shots of paper.
- Engage the provider, not the patient.
- Document specific events, not care over time.

The traditional electronic medical record is limited in its ability to:

- Effectively manage medications.
- Organize problem lists.
- Track and manage diseases for individual patients.
- Communicate and track referrals or consultations.
- Manage patient encounters across long period of times.
- Provide dashboards and summary-of-care information.
- Consolidate diagnostic information from a variety of providers.
- Engage patients in self-health management activities.
- Measure quality on a real-time basis.
- Provide aggregate information for population health management.
- Support communication and exchange of information across different provider sites.

Over the next five years, EHRs will be designed to overcome these limitations. With heightened emphasis on standardizing care practices, eliminating variation and improving outcomes, physician participation and ownership of the design of these systems and associated workflows will be essential. Today physician participation occurs primarily on a volunteer basis. When surveyed, CEOs indicate that second only to the financial challenge of clinical transformation is physician participation, buy-in and adoption of the necessary changes. As shown in Figure 10, some health systems have developed incentive structures to encourage physician involvement in a variety of clinical transformation efforts.

Figure 10: Physician Participation in Clinical Transformation Initiatives



Assessment Questions

- Has your hospital's leadership assessed organizational capacity in addition to technology readiness for MU? Has your organization benchmarked resource requirements against health systems that are further down the adoption/optimization path?
- Does a physician adoption plan exist and does it extend beyond CPOE?
- Does your organization understand the level of EHR adoption by your physicians? Does your hospital know what systems physicians have in their offices? What are the barriers to adoption?
- Will the hospital extend EHR services to physician practices and to what extent—employed, community, referral physicians?
- Does your hospital have a multidisciplinary clinical informatics team including the expertise of nurses, physicians, pharmacists, health information management, etc.?
- Has your organization developed incentives for physician participation?

3. Build EHRs with Evidence-Based Medicine in Mind

Evidence-based medicine (EBM) is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence-based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research (Sackett et al., 2000). Even without focusing on the obvious cultural obstacles, dissemination and maintenance of EBM to clinicians has been difficult. Most organizations have not had a decision-making structure in place to define and manage the content of EBM, and it has been a challenge to integrate it into clinical workflow. EMRs can support adoption of evidence-based medicine because they provide an opportunity to:

- Build a repository for patient and population level data.
- Allow several people to view the information at the same time.
- Ensure security is maintained.
- Communicate across systems in real time.
- Provide alerts and access to evidence.
- Allow analysis of population levels of data and to evaluate outcomes.
- Standardize terminology, documentation practices and reporting functions.

Assessment Questions

- How have your hospital's clinical integration strategies considered HIT?
- What is the organization's approach to evidence-based medicine?
- Do clinical champions work with IT to integrate content, processes and key aspects of programs?
- Have programs begun the shift to population health management?
- Are processes standardized across utilization management (planning and decision making to ensure that services are provided in an appropriate and cost effective manner), case management (effective treatment and care planning for patients with specific needs) and disease management (system of coordinated health care interventions and communications for populations with conditions in which patient self-care efforts are significant)?
- What is your hospital's clinical decision making governance structure?
- What resources are committed to improving the practice of care?

4. Explore Medical Trading Area Health Information Exchange

Health information exchange (HIE) is the transmission of health care-related data among facilities, health information organizations and government agencies according to national standards. HIE will play a critical role in health reform by integrating information across the health care community and enabling care coordination. Secure, patient-centered information that follows the patient across the continuum will provide key stakeholders essential information for decisions at the point of care, cross-venue quality measurement, outcomes improvement, value-based reimbursement systems and improved efficiencies and reduced costs across the health care system. Patients also will require such information as they become more involved in managing their own care over their lifetime. The benefits of HIE will impact a number of stakeholders in a variety of ways as shown in Figure 11.

Figure 11: HIE Benefit Matrix

		Benefit Potential					
Service Stakeholder	Clinical Results Survey	Clinical Records	Care Management Tools	Quality Reporting	Public Health Records	Data Aggregation for Research	Personal Health Records
Physicians	High	High	High	High	Low	Low	Low
Hospitals	High	Medium	High	High	Medium	Low	Low
Laboratories	High	Low	Low	Low	Medium	Low	Low
Pharmacies	Low	Low	Low	Low	Low	Low	Low
Payers	Low	High	High	High	Low	Medium	Medium
Employers	Low	Low	Medium	Medium	Low	Low	Low
Researchers	Low	Low	Low	Medium	Medium	High	Low
Consumers	Low	Medium	Low	Low	Low	Low	Medium

Anticipated Magnitude of Benefits of Each Service for Stakeholder Groups		
High	Medium	Low

Source: eHealth Initiative HIE Survey 2009

Boards should realize these benefits need to be balanced with careful consideration of the negative impacts of HIEs on today’s transaction-based reimbursement to hospitals. Studies by the Patient Safety Institute indicate that inpatient admissions, diagnostic testing, medication orders, outpatient visits and other compensated care volumes may be reduced. While in the short term these considerations may serve as disincentives to participation, the longer-term value of participation and ability to respond to the requirements of value-based purchasing should offset this reduction in revenue.

Health care providers typically have, at minimum, three choices for HIE participation, including:

- **Private Networks** — Led by one integrated delivery network for the benefit of its hospital(s), physicians, post-acute providers, etc. While the politics of this model of health information exchange are less dramatic than others, in most communities private networks exclude a portion of the provider base and therefore are unable to follow patients across their entire care process.
- **Medical Trading Area** — Led by one or more providers, or a trusted health information organization, for the purpose of serving 60% to 80% of all patient transactions within a community or region. The optimally defined trading area takes into account demographics, lifestyle characteristics, health disparities and physical/psychological barriers, as well as access and referral patterns. Competitors are often part of a medical trading area HIE and make these efforts more challenging.
- **State Designated Entity (SDE)** — The federal stimulus package extended \$548 million to deploy HIEs across the country by state governed initiatives. The SDEs have concentrated on establishing common governance, processes, technology and operations. Focused on inclusion of safety providers and underserved populations, the groups often build on local and medical trading area HIEs.

When asked if they are participating in HIEs and to rank the value on a score of 1(Low Value) to 5 (High Value), CEOs indicate that the private networks provide more value as compared to other HIE types. The competitive nature of medical trading area HIEs make them more challenging, and SDEs have been slow to get off the ground. A significant number of health systems are not yet participating in HIEs. Figure 12 summarizes findings from the perspectives of the CEOs we surveyed.

Figure 12: Value and Participation in HIEs

	Value of HIE Participation					Not Participating
	Low Value				High Value	
	1	2	3	4	5	
Private Network	7%	9%	9%	31%	13%	31%
Medical Trading Area HIE	4%	23%	10%	17%	4%	42%
State Designated Entity	16%	20%	9%	2%	2%	50%

When asked about the linkage between HIEs and ACOs, more than 54% of the CEOs in our survey indicated they did not know what role HIEs would have in ACO development. Forty-eight percent felt ACOs would use HIE technology.

However, in a PricewaterhouseCoopers survey, many believe HIEs will be mandatory for ACO participation and payment under value-based payment schemes (PwC Survey: Designing the HIT Backbone for ACOs, 2010).

Providers understand that in Stage 1 of MU they will only have to “perform at least one test of the EHR’s capacity to electronically exchange information.” However, Phase 2 will require significantly more robust HIE requirements. Providers in defined medical trading areas—the natural market, within which most referrals, hospitalizations and other flows of both patients and patient information typically occur—have a high likelihood of success when they concentrate on a focused business case with a proven value proposition for HIE participation. While efficiencies such as elimination of the cost of managing paper and electronic access to clinical information accrue to both hospitals and physicians, the greater value of HIE participation is learning to collaborate and work across disparate organizations on behalf of the patient. Boards are encouraged to stress the importance of experimenting and testing these business models today—before they become mandatory.

Assessment Questions

- Do key hospital executives understand HIE value, industry lessons learned and best practices?
- What is the HIE environment in your state, region and community? Can your leaders define your Medical Trading Area?
- Are key providers at the table? Are other stakeholders at the table?
- Has the board reviewed a business plan for governance, technology, privacy/security, sustainability, etc? Do key executives understand HIE value, lessons learned and best practices?

5. Expand Patient Engagement Strategies

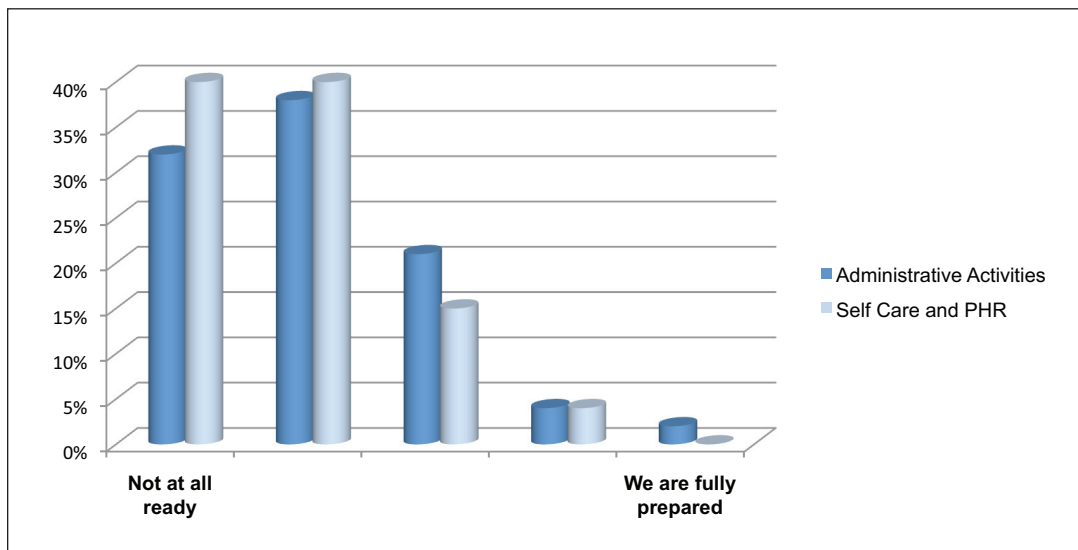
An objective of Stage 1 of MU is for patients to have electronic access to their own health information. Stage 2 will likely build on this foundation. As patients become more technologically savvy, the potential is unlimited. From administrative tasks such as online bill payment and scheduling of services, to use of personal health records to manage chronic diseases and participate in clinical decision making, to remote monitoring and e-health encounters, the very nature of the patient-provider relationship will change.

The benefits of patient engagement through technology are widely documented; and innovators have demonstrated a variety of approaches, including health system-based patient portals, aggregated data from multiple providers, links between doctors and patients, specialized tools targeting specialized needs such as diabetes care or medication management and expanded functionality using administrative information. Several lessons have been learned from these demonstrations including:

- Physician promotion is the key to getting high patient adoption.
- Physician acceptance requires an upfront plan and investment.
- Success occurs incrementally—start with pilots such as secure messaging, online medication refills, lab results, medication lists and disease management education.
- Security is a concern for both physicians and patients.
- Patients with chronic conditions are the most likely candidates for patient engagement strategies.

The CEOs we surveyed indicate, as shown in Figure 13, that the industry has a long way to go with electronic patient engagement strategies. When surveyed regarding e-enablement, health systems are further ahead with administrative activities such as online scheduling, registration and communications. Self-care through personal health records and other technologies for disease management, clinical documentation and education is in the early stages.

Figure 13: Health System Progress Toward ePatient Engagement Strategies



Assessment Questions

- Do you have a vision for patient-centered care within your organization?
- How will clinicians be asked to educate patients regarding access/security of information?
- Have processes for opt-out/in been designed?
- What are your hospital's chronic health management strategies? Could they become e-strategies?
- Does your organization have a long-term plan for personal health records?

6. Develop Real-Time Quality Measures

Today, hospitals and physicians must report quality measures to a variety of agencies and payers. Health care reform will bring with it an additional tidal wave of requests for quality measurement to enable outcomes-based payment. Measures that focus on the process of care, outcomes of care, transitions of patients across care settings, resources used to treat the patient and cost of care will proliferate. Patient information exists in many systems, across many departments and many provider sites. The ultimate objective of the legislation and payer requirements is to turn patient health data into actionable information. Without proper preparation, health care providers will be overwhelmed.

Today, data exist in paper and automated forms. Metrics are collected through time-consuming chart abstraction and data collection methods. Clinical data abstractors, with knowledge of medical terminology and clinical workflows, read through handwritten notes, review information available within electronic medical records and interpret their findings. These findings are converted into quantitative data and entered into spreadsheets and/or quality management systems. At each step along the way, errors can occur. If designed effectively, an EHR with a data repository can eliminate the cost and errors associated with the traditional method. Through data extraction, information can be routinely processed without human intervention.

The challenge for most organizations will be the conversion from traditional abstraction to future extraction methods. It is important to realize that approaches differ for collecting and submitting data for core measures of performance to the Centers for Medicare and Medicaid Services and the Joint Commission as part of its accreditation programs. While there is some overlap in metrics, core measures are collected using the rules for abstraction defined in the Specification Manual for National Hospital Inpatient Quality Measures. Meaningful use measures will originate as discrete data elements routinely collected by the EHR and converted into electronic measures. Physicians have similar programs. While this may seem overly complicated, there are a number of important considerations for board members and hospital executives. Specifically:

- HIT vendors are preparing their systems to collect, store and report these measures and health systems have a number of planning and preparation steps as well. Questions that need to be answered include: What is the definition of the metric within our organization? Where will we capture the data within our clinical care process? How will we ensure that this is the single source of this information? With what system(s) are we going to capture the information electronically? How will we ensure the data collected are correct?
- The role of clinical quality abstractors will change from back-end collectors of data to front-end designers of the workflow and processes to ensure data integrity and validate the information contained within system-generated reports.
- Investment in data mining and analytics skills, tools and education will be essential.

- The board should be educated and trained in quality outcomes oversight. Scorecards and reports should be generated to keep the board apprised of results. It is anticipated that the board of the future will spend more time on quality than on financial issues. In a recent study of hospital board chairs, less than one-half rated quality improvement as one of the top two priorities of their boards; a minority reported receiving training in quality improvement as a board (Harvard School of Public Health, 2009).

Assessment Questions

- Has the organization developed a plan to shift from abstracting metrics manually to extracting metrics via electronic health records?
- Has the collection of quality metrics been consolidated across the entity?
- Is the organization collecting metrics across all sites of care?
- Have the compliance levels for numerators and denominators been determined based on your organization's patient population?
- What system will your organization use to collect the metrics?

7. Initiate Cross-Continuum Process Redesign

The Commonwealth Fund's *Organizing the U.S. Healthcare Delivery System for High Performance* (2008) describes the high-performing health system of the future as one where:

- Patients' clinically relevant information is available to all providers at the point of care and to patients through electronic health record systems.
- Patient care is coordinated across multiple providers, and transitions among care settings are actively managed.
- Providers (including nurses and other members of care teams) both within and across settings have accountability to each other, review each other's work and collaborate to reliably deliver high-quality, high-value care.
- Patients have easy access to appropriate care and information, including after hours; there are multiple points of entry into the system; and providers are culturally competent and responsive to patients' needs.

Rule of Thumb

Generally speaking, the number of people an organization needs to train in process improvement is the square root of the total number of personnel.

Thus, if you have 100 people, you need to train 10; if you have 10,000, you need to train 100. Most organizations have a long way to go to reach this goal.

Thomas H. Lee
 "Turning Doctor's Into Leaders"
Harvard Business Review, 2010

- There is clear accountability for the total care of patients.
- The system is continuously innovating and learning in order to improve the quality, value and patient experience of health care delivery.

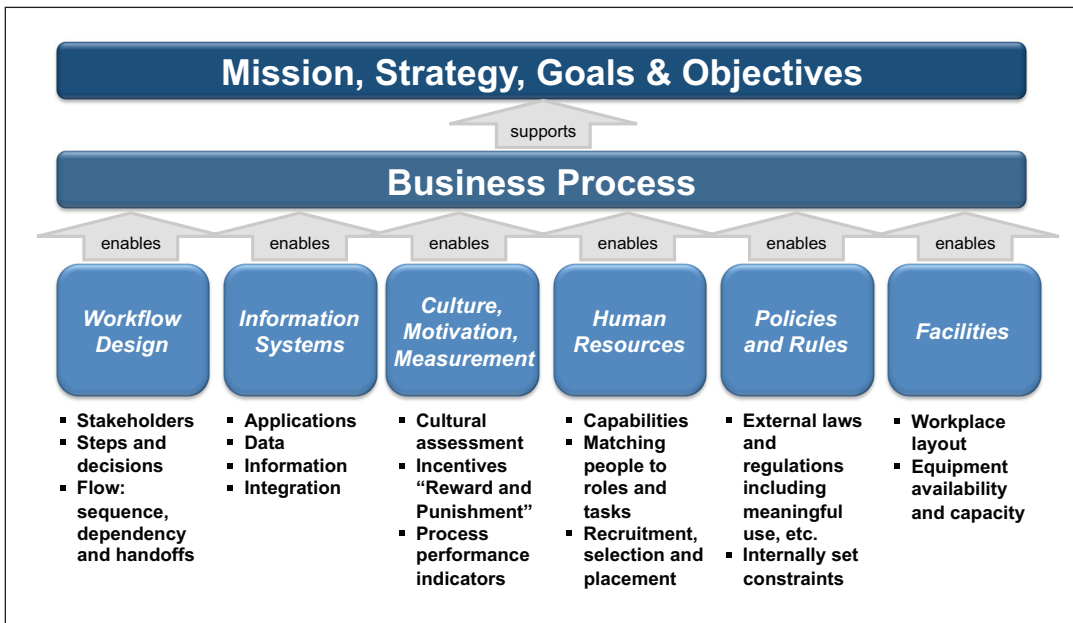
Initiating cross-continuum process redesign is essential to accomplishing this vision. Thomas H. Lee explains, *“The problem with health care is people like me—doctors (mostly men) in our fifties and beyond, who learned medicine when it was more art and less finance. We were taught to go to the hospital before dawn, stay until our patients were stable, focus on the needs of each patient before us, and not worry about costs. We were taught to review every test result with our own eyes—to depend on no one. The only way to ensure quality was to adopt high personal standards for ourselves and then meet them. . . . In the traditional world, medicine is organized around what doctors do rather than what patients need. . . .and that’s a problem. . .health care today needs a fundamentally different approach.”* (Harvard Business Review, 2010)

The CEOs we surveyed indicate that 85% of their organizations are standardizing clinical processes. However, adoption of quality improvement techniques in health care is immature at best. Today’s uses of these methodologies are typically:

- Focused on process redesign within one enterprise and rarely move across the continuum of care.
- Do not integrate with electronic health records implementations. When they do they are often focused on the vendor’s definition of workflow, which often can be defined as the steps needed to enter data into the system, not a holistic approach to managing the clinical process from a patient’s perspective.
- Do not align with overall business strategy, job design, policy and procedure and facilities design.
- Are led by a few “lean-six sigma” or quality experts rather than disseminated across the enterprise.

A comprehensive process redesign framework is illustrated in Figure 14.

Figure 14: Process Redesign Framework



Assessment Questions

- Is process redesign "hard-wired" with IT implementations?
- Are cross-continuum processes slated for redesign?
- Does your organization have standard methodologies for change management, process redesign, project management, etc.
- Has process improvement training been disseminated across the organization?
- Does your organization have a clear approach for reporting and tracking, managing and facilitating organizational change?

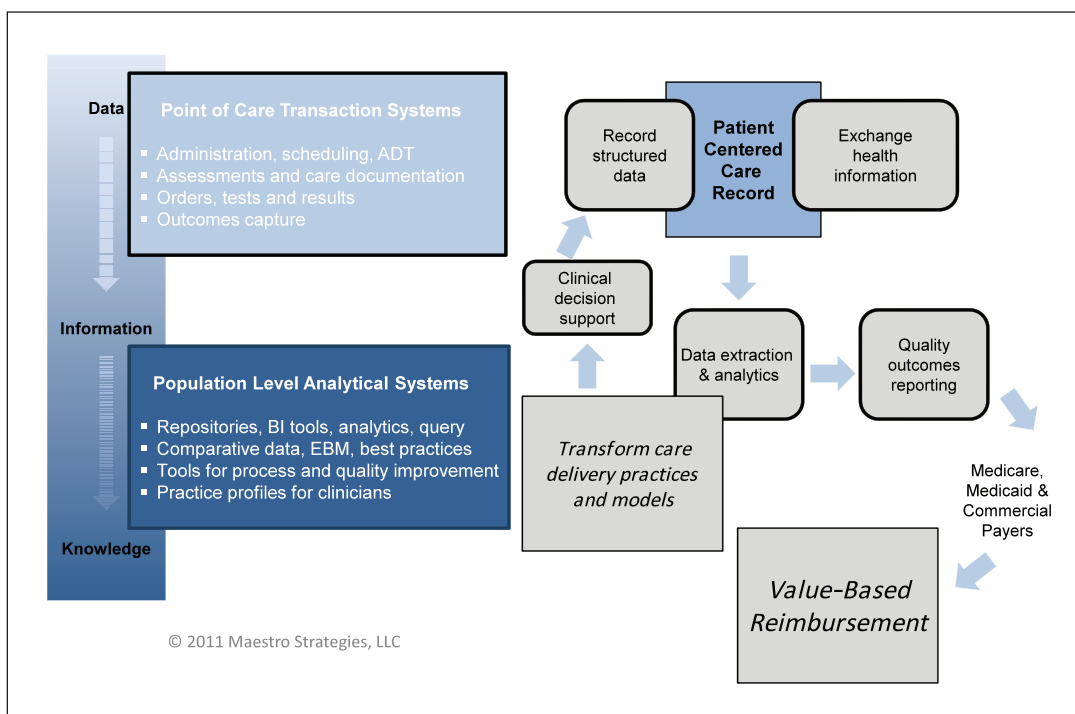
8. Develop Business Intelligence and Analytics Capabilities

The previous seven strategies explored the leadership, skills and technologies needed to move to high-value health care. Without the eighth and final strategy, health care organizations will not be able to thrive or even possibly survive the coming tsunami of change within the industry. Return on investment from EHRs, HIEs, personal health records and other clinical technologies will not come from implementing the systems, but from capturing the right data in a structured format, aggregating patient-centered data across a variety of provider sites, synthesizing large volumes of data, analyzing the data to convert it into useful

information, reporting outcomes internally and externally and transforming the information into actionable knowledge. Business intelligence tools and analytics skills will be essential core competencies for the future.

Figure 15 depicts the conversion of data into actionable knowledge.

Figure 15: The Role of Business Intelligence: Data to Knowledge



Today most organizations are focused on the box in the upper left hand corner of Figure 15, Point of Care Transaction Systems. The majority of these systems are still enterprise-based. A critical goal of these system implementations should be the development of structured data. Today, 70 to 80% of hospital data are unstructured (Cotterill, Health Management Technology, November 2010). Unstructured data typically exist in an image format, a picture of a document or within documents or spreadsheets. The knowledge is buried and not mineable. Structured data are coded or implemented directly into a computer file to be later accessed and analyzed.

Once the data are structured they can be exchanged with data that reside in other enterprise systems. Health information exchange across provider sites will be patient-centered not enterprise-centered. The data will be extracted from EHRs, personal health records and HIEs, then aggregated within data repositories and warehouses. Quality metrics will be

extracted and reported to Medicare, Medicaid and other payors as the foundation for value-based payment.

Internally, this means organizations will have:

- Improved support of strategic goal setting.
- Enhanced visibility into care delivery and support processes.
- Better insight into cost of care.
- Expanded knowledge regarding population health management.
- New understanding regarding impact of prevention, patient self-management and disease management.
- Increased information to drive design of real-time clinical decision support.
- Integrated ability to track and manage practice patterns and compliance with protocols and transform delivery practices.

Assessment Questions

- Does your organization have a long-term perspective on the role of business intelligence and clinical transformation?
- Have conversations occurred with key IT vendor(s) regarding their specific applications or plans for data mining and analytics?
- Has your organization started developing a clinical decision support strategy?
- Does this strategy link to approaches to evidence-based medicine?
- What processes are currently in place to collect, manage, synthesize, analyze and report on clinical information?

In Summary

The methods and regulations of health reform will be sorted out over the next few years. Health care organizations cannot risk waiting until everything is resolved to make necessary changes. The path toward accountability is clear: transformation away from fragmented health care delivery and a focus on acute care to prevention and wellness, care coordination and population health management is necessary. Investment in information technology, outcomes improvement and new processes of care will be essential. Boards will be asked to take on the challenge of clinical transformation and govern in a very different environment. Is your health care organization and governing board ready?

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