CHAPTER THREE

Evidentiary Leadership: An Expanded Lens to Determine Healthcare Value

We cannot deny our connectedness while we build our separateness.
—Wheatley and Kellner-Rogers, 1996

Chapter Objectives

At the completion of this chapter, the reader will be able to

- List five major drivers for documentation of value-based outcomes.
- Discuss the leadership challenges in selecting metrics for healthcare organizational evaluation.
- Describe innovative leadership strategies for measurement in complex social systems.
- Gain an appreciation of the realities and challenges of creating more robust measurement models reflecting the complexity of healthcare.

Introduction

There is a great and pressing need to reformulate the way in which health care is valued, measured, and reimbursed. Quantum leaders have experienced both the challenges of linear measurement models and the potential for integration of complexity principles into the healthcare system measurement models. Further, quantum leaders are well positioned to lead initiatives that challenge current measurement assumptions and to create models more reflective of the complex nature of healthcare work.

The purpose of this chapter is not to provide a template for measurement, but rather to offer a new lens for healthcare leaders to consider, compile, synthesize and evaluate the multiple variables of the healthcare experience. Necessarily, each organization must customize its measurement model to include industry standards and facility-specific measures

Key Point

Complexity

Plexus means braided or entwined, from which is derived *complexus* meaning braided together, and the English word "complex" is derived from the Latin. Complex behavior therefore arises from the intricate *inter-twining or inter-connectivity of elements within a system and between a system and its environment*.

—Murray Gell-Mann

reflective of the mission and vision. Leaders will be able to create revitalized measurement templates specific to their organizational context. Also in this chapter, the challenges of measuring health care and suggestions for reconceptualizing healthcare measurement using the characteristics of complexity are presented.

KEY DRIVERS FOR CHANGE

The need to challenge current assumptions and create more robust models emanates from multiple sources and issues. Five major issues are discussed in this next section and serve to stimulate action, followed by Points to Ponder to challenge each of us to think differently and consider new strategies that can be useful to reach effective measurement and valuing of health care in the United States. The Points to Ponder comments include explorative ideas, challenges, and thoughts about the assumptions that currently drive the healthcare system. The first issue, not surprisingly, is the belief that health care is too costly.

ISSUE: COST

The general notion is that health care in the United States is too costly and the quality outcomes are less than desirable. The US system–nonsystem of health care continues to be too costly and too unsafe. Patient safety is not viewed as having substantially improved following the release of the landmark 1999 Institute of Medicine (IOM) report announcing 48,000–98,000 deaths yearly from medical misadventures (Altman, Clancy, & Blendon, 2004; Committee on Quality of Health Care in America, 2000; Minot, 2009).

POINTS TO PONDER

If we are spending too much, how much are we willing to spend? And what level of quality are we willing to fund? Perhaps the issue is not how much we spend; rather the issue is the quality and consistency of outcomes. The common understanding is that health care is too costly. Given that healthcare expenditures in 2008 were at 20.3 percent of the Gross Domestic Product (GDP) and nearly $2.4 billion, should there be a different question, or many different questions that would inform us what the dollars should achieve and how much the United States is willing to spend (National Health Expenditure Data, 2008)? What kind of health care could we have if the expenditures were at 10 percent of the GDP? What services at what level of quality are we willing to pay for? If healthcare reform efforts were based on a defined amount of expenditure, level of quality, and defined access, would the recommendations be different or more acceptable?

ISSUE: COST SHIFTING

The cost of health care is affected not only by the actual services provided and supporting technologies, but also by numerous well-intended initiatives designed to control those

costs. Regulations, both national and local, are in place to control and monitor costs and quality. Price adjustments and cost shifting serve to "even the playing field" for payers, providers, and patients. Sophisticated mechanisms to control access to care and payment for services further complicate the system. Not surprising, there is an unending quest to reduce the disparity between the costs and quality and ultimately to achieve the highest quality health care at the lowest cost. Unfortunately, achievement of this admirable goal has eluded the US healthcare system. Shifting costs between payers has become normative; however, the fairness of this practice is seldom fully supported. Incredible attempts are made to level the payment structure in a social system that is multitiered and based on individual values and rights.

Points to Ponder

In a free and democratic society, will the more successful and more fortunate individuals always need to subsidize those less fortunate? Or is there a better way to support those less fortunate? Is a national health plan the only way to eliminate or control cost shifting? The greater challenge for the people of the United States is to determine and acknowledge if health care is a right or a privilege. Currently, our rhetoric espouses health care as an individual right while our financial system funds health care as a privilege on the basis of those who have resources for payment.

Issue: Demand Without Accountability

Citizens of the United States believe there are no limits to treatment access. Health care is believed to be an inherent right for every individual to have access to every available treatment. Further, the healthcare system has yet to create expectations or boundaries for those receiving care. There is no accountability for healthy behaviors as the requirement for receiving healthcare service funding. Funding continues to be provided to both individuals who actively engage in healthy behaviors and those who repetitively engage in unhealthy behaviors that exacerbate existing conditions. Healthcare funding is based on a one-way model: presence of illness or disease. There is no expectation that healthcare prescriptions will be attended to or followed.

Points to Ponder

It would seem that both the desire to have all health care without personal accountability and the propensity of providers to overhelp others have rendered the current system to be disastrously dysfunctional. Why is it so difficult for Americans to say no when there are not enough available resources to match the demand? Will changing spending behaviors change the state of the US healthcare system? Will changing our expectations become the best first step to reform? Is it possible to change this behavior, to change the expectations of all citizens? Can we work to guarantee a level of basic services? Should US citizens bite the bullet and continue to give more dollars to the healthcare system? Should every available healthcare service be available to every citizen regardless of the cost?

Can we really afford one-way health care? Is the best practice to give and give and give without the expectation for healthy behaviors? The failure of fully engaged patient–provider relationships unnecessarily increases the cost of healthcare services.

How do we engage patients in the healthcare process to ensure full-circle accountability within the system?

ISSUE: PARTIAL MEASUREMENT AND AVOIDANCE OF AMBIGUOUS EVIDENCE

Measuring the empirical or observable and easily quantifiable variables has dominated the healthcare system. Traditional finance references identify metrics for returns on investment, ratios for cash management, and allocation percentages for expense categories (**Table 3-1**). The use of mathematical tools such as graphs, charts, and statistical formulas provides important data that are easily understood. Unfortunately, measurement of selected

TABLE 3-1 Complexity and Healthcare Measurement Implications

Property Complexity Description	Implication for Healthcare Measurement
Connectivity	• One standard metric is seldom adequate to tell the story. When measuring, ask the question, did the results affect any other metrics? If hours of care were decreased, were the necessary services provided to ensure the desired level of quality?
Interdependence	• Reliance on other elements of the healthcare system is the norm. • There's more to consider than the financial return on investment. Utility, effectiveness, health, and functionality must also be considered.
Emergence	• Be available for unpredictable results/outcomes/events. • Unintended and unanticipated consequences often occur after implementation of correction of another problem, creating the need to consider other information. • Highly structured forecasting and planning may be of limited value. • Identify "anticipatory metrics"—what could happen with this decision? • Examine the traditional metrics and at least three additional sequential evolving metrics to increase awareness of the impact of emergence. • When measuring, focus on principles rather than specific goals and targets. • Be open and available to reconsider existing opinions.

healthcare elements is often used to inform the totality of the system. In general, they are insufficient to capture the complexity of healthcare work. Although these tools have value, they also have limitations when applied to the nonlinear and multidimensional processes of health care. In the current model, reimbursement is provided for selected and discrete clinical interventions or procedures regardless of the surrounding circumstances and patient status or values.

The ambiguous or qualitative information such as patient–provider relationships, effectiveness of the procedure, patient satisfaction, and healthy behaviors practiced is not considered in the reimbursement categories. Further, the highly regarded five categories of outcomes reflective of quality (achievement of appropriate self-care, demonstration of health-promoting behaviors, health-related quality of life, the perception of being well cared for, and symptom management to criterion) are not considered in the current payment model (Mitchell & Lang, 2004).

Key Point

Using measures of static performance is like listening to a symphony one note at a time; any harmony or discord becomes apparent only when the notes are combined into a rhythm, a pattern of change. We are resolute in our commitment to measures of static performance; we are trained in them, we feel comfortable with them, and, in some cases, we are legally obligated to them. But our commitment is mostly the result of knowing no alternative. We've been studying the notes and have not yet heard a symphony.

—Priesmeyer (1992)

Points to Ponder

Errol Morris (2008), documentary maker, described as "an individual with a forensic mind with painter's eyes," noted in the *Harvard Business Review* that few people really know how to get an accurate read on situations. Information is filtered, unpopular opinions are avoided, and partisan views are veiled as objective arguments. The same can be said for getting an accurate accounting on healthcare services. Too often, the challenges in selecting the most appropriate groupings of financial and quality metrics are insurmountable, and leaders settle on financial and volume measures because they become the only thing a leadership team can agree on.

There is more to the healthcare experience than net income margins, cost per case, and hours per patient day. Every metric has a story connected to interdependent measures of quality and quantity. Historically, ambiguous evidence such as relationship effectiveness, surveillance work, and team collaboration measurement has been avoided. The adage that you cannot manage what you do not measure has been used in healthcare quality and measurement discussions, and this idea further challenges us to develop systems that do measure and account for what is valued and managed (Minot, 2009). Documentation and accounting for the relational and qualitative aspects of patient care in the healthcare model need to be identified and connected to the system. To begin, the antecedents, concurrent processes or interventions, and unplanned outcomes need to be identified and linked to each financial metric.

GROUP DISCUSSION

Foolproof Elasticity

The foolproof elasticity formula is believed by some to be critical to successful operations and management. For example, if the cost of care for 5 patients is $50,000.00, then the elasticity formula dictates that the cost of care for 10 patients would be $100,000.00 and the cost of care for 20 patients would be $200,000.00 and so on. Unfortunately, the complexity of the processes and resources involved in patient care render this formula invalid and unreliable. In your discussion group, identify a list of variations that would occur in patient care and invalidate the elasticity formula.

Interestingly, the healthcare system is working desperately to improve the quality of health care, to manage relationships, to consider the impact of the context in which health care occurs, and to integrate patient personal values into care processes. Unfortunately, the emphasis is on creating more discrete and isolated measures rather than inclusion of measures reflective of these variables. The formation of relationships, the work of clinical surveillance and oversight, the engagement of team members and patients, and the perceptions of quality and respect are but a few of the important concepts to which it is difficult to assign quantifiable metrics and dollars. Patient satisfaction measures are increasingly rigorous for what they measure. What does not occur regularly is documentation of the story they tell—the connections and interdependencies between providers, patient care processes, values, and the context of care. For example, the events and resources required to achieve levels of patient satisfaction are seldom if ever identified and at best are only inferred.

Key Point

Unraveling Ambiguous Evidence

1. Scrutinize and unravel preconceptions. Identify at least three preconceptions that might get in your way.
2. Let the evidence be your guide.
3. Focus on the source (point of care or intersection between patient and caregiver) not the second- or third-hand interpretation. Minimize filters of information or interpretations by those removed from the actual situation.
4. Look around the event. Examine and integrate the connections, antecedents, and subsequent events of healthcare work.
5. Tell the story using measurement language and concepts.

The pathway to a meaningful measurement system is not found in magical analyses of costs, charges, and profits. In spite of the quest for a foolproof elasticity formula (see the preceding Group Discussion), a formula in which changes are predictable based on past experiences is at best incomplete. With such formulas, there is always a clarification, an exception, or a confounding variable that marginalizes the value of the formulation. At best these formulas are a beginning, not the final word.

The challenge to determine an accurate representation of a situation, particularly in health care, is often overwhelming. With so much

going on as well as the multiple interpretations of events by stakeholders, the tendency has been to avoid the ambiguous evidence and focus on quantifiable metrics or information that can be counted and catalogued.

As previously noted, avoiding inclusion of the contextual information (environment, resources, etc.) can be disastrous and costly. Single-source financial metrics can lead to decisions that are short sighted and incomplete. Further, when one entity tries to improve its fitness or position, this may result in a worsening condition for others. Each "improvement" in one entity therefore may impose associated costs on other entities, either within the same system or on other related systems. Five strategies are identified to assist leaders to develop skills in creating linkages and avoiding marginalizing other entities.

Key Point

Focus on principles versus specific actions or rules. It may feel comfortable to develop an annual quality plan with sharply defined strategies and targets, but a better approach is to outline general goals and boundaries for improvement through which the organization moves toward the desired emergence.

Issue: Using Evidence Is Optional

Evidentiary information is inconsistently identified and applied in patient care. The source of the inconsistency is widespread and ranges from lack of knowledge or access to current evidence to personal practice preferences. National studies have documented the significance of evidence-based practice and its relationship to higher quality of care, improved patient outcomes, decreased geographic variations in the delivery of care, reduced healthcare costs, and greater job satisfaction (Heater, Becker, & Olson, 1988; McGinty & Anderson, 2008; Shortell, Rundall, & Hsu, 2007; Williams, 2004). The current adoption rates for the provision of care based on evidence, caregiver expertise, and patient values is unconscionably slow.

Key Point

Be wary of root cause solutions. . . . An example of selecting and analyzing an isolated component is the root cause analysis model. Organizations have typically approached complex problems from the angle of ferreting out and eliminating specific factors (root causes) thought to be responsible for undesired results. In fact, targeting precise improvement strategies toward singular root causes may result in the unpleasant and unexpected emergence of new problem-laden systems. The key to mastering desired change begins with a focus on holistic systems and the relationships among components in those systems.

Points to Ponder

Using available evidence seems so logical. The increasing availability of computerized systems and availability of the Internet to most providers and patients strongly support the use of evidence in practice. Such strategies as linking the use of federal or state funds to evidence-based practice and penalties for failure to use state-of-the-art practices deserve careful consideration. With the Institute of Medicine goal to have 90 percent of clinical decisions based on evidence by

2020, a different approach may be in order (McClellan, McGinnis, Nabel, & Olson, 2007). Further, the leadership role in the facilitation and translation of evidence is to more actively and assertively ensure that contemporary evidence is considered and integrated to achieve optimal outcomes.

Perhaps greater accountability should be placed on the providers and caregivers in addition to organizational leadership. Given the clearly defined scopes of practice, licensing regulations, and independent practice models, it would seem that more emphasis should be placed on the source of the practice. This is not to minimize the role of the organization and leadership in creating the appropriate context for evidence-based practice, rather it is shifting the accountability to the locus of practice.

These six major issues of high cost, low quality, cost-shifting, demand without accountability, partial measurement, and the inconsistent use of evidence provide significant incentives for us to reconsider the healthcare system in a different way. Given the current state of disarray and dysfunction in our system, continuing with the same practices and valuation model can only perpetuate more of the same. A measurement system that reflects the complexity of health care is desperately needed; a system that provides information to assist individuals to address these issues and improve the allocation of healthcare resources more effectively is desperately needed.

A Very Complex System

There are other healthcare challenges that could be added to this list; however, these issues describe the major problems emanating from the complexity of the healthcare system and serve as the foundation for the creation of a contemporary healthcare valuation model. In this section, a discussion of the phenomena of complex systems—connectedness, interdependence, and emergence—is provided to further inform the new valuation model.

As discussed in Chapter 2, complexity science rejects the belief that systems and processes are like machines with parts that can be separated, analyzed, and modified or replaced. All healthcare organizations are complex and evolving social systems with innumerable behaviors, not mechanical assembly line models. The realities of complexity are evident in nearly every aspect of the healthcare system and can better inform how healthcare value can be determined and documented more effectively. What is not evident or understandable is the continuing reliance on mechanistic models of thinking and measurement; thus, these principles are discussed as impetus to rethink the current model.

Connectivity and Interdependence

In complex systems, all things intersect and interact with each other and necessarily provide the energy to sustain and enhance the life of the system. No person, event, or process is ever fully isolated or immune from influences of other persons, events, or processes. Intuitively and intellectually, leaders recognize this reality, yet they operate on the premise that events and individuals are isolated and processes are linear. Table 3-1 includes a description of complexity principles and the implications for healthcare measurement.

The implications for the healthcare system are significant. Connectivity means that a decision or action by any individual (group, organization, institution, or human system)

affects other individuals and systems. That effect may not have equal or uniform impact and will vary with the "state" of each related individual and system at the time. The connections or relationships between events provide the essential information to create an accurate representation of what needs to be considered for valuation. Documenting and determining value in an organization necessarily include valuing of the relationships and interdependencies among components in a system and the impact of those relationships as an essential part of the value statement. For example, the trajectory of communication is seldom linear or unidirectional. Communication may emanate from one individual and ultimately connect to numerous other individuals. The interactions and interdependencies in the worlds of patients, families, visitors, and healthcare professionals result in innumerable communication pathways and variables.

Beyond simple connectivity of elements of a system, relationships and dependence between elements quickly emerge as entities collaborate and support each other. This interdependence occurs among individuals within a system and between systems. Individual components in a process or system are not independent of other factors of the environment, technology, or political influence. Interdependence assumes mutual reliance on individuals and entities of a system. The behaviors and systems in which health care occurs are multidimensional *with* multiple dimensions interacting and influencing each other. The social, cultural, technical, economic, and global dimensions continually interact and intertwine in the creation of healthcare outcomes.

Group Discussion

Emergence and the Electronic Health Record

From the implementation of the electronic medical record, new challenges and opportunities emerge. Brainstorm with your team members a list of positive emergent events and negative emergent events.

- Were these events anticipated?
- What is the cost of the events?
- Finally, create a mind map of all of the emergent events that occurred to further illuminate the concepts of connectivity and interdependence.

Emergence

In a complex and highly interconnected system, the future is rarely known and only somewhat predictable. Beyond our connections and interdependencies, systems offer us the possibility of becoming something different: the possibility to emerge into entirely new ways of being. Emergence or the evolution of new behaviors, relationships, processes, and products is the result of our interdependencies. This reality requires recognition of these phenomena and accounting for the management of the uncertainty or essential course corrections that must continually occur. Emergence is evident in the basic nature of patient care. To illustrate further, patient care is often guided by standards of care and algorithms for evidence-driven practices; however, in spite of the best map for care, the actual care is

Key Point

We witness emergence any time individuals come together and accomplish more than what was thought possible. The collective wisdom and creativity of individuals seldom disappoint us.

Key Point

No metric, such as hours per patient day (HPPD) or salary expense, should ever stand alone. Each metric has an important and essential story that cannot be isolated and considered as representative of work.

determined when all of the information and conditions connect. In essence, patient care is underdetermined until the situation is at hand and the caregiver and patient are engaged. The time of day, presence of family, mental and emotional status of the patient, and level of pain all converge to determine what and how care will actually happen.

Although glaringly obvious, these fundamental characteristics of our healthcare systems are not central to mainstream business management and leadership, where the focus is largely on measuring and controlling certain system components, discrete financial indicators, and specific performance goals.

The driving assumptions for a new model focus on addressing current issues and recognizing the complexity of the work and expectations for ongoing evolution and course corrections as the future unfolds. Quantum leaders can now guide their organizations in the development of more robust models for the valuation of health care. The goal is to measure the reality as completely and accurately as possible. A new model for healthcare valuation must necessarily serve to document traditional financial data as well as the value of teamwork, patient provider engagement, and the degree of evidence integration.

New Healthcare Valuation Model

Given the complex nature of the healthcare experience, traditional metrics viewed in isolation are limiting and short sighted for effective decision making in health care. Financial metrics should be the beginning and not the end for measurement of healthcare effectiveness. Evaluation should occur in light of multiple, interconnected variables rather than a single traditional financial metric. Multiple metrics and information are needed specific to the achievement of goals and patient experiences as well as financial resources in the determination of healthcare value. No metric should ever stand alone for decision making without a supporting story. The following strategies are presented to begin the value transformation.

Strategy 1: Document the Story

A healthcare system driven by cure of disease, promotion of health, and prevention of disease is not sustainable if the context is not considered in every step of the process and evaluation. Anderson and McDaniel (2000) caution against assuming that practices that work well in one place can simply be transplanted elsewhere. This logic, though alluring, ignores the fact that even systems that appear analogous often have underlying differences. Kiel (1994) offers a similar assessment, noting that "two systems with very similar starting points may evolve along very different trajectories" (p. 5). This is not to say

that healthcare quality's current emphasis on transplanting best practices is ill placed, but rather that common sense, flexibility, and a smattering of creativity must accompany the introduction of any new practice into an organization. Fraser and Greenhalgh (2001) recommend nonlinear approaches such as storytelling, case studies, role-playing, and simulations to illicit the essence of complex situations. An insightful leader encourages his or her organization to consider how the organization's unique norms, histories, values, and processes (strange attractors) may impede or facilitate adoption of guidelines, recommendations, and other improvement strategies.

Group Discussion

Create a story or narrative that identifies connections, interdependencies, accountability, evidence, and evolving conditions. Describe both the realized past scenario and the desired future(s). Narratives include the individuals, their roles and motives, relationships between the individuals, the activities, and the potential outcomes. The narrative of what actually occurred serves to document the connections, interdependencies, and emerging events. The desired narrative serves to document how patient needs are evolving, which new provider services are being offered, and the challenges occurring in the environment.

Consider the ever-present expectation to increase profitability (see the following Group Discussion). A long-held assumption is that the profit margin can be controlled by clearly defined and discrete actions or individuals. Mandating a change in financial processes or expenditures is believed to be the requisite for success. The reality is that the profit margin is affected by many unknown and evolving influences and is connected to and intertwined with nearly every variable within the healthcare system. The traditional model with its well-intentioned steps to cut expenses at believed intervention points requires serious reconsideration. Consider the following two scenarios in which two approaches were used: the traditional mandate for expense reductions and the more contemporary shared leadership approach to increasing revenues. The process focus begins with decreasing expenses by selected percentages. However, the trajectory and interdependence of the impact of this action are seldom articulated. A decrease in labor hours affects far more than the individual whose hours are reduced.

The outcomes from the Group Discussion of Story A and Story B are successful from the perspective of the target goal; however, the connecting variables were affected quite differently. In Story A, the effect on staff and patient satisfaction was decidedly negative. Patient safety and quality were also negatively affected as well as long-term caregiver turnover. The results in Story B are quite different. This approach sought to engage caregivers and support staff in addressing the challenge to increase the profit margin. Not only did the revenues increase with minimal increases in expenses, but the approach also increased caregiver satisfaction and long-term tenure. No negative impacts on patient satisfaction were identified.

The challenges of measuring health care are the result of the limitations of traditional analyses and measurement tools as well as many firmly entrenched practices believed acceptable.

GROUP DISCUSSION

A 15 percent increase in profitability was the target for two facilities in a large healthcare system. Both facilities achieved the goal.

Story A.
To achieve this increase in profitability, the facility implemented an initiative to decrease expenses beginning with labor hours. All staff hours were decreased by 20 percent to achieve the desired increase in profitability. To achieve the decrease in labor hours, nurses increased the number of patients cared for, decreased hourly rounds to twice a shift, and decreased discussion of medications with patients during medication administration. As a result, patient satisfaction decreased specific to response time to call lights, understanding of medications decreased, and the number of falls with injury increased. Further, nurse turnover increased and job satisfaction decreased.

Story B.
To achieve the increase in profitability, the facility engaged the shared leadership councils to develop innovative ways to increase revenue. Three creative online projects were developed to package the facility's unique clinical standards and practices for clinical simulation, technology adoption, and transplant services to other organizations. Marketing staff assisted with both national and international advertising for Asia, Japan, and Australia. A total of 160 staff hours were required to create the new revenue center and begin generating revenue. Specific metrics that were affected include caregiver satisfaction, labor hours for creation of the new center, and Internet support for the service.

Measurement Category	Story A	Story B
Revenue	Unchanged	↑ 3%
Expenses	↓ 15%	↑ 0.5%
Labor hours	↓ 15%	↑ 0.5%
Nurse-to-patient ratio	↑ 25%	Unchanged
Patient satisfaction with response to call light	↓ 10%	Unchanged
Patient satisfaction with education regarding medications	↓ 15%	Unchanged
Patient falls	↑ 15% (2 falls w/ injury)	Unchanged
Caregiver satisfaction and perceptions of quality patient care	↓ 20%	↑ 5%
Caregiver perceptions of involvement in decision making	↓ 15%	↑ 10%
Caregiver turnover	↑ 7%	↓ 5%

Group Discussion

A Clock Out Survey?
Very specific information can be obtained at the end of the shift from caregivers. In light of the increasing computerization resources associated with time and attendance systems, discuss the value of a quick yes/no survey from every caregiver at the time of clock out. The questions, limited to three or four, could be:

1. I provided quality patient care today.
2. My team worked well together.
3. I had the supplies I needed to do my work well and in a timely manner.

Rarely, if ever, can a single metric such as net income or profit margin reflect the totality and reality of the situation, namely an effective healthcare system. A profitable enterprise may in fact have delivered substandard care, alienated caregivers, and created negative relationships within the community. Traditional measurement approaches, though vital, do not hold all the answers. Most measures are limiting and may be deceptive because of the hidden variables contributing to the single metric. Antecedent and concurrent events affect outcomes in multiple ways.

Strategy 2: Extend Traditional Tools to Manage and Oversee Complexity

In light of the limitations of traditional financial measurement methodologies, quantum leaders need to explore and develop new tools to illuminate connectedness, interdependence, and emergence as the means to better understand system complexities and nuances.

Moving beyond the emphasis on the selection of appropriate quantitative variables for value determination such as net profit, revenues, expenses, and return on investment is the beginning. This is not to say that these metrics are not important; rather, they are incomplete when disconnected from the totality of the variables representing the healthcare situation. Complex quality problems within complex systems rarely have one root cause or a single solution. Tools and methods that identify multiple aspects and relationship are needed for complex valuation. Although it is impossible to predict the unpredictable and to design solutions for every potential scenario, three contemporary tools provide new insight into valuation; mind maps, the geographical information system (GIS), and scenario planning.

Group Discussion

Consider the persistent and unresolved issue of patient medical errors. An organization may monitor medication error data over time, using measurement tools such as run charts and control charts. Unfortunately, these tools do not include the antecedents and concurrent events that influence the outcomes on the run or control chart. Use a mind map to describe and display the same situation. What are the advantages and disadvantages of each tool?

Key Point

Measurement Missteps

- Measuring against yourself: Both internal and external benchmarks are important to recognize available resources and the potential in the industry.
- Looking backward: Historical performance occurred under a different set of circumstances, for example, patient types, caregiver skills, physical settings, regulations.
- Putting your faith in numbers: Return on investment is only one of the variables for evaluation; cost-effectiveness, cost utility, and so forth add information to the analysis. Further, the story associated with the numbers is of equal importance.
- Gaming your metrics: Some metrics result in users "manipulating" numbers to meet targets. Moving expenses to different categories to avoid inclusion defeats the purpose.
- Sticking to your numbers too long: Metrics can lose their essence as the business evolves. The use of hours-per-patient-day has long been seen as an incomplete metric given that the associated costs of support staff, education time, and patient engagement are not included in this metric.
- Not enough metrics: Single-minded metrics can lead to focusing on the wrong priorities.
- Focusing on inputs over outcomes: Although the processes and inputs of work are important, the results or outcomes are the real measure of organizational success.

Adapted from: Anthony, S. D., Johnson, M. W., Sinfield, J. V., & Altman, E. J. (2008). *Innovator's guide to growth: Putting disruptive innovation to work*. Boston, MA: Harvard Business Press.

Mind Mapping

The mind map tool has become a powerful vehicle for collecting, organizing, and synthesizing large amounts of information. Although initially developed by Tony Buzan (Buzan & Buzan, 1993) to improve memory of content, his brother Barry integrated the creativity aspect of the tool, thus creating an incredibly robust method for increasing understanding of complex phenomena. The use of diagrams, shapes, and colors provides individuals with the means to expand and explore ideas, creating linkages between elements while maintaining focus on the central theme. The mind map is a very useful tool for documenting connectivity, interdependencies, and emerging phenomena in health care. When a particular healthcare scenario is mapped, the identified elements, linkages, and pathways become the essential elements for consideration in valuing health care more accurately and completely.

GIS Model

A geographical interface system integrates hardware, software, and data as the means to capture, manage, analyze, and display multiple forms of geographic reference information

(Bolsted, 2005; Wikipedia, n.d.). The unique feature of this model is the display of multidimensional, multilayered aspects of complex situations. This approach provides for unique views of complex situations as the means to question, interpret, and better understand the phenomenon of interest. In addition, this model provides a means to solve problems by looking at data in a way that is quickly understood. The utility of GIS in healthcare analyses is that perspectives from point of care, local communities, regional areas, and national impact can be viewed and analyzed quickly and expertly.

Scenario Planning

Scenario planning is the third tool that provides a unique way to capture the essential elements for valuing healthcare situations. Scenario planning is especially useful in creating capacity for the unknown future. Participants in a work group are challenged to think more broadly and more creatively in addressing an unknown or extremely outrageous problem. The purpose is to move out of traditional thinking patterns and develop creative solutions not previously considered. This information now becomes available to teams as they confront uncertainty and embark on course corrections. The outrageous scenarios provide background ideas and potential solutions for consideration.

Strategy 3: Quantify the Value of Teamwork

It is no secret that expertly functioning teams are more likely to achieve excellent results and have minimal or no errors as a result of their effective collaboration. The financial value of expert teamwork and the cost of poorly functioning teams are not traditionally integrated into value formulations. Teamwork across disciplines is critical and at the same time very difficult to monitor and quantify. The increasingly complex nature of health care and the complex issues that caregivers face require a unique balance of responsibility and freedom to do the right work. The conditions for teamwork where issues are complex, namely, an environment that supports involvement in decision making, professional autonomy, and creativity in ensuring achievement of patient goals, are supporting variables that are linked to positive patient outcomes.

Measurement strategies to identify levels or degrees of teamwork contributing to patient care processes and outcomes begin with qualitative assessments, quantification of the specific cost of labor hours associated with the identified work, and examination of outcomes. The unit of analysis best begins with the shift of work or the patient event. **Figure 3-1** identifies the group of metrics that integrates expert functioning teamwork. Once the variables are identified, comparisons can be made to identify best practices among optimally functioning teams.

Measures of Teamwork

1. Hours of work
2. Skill mix
3. Levels of education of members
4. Years of experience of members
5. Overtime hours
6. Patient complaints
7. Patient satisfaction
8. Caregiver feedback
9. Negative patient outcomes

Figure 3-1

GROUP DISCUSSION

System components are dependent on each other for their success. As an example, a nurse is dependent on the presence of patients to provide care, a place to provide that care, supplies, medication, and support staff. For the care of your assigned patients for one shift, create a mind map that identifies the components required for patient care, the sequence of events, and the factors affecting patient outcomes.

- How many relationships did you identify?
- Which elements are working well together?
- Are there areas of congestion or dysfunction that are not working?

STRATEGY 4: FOCUS ON ENGAGEMENT OF PROVIDERS AND PATIENTS

The need for full engagement of patient and provider has never been more important as the resources for health care become scarcer. Creating and supporting accountability for evidence-driven interventions and patient behaviors that support healing and healthy behaviors can be some of the most cost-effective behaviors in this time of resource crises. The coordination of care processes, collaborative care planning that fully engages patients and their families to commit to healthy behaviors, and following agreed-to evidence-driven plans require skilled dialogue that creates both accountability for progress and sharing of information when plans are not working. The relationship between patients and caregivers is best supported with integrated, computerized electronic record keeping that can be accessed by both patient and caregivers. It is no longer acceptable for records to be provider contained and not accessible by patients.

GROUP DISCUSSION

When organizations are attempting to empower staff and the point of service, the hard part is not getting caregivers engaged. The hard part is that the senior people get scared. It is usually the senior leaders who pull the rug out with the belief that the work is disturbing the system, not directing it. The lack of clear knowledge of what the outcomes are going to be is unacceptable and a threat to patient safety. To prevent a premature death of point-of-care creativity and innovation work, it is important to communicate regularly, understand the complexity system mental model, and realize the need for continuing growth.

Consider a unit in your organization that has many opportunities for improvement. Design a plan to empower staff to indentify the issues, prioritize the challenges, select the tools of innovation to address issues, communicate progress to key stakeholders, and evaluate progress.

Strategy 5: Begin Locally with Change

Changing a long-standing culture of single financial measurements requires courage, persistence, and a plan that begins at the point of service, not in the boardroom. Kiel (1994) noted quite some time ago that often the best results come not from large-scale efforts, but from small well-focused actions. Given the challenges at the unit level specific to medication administration, safe environments, teamwork, nurse–physician collaboration, and retention of competent staff, the opportunities are available for unit-driven activities to begin the processes working from the inside out.

The work of leadership is not to direct this work; rather, it is to empower staff at the point of care to be aware of the challenges and expect staff to use the tools of innovation to create better processes and outcomes. Leaders need to provide the infrastructure specific to time, role expectations, and resources to test new models. It is especially difficult for senior leaders to let go and empower direct caregivers to operate within loose boundaries and be creative in finding better solutions. Indeed, this is reflective of the transformation of cultures from a controlling, mechanical model to a shared leadership model that embraces the complex nature of human systems.

Strategy 6: Plan and Budget for Course Correction Work

In light of the reality of complex systems interactions and uncertainty, the work of course corrections must become recognized as normative and part of the work of adapting and growing; thus, mechanisms and measures for this work need to be included in the budgeting process. Specifically, it is important to at least determine a percentage of resources that will be needed for course correction. Developing expertise in quantifying course correction resources requires creativity and persistence. Beginning with comparisons of planned work and actual work is the optimal starting point. Using the pre- and postanalysis of events, or the variance data, becomes informative for more accurate resource planning. To be sure, no leader ever believes that 100 percent of work will be perfect and not need revisions or modifications to achieve goals. The work for each organization is to determine a percentage of resources that needs to be allocated for course corrections.

Strategy 7: Create the Business Case for the Healthcare Story and Course Corrections

Building the business case for new work is essential. Although there is not experience or history to rely on, there is an expectation for certain processes, certain outcomes, and the expected value to be achieved (Business link, 2005). This information needs to be systematically collected and integrated into a plan that serves as the road map for managing new ideas.

The following steps are essential components of the innovation business case:

1. Create the narrative for the product or service.
2. Identify the goal or purpose of the product or service. Include the relationship to mission-driven and financial goals, patient care quality, and patient safety.
3. Determine projected costs, course correction costs, and excluded costs. Be sure to include the rationale for each category, namely, why costs were included or excluded.

4. Project benefits for this work. Examples include meeting quality and safety goals, increasing profitability, and enhancing the organization's reputation.
5. Target levels of performance goals. Ideally, the goals should be 100 percent satisfaction and zero errors.
6. Anticipate profit or loss.
7. Nonfinancial benefits are expected. This includes information related to ambiguous evidence or evidence that has not traditionally been quantified such as degrees of patient–caregiver engagement, effect on reputation, or recruitment potential.
8. Determine key stakeholders, namely, those individuals who have a significant influence on success of this work.
9. Anticipate risks and plan to mediate risks or unexpected results.
10. Create an overall summary of long-term and short-term value to the organization and community.

The following exemplar is provided to share the creation of a business case for the healthcare story. Each leader and organization has different experiences and information that can further enhance this important work. A story from a very satisfied patient serves as the foundation for determination of value.

1. The healthcare story
   My neighbor's mother died recently and left this story in her will with directions to donate a specified amount to the healthcare system.

   My last year of life has been blessed with incredible support from the healthcare system for my aging body and the realities of the end of life. During this time, my hypertension, diabetes, and irregular heart rhythm required routine monitoring and evaluation. My chronic constipation has been a problem for years; however, I am willing to live with it with the occasional oral remedies to manage it. I never felt like I was overtreated or asked to have tests or studies that I did not understand or for which there was an expectation that a positive change could be made. My healthcare providers and coaches, Dr. Karen (physician), Dr. Michael (nurse practitioner), and Mary (office receptionist), consistently assured me that my records were complete and shared appropriately with other providers as needed. Getting an appointment with my providers was handled efficiently and effectively—I never waited when I thought I needed to be seen—or at least got a call from Karen or Michael to discuss my questions and concerns.

   One short episode in the hospital was incredible—my blood sugars were out of control and the members of the healthcare team quickly reviewed my records and worked diligently to stabilize me. There was very little paperwork and interviewing—the only questions were about updates and new events in my life. I felt like I was one very special person and recovered quickly and went home within two days. I am now able to read again, watch TV, and walk to the mailbox. I am thrilled to be able to do these things without shortness of breath or anxiety.

   Charges, billing, and payment for my care were always clear. Before I left the office or hospital, my bill was presented and the exact amount Medicare would cover was identified as well as the amount I would need to pay. I never received bills for things I had not been advised about.

> I know this is special health care because my neighbor didn't have the same experiences that I did. She, too, had many illnesses associated with aging. She was seldom able to get an appointment with her provider in less than a month. She went to the emergency department several times last year for things that she was waiting to see the provider about. In addition, she had two colonoscopies in the last two years—she didn't know why but thought it had something to do with her constipation.

The metrics or measures for this story offer the beginnings of a new mental model for health care: begin with a successful story and identify the associated metrics to support similar care. In this story, metrics are extracted to identify the meaningful variables that are not often identified with traditional measurement approaches. These metrics contribute to the business case for complex patient care and provide for more complete measurement picture of the healthcare experience.

Within this story, there is an incredible amount of information that can serve to illuminate new strategies for healthcare measurement. Multiple categories of value that reflect traditional metrics and those reflecting the complexities of health care are embedded in the story. The following can be learned from this story:

- Patients can be realistic and do not want every symptom managed aggressively. Living with chronic constipation, while uncomfortable, is tolerable for many individuals. They are not looking for the miracle cure (or multiple colonoscopies) to a chronic problem.
- Understand and integrate the patient values; age does matter.
- A complete and integrated patient medical record reduces redundancy and the chance for errors.
- Access to care providers in a timely manner is important because it can avoid unnecessary stress for the patient and unneeded visits to the emergency department.
- Teamwork and communication make a positive difference.
- Clarity and communication of charges and patient accountability for co-pays are essential parts of the service of health care that needs to be addressed along with the service rather than months after the event.
- Single source billing is possible. It's like a VISA bill: all charges on one simple statement.

2. Goals and purpose of this story

   The expectations from this story are multifocal and relate to the patient, the caregivers, and the organization. Examples of expectations are as follows:

   - Integrated and accessible medical record available 24/7 to enable communication between providers and caregivers specific to patient's multiple diagnoses of hypertension, diabetes, and heart disease.
   - No redundancy of services or requests for information already provided.
   - Access to providers and feedback within 24 hours. Providers are accessible for unanticipated needs as well as every three months for monitoring of diabetes and hypertension. No visits to the emergency room.

- Respectful and meaningful relationships with providers. Patient is elderly, hard of hearing, and has some vision impairment. Decisions for care are made by the patient with full information from providers and supporting evidence. Patient does not want unnecessary diagnostic testing or medications unless they will support or enhance current quality of life.
- Personal level of independence and functionality includes limited ambulation with a cane and limited driving to church, bank, and grocery story.
- Payment and billing of healthcare services are fully understood at the time of treatment. At the time of service, all charges and costs to the patient are known and discussed. There are no unanticipated charges to the payer or the patient.

3. Cost of care is identified as office visits, medications, blood glucose monitoring equipment, and +10 percent allocations for course corrections should the patient need to visit the emergency room.
4. The benefits of this coordinated and respectful plan of care include sustained quality of life for the patient, a high degree of patient satisfaction, and a positive community reputation for the healthcare system.
5. Anticipated levels of performance are 100 percent patient satisfaction and zero medical errors. Also, zero visits to the emergency room are the goal.
6. The anticipated profit for these services is 2 percent.
7. The stakeholders include the patient, providers, office staff, and the local pharmacy.
8. The anticipated risks in this plan are the potential emergency room visits for unexpected emergencies or unavailability of office staff.
9. The short-term and long-term benefits of this model of patient care include health maintenance and functionality for the patient, financial viability of the organization, and a positive community reputation for the organization as a resource for quality healthcare services.

CONCLUSION

In summary, this healthcare valuation model is innovative and requires courage to be tested and implemented. What is most important for the healthcare leader is the recognition of the unresolved issues in our current system, the adoption of healthcare reform, and the ever-increasing complexity of the system. To be sure the system will not improve with waiting and thinking; action is required to begin remodeling and testing new ideas that reflect the complexity of the healthcare system.

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Suggested Readings

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Quiz Questions

1. Customizing measurement in health care
   a. is necessary to integrate local facility resources to identify the most accurate use of resources.
   b. makes it difficult to compare healthcare practices across the country.
   c. is irresponsible given the need to develop safe and reliable systems that can be replicated.
   d. is important to all leaders to be creative and support individual goals.

2. Cost continues to be an issue in health care because
   a. healthcare reform is too costly.
   b. cost shifting is a reality that legislators do not want to address.
   c. the overall system is fragmented and inconsistent.
   d. most citizens do not know how much they really want to spend on healthcare services.

3. Cost savings in health care
   a. are possible if patient accountability for provider instructions is required.
   b. are difficult to determine in light of system complexity and current inefficiencies.
   c. are possible if patients would practice healthy behaviors.
   d. are most likely if the private sector assumed control of the healthcare system.

4. Personal patient accountability
   a. is important but does not really affect the cost of health care.
   b. could significantly affect the demand for services.
   c. is an untapped component of the healthcare equation for rational spending and allocation of resources.
   d. is a violation of individual rights and should not be considered in the healthcare model.

5. Complexity theory
   a. illuminates the challenges of valuation in the healthcare system.
   b. introduces unnecessary information into the system.
   c. is limiting in that it is not applicable to all healthcare interactions and relationships.
   d. is an outdated paradigm that further complicates healthcare issues.

6. Ambiguous evidence
   a. is a reality that should not be considered in healthcare valuation due to its subjectivity.
   b. provides an opportunity for manipulation of the reimbursement system.
   c. is a reality of the healthcare experience and system complexity that needs to be considered.
   d. should be discounted in financial analyses.

7. Emergence, a reality of human relationships, requires leaders
   a. to plan for eventual conflict between providers and patients.
   b. to be sure there is a well-planned patient care plan.
   c. to identify the budgeting implications for unanticipated changes.
   d. to recognize and plan for course corrections because no plans ever emerge completely as planned.

8. Documenting the story
   a. is interesting however nearly impossible to integrate into a measurement system.
   b. requires skilled clinicians to interpret the information.
   c. is not accepted by financial experts.
   d. is a robust method to illicit as much information as possible about the patient care experience.

9. Traditional measurement tools
   a. continue to be adequate for complex measurement.
   b. require supplementation with more comprehensive models of measurement.
   c. should be minimized to decrease the complexity in the current system.
   d. have some limitations; however, they are usually accepted by legislators and financial experts.

10. The business case for the healthcare story
    a. is another iteration of a strategic plan.
    b. requires additional resources and does not provide additional information.
    c. integrates the elements of a healthcare situation, comprehensive information, and the challenges of valuing new models.
    d. is an excellent model to support national healthcare reform.