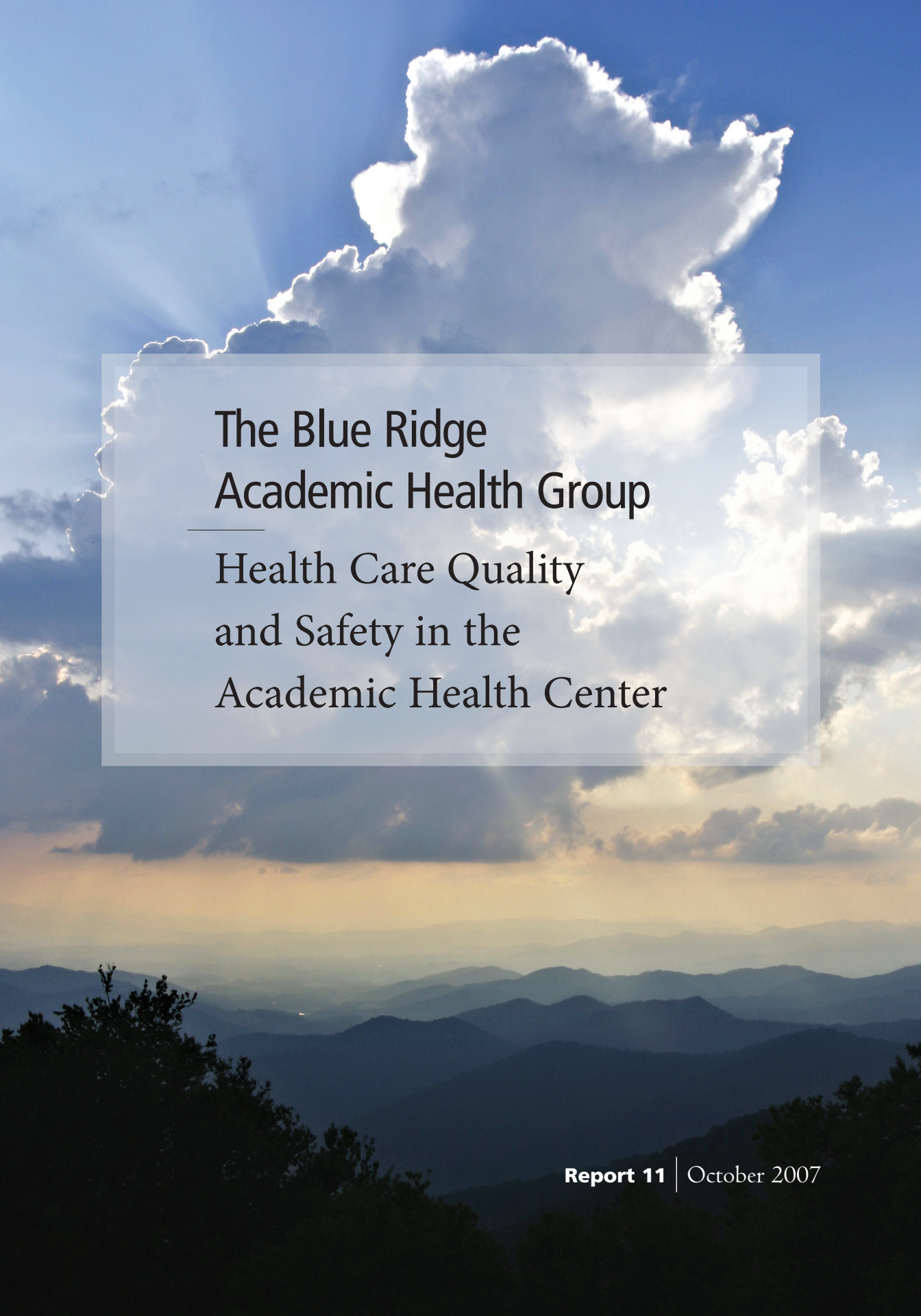

The Blue Ridge Academic Health Group

Health Care Quality and Safety in the Academic Health Center

Report 11 | October 2007

Mission: The Blue Ridge Academic Health Group seeks to take a societal view of health and health care needs and to identify recommendations for academic health centers (AHCs) to help create greater value for society. The Blue Ridge Group also recommends public policies to enable AHCs to accomplish these ends.

Report 11 | October 2007

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Health Care Quality and Safety in the Academic Health Center

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Report 11: Health Care Quality and Safety in the Academic Health Center

The Blue Ridge Academic Health Group | Report II

The Blue Ridge Academic Health Group (Blue Ridge Group) studies and reports on issues of fundamental importance to improving our health care system and enhancing the ability of the academic health center (AHC) to sustain optimal progress in health and health care through sound research—both basic and applied—and health professional education. In nine previous reports, the Blue Ridge Group has sought to provide guidance to AHCs that can enhance leadership and knowledge management capabilities; aid in the adoption and development of Internet-based capabilities; contribute to the development of a more rational, comprehensive, and affordable health care system; improve management, including financial performance; address the cultural and organizational barriers to professional, staff, and institutional success in a value-driven health system; improve the education of physicians and other health professionals, lead comprehensive health care reform, revive medical professionalism, and address the growing problem of Conflict of Interest particularly in the relationship between academic health professionals and institutions and their private sector partners and sponsors (Blue Ridge Academic Health Group 1998a, 1998b, 2000a, 2000b, 2001a, 2001b, 2003, 2004, 2005, 2006).

The Blue Ridge Group has been advocating for a "value-driven" health care system for nearly a decade. A healthy population is a paramount social good. A value-driven health system would achieve both individual and population health through cost-effective diagnosis, treatment, prevention and preemption of disease and disability. We would have an effective health care system that promotes safety, quality and efficiency -- and the highest standards of professionalism and integrity in the pursuit of health and healing. Through competition and rewards, providers, payors, states, communities and individuals all would be motivated to attain and maintain good health. Universal and equitable access to evidence-based effective care would help ensure that population health, information, and data management strategies can be implemented.

For more information, visit our web site: http://www.blueridgegroup.org.

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"Medicine used to be simple, ineffective, and relatively safe. Now it is complex, effective, and potentially dangerous." **–Cyril Chantler**

Introduction

Evidence of significant problems in the quality of US health care accumulated and generated a genuine sense of urgency in the health sector over the past two decades. Academic Health Centers (AHCs) could have provided stronger leadership in addressing these systemic quality and safety issues; but for the most part, like most of the hospital industry, they focused on the credentials of individual providers and not on systems of care and performance per se. In 1999, the Institute of Medicine (IOM) report, To err is Human, firmly added the IOM's imprimatur to the case that there are widespread deficiencies in the safety and quality of health care in the Unites States that result in many tens of thousands of preventable deaths and other adverse patient outcomes every year (IOM 1999). The IOM followed that report with a prescription for the future U.S. healthcare system, *Crossing the Quality Chasm: A New Health System for the 21st Century*, which demonstrated fundamental, systemic opportunities for constructive change (IOM 2001). The IOM called for replacing current systems of care with new systems to assure that health care is safe, timely, efficient, effective, equitable and patient-centered. (IOM 2001, 6) These "STEEEP" aims have since been embraced by many, including AHCs, the Blue Ridge Group, and most other stakeholders throughout the health care system.

AHCs have long cultivated the development of leaders and innovators in the biosciences and in health care. But the vast majority of AHCs understood health care quality to be the province of highly-trained individual practitioners, rather than a system property requiring institutional and system-wide leadership and change. (IOM 2001) Even now, with the widespread evidence of quality problems, AHCs, with some notable exceptions, have been slow to take leadership in systemically addressing or promoting health care quality (Keroack et al 2008). For the most part, attention to quality has been imposed from without: through hospital accrediting organizations (like The Joint Commission), and federal payors (for instance, Medicare) and through regulatory and enforcement measures. And while AHCs now are involved in a number of quality initiatives offered by organizations like the Institute for Healthcare Improvement (IHI) or the National Committee for Quality Assurance (NCQA), most such efforts remain localized in departments or particular provider sites. The sharing of results and wider adoption of evolving best practices has been slow and not systematic or system-wide among AHCs. While one can point to perverse incentives and legal barriers, there has been insufficient pressure from leaders at the top and middle ranks of AHCs.

Even now, with the widespread evidence of quality problems, AHCs, with some notable exceptions, have been slow to take leadership in systemically addressing or promoting health care quality.

Certainly, progress towards quality and safety will remain difficult so long as there is no "concerted national effort to consolidate health care performance measurement and reporting activities" (IOM 2006, 1); standardization of quality measures (Schoenbaum and Holmgren 2006); or, adoption of national policies requiring all providers to measure and report on quality (NCQA 2007). Progress towards these larger enabling measures will only come from broad leadership on these issues, backed by experience, evidence-based protocols, and ultimately computer-based decision support at the point of care for clinicians and patients.

The goal of creating a high quality health care system has become a manifest national goal of health policy leaders, embraced by public and private organizations and stakeholders. The Blue Ridge Group believes it is time for AHCs to engage in systemic efforts to contribute to work redesign, education, and changes to the infrastructure that will be needed to realize highest quality health care both in our own organizations and in the health care system

more broadly. This major recommendation of our report will be developed in the material that follows with examples and ideas for how AHCs can proceed.

Experience shows that this necessarily involves embracing new ideas and changing our organizations. It begins with addressing barriers to understanding and achieving quality goals in our organizational, academic, and professional cultures, and in our practice patterns, information systems, management structures and governance practices. It succeeds and is perpetuated with the establishment of a culture that engages all stakeholders in achieving quality and safety through collaborative and continuous learning and improvement.

The change management challenges directly relate to both personal and system behavior at all levels of our enterprise. By its nature, this will be disruptive and at times will be resisted. As value-driven, personalized health care continues to unfold, emphasis will shift to greater standardization with computer-based protocol management of chronic conditions and much greater emphasis on reviews of practices and performance. This will put the patient truly at the center of our operations.

It is time for AHCs to engage in systemic efforts to contribute to work redesign, education, and changes to the infrastructure that will be needed to realize highest quality health care both in our own organizations and in the health care system more broadly.

Key Findings:

1. **Quality must be addressed as a system property.** Health care is complex and involves a number of high risk decisions and operations that require adoption of system-wide "ultrasafe" and "high–performance" policies and practices.
2. **"Culture Eats Strategy For Lunch."** It is not enough to plan and/or to engineer organizational changes. Unless and until the goal and practice of quality becomes part of professional and organizational culture, quality initiatives are not likely to be successfully sustained.
3. **Focus on one or a few "Big Hairy Audacious Goals" (BHAGs).** The sheer volume of Quality and Safety initiatives and measures development can be overwhelming and contribute to institutional inertia or minor, piecemeal efforts. The focus on a few BHAGs is often the best way to establish a culture of quality and to achieve measurable and meaningful improvements in safety and outcomes.
4. **Leadership that practices "meaning management" is particularly effective.** The right leadership style been shown to be important in attaining organizational buy-in and initiative that leads to achieving quality goals.
5. **Governing Boards must be actively involved and supportive of Leadership Quality efforts.** Leadership in quality efforts must be broadly dispersed throughout the system and must be properly supported and informed by governing boards and bodies.
6. **Incentives help.** Well-conceived incentives can motivate and facilitate desired behaviors.
7. **Health Information Technology and Informatics, while not sufficient to improve quality, are increasingly indispensable and are best developed and deployed through staged introduction into clinical practice.** AHCs must champion the staged adoption and advancement of appropriate information and communications tools that support health care, education and research processes that are addressing quality and safety as system properties.

This report summarizes issues in each of these key findings and offers examples of successful strategies and practices that can result in significant gains in patient safety and in high quality health care.

What is Quality?

The IOM has adopted the following definition of quality, which is now employed broadly. Quality is: "The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge" (Lohr K.N. (ed.). 1990).

Patient safety is defined as a patient's "freedom from accidental injury" when interacting in any way with the healthcare system, (IOM 1999, 4) The relationship between patient safety and quality is nicely captured by the Agency for Health Care Research and Quality (AHRQ) as policies and practices that: "Reduce the risk of harm by promoting delivery of the best possible health care" (AHRQ 2007).

On the basis of these foundational definitions, there are many agencies, organizations and efforts to improve our understanding of Quality and Safety. There are now literally hundreds of widely accepted (evidence-based) quality metrics by which health care professionals, provider organizations, and health plans can record, benchmark, measure and report on their performance. Virtually none of these has been transformed today into scalable decision-support aides for computer-based health records. But there is a growing interest in this approach (Osheroff et al 2007). The efforts of these organizations and others are contributing to both awareness of and important gains in quality and safety in health care throughout the United States.

However, despite these efforts, quality and safety of care is not improving for millions of people (NCQA 2007). Perhaps in part because of the myriad separate efforts and the proliferation of hundreds of quality and safety guidelines and measures, many organizations have found it difficult to gain traction for quality and safety initiatives. Are 439 measures too many? Are four too few? Debates continue about defining quality so that it is operationally useful for substantial improvements in care. Also unsettled are the measures that can appropriately capture and quantify quality and safety outcomes. How should measures and efforts be prioritized?

Equally important, the majority of physicians practice solo or in small groups of four or less. There are more than a billion visits to physician offices, hospital outpatient facilities, and emergency departments each year (NQF 2004). The task of improving quality and patient safety in these and other ambulatory settings has only just begun to be understood and addressed.

For organizations large and small, jump-starting the quality and safety-improvement process is a critical goal. The following discussion of the Blue Ridge Group findings is a distillation of key aspects of current knowledge and experience in creating robust efforts in quality and safety. It is designed to aid AHCs and other organizations that are struggling to move forward on system-wide quality and safety programs and to help jump-start this process.

Discussion of Findings

FINDING #1:* *Quality and safety must be addressed as system properties. High-risk industries and organizations, like those in health care, must adopt system-wide "ultrasafe" and "high–reliability" policies and practices.

There is an extensive literature on the properties of "ultrasafe" and high-reliability" organizations (e.g., Weick & Sutcliff 2001; Amalberti 2002). Much of what we understand about creating safe and highly-reliable operations comes from the experience of both the nuclear power industry (e.g., Apostolakis & Barach 2003) and the airline industry (e.g., Amalberti 2001; Abbott et al 1996). Research and experience in these and other industries have taught us that achieving quality and safety in certain high-risk and high complexity organizations and operations begins with the adoption of standardized guidelines and processes (assuming an organizational commitment to quality, service and/or safety excellence) combined with limits on aspects of traditional individual discretion and autonomy.

Risk management science has shown that vast gains in safety and quality are achieved in many situations where relatively high tolerance for individual discretion is transitioned to a reliable standard of excellence that is shared by broadly equivalent actors. (Amalberti et al 2005, 759). Risk-management programs create and enforce robust safety-focused protocols around a "reliable standard of excellent care" (Ibid).

Standardized guidelines and processes transition key personnel, whether pilots, engineers, or physicians, from a craftsmanship approach (centered on the primacy of the heroic or otherwise exceptional individual) to an approach that values "equivalent actors". By this process of standardization around reliable standards of excellence, both the practices of piloting in commercial aviation and of anaesthesiology in health care have become two of the nation's most consumer-safe services (Ibid.).

Risk management science has shown that vast gains in safety and quality are achieved in many situations where relatively high tolerance for individual discretion is transitioned to a reliable standard of excellence that is shared by broadly equivalent actors.

The hard lesson for the AHC is that highly-reliable, evidence-based care of the highest quality and safety for patients, whether those with relatively simple or with multiple and complex medical problems, will not happen through superior intelligence, encyclopedic knowledge, good intent, and/or vigilance on the part of particular individuals. Achieving this goal requires organizing a reliable standard of excellent care at the system level, employing appropriate information, communications, decision support and outcomes evaluation systems, and the organization of appropriate, responsible and accountable groups and teams composed, as far as possible, of equivalent actors.

AHCs have no inherent advantages in the endeavor to create ultrasafe or highly-reliable systems of care. In fact, university-based AHCs may have significant disadvantages compared to community-based provider organizations. These likely include:

- **The commitment to multiple missions** (often expressed as "co-equal" misssions) that can dilute focus on patient care quality and safety. Although this is difficult for many in AHCs to reconcile, evidence is growing that achieving institutional focus and reform centered on quality and safety requires of all health care organizations that they effectively make patient care quality and safety the primary mission of the organization. Without such prioritization of quality and safety in patient care, it becomes difficult as a matter of policy and practice, to effect the changes in culture and behavior that are necessary

  An example of an effective approach to mission prioritization is provided by Emory University's Woodruff health Sciences Center. There, an intensive internal strategy process resulted in the ratification of three co-equal missions of health care, education and research, but at the same time established that the core end-purpose of this tripartite activity is, "Making People Healthy". The acknowledgement of this ultimate purpose in making people healthy serves to catalyze the subsequent development of a system-wide quality, safety and service program (Bornstein 2006).

- **The traditions of significant autonomy** of academic faculty, departments, and professionals, combined with lack of experience with high-reliability systems, may also contribute to an AHC disadvantage in achieving highest quality. A common refrain heard in response to efforts to create a standard baseline of excellent care is, "I didn't go to med school to practice cookbook medicine." Yet, risk-management research and experience has taught that "unconstrained" human performance (guided by personal discretion, only) results in accident rates worse than 10-2. Constrained human performance can reach 10-2 to 10-3 (Amalberti et al 2005). As part of the systemic processes that have been developed, leading to an extraordinary record of safety achieved in airline travel, a fundamental and indispensable safety measure developed by and for airline pilots involves completing a pre-flight checklist. This recipe from the professional piloting "cookbook" is understood as absolutely essential to the quality and safety mission of the professionals and crew involved in every flight. As equivalent measures are incorporated into medical practice, studies show marked improvement in safety (Cook & Woods 1996).

- **The challenge of managing young learners** so as to achieve consistent year-round performance is another potential AHC Q&S hurdle. It is common knowledge that quality and safety of care can vary significantly from the month of July, when new residents commence their training, to the month of December, when these new learners have gained experience. However, such variation in the quality and safety of care must be acknowledged as unacceptable. This is a clear case where foundational standards and systems must be employed and enforced to carefully supervise and limit the discretion of early learners.

  Balancing the need for learning experiences with the needs for safety is not easy. But studies suggest that new approaches to training and supervision, involving teamwork and standards development relating to such basic factors as addressing fatigue with adequate sleep, can significantly increase safety and improve learning (Philibert & Barach 2002). Even more fundamentally, training must refocus on learning to work in teams where each individual takes responsibility for elevating performance of the team to the highest standards of clinical excellence.

- **The challenge of managing high complexity patients and services** is another AHC Q&S challenge. There can be tension between delivering routine services and delivering complex, individually tailored care for esoteric clinical problems and diseases. While many AHCs differentiate themselves by virtue of their capabilities in managing highly complex patients, the vast majority of clinical care provided in AHCs is of average complexity. Progress in enhancing Q&S in both routine and complex care are of equal importance for the AHC.

  A promising approach to Q&S challenges within the AHC is suggested by Amalberti and colleagues. They suggest a two-tiered approach to quality and safety, corresponding to two types of medical "domains". Some medical domains (anesthesiology, blood transfusions, radiotherapy) are stable enough (relatively less complex and more routine) to achieve criteria for ultra-safety. Whereas, some medical domains (emergency medicine, intensive care, surgery) must deal with more unstable conditions and will inevitably be less predictable and safe and hence can achieve a very high degree of safety and quality but at the somewhat lower standard of "high-reliability."

  Put another way, for the domains of medicine that are less stable and fraught with more uncertainties, complexity and other factors (uncertainties in specialty service demand, highly unusual or complex cases, worker shortages), more deference must be given to "flexible risk arbitration and adaptation rather than strict limits" (Amalberti 2005; Weick, et al 2001). In such domains, Q&S is designed for and characterized by "high-reliability". In domains where limited complexity of tasks enables the maximum development and utilization of rules, procedures and equivalent actors, safety trumps productivity and the organization can aspire to "ultrasafe" standards and systems (Amalberti 2002). Q&S processes can be customized to fit these different domains.

  These typologies are derived from experience in risk management in various industries. In the nuclear power and commercial aviation industries, public policy demands ultrasafe systems and tolerates tradeoffs in the form of occasional inconvenience (e.g., airline flight cancellations due to weather or mechanical issues). In the military and chemical production industries, public policy endorses high-reliability systems that rely more on, or demand, far more operational discretion and higher risk-tolerance. These two typologies deserve far greater development within health care organizations and should be the subject of extensive research and modeling.

While many AHCs differentiate themselves by virtue of their capabilities in managing highly complex patients, the vast majority of clinical care provided in AHCs is of average complexity. Progress in enhancing Q&S in both routine and complex care are of equal importance for the AHC.

- **The challenge of managing patient handoffs** represents another unique AHC Q&S challenge. In the AHC teaching environment, one result of the adoption of limitations on resident physician work hours is that "hand-offs" of hospitalized patients occur more frequently, increasing the risks of information and communications errors and resulting incidents or even a cascade of clinical errors. The increasing utilization of hospitalists

helps to mitigate this problem because hand-offs is a core competency of such specialists. The hand-offs issue implicates a broader set of organizational imperatives related to developing and institutionalizing appropriate care management systems and teams.

These factors, and possibly others, are intrinsic and somewhat unique to AHCs and can present especially tough issues for developing organizational capacity in quality and safety. However, the fact of special challenges cannot be an excuse for not undertaking systemic improvement in quality and safety. Significant Q&S improvements require, at a minimum, significant organizational commitment, planning and execution. Both the missions of the AHC (we exist in part to tackle the hard cases!) and the moral and ethical foundations of health care professions and practice (e.g., "First, do no harm") require our leadership in Q&S.

FINDING #2: ***"Culture Eats Strategy For Lunch".***

It is not enough to plan and/or to engineer organizational changes. Unless the goal and practice of quality becomes part of the organizational culture, quality initiatives are not likely to succeed.

The culture of our organizations is perhaps the biggest impediment to understanding and addressing quality and safety issues in health care. There are extensive sociological and business management literatures on the culture of organizations and how to understand the role that culture plays. But culture can be relatively simply understood as, "The way we do things around here" (Schneider 1994). Every organization has a culture; some contain a core culture with a number of distinct sub-cultures. Culture tends to be relatively stable and grows more "entrenched" as an organization ages and achieves success. (Ibid). When significant change is required, as is periodically the case in a dynamic economy, society, or organization, it is often the established organizational culture (way of doing things) that either inhibits or prevents change. As one study describes it, "When competent people craft good strategies that they continually fail to execute, the problem lies not in the strategies but in understanding what it is in the culture that causes the failures" (Pryor et al 2006, 301).

The culture of health care organizations is dominated by professional and academic "ways of doing things" that have been described many times and that are characterized earlier in this report as the traditions of relative autonomy, status and authority of physicians and medical faculty (see page 8). As health care has begun to transition from a decentralized artisan or craft model of medical practice to a modern, knowledge-worker model, health professionals, learners, managers and staff are increasingly facing the need to develop a culture of teamwork, shared responsibility and adherence to acknowledged Q&S controls. This is no trivial task.

To take the aviation example again, commercial pilots are not simply required to perform at the highest levels of technical expertise in flying an aircraft, but are responsible for the safe operation of the aircraft and the overall safety and flying experience of the passengers. Pilots must work closely with other professionals and crew to achieve these goals. For a physician, the analogy is that he or she must not simply see their role as being in charge of the patient and the episode of care, but being responsible for the experience and safety of care for the patient. Physicians must work closely with other professionals and staff to achieve these goals. Put another way, physicians must change their perspective from, "it is the decisions I make that determine outcomes" to "I am responsible, at least in part, for creating a safe health care environment for my patients and for my team members" (Pryor et al 2006).

> Just as a pilot is not only responsible for the operation of the aircraft but for the overall safety and flying experience of the passengers, the physician must not simply see their role as being in charge of the patient and the episode of care, but being responsible for the experience and safety of the patient.

In aviation, this change to a culture of safety and quality has evolved over more than 30 years, focused on reducing the autonomy of pilots, training all aviation professionals and workers to function on the equivalent actor model in teams, and on the development and implementation of comprehensive risk-management and process improvement programs (Amalberti, et al 2005).

Culture change in a highly regulated and relatively consolidated industry like aviation or nuclear power is not simple to effect, but might appear a cakewalk compared to the challenge of changing culture throughout our decentralized and balkanized health care industry. But nothing short of this sort of comprehensive approach is required in health care.

> Ascension's approach to understanding and achieving culture change within the health care organization provides a wealth of insight for others to model and adapt within their own organizations.

In light of the significant changes that must be accomplished in health care, the Blue Ridge Group believes that there is much to learn from and emulate examples of systems where large-scale cultural transformation has been successfully undertaken. Ascension Health presents a compelling example of such initiative. The progress at Ascension in addressing Q&S issues has been well documented in a series of published studies that should be required reading for everyone interested in improving Q&S in health care. Highlights of their experience in achieving culture change include:

- Engaging the entire leadership team in formulating a vision for safe health care, setting a clinical transformation agenda, identifying challenges to this agenda, and establishing measurements of progress

- Addressing the cultural challenges explicitly, with constructive, positive initiatives that involved professionals and staff in understanding and defining how the environment could and should change in light of the goals and vision and what investments had to be made in people, infrastructure and systems to enable and support the new environment. (Pryor et al 2006)

Ascension decided not to try to take on a pre-formulated "six sigma" or other "branded" approach. There was a strong sense that the approach to culture change had to come from within the organization. The Blue Ridge Group believes that this is an essential insight: The exact formula for effecting culture change likely will vary with each organization. What is most important is that there is an explicit decision to achieve Q&S transformation within the organization. Ascension started with a retreat that included 120 leaders who defined a consensus vision: "Health care that works, healthcare that is safe, and healthcare that leaves no one behind".

Once this vision and explicit Q&S goals were adopted, the formula for culture change evolved out of its internal process. What emerged was a process to change "the way we do things around here" based on, "The Five C's of Culture Change". These are identified as:

- **Comprehension: Understanding the problem.** This first element is perhaps the most important. Comprehension of the need for change of culture must become a common, shared perspective. Ascension reports that critical to this comprehension has been coming to the understanding that safety is a system characteristic: errors and other quality problems are not about blaming individuals but about creating better systems. Addressing the issue in this way is critical to minimizing defensiveness of caregivers and providing a motivation for broad-based participation and initiative in changing the way things are done.

- **Compassion: Spirituality and commitment.** This element has been important to Ascension as a religiously-sponsored (catholic) health care system. Considerations of spirituality and commitment relate to the importance of the meaning and purpose of the work and the types of relationships with colleagues, patients and families essential to it. Mutual respect and a caring orientation towards colleagues as well as patients and families is systematically cultivated as a hallmark of this organization and its people.

- **Collaboration: Teaming between subcultures and providers.** Collaboration at Ascension means something more than simply cooperation as might traditionally exist among caregivers, staff, leadership and other stakeholders. Collaboration here refers to what is now commonly referred to as teamwork. It embraces the concept of individuals coming together as "equivalent actors" in the ways described earlier in this report (see page 8). Especially important to generating shared understanding of the difference between traditional cooperation and the new type collaboration being targeted were surveys of caregivers and staff that have shown very significant differences in perception of the extent and effectiveness of cooperation between physicians and other caregivers and staff. Sharing such data, as well as other important perspectives on teamwork and collaboration, has been critical in effecting needed changes in communication and behavior by and among all team members

- **Coordination: System processes, infrastructure, and ideation.** Addressing coordination at Ascension refers primarily to the need for all caregivers and staff to understand and become proactive in establishing standards, protocols, and systems inter-operability especially in the areas of clinical terminology, clinical pathways, coding, care plans, staffing, and other fundamentals. The focus is on identifying those fundamental processes, resources and information sets that can be standardized to a high level of operational and clinical excellence.

- **Convergence: Leadership of local culture with spread and dissemination of new norms in a rapid way.** Convergence within Ascension's cultural change schema denotes the emphasis on engendering change through engagement rather than by edict. Researchers at Ascension report that, in many cases, best practices are effectuated and rolled out through a "viral" process of willful adoption spurred both by examples of internal success and the initiative of localized caregivers and staff. Convergence among disparate parts of the organization on the goals for clinical Q&S doesn't rely on the naïve notion that caregivers and staff would or should simply spontaneously change out of the goodness of their hearts. Instead, convergence is achieved by deliberate and always collaborative efforts to structure all activity to achieve quality and safety as well as fiscal and operational success at every level of the organization. Innovative incentive, reward and recognition programs are important in establishing norms and accountability for quality and safety and "the way things are done around here" (Ibid).

To measure and ensure feedback on the effort to change culture, Ascension employs a system-wide culture survey of front-line workers. Such measurement enables Ascension to gather data on front-line workers' perceptions and experience of everyday issues and encounters. This data reinforces connectivity of leadership with the broad spectrum of care processes and front-line workers that is often lost in the course of change or process implementation. The survey assesses safety and teamwork across all clinical areas and is used to discover best practices and track progress in improving performance.

Ascension's approach to understanding and achieving culture change within the health care organization provides a wealth of insight for others to model and adapt within their own organizations.

Ascension employs a system-wide culture survey of front-line workers. Such measurement enables Ascension to gather data on front-line workers' perceptions and experience of everyday issues and encounters.

FINDING #3: ***A great deal of progress can be made in establishing a culture of quality and in improving safety and outcomes by focusing on one or a few "Big Hairy Audacious Goals" (BHAGs).***

After review of many efforts of health systems and practices to improve Q&S, the Blue Ridge Group is convinced that significant and meaningful improvements -- and in some cases transformations of the health care environment -- can occur where the target is one or a few key goals or outcomes. "Big Hairy Audacious Goals" (BHAGs), as they are sometimes called, can go a long way towards establishing an orientation towards change in systems and behavior throughout a health system.

There are a number of prominent examples of the successful pursuit of BHAGs. The Institute for Healthcare Improvement's 5 Million Lives Campaign, in particular, has been a catalyst for many ambitious Q&S programs focused on preventable mortality and avoidable injuries that have captured the imagination of whole health systems.

In this regard, Ascension Health again provides examples that are well documented. Ascension has reported achieving what is described as clinical and cultural "transformation" through the adoption of eight BHAG "priorities for action" in hospitals and care groups throughout its system. Based on the overall goal of providing "health care that is safe" the Ascension priorities for action or BHAGs have included:

1. Joint Commission National Patient Safety Goals and core measures
2. Preventable mortality
3. Adverse drug events
4. Falls
5. Pressure ulcers
6. Surgical complications
7. Nosocomial infections
8. Perinatal safety

A key catalyzing BHAG for Ascension was the adoption, in 2002, of the goal of eliminating preventable injuries and mortality from its system by July of 2008. Through a systematic process of analysis and evaluation of deaths of patients not admitted for end of life care, Ascension was able to target an overall 25% reduction in mortality rate.

Many of adverse events that appeared to be proximate causes of preventable mortality were those identified as "Priorities for Action". For each priority, one or more alpha sites were chosen to pilot new approaches to mitigate these risks. In each site, leadership and staff teamed-up to conduct comprehensive studies of risk factors and new approaches to mitigation.

The Borgess Medical Center (Kalamazoo, Michigan) became the alpha site to address the elimination of preventable deaths. A comprehensive effort included the introduction of intensivists and hospitalists and the employment of four new strategies in critical care and two outside critical care. A study of the results of one critical care strategy—tight glycemic control with insulin drips—and one non–critical care strategy—deploying rapid response teams to rescue patients before cardiopulmonary arrest outside of critical care – reports that over the three year period from April 1, 2003–March 31, 2006, observed mortality decreased by 19.2%. This result was considered a tremendous quality and safety achievement in a relatively short span of time, representing the prevention of hundreds of deaths (Tolchin et al 2007).

Similar results have been reported in the other Priorities for Action areas (Ibid). Important to all of these achievements has been choosing the best sites to pilot and develop such innovative approaches to Q&S. Through a careful vetting process, investing in the sites where success is most likely enables the roll-out of this process to other parts of the system. The teams dealing with eliminating pressure ulcers found that the solution required replacing many surfaces used in patient care and transport. A "business case" became an important enabler for the substantial investment required to achieve this goal. Identifying the right, motivated development team and making the business case is something that other industries have found to be critical to establishing a new practice or product and then raising the bar for others. This is something that is not yet well done in health care, where well-entrenched local cultures and procedures often trump the introduction of even well-tested alternatives developed in other settings.

FINDING #4: ***Leadership that practices "meaning management" is particularly effective in attaining organizational buy-in and initiative that leads to achieving quality goals.***

Not surprisingly, leadership is an absolutely critical factor in the success of culture change and the adoption of quality and safety as primary health system characteristics. The importance of leadership has long been assumed, but a recent study by the University Health System Consortium (UHC) has added vital new insight into specific attributes of leaders who appear to be most effective in achieving culture change (Keroack et al 2007).

UHC set out to identify the organizational and cultural characteristics of high performing Q&S organizations. Broad-based measures of safety, mortality, effectiveness, and equity were developed and applied to data obtained from UHC member institutions in 2003-2004. Each hospital was ranked according to an overall score. Three top performing and three middle-performing institutions were chosen for intensive site visits that involved extensive interviews with leaders, clinicians and front-line workers, and reviews of key documents from committees charged with quality and safety. Case studies of the top performers present a fascinating and valuable study of how an organization can set and carry-out a Q&S agenda through an exciting and transformative process. Case studies of each of these examples can be accessed by UHC member organizations on the UHC website: http://www.uhc.edu/results_list.asp?folder=WEB/IE/BenchNew/all/PerfImp.

On the basis of its interview and case review process, the UHC found that CEOs of top-performing organizations are passionate about quality, and safety and have an authentic, hands-on style. They often use a focus on service as a way of catalyzing commitment to patient care. Everyday events are connected to the higher purpose of patient care through stories and highly visible actions. The chief medical officers also play a critical role in performance improvement and serve as mentors for clinical chairs and faculty physicians. In turn, chairs demonstrate ownership of the quality and safety agenda. Information related to that agenda is shared regularly throughout all levels of the organization (Keroack et al 2007)

The UHC calls this leadership style "meaning management", in which the values of the importance of excellence in patient care are communicated personally by the senior leader of the organization. A key indicator of leadership impact in all three of the centers where leadership excelled was that staff would recount stories about the hands-on actions of the CEOs. Often, these stories involved first hand experience of the CEO engaging in a front-line activity or issue and effecting immediate results or changes focused on patient care and safety.

Another important characteristic was that successful leaders insisted on the adoption and development of objective measures and the use of benchmarking and external comparisons. They were unafraid of finding areas where performance fell short and were committed to understanding and achieving best practices.

In contradistinction to this type of leadership, the UHC found that leadership characteristic of average institutions failed to display this sort of engaged, committed behavior or priority setting. Leaders of these organizations treated quality and safety more as an abstract concept or regulatory requirement, rather than a personal passion. There was often tension or conflict between the missions of clinical care, teaching and research. Department Chairs were often allowed to opt out of quality and safety initiatives, and the atmosphere was one of "every department for itself."

The bottom line for the high-performing organizations is that, "By focusing on patient care continually and repeatedly, CEOs have instilled an organization-wide stewardship of service, quality, and safety"

The bottom line for the high-performing organizations is that by focusing on patient care continually and repeatedly, CEOs have instilled an organization-wide stewardship of service, quality, and safety.

FINDING #5: ***Governing Boards must be actively involved and supportive of Leadership Quality efforts.***

Governance is an issue that emerged strongly from the Blue Ridge Group's consideration of success factors in achieving a focus on quality and safety. In particular, there was broad agreement that many institutions may not currently have a board governance structure sufficient to devote the time and attention necessary to support quality and safety as a primary institutional focus or to provide sufficient oversight and accountability for measurement and reward of quality and safety achievement.

In 2005, The National Quality Forum issued a guidance letter to Hospital Boards concerning their responsibility for overseeing the quality of care delivered in their institutions. The NQF's guidance presents four principles for hospital boards to follow, with specific strategies for each principle. The principles are that hospital boards should:

1. Take concrete steps to fulfill their role in ensuring quality;
2. Enable effective evaluation of their own role in enhancing quality;
3. Develop "quality literacy" regarding patient safety, clinical care, and healthcare outcomes; and
4. Oversee and be accountable for their institutions' participation and performance in national quality measurement efforts and subsequent quality improvement activities. (http://216.122.138.39/pdf/news/call2responsibility3-16-05.pdf). (Kurtzman and Page-Lopez 2004)

The NQF guidance makes clear that hospital trustees have responsibility for ensuring the quality of clinical care provided in their institutions. It suggests that responsibility cannot be delegated to a quality committee of the board or to the executive leadership or to medical staff.

An example of the power of Board involvement comes from one of our member organizations. In this example (in which the institution will not be identified in order to protect privacy), the governing board of the health sciences center became aware of an issue having to do with the re-credentialing of a physician who had what seemed to be an increased frequency of a certain type of adverse event. Issues of quality and accountability were raised. In an unprecedented step, the board asked the chair of the department to appear before the board to address the issue and explain the reasons for the particular credentialing decision. While the situation was quickly cleared-up in that encounter, the impact of that action by the board has reverberated throughout the institution. It put everyone on notice that the board is "owning" the issue of quality and safety with a new attentiveness. Leaders will be held accountable. It is a lesson well given and well learned.

Recognizing this critical issue, the Institute for Healthcare Improvement has recently developed a program called, "From the Top: The Role of the Board in Quality and Safety", as part of its 5 Million Lives Campaign, designed to improve the capability of an organization's board to oversee quality and safety endeavors (IHI 2007). The IHI has developed a set of six critical guidances for governing boards. These include:

- *Set Aims:* Make an explicit, public commitment to measurable improvement.
- *Seek Data and Personal Stories:* Audit at least 20 randomly chosen patient charts for all types and levels of injury, and conduct a "deep dive" investigation of one major incident, including interviewing the affected patient, family, and staff.
- *Establish and Monitor System-Level Measures:* Track organization-wide progress by installing and overseeing crucial system-level metrics of clinical quality, such as medical harm per 1,000 patient days or risk-adjusted mortality rates over time.
- *Change the Environment, Policies, and Culture:* Require respect, communication, disclosure, transparency, resolution, and all the elements of an organization fully committed to quality and safety.
- *Encourage Learning, Starting with Yourself:* Identify the capabilities and achievements of the

best hospital boards and apply that standard to yourself and all staff.

- *Establish Accountability:* Set the agenda for improvement by linking executive performance and compensation. (see http://www.ihi.org/IHI/Topics/LeadingSystemImprovement/Leadership/ImprovementStories/FSThePowerofHavingtheBoardonBoard.htm)

The Blue Ridge Group fully endorses these recommendations. The adoption of such policies and practices would go a long way towards catalyzing institution-wide transition to a quality and safety focus.

Beyond the board level, governance throughout an AHC or other provider organization should be informed and infused by policies and practices that catalyze a Q&S focus. The UHC, for instance, found that a quality and safety-focused AHC is characterized by "governance structures and practices (that) minimize conflict between missions"; and "is led as an alliance between the executive leadership team and the Chairs" (Keroack et al 2007). This entails accountability for quality and safety being equally shared among departments, divisions and clinical unit leaders. As in the Ascension model, and in those of the top performers in the UHC study, Q&S improvement must flow in a continuous loop from the central administration to the entire institution and back. While measures and priorities can be set initially by leadership, the specifics of localized implementation must be cultivated and catalyzed locally. This should result in a continuous loop of feedback, measurement, implementation and innovation – and a new "way of doing things around here".

Simply adopting electronic or digital information and decision support systems to existing care practices does not necessarily lead to improved quality, safety or outcomes.

FINDING #6:* *Incentives can help. Well-conceived incentives can motivate and facilitate desired behaviors.

There are well-worn, business-tested approaches to both incentivize and discourage certain behaviors and outcomes among employees and other stakeholders, including monetary incentives and professional rewards in the form of awards, promotions, and recognition of all sorts.

Pay for Performance (P4P) has been controversial within the health care industry since it was introduced. But it was introduced because provider organizations and payors both have experienced difficulties in effecting changes in medical practices and processes. The drivers of P4P include:

- Large gaps in quality and safety
- Rapid rise of health care costs
- Perverse incentives in payment systems
- Huge budget problems in the private an public sector
- Payers who want to use market forces to move the needle on quality, cost or both (Clancy 2006)

P4P has been championed especially by payers who see P4P as a way to accelerate the pace of quality improvement. And while many providers have resisted developments in P4P, as one senior official has said, "The train has left the station" (Ibid). In June of 2005, CMS Administrator Mark McClellan announced CMS plans "to implement a pay-for-performance system for Medicare providers", along with plans to pilot the use of claims data to measure physicians' use of health care services to compare physicians' performance (http://www.medicalnews-today.com/medicalnews.php?newsid=26769). There are already over 100 private pay-for-performance programs nationwide, covering 40 million patients (Clancy 2006). More than half of commercial health maintenance organizations are using pay-for-performance (Rosenthal & Dudley2007)

Providers must assume that P4P is here to stay. It is no longer a question of incentives versus no incentives, but "How do we develop incentives aligned with what we want from health care?"

Only nine randomized controlled trials of pay-for-performance have been published to date. The evidence for efficacy is promising but not conclusive. Ascension Health reports significant success in tying everyone to incentives, including CEOs (Pryor 2006). But the results overall are still inconclusive. In a recent study of the effects of new Medicare incentive payments, results showed a mere 2.9% gain in participating hospitals over a control group of non participators (Lindenauer et al. 2007). Only modest gains in performance improvement have been found in most studies of their implementation (Rosenthal & Dudley 2007)

Providers must assume that P4P is here to stay. P4P and other such initiatives are not all about "show me the money". They can and should play a key role in the transition to patient-centered practice.

There are many limiting factors in developing and testing incentive and reward programs. Most studies focus on one element or aspect of care, while most P4P initiatives use multiple indicators. There are significant limitations in the existing knowledge and research base for performance measures. Providers often are not convinced that P4P measures promulgated by payors are more than dressed-up cost-cutting schemes. Administering and tracking performance requires new resources and time. There is the potential for unintended consequences. Measures and their implementation can distort or distract a medical practice from other important clinical activities. Performance and measurement can be "gamed", providing a false overall outcomes and practice picture. Many performance measures require the implementation of new and expensive health information technologies that for many physician groups, especially small groups, is a limiting factor. For instance, site visits to 12 nationally representative communities discovered only two had significant pay-for-performance programs (Center for Studying Health System Change 2005).

In the face of these and many other concerns, it is absolutely essential that providers become fully engaged partners in the process of creating and implementing incentive and rewards programs. P4P and other such initiatives are not all about "show me the money". They can and should play a key role in the transition to patient-centered practice, including better and consumer-friendly performance and outcomes assessment tools, transparency, and feedback.

A report by the Robert Wood Johnson Foundation in 2005 discussed the ambiguous results and implications of the Rewarding Results initiative, a national initiative undertaken by the Leapfrog Group, the Robert Wood Johnson Foundation, the California Healthcare Foundation and the Commonwealth Fund to help pilot the use of incentives for high-quality health care. The ten lessons learned and reported represent a very good summary of the many issues in pay for performance that require ongoing investigation. These include:

1. **Financial incentives do motivate change.** But they need to be large enough to make a difference. Bridges to Excellence for example suggests that at a minimum the incentive be set at $5,000 per physician to affect quality improvement; others suggest that they need to be structured to account for at least 10 percent of a physician's annual income. The seven Rewarding Results sites are offering incentives at a variety of levels.

Vitally important is that the leadership of AHCs adopt as a priority agenda research into P4P and the efficacy of incentives in changing behavior and improving Q&S.

2. **Non-financial incentives also can make a difference.** Just providing support for additional staffing to make a physician's job easier or supporting infrastructure to supplement technology can motivate physicians to hit quality targets.

3. **Engaging physicians is a critical activity.** All seven projects have worked hard to engage physicians, with varying degrees of success. If physicians are not brought into the process early as collaborators to ensure that goals are clinically meaningful, they will not adopt and sustain the change.

4. **There is no clear picture yet of return on investment.** Estimating the return on investment of P4P is essential but few projects nationally are conducting rigorous research on this topic. There are still questions about who should benefit from cost savings and over what time span the return on investment should be calculated.

5. **Public reporting is a strong catalyst for providers to improve care.** However, providers need adequate tools and data to keep improving. To maximize improvement, providers also need to be rewarded for installing and using health information technology and building infrastructure to track and compare performance.

6. **Providers need feedback on their performance.** Frequent, clear and actionable feedback to providers is essential. Many of the Rewarding Results projects issue public report cards to help physicians compare their performance to others and make their performance more transparent to consumers. Physicians need to understand what aspect of their performance will be evaluated; how performance will be measured; and how performance and incentives are related. They also need to be given tools and guidance on how they can improve.

7. **Providers need to be better educated about P4P.** Physicians are deluged with clinical and reimbursement information. For any payer, even those with a large share of the market, it can be challenging to attract provider attention. But they need to find effective communication tools to raise awareness about P4P; if they don't, physicians will ignore quality improvement demands or as in one case, inadvertently throw bonus checks in the trash because they aren't aware of the program.

8. **Data integrity is important.** Most health care providers are deluged with quality measures from a variety of payers. They are more likely to participate and embrace P4P if they view measures as valid and scientifically based. Quality targets also need to be clinically relevant.

9. **Experience with managed care matters.** Markets where managed care has more of a foothold seem to have an easier time with P4P because physicians and the general public are more comfortable with issues related to quality improvement such as transparency, accountability, and performance comparisons.

10. **P4P is not a magic bullet.** It is one of a number of activities underway by the public and private sectors to improve quality and change incentives in the way health care is delivered and financed. If it's implemented well and aligned with other incentives including performance feedback, public reporting, and support for systems improvement, it appears that it can be a useful tool. (http://www.rwjf.org/files/newsroom/RewardingResulstsLessons_110705.pdf?gsa=1)

The current consensus is that many strategic questions remain to be addressed, including:

- Will P4P primarily reward providers who are already doing well, or can it also stimulate lower performers to improve quality?
- Where should incentives be directed – to individuals, groups, hospitals, or a mix?
- How do we integrate process and efficiency measures with quality and outcomes measures?
- While outcomes are what really matter, how do we deal with imperfect risk adjustment methodologies and long-term follow-up needed to meaningfully measure and compare outcomes?
- How do we standaradize the measures sufficiently to lower the overhead costs for data collection?
- What is the role of incentives in areas such as chronic disease management, and prevention and wellness programs?
- How can P4P programs work in small group practices, the settings where the majority of Americans receive care?

A report from IOM on P4P strongly recommends that a single playbook is needed to make P4P work and calls on Congress to authorize National Quality Coordination Board to facilitate the development of common national standards (IOM 2005).

In the meantime, with P4P and similar programs here to stay, providers must work to:

- Get involved with purchasers as early as possible in the design, implementation and evaluation of P4P programs
- Understand that incentives work best as a source of funding for investment in quality improvement tools and infrastructure
- Focus on the quality of care measures so we're not just "scoring", but healing
- Continue migration to health information technology to enable full utility of P4P programs
- Understand the incentives and what must be done to qualify for them
- Perceive the value of the incentives to be worth their time and efforts
- Believe the incentives will be good for their patients
- Have sufficient control over the clinical activities required to achieve the targets
- Be assured incentives are administered fairly (Clancy 2006)

Vitally important is that the leadership of AHCs adopt as a priority agenda research into P4P and the efficacy of incentives in changing behavior and improving Q&S. There is a science to the testing and evaluation of performance measures and incentives that has not yet been broadly accepted as the type of challenge to engage the hearts and minds of AHC faculty—nor has it been prioritized, recognized and rewarded. Importantly, while monetary payments or withholds are relatively new additions to the incentives and rewards arsenal in AHCs, in the environment of health care and academic medicine, there is intimate familiarity with the use and utility of incentives and rewards. AHCs and professional societies have long employed a broad array of traditional incentives and rewards, including academic promotion, professional recognition, named chairs and other prestigious rewards, and tenure, and so forth. All of these can be leveraged and applied to the goal of building a culture of quality and service.

FINDING #7:* *Health Information Technology and Informatics are increasingly indispensable and are best developed and deployed through staged introduction into clinical practice. AHCs must champion the staged adoption and advancement of appropriate information and communications tools that support health care, education and research processes that are addressing quality and safety as system properties.

The growth of health information technology (HIT) and informatics combined with applied research in quality measurement and safety has been key to enabling the new focus on quality and safety in the environment for health education, research and care. Yet there is still much to be done. Understanding and addressing Q&S as system properties requires appropriate system infrastructure and capabilities. Many of the shortcomings in health care identified in the IOM Errors report, and in other studies, are the result of non-existent, poor or inaccessible data or information, and the lack of capacity to easily and efficiently share information.

Improving health in our nation requires not only the deployment of local electronic medical records systems, but a national health information infrastructure (NHII) that can provide connectivity, decision support, and knowledge management across national boundaries (Detmer 2003). This has been recommended by the National Committee on Vital and Health Statistics and the President's Information Technology Advisory Committee (PITAC), among many other organizations and thought leaders (PITAC 2004).

Further, experience is showing that simply adopting electronic or digital information and decision support systems does not necessarily lead to improved quality, safety or outcomes. At its best, information technology improves Q&S " . . .by supplying information when and where it is needed to help people make better decisions, by eliminating communication and process errors, and by analyzing information about the patient in combination with biomedical knowledge to make patient-specific recommendations." (Stead 2007, 14.3) However there is evidence that many applications of information technology in practice do not accomplish these goals and in fact can lead to quality and safety issues

of their own. (Han et al, 2006) It is likely that such problems arise where information technologies are simply applied to manage health care processes and existing cultures and organizations where quality and safety have not been adequately addressed as system properties. In such cases, new technologies, including electronic health records (EHRs) may codify outdated practices and roles or only add new layers of complexity for providers and/or patients without enabling measurable improvements in quality, safety or outcomes. (Ash, et al. 2004, 2007)

Simply adopting electronic or digital information and decision support systems to existing care practices does not necessarily lead to improved quality, safety or outcomes.

Ascension Health has approached the introduction of new information technologies through a process where newly re-designed processes of care drive the IT systems that are introduced to better enable those clinical processes. In describing the clinical transformation of Ascension Health, principals involved in both conceiving and implementing this transformation describe the supportive role for IT in this way:

> *"Ultimately, however, redesigned systems must be supported by substantial infrastructure investments, which can be grouped as follows: . . .*
>
> *"System knowledge infrastructure, which entails creation of a systemwide information base and the use of electronic communication infrastructure for disseminating best practices rapidly across the system. The systemwide information base would include a comprehensive data warehouse from administrative and clinical systems, systemwide event reporting, and integration of risk management systems." (Pryor et al. 2006, 301)*

This approach to IT infrastructure, where the "knowledge infrastructure" is designed to support a redesigned clinical care process, likely provides the best opportunity to employ health IT in support of Q&S improvements.

William W. Stead, at Vanderbilt University, has developed a model for staged, stepped introduction of health information technologies into clinical practice. The approach is to match particular technologies to particular tasks in the clinical process, understanding that there is a learning curve associated with any such changes, including a feedback loop for revising both the clinical and technology processes. A similar staging of the introduction of health IT to the patient is suggested. (Stead 2007)

The public and private sectors need to collaborate to build and implement robust health information systems. Overall leadership for this requires nation-wide buy-in and can be helped significantly by federal incentives or mandates. AHCs collaboration in understanding and implementing model health IT systems could be pivotal in catalyzing the best approaches to HIT adoption.

Conclusion

The goal of creating a high quality health care system has become a manifest national priority. This goal has been explicitly adopted by health policy leaders, embraced by public and private organizations and stakeholders and remains at the heart of all health professional norms and values. Despite the initiation of multiple efforts across the nation, the recently published HealthGrades Fourth Annual Patient Safety in American Hospitals Study reports that progress is slow in American hospitals in preventing medical errors that injure or kill patients. Though hospitals have improved in some areas, overall, the study found a 3% increase in the rate of medical errors in hospitals between 2003 and 2005 (Healthgrades 2007).

AHCs must step forward and bring new leadership to realizing highest quality health care both in our own organizations and in the health care system more broadly. AHCs should address quality and safety as system properties, making the goal and practice of Q&S an indispensable element of professional and organizational culture. This can often best be catalyzed by the adoption of a few BHAGs, which are championed by an engaged leadership supported by governing boards and bodies, where everyone in the organization is incentivized and appropriately rewarded for the achievement of desired behaviors and outcomes. The development of a national health information infrastructure will be essential to making quality and safety job one.

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