February 2010

Prescriptions for Excellence in Health Care Winter 2009 Download PDF of Full Issue

Follow this and additional works at: http://jdc.jefferson.edu/pehc

Part of the Public Health Commons

Let us know how access to this document benefits you

Prescriptions for Excellence in
HEALTH CARE

TABLE OF CONTENTS

Editorial

Change is Coming!

By David B. Nash, MD, MBA
Editor-in-Chief

As the publication date for this issue of *Prescriptions for Excellence in Health Care* approaches, an unprecedented degree of energy is focused on improving the health of our population and fixing our broken health care system. In recent months, the epicenter of activity and media attention has been Washington, DC…more specifically, in the halls of Congress.

No American with access to the Internet, a television, a radio, or a newspaper could be ignorant of the arduous but steady progress toward passing health care reform legislation. But most citizens are unaware of the extraordinary changes being brought about by key national organizations via a groundswell of activity at the grassroots level. One such organization is the National Priorities Partnership (NPP).[1] Its list of National Priorities and Goals has stimulated action across the country. As the articles in this issue demonstrate, the tide is already beginning to turn toward improve care, equity, safety, and efficiency.

The lead article, *"Improving the Quality of Care at the End of Life,"* takes a critical look at issues related to hospice and palliative care models and their applications in the United States and offers constructive solutions to improving these important services. The focus shifts abruptly from end of

life to life saving in the second article, *"Improving Patient Safety Using Crew Resource Management Principles Taught Via Medical Simulation."* The author describes novel techniques by which clinicians on the front lines of medicine – trauma, critical care, emergency medicine – are being trained to function more efficiently and effectively as teams.

Positive quality outcomes of a health care system approach are detailed in the third article, *"Health Care Reliability."* Implemented across diverse settings, the Accelerating Best Care at Baylor model has been used successfully to bring about continuous quality improvement in large health systems.

Health care challenges will be with us for a long time, but positive change is under way. As a nation, we've moved from wringing our hands over the *Quality Chasm*[2] to doing something

Prescriptions for Excellence in Health Care is brought to *Health Policy Newsletter* readers by Jefferson School of Population Health in partnership with Lilly USA, LLC to provide essential information from the quality improvement and patient safety arenas.

Jefferson™
School of Population Health

Lilly

about it. I hope that these articles will stimulate discussion among our readers and their colleagues - and perhaps lead to additional projects that advance the National Priorities and Goals.

As always, I am interested in your feedback; you can reach me by email at: david.nash@jefferson.edu or visit my blog at: nashhealthpolicy@blogspot.com.

David B. Nash, MD, MBA is Founding Dean and the Dr. Raymond C. and Doris N. Grandon Professor, Jefferson School of Population Health.

References:

1. Adams K. National Priorities Partnership: setting a national agenda for health care quality and safety. *Prescriptions for Excellence in Health Care.* Fall 2009;6:3-4.

2. Institute of Medicine. *Crossing the Quality Chasm: A New Health System for the 21st Century.* Washington, DC: National Academies Press; 1999.

A Message from Lilly

By Tom Wallace

The work of the National Quality Forum (NQF) and its focus on quality is a priority that benefits all health care stakeholders and, ultimately, patient care.

At Lilly, we believe in the vital role of the organizations that represent the views of patients and health care professionals as pivotal to improving patients' individual health outcomes. Working with patient and health care professional organizations is an important way to open dialogue, learn, and create impact, as advocates provide an inspiration for all stakeholders to keep in mind.

Our collaboration and communication with various advocacy groups is centered on mutual interests and common beliefs. We recognize that views do not always match, and we value the ability to speak openly with advocates during those occasions as well. Our interactions include seeking insight on a range of topics including challenging medical research, public policy, clinical trials and health outcome study design, patient and health care professional education, and improving patient assistance programs. This collaborative philosophy was critical in the successful implementation of the Medicare Part D prescription benefit, a complex and daunting task, and it continues today as health care reform abounds and the search to provide value and improved outcomes intensifies.

Today, navigating health care delivery issues and discovering innovative medicines is more difficult than ever, and the views of patient and health professional organizations play a critical role in shaping decisions. We share with these groups a belief that there is not a "one size fits all" solution to caring for patients.

There are 2 critical elements of engagement in working with patient and health care organizations: Earning trust and having a commitment to the mission, which patient groups and health professionals demonstrate daily.

To help guide the interactions with patient and health professional organizations, core principles deserve consideration including knowing and complying with laws and regulations, respecting the organization's independence, neither expecting nor encouraging product promotion or endorsement, seeking dialogue on areas of mutual interest but never obligating organizations to a position or view, insisting on open and honest communication, and encouraging transparent and written agreements as well as diversity of funding sources.

Establishing and encouraging patient and health professional organizations is critical to our health system. They help meet the health needs of underserved populations, provide a patient-centric voice, and can be informed stakeholders in health care decision making. During these transformative times, keeping the focus on meeting patient needs and building collaboration across the spectrum of patient and professional organizations are powerful ways to improve quality in health care. We are grateful for NQF's initiatives that advance this thinking.

Tom Wallace is Senior Director, Global Advocacy and Professional Relations at Eli Lilly and Company

Improving the Quality of Care at the End of Life

By JoAnne Reifsnyder, PhD, ACHPN

The National Priorities Partnership (NPP) has recognized that improving access to and the quality of palliative and end-of-life care is critically important.[1] Despite the growth of home-based hospice in the United States during the past 35 years, this interdisciplinary service aimed at supporting terminally ill patients and their families in the final months of life remains underutilized. As a result, most patients who are approaching end of life and their families continue to struggle through the maze of acute illness-focused and poorly coordinated health care. Many are never referred to hospice; of those who are referred, 50% are referred in the final 3 weeks of life.[2]

NPP maintains that making palliative and end-of-life care a priority will reduce suffering, reduce disparities in access to and use of hospice services, reduce the burden of serious illness on family caregivers, and reduce expenditures for interventions that offer marginal benefit and/or are not consistent with the patient's goals for care at the end of life.[1] What changes must take place to assure that those who need palliative and end-of-life care receive these services? This article discusses 3 strategic areas to improve palliative and end-of-life care.

1. Building Consumer, Provider, and System Expectations

Hospice is a philosophy and business model that has achieved increasing acceptance in the health care industry. Hospice is a model for providing *palliative care* to patients who are approaching end of life. While hospice is often viewed as a parallel system to traditional care for serious illness, hospice providers have reached out to providers in other settings and created bridges to understanding and acceptance. The number of hospice programs has grown from a single program in 1974 to 4700 in 2007. Of the 2.4 million persons who died in 2007, nearly 40% died while enrolled in a hospice program.[2]

Despite the growing acceptance of hospice and positive evaluation by families who were supported by hospice teams, many barriers to access persist. Hospice referrals are frequently made very late in the illness trajectory (if at all), a time when physicians', nurses', and other health care providers' discomfort discussing end of life reflects a broader societal reluctance to view death as natural and inevitable.

Clinicians cannot change the fact that patients will die, but they can profoundly impact the way in which death is experienced by the patient and remembered by the surviving family members. Patients and their families want and need honest, supportive communication about their illness, treatment options, and associated benefits and burdens. At the same time, some patients may wish to avoid direct communication about prognosis, and may "collude" with their treating team to avoid frank discussions about life expectancy.

Because hospice benefits under Medicare, Medicaid, and most commercial plans require the physician to estimate life expectancy, the very real difficulties of prognostication can impede patient access to hospice care. To be eligible for hospice, a patient's goals for care must be palliative in nature – thus, hospice enrollment is often presented or perceived as a choice between "cure" and "care." Despite relentless education and outreach from hospice providers, delayed referral to hospice has persisted and is unlikely to change dramatically as long as consumers, providers, and systems see hospice care as second best to "mainstream" or traditional care.

Consumers must expect - even demand - attention to their pain and symptoms, support directed at their fears and suffering, and information that is understandable, culturally appropriate, and tailored to their needs. The onus is on providers and health care systems to develop appropriate communication skills and to use available resources, such as palliative care consultation teams in hospitals, to support difficult conversations and their emotional aftermath.

2. Seamless Care Coordination

Many experts and providers agree that providing high-quality *palliative* care to patients who need it, regardless of prognosis, is an important and necessary advancement in health care. Palliative care is focused on preventing and relieving symptoms associated with both illness and treatment and improving quality of life, regardless of disease stage or prognosis.[3] Hospital-based palliative care has emerged as a trend in recent years, spearheaded by physicians who identified a need for better coordination of care, attention to symptoms, and advance care planning while patients with advanced illness are hospitalized.

While there are clinical guidelines for palliative care,[3] "non-hospice" palliative care services delivered at home or in other residential settings are scarce, principally because there is no direct reimbursement. Many hospice experts believe that, as the "gold standard" for palliative care, hospices are the ideal provider base from which to expand palliative care services to the home. They argue that removing prognosis barriers

(ie, eligibility when life expectancy is 6 months or less) would meet many more patients' needs for palliative care and would create access to the providers best prepared to provide it – hospices.

Hospice is largely government funded through Medicare and state Medicaid programs. Although the hospice service bundle would greatly benefit patients with chronic illnesses, the cost is viewed by many policy analysts as unsupportable. Others argue that merely removing the prognosis requirement leaves hospices with public relations and social marketing challenges (eg, patients with heart failure who are uncomfortable receiving disease management and support services from an end-of-life care provider).

Patients with complex, chronic illnesses currently fend for themselves - receiving acute care when they experience exacerbations, seeing multiple specialists, taking many medications, receiving some support and services in their communities (eg, transportation, meals, personal care), and frequently finding themselves incapable of independent living because of declining functional ability and inadequately *coordinated* resources to support them in the home environment.

These persons need palliative care - specifically, community-based services delivered by providers who guide and manage care over a period of time, anticipating and preventing health crises to the greatest possible extent, and permitting safe and effective care in the older adult's own home. Emerging models will likely stress care management that addresses patient/family needs over many months or years, eases illness burden, facilitates care transitions, and allows seniors to age (and die) in place without an abrupt change in providers late in the illness.

Two such models are the Program of All-Inclusive Care for the

Elderly (PACE), wherein hospice is a component of the *PACE service bundle*, and Continuing Care at Home (CCAH), which enables seniors to tap into a continuum of services beginning at a time when they are independent and continuing seamlessly throughout their lives. CCAH is neither licensed nor described as hospice, yet the services provided clearly meet the broadest definition of palliative care. Integration of palliative care and hospice into emerging models of chronic care management are likely to be more acceptable to consumers because they provide needed services without forcing a choice between disease-focused treatment and supportive care.

3. Measuring and Reporting Quality

Health care consumers and payers are demanding increased attention to quality and safety measurement, reporting, and transparency. The Medicare Payment Advisory Commission (MedPAC) has called for more detailed data from Medicare-certified hospices to assess the relationship between patient characteristics and service provision, and to justify the rate of growth in Medicare spending for hospice care, which outpaces spending growth in other sectors.[4] Under the revised Medicare Conditions of Participation for Hospice (2008), Medicare-certified programs must develop and implement quality assessment and performance improvement (QAPI) programs to measure and track indicators of quality across all functions and services, and determine strengths and areas for improvement.[5] Hospices must use the findings to drive ongoing care improvement.

The new requirements did not include a specific set of indicators for hospices, but experts predict that a mandatory quality indicator set is on the horizon. A Centers for Medicare and Medicaid Services (CMS) study to develop measures for hospice and palliative care generated several products including assessment instrument sets,

recommended quality measures and tools, and an organizational readiness screen to help hospice providers assess and improve their QAPI processes.[6]

Measuring quality with seriously ill patients in both hospice and palliative care programs is challenging. Hospice care is primarily provided at home, where clinicians are present only episodically to collect data. Collecting meaningful outcomes data requires that patients and family members participate, that the measures are valid and reliable indicators of quality, and that the data can be meaningfully aggregated to produce organization-level insights. A patient's severity of illness often precludes self-reporting on important quality measures (eg, pain intensity).

Pain and other symptoms are subjective in nature and may fluctuate despite appropriate assessment and intervention. Timing of data collection on pain measures may influence findings at the patient level, and aggregated responses may be difficult to interpret at a quality level. For example:

- Is a hospice provider with an average pain score of "5" on a scale of 0-10 at 48 hours after admission delivering lower quality care than a hospice provider with an average pain score of "4"?

- How should hospices adjust for patients' pain goals and their willingness to accept and continue treatment?

QAPI provided new impetus for hospice providers to apply and evaluate measures. These important insights will contribute to refinement of existing conceptual models and guidelines for quality palliative and end-of-life care.

Conclusion

The NPP has established a national platform for "guaranteeing appropriate and compassionate care for patients with life-limiting illness."[1] As the

ideal is translated into expectations, new care models will emerge in which coordination of care across settings is emphasized and the goals of palliative care – comfort, support, and choice – are integrated.

JoAnne Reifsnyder, PhD, ACHPN, *is Assistant Professor and Director of the Health Policy Program at the Jefferson School of Population Health. She can be reached at: JoAnne.Reifsnyder@jefferson.edu.*

References:

1. National Priorities Partnership. *National Priorities and Goals: Aligning Our Efforts to Transform America's Healthcare.* Washington, DC: National Quality Forum; 2008.

2. National Hospice and Palliative Care Organization. NHPCO facts and figures: hospice care in America. Available at: http://www.nhpco.org/files/public/Statistics_Research/NHPCO_facts_and_figures_2008.pdf. Accessed November 9, 2009.

3. National Consensus Project for Quality Palliative Care. *Clinical Practice Guidelines for Quality Palliative Care.* Pittsburgh, PA: National Consensus Project; 2009.

4. Medicare Payment Advisory Commission. Reforming Medicare's hospice benefit. Available at: http://www.medpac.gov/chapters/Mar09_Ch06.pdf. Accessed September 2, 2009.

5. Department of Health and Human Services, Centers for Medicare and Medicaid Services. (2008). Medicare and Medicaid Programs: Hospice Conditions of Participation; Final Rule. (42 CFR Part 418). Available at: http://edocket.access.gpo.gov/2008/pdf/08-1305.pdf. Accessed September 2, 2009.

6. The Carolinas Center for Medical Excellence. Tools: PEACE, Assessment instruments for end of life care. Available at: http://www.qualitynet.org/dcs/ContentServer?c=MQTools&pagename=Medqic%2FMQTools%2FToolTemplate&cid=1203781868750&parentName=ChangeIdea. Accessed September 2, 2009.

Improving Patient Safety Using Crew Resource Management Principles Taught Via Medical Simulation

By David G. Lindquist, MD

Teamwork has long been a component of safety training in high-stakes, high-risk industries such as aviation, the military, and nuclear power.[1] Some areas of medicine lend themselves naturally to a team approach (eg, trauma resuscitations, obstetrical deliveries, surgical suites, intensive care units, emergency departments).[2,3] Nurses, physicians, technicians, respiratory therapists, and secretaries must work together in a smoothly coordinated manner to deliver timely care to acutely ill patients.

Considering the coordination required to manage a pediatric subspecialty clinic, family practice office, or cardiology suite, it is hard to imagine a health care delivery venue that does not rely on interdependent members to function smoothly. Medical decision making, revered as the crux of the health care process, is rarely the rate-limiting step. Often a system's human linchpins are the least recognized. How much work gets accomplished when the secretary is on break?

Crew Resource Management (CRM) relies on structured team behaviors that have been demonstrated to decrease communication-related errors.[4] In one study, up to 70% of fatal aviation accidents were attributed to communication errors.[5] The MedTeams project, the original study that applied CRM principles to health care delivery, demonstrated a 30% reduction in observed clinical errors when the teamwork behaviors were employed.[6]

CRM operates on simple behavioral premises that are easily grasped, yet must be practiced and repeatedly reinforced in order to become ingrained. Often the greatest hurdle is getting health care providers, who are accustomed to traditional medical hierarchy, to recognize that incorporating improved team structure can make their jobs simpler, safer, and ultimately more satisfying.[7] A key step is shifting the focus away from regarding personal responsibility as the sole means of error prevention to "everyone is responsible for a good outcome."[8]

Data from the Pennsylvania Patient Safety Authority 2007 Annual Report demonstrated that, despite the existence of the Universal Protocol, the incidence of wrong site/side procedures continues to climb.[9] Whether this is due to a true increase or improved reporting, the continued upward trend suggests that, while perhaps necessary, a Universal Protocol is not sufficient.

As a protocol is developed for universal applicability, it loses specificity toward individual situations. One advantage of teamwork training is that it can be adapted to different disciplines. At Brown University, departments as diverse as neurosurgery, emergency medicine, and obstetrics/gynecology have undergone multidisciplinary teamwork training using a curriculum consisting of lectures and medical simulation scenarios. Participants have included technicians, secretaries, and pharmacists, as well as licensed health care providers. Strikingly, the issues discussed in the post-simulation debriefings (eg, clarity of communications, control of the room, handoffs of leadership) were identical across groups, regardless of the specialty represented. Irrespective of the clinical content, the videotaped performances demonstrated the significant potential impact of team behaviors on patient outcomes.

Various curricula are available for teamwork training. MedTeams is licensed to Dynamics Research Corporation, a private company spun off from the MedTeams project. As one of the original study sites in the MedTeams project, Rhode Island Hospital at Brown University is licensed to teach the MedTeams curriculum. The TeamSTEPPS (Team Strategies and Tools for Error Prevention and Patient Safety) curriculum - a later generation of MedTeams - is in the public domain and available for download via the Agency for Healthcare Research and Quality Web site. While some TeamSTEPPS vocabulary varies from the MedTeams curriculum to avoid copyright infringement, the concept is identical. Tailoring the chosen curriculum to a given department is worthwhile.

Once a curriculum is selected, the target workforce must be educated. The "train-the-trainers" approach applies, wherein internal departmental champions become fluent in teamwork concepts in order to teach their colleagues. Although this is a labor-intensive process, experience has shown that without the creation of a human infrastructure, lack of reinforcement permits learned behaviors to fade. When staff revert to old habits once the "training period" is over, considerable time, money, and effort are wasted and future attempts at improving communications may be discredited.

To reinforce CRM principles, we have incorporated medical simulation as part of the teamwork training curriculum.[10] Using high-fidelity manikins and the power of video recording, we have brought entire health care teams - from the unit secretaries to the attending physicians - through our medical simulation center. Debriefing a team as they watch the playback and see themselves delivering care is a powerful stimulus for behavioral change. This approach requires significant advanced planning that involves discussions of departmental goals, designing clinical scenarios appropriate to the practitioners, and administrative logistical and financial support for the protected training time.

Regardless of how effective a simulation-based training session might be for teamwork instruction, the most influential elements of improving teamwork behaviors are the departmental commitment to support them and individuals' willingness to employ them.[11] The concepts are straightforward to learn, tremendously helpful in high-acuity settings, but also helpful in less intense situations. But a behavior's adaptability is its weakness. A behavior rewarded is reinforced; those unsupported are extinguished. Employed routinely, CRM principles can make the stressful, challenging world of medicine a more fulfilling work environment, all the while potentially decreasing medical errors.[12,13] That is high yield for a process that requires no additional paperwork.

David G. Lindquist, MD, *is Assistant Professor in the Department of Emergency Medicine at Rhode Island Hospital, Warren Alpert School of Medicine at Brown University. He can be reached at: dlindquist@lifespan.org*

References:

1. Salas E, Burke SC, Bowers CA, Wilson KA. Team training in the skies: does crew resource management (CRM) training work? *Hum Factors.* 2001;43(4):641-674.

2. Salas E, Rosen M, King H. Managing teams managing crisis: principles of teamwork to improve patient safety in the emergency room and beyond. *Theor Issues Ergon Sci.* 2007;8(5):381-394.

3. Helmreich RL, Davies JM. Human factors in the operating room: interpersonal determinants of safety, efficiency, and morale. In: Aitkenhead AR, ed. *Baillere's Clinical Anesthesiology.* London: Balliere Tindall; 1996:277-295.

4. Morey JC, Simon R, Jay GD, et al. Error reduction and performance improvement in the emergency department through formal teamwork training; evaluation results of the MedTeams project. *Health Serv Res.* 2002;37(6):1553-1581.

5. Billings CE, Reynard WD. Human factors in aircraft incidents: results of a 7-year study. *Aviat Space Environ Med.* 1984;55:960-965.

6. Morey JC, Simon R, Jay GD, et al. A transition from aviation crew resource management to hospital emergency departments: the MedTeams story. In: Jensen RS, ed. *Proceedings of the 12th International Symposium on Aviation Psychology,* Dayton, Ohio, 14-17 April. 2003. Columbus, OH: The Aviation Psychology Laboratory of the Ohio State University; 2003:826-832.

7. Simon R, Langford V, Locke A, et al. A successful transfer of lessons learned in aviation psychology and flight safety to health care: the MedTeams system. *Proceedings of Patient Safety Initiative 2000: Spotlighting Strategies, Sharing Solutions, Chicago, Illinois, 4-6 October 2000.* Chicago, IL: National Patient Safety Foundation; 2000:45-49.

8. Bates DW, Gawande AA. Error in medicine: what have we learned? *Ann Int Med.* 2000; 132(9):763-767.

9. Pujols-Mckee A. Pennsylvania Patient Safety Authority Annual Report, 2007. Available at: http://patientsafetyauthority.org/PatientSafetyAuthority/Documents/annual_report_2007.pdf. Accessed September 1, 2008.

10. Shapiro MJ, Morey JC, Small SD, et al. Simulation based teamwork training for emergency department staff: does it improve clinical team performance when added to an exisiting didactic teamwork curriculum? *Qual Saf Health Care.* 2004;13:417-421.

11. Pizzi L, Goldfarb N, Nash D. Crew resource management and its applications in medicine. In: Shojania KH, Duncan BW, McDonald KM, Wachter RM, eds. *Making Health Care Safer: A Critical Analysis of Patient Safety Practices.* Evidence Report/Technology Assessment, No. 43. AHRQ Publication No. 01-E058. Rockville, MD: Agency for Healthcare Research and Quality; 2001:501-510.

12. Zin A, Ben-David S, Zin M. Simulation based medical education: an opportunity to learn from errors. *Med Teacher.* 2005;27(3):193-199.

13. Morey JC, Salisbury M. Introducing teamwork training into healthcare organizations: implementation issues and solutions. *Proceedings of the 46th Annual Meeting of the Human Factors and Ergonomics Society, Baltimore, Maryland, 29 September – 4 October, 2002.* Santa Monica, CA: Human Factors and Ergonomics Society; 2002:2069-2073.

Health Care Reliability

By Ziad Haydar, MD, MBA

Defining Reliability in Health Care

In its landmark 2001 report, *Crossing the Quality Chasm*, the Institute of Medicine defined quality health care as care that is safe, timely, effective, efficient, equitable, and patient-centered.[1] In accordance with this report and with national priorities, the health care industry has recognized the need to improve its record for safety and reliability. Whereas the term "high reliability" refers to a low rate of product defects in other industries,[2,3] reliability in health care involves consistent use of appropriate treatments and processes of care that have been shown to produce more favorable outcomes. Making health care more reliable means reducing misuse, inappropriate use, overuse, and underuse of effective indicated treatments.

Baylor Health Care System Approach to Reliability

The Baylor Health Care System (BHCS) is an integrated health care delivery system comprising several general hospitals, short-stay hospitals, and ambulatory surgery centers, plus a large physician network. As part of a Board-driven commitment to improving health care safety and reliability, BHCS created a health care improvement strategic plan for the organization based on 5 crucial elements:

1. Alignment of BHCS board members, senior administrative and medical leadership, and frontline employees with making quality of care a priority

2. Introduction of performance management incentives linked to clinical indicators

3. Financial support of practicing physician process improvement champions who have protected time to develop and lead quality improvement efforts across the system.[4,5] These quality champions, representing a variety of specialties, are supported for 20% to 40% of their time and work closely with local and corporate health care improvement directors

4. Standardization of the role of hospital-based directors of quality improvement and employment of a corporate director of health care improvement who directly manages the hospital-based quality directors

5. Development of a quality improvement training program, "Accelerating Best Care at Baylor" (ABC Baylor),[5] which offers educational support throughout the organization

Rapid-Cycle Quality Improvement – The ABC Baylor Model: Inspired by the Advanced Training Program at Intermountain Healthcare,[6] the creation of ABC Baylor was based on the recognition that a reliable health care delivery organization needs to incorporate continuous quality improvement as one of its core competencies. This educational program teaches health care leaders the theory and techniques of rapid-cycle quality improvement, outcomes management, and staff development. It facilitates the enhancement of skills needed by physicians, nurses, administrators, and others to lead quality improvement efforts.[5,7]

ABC Baylor has been studied and implemented successfully across diverse settings. More than 1500 BHCS employees and physicians (close to 10% of the workforce) have received the training. The core course was incorporated in a randomized controlled trial of health information technology and quality improvement education on quality of care in 47 small and rural Texas hospitals.[8,9] In addition, in 2006, BHCS entered into collaboration with the Department of Health Policy at Jefferson Medical College in Philadelphia, Pennsylvania to conduct a demonstration project that provided training in rapid-cycle quality improvement techniques to select Pennsylvania community hospitals. Participants successfully implemented a variety of projects, demonstrating that continuous quality improvement programs developed by large health care systems can be adapted and applied successfully in rural and community hospitals that may lack the resources to establish such programs independently.[7]

BHCS's quality improvement efforts, including the success of ABC Baylor, have led to national recognition. For instance, BHCS was the 2008 recipient of the National Quality Forum National Quality in Healthcare Award (conferred in recognition of its "proactive and exemplary response to the national call for quality improvement and accountability") and the 2007 recipient of the Leapfrog Patient-Centered Care Award (granted to the hospital or health system whose Board has been most successful in creating a partnership between patients and their caregivers). BHCS also ranked 3rd among 73 United States health care systems in performance on publicly reported clinical quality measures including Centers for Medicare and Medicaid Services core measures.[10]

Lessons Learned and Challenges Faced

The success of the BHCS efforts to improve reliability of health care delivery is attributed to the simultaneous implementation of the

strategies described. It is worth noting that no single strategy will lead to success because of the high degree of interdependence among the strategies. The ability to identify an improvement need and translate it into an executable continuous improvement effort derives from the linkages between engaged physician champions, motivated quality directors, aligned administrative teams, and the appropriate educational support through ABC Baylor.

Adoption of a health care reliability culture, such as the one described herein, has been limited by significant challenges. For instance, a physician culture that values autonomy and resists standardization persists despite many breakthroughs. Overuse of potentially avoidable treatments continues to be financially rewarded throughout the country (ie, "perverse incentives") despite the recent increase in public awareness.[11]

Top-down management practices are rooted in the history of industrial development. In 1911, Frederick Taylor published his theory of scientific management that encouraged the use of time studies in an assembly-line work setting in order to increase efficiency and reduce waste. The theory divided workers into 2 groups: well-educated engineers who designed the processes, and uneducated workers who did as they were told. While "Taylorism" transformed the world and is still commonly used, it fails in contemporary work settings[12] that depend on a highly educated workforce and in which innovation and creativity are critical to the reliability of the product.

In health care settings, lingering top-down management practices can damage the morale of the workforce and prevent passionate engagement in quality improvement. This problem is exacerbated by an overregulated health care climate as well as a serious lack of management training for hospital middle managers. Poor recruitment

practices, lack of performance management, and the existence of a culture that rewards seniority rather than outcomes have a negative influence on workforce morale and impede the focus on reliability improvement.[13] A review of the practices at Toyota Motor Corporation suggests that, in addition to some healthy philosophical principles and Lean Management methods, "everything you learned in management school is true."[14]

Conclusion

Health care improvement should focus on product reliability and use methods from industrial engineering. The health care improvement strategic plan of BHCS focuses on reliability by aligning every Board member across the system with making quality of care a priority, using performance management incentives linked to clinical indicators, and relying on a multidisciplinary health care improvement team to oversee health care quality improvement efforts across all operating units. BHCS has also affirmed its commitment to reliable care by supporting the internal quality improvement training program, ABC Baylor, which has been implemented successfully across diverse settings both within BHCS and externally. Despite the success of ABC Baylor and other continuous quality improvement programs, their adoption in the health care industry has been limited by several challenges related to perverse incentives, physician training, as well as entrenched top-down management practices.

***Ziad Haydar, MD, MBA,** is Vice President of Health Care Improvement for Baylor Health Care System. He can be reached at: ziadh@baylorhealth.edu*

References:

1. Institute of Medicine. *Crossing the Quality Chasm: A New Health System for the 21st Century.* Washington, DC: National Academies Press; 2001.

2. Juran JM, Godfrey AB. *Juran's Quality Handbook.* 5th ed. New York: McGraw Hill Companies, Inc.; 1999.

3. Ireson G. *Handbook of Reliability Engineering and Management.* 2nd ed. New York: McGraw Hill; 1996.

4. Ballard DJ. Indicators to improve clinical quality across an integrated health care system. *Int J Qual Health Care.* 2003;15 suppl 1:i13-i23.

5. Ballard DJ, Spreadbury B, Hopkins RS 3rd. Health care quality improvement across the Baylor Health Care System: the first century. *Proc (Bayl Univ Med Cent).* 2004;17(3):277-288.

6. Intermountain Healthcare. Institute for Healthcare Delivery Research. Available at: http://intermountainhealthcare.org/xp/public/institute/courses/. Accessed September 3, 2008.

7. Haydar Z, Gunderson J, Ballard DJ, Skoufalos A, Berman B, Nash DB. Accelerating Best Care in Pennsylvania: adapting a large academic system's quality improvement process to rural community hospitals. *Am J Med Qual.* 2008;23:252-258.

8. Filardo G, Nicewander D, Hamilton C, et al. A hospital-randomized controlled trial of an educational quality improvement intervention in rural and small community hospitals in Texas following implementation of information technology. *Am J Med Qual.* 2007;22:418-427.

9. Filardo G, Nicewander D, Herrin J. Challenges in conducting a hospital-randomized trial of an educational quality improvement intervention in rural and small community hospitals. *Am J Med Qual.* 2008;23:440447.

10. Hines S, Joshi MS. Variation in quality of care within health systems. *Jt Comm J Qual Patient Saf.* 2008;34(6):326-332.

11. Gawande A. The cost conundrum. Available at: http://www.newyorker.com/reporting/2009/06/01/090601fa_fact_gawande. Accessed September 22, 2009.

12. Taylor FW. *The Principles of Scientific Management.* New York: Harper Brothers; 1911.

13. Studer Q. *Hardwiring Excellence.* Gulf Breeze, FL: Fire Starter Publishing; 2003.

14. Liker JK. *The Toyota Way.* New York: McGraw-Hill; 2004.

MG61367