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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, 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.[2,3] 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),[3] which offers educational support throughout the organization

Rapid-Cycle Quality Improvement: The ABC Baylor Model: Inspired by the Advanced Training Program at Intermountain Healthcare,[4] 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.[3,5]

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.[6,7] 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

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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.[5]

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.[8]

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.[9]

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.[10] 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 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.

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*

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