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Bridging the Chasm: Efforts to Improve Health Care Quality in Massachusetts

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"The knowledgeable health reporter for the Boston Globe, Betsy Lehman, died from an overdose during chemotherapy." So begins the Executive Summary of a 1999 Institute of Medicine Report, "To Err is Human" that raised the problem of medical errors onto the national consciousness. The IOM report catalyzed a flurry of activity among health care providers, government agencies, and non-profit coalitions to measure health care quality more effectively and to implement system changes intended to reduce medical errors and improve patient outcomes.

While considerable work has been done over the past six years, there remains significant room to improve the quality and safety of health care in the Commonwealth. The state's hospitals and health plans have scored favorably on national surveys such as those published by U.S. News and World Report.[1] Massachusetts hospitals and physicians do relatively well on measures now being reported by the *Centers for Medicare and Medicaid* and the *National Committee for Quality Assurance (NCQA).* Yet a recent study by the Rand Corporation concluded that U.S. adults receive only 55 percent of recommended care, with few differences found between Boston and eleven other metropolitan areas.[2] Other research shows considerable variation in hospitalizations, treatment and costs across regions and between hospitals in the same geographic area.[3]

This issue brief provides some background on the definition of quality health care, provides data on how Massachusetts is performing, and summarizes what is currently being done to improve the quality of care. Finally, a brief description of two models of quality improvement that have received national attention, the *Pittsburgh Regional Healthcare Initiative* and the *Veterans Health Administration (VHA*), are provided.

Background

In 1999, the Institute of Medicine (IOM) published a landmark study entitled, "To Err is Human: Building a Safer Health System."[4] The study found that there are many unnecessary errors that occur in U.S. hospitals, perhaps resulting in as many as 98,000 deaths annually. The authors admonish that, "it is simply not acceptable for patients to be harmed by the same health care system that is supposed to offer healing and comfort."[5]

The IOM describes quality as a, "multi-dimensional concept." Health care should be effective, which means that patients should receive the care that they need, but also should need the care that they are given. This avoids the overuse or under-use of services. Care should be provided safely so that medical errors do not result, and care should also be delivered in a timely manner, should be patient centered, delivered equitably across all socio-economic, racial/ ethnic, age and gender groups, and should be efficient in order to eliminate waste.[2]

These definitions of quality have been summarized as misuse of health care services (errors), or under-use and overuse (quality) of health care services. Errors occur when providers misdiagnose or delay diagnosis, when treatment is inconsistent with best practices, or when communication is inadequate, equipment malfunctions or systems fail.[6] Quality issues arise when adequate

preventive care is not accessed or is unavailable, resulting in unnecessary hospitalizations, increasing morbidity, mortality and healthcare costs. The under-use of ancillary services such as homecare and ambulatory care, could lead to worse outcomes and higher long-term costs.[7] Primary care, disease prevention, and disease management for chronic care could save lives and decrease health care costs overall.[8]

The IOM released a second study of healthcare quality in 2001 entitled, "*Crossing the Quality Chasm: A New Health System for the Twenty-first Century"* which concludes that truly safe and high quality care requires much better coordination throughout the continuum of care.[9] Stakeholders at all levels of health care need to be a part of this process. According to many experts, system-wide commitment is essential for sustained reform.[10]

The *United States Department of Health and Human Services (USDHHS)*[11] within the federal government now collects quality of care data on hospitals nationwide, which can be viewed on their website. *Table 1.1: Measures of Hospital Quality in Massachusetts and the U.S. for Care*

Table 1.1: Measures of Hospital Quality in Massachusetts and the U.S. for Care Delivered 2004 - 2005

Indicator	National Average %	Massachusetts Average %	Difference + or (-)
Heart Attack Care:			
Ace inhibitor	80	83	3
Aspirin on arrival	91	97	6
Aspirin on discharge	87	96	9
Beta blocker on arrival	84	96	12
Beta blocker on discharge	86	96	10
PCI to open blocked vessels	61	75	14
Smoking cessation advice	75	74	(1)
Medication to dissolve blood clots	31	35	4
Heart Failure Treatment:			
Ace inhibitor	79	81	3
Assess function of left ventricle	79	89	10
Discharge instructions	48	51	3
Smoking cessation advice	68	66	(2)
Pneumonia Care:			
Given pneumococcal vaccine	51	41	(10)
Antibiotics within 4 hours	75	77	2
Oxygenation assessment	98	100	2
Smoking cessation advice	66	64	(2)
Most appropriate antibiotics	76	75	(1)
Blood culture before antibiotics	82	81	(1)
Prevention of Surgical Wound Infections:			
1. Antibiotics before surgery	70	80	10
2. Antibiotics stopped within 24 hours of surgery	66	71	5

From United States Department of Health and Human Services. *Hospital Compare (available at www.hospitalcompare.hhs.gov)*

Delivered 2004 – 2005 (below) provides a side-by-side comparison of the care provided to Massachusetts patients in contrast to the average care patients receive nationwide.

What is Being Done to Improve Patient Safety and Quality of Care in Massachusetts?

There are a number of patient safety and quality of care initiatives here in Massachusetts, taking place in both public and private organizations. Several key provisions were also added to the recently passed health care reform proposal that could lead to significant improvement. The programs and activities listed here do not include the many initiatives undertaken in hospitals, health care systems and health plans, but rather provide a broad overview of the programs in the Commonwealth aimed at improving patient safety and quality of care.

The recently passed health care reform legislation provides funding for the Betsy Lehman Center, establishes a Health Care Cost and Quality Council and includes several additional provisions designed to improve health care quality. The new Council is charged with setting statewide goals and coordinating improvement strategies, with authority to conduct a number of important improvement activities. These include collecting, aggregating, and analyzing data from providers and health plans that have not previously been reported, compiling health care cost and quality performance measures, and publishing these measures on a state consumer health information website. The website is intended to help consumers make informed decisions about medical care and choices between health care providers. The Council may also work with health care providers to design quality improvement activities and subject to appropriations, may award grants to help health care organizations implement new programs. Although the new law gives the Council a broad mandate, the speed and scope of its activities will depend on the funding available to support its mission. This law will also require hospitals to achieve certain quality standards in order to obtain MassHealth rate increases.

Massachusetts State Government Initiatives

The *Betsy Lehman Center* was launched in 2004 with a goal of improving patient safety and reducing medical errors through collaborative efforts that create, evaluate and then disseminate "best practices." These best practices are developed from a variety of sources and deemed by professionals as the best standards of care that will in effect maximize patient safety and improve outcomes. Information comes to the Center from all areas of health care, including organizations, health care providers, patients and their families. By evaluating this input, the Center can identify trends and determine if errors are occurring that need to be addressed. The website does not have information on specific hospital errors, but does provide tips to patients about how to be their own advocates and reduce the likelihood that medical errors will occur.[12] Projects funded to date include the development of evidenced-based best practices for the performance of bariatric (weight loss) surgery, medication error reduction in long-term care facilities, reconciliation of medications, communication of critical test results and accountability for medical errors.

The *Massachusetts Coalition for the Prevention of Medical Errors* (MCPME) has these major goals: to create a system of best practices; to educate professionals and the public about medical

error reduction strategies; and to reduce the duplication of regulatory system requirements with a goal toward improved patient care.[13] The Coalition serves in an advisory capacity to the *Betsy Lehman Center* and is comprised of more than 50 member organizations. Among its activities, the *Coalition* has several ongoing initiatives, including the medication error prevention collaborative, a collaborative aimed at improving critical test results communication, a project for developing a "system blueprint" that defines accountability, and an initiative to develop, disseminate and evaluate best practices that would reduce medication errors in the ambulatory setting.

The *Coalition* has been recognized by the American Society of Health-System Pharmacists and the Institute for Safe Medication Practices. In collaboration with the Massachusetts Hospital Association, the *Coalition* has developed best practice guidelines for reducing medication errors in the hospital setting, and the Coalition has developed best practice recommendations for the use of restraints and seclusion.

Within the Massachusetts Department of Public Health (MDPH) and directly under the leadership of that agency are three entities involved in patient safety. The *Division of Health Care Quality* within the Center for Quality Assurance is responsible for health care service delivery, and provides licensing and certification for hospitals and other health care facilities, and investigates patient complaints. The *Division of Health Professions Licensure* within the Center for Quality Assurance is responsible for the licensure and regulation of health care professionals. The *Office of Patient Protection* within the Center for Patient Safety provides Massachusetts patients covered by a health plan, insurer or HMO, a venue for protecting the rights of those who wish to make grievance claims, view guidelines for medical necessity and who are concerned about continuity of care.[14]

The Department also provides information on and/or regulatory oversight for bio-terrorism; emergency preparedness; managed care; nursing homes; hospitals; food safety; body art; and other health related topics. The Department is responsible for ensuring that food supplies are safe, that sanitation is good, and that emergency medical training is adequate. Consumer information and publications on food safety and numerous other safety-related topics are available through their website.[15]

The *Division of Health Care Financing and Policy (DHCFP)* data on cost and quality indicators is available for the public on their website. The DHCFP also publishes reports for a number of conditions, using information collected by HHS and available on their website also under "Hospital Compare."[16]

The *Group Insurance Commission, (GIC)* is dedicated to providing quality, affordable health care benefits to state employees and their families, and has an interest in both quality and safety, as well as cost control. The GIC provides its members with a number of tips for choosing quality hospitals and providers, as well as AHRQ guidelines for reducing the risk of error when receiving health care.[17] The GIC has just recently created a plan for rewarding state employees (in the form of "modest co-pay incentives") if they choose "quality" providers and hospitals from among those available to them. The GIC is also a member of the *Leapfrog Group*, a coalition of

150 organizations which focuses its efforts on informing the purchasers of healthcare, namely large employers, about the quality and safety of the health care purchased.[18]

The *MassHealth* program sets quality standards in their contracts with managed care organizations. These contracts include goals and performance incentives aimed at improving the quality of care. The program has also been developing and implementing clinical guidelines to insure best practices. More details can be found in the report "MassHealth Managed Care Quality Strategy, 2005-2006."[19]

Within the Board of Registration of Medicine is the *Patient Care Assessment* (PCA) program, which is unique in the nation. The PCA function, mandated in 1986 under provisions of the Medical Malpractice Reform Act, is to work collaboratively with physicians and facilities on issues of quality assurance, peer review, credentialing, utilization review and risk management. Physicians and hospitals must participate in PCA programs in order to be licensed in Massachusetts, and any information shared with the PCA Committee is protected from discovery. The "ultimate responsibility" of the PCA program is "protection of the public."[20]

The Massachusetts Health Quality Partners (MHQP)

The Massachusetts Health Quality Partners (MHQP) is a coalition of providers, organizations, government agencies, consumers, health plans and purchasers dedicated to improving health care in the state. The MHQP provides reliable information to help physicians improve the quality of care they provide to patients and helps consumers to take an active role in making informed decisions about their health care. MHQP has up until now focused their efforts on clinical quality and patient experience measures for primary care physicians, but is expanding its scope to include resource utilization/efficiency measures and care provided by specialists. MHQP, in partnership with the RAND Corporation, intends to evaluate the validity of new quality and efficiency metrics.

MHQP recently released a survey of patients rating the care they received from their primary care physician. The survey, available on the MHQP website, summarizes how well doctors in Massachusetts communicate, know their patients, coordinate care, and give preventive care and advice based on their patients' experiences.[21] The survey also summarizes patients' experience with receiving timely appointments and care from other doctors and nurses in the doctor's office. Patient experience drives frequency of visits to the doctor, how well patients understand instructions, and how well they comply with care plans - all of which are fundamental to quality of care.

MHQP also rates primary care in Massachusetts according to 15 HEDIS measures across a number of conditions: diabetes; depression; asthma care; women's health care; heart disease; and pediatric care. Ratings are based on data collected from five health plans, across 150 practices and 4,500 physicians in 2004.[22] Patients can access primary care medical group ratings through the MHQP website (www.mhqp.org). Nevertheless, this database contains, "only a small slice of the care physicians provide."[23]

Medical groups in the Commonwealth rank among the best in the nation for check ups and screening for children, women's health, and diabetes and cholesterol screening. On average, however, treatment of adult asthma and treatment of depression for Massachusetts' patients ranks below the national median. For each of these measures there are also regional variations, providing another opportunity for improvement.

Other Initiatives in Massachusetts

MassPro – The Healthcare Quality Improvement Organization (a designation from the Centers for Medicare and Medicaid Services (CMS)), has a mission of, "transforming the health care delivery system" in Massachusetts by working across agencies and disciplines to bring together stakeholders and government to improve the quality of health care in Massachusetts. A number of initiatives are underway by MassPro: dissemination of health information technology; a project to improve the quality of care that Massachusetts patients receive in the hospital for specific conditions (approximately half of the acute care hospitals around the state are part of this voluntary program); a program to help hospitals with billing problems; a utilization review program for hospitals providing care to Medicare patients; and a number of initiatives for physicians, patients, nursing homes and home health agencies.[24]

The Patients First initiative of the *Massachusetts Hospital Association* is a voluntary project intended to bring together quality and safety data from hospitals around the state. The *Patients First* website provides general information on the *Patients First* initiative as well as hospital-specific data, including average RN and other staffing over a 24-hour period.[25]

The *Massachusetts e-health Collaborative* is overseeing a pilot project to implement electronic health records (EHR) in three Massachusetts communities.[26] The project has an ultimate goal of initiating EHR across the entire state. The estimated cost to do this is around $1.5 billion, and the Collaborative has an initial grant of $50 million from Blue Cross Blue Shield of Massachusetts. The benefits of EHR could be tremendous in terms of patient safety and quality of care improvements.

The *Massachusetts Nurses Association (MNA)* has a Health and Safety division, from which a number of research activities and publications on safety are produced, and the MNA has been active in lobbying for minimum staffing ratios in acute care hospitals in the state.[27]

Selected National Quality Initiatives

The *Joint Commission on the Accreditation of Healthcare Organizations* (*JCAHO*) is a national, independent, not-for-profit accreditation body with a mission to "continuously improve the safety and quality of care provided to the public through the provision of health care accreditation and related services that support performance improvement in health care organizations." The Board of Commissioners governing *JCAHO* is composed of 29 members who represent all health care stakeholders: patients, nurses, physicians, employers, payers and others. To maintain accreditation, healthcare organizations receive on-site surveys every three

years, during which standards of care and particular performance levels are measured. In addition to acute and long-term care hospitals, JCAHO provides accreditation to laboratories, nursing homes, rehabilitation and behavioral health facilities, ambulatory care and group practices and hospice, medical device and home care agencies.[28]

The *Institute for Healthcare Improvement* is a Cambridge-based not-for-profit that works nationally and internationally (chiefly in the U.K., northern Europe but also in the developing world) to apply modern improvement methods in transforming the quality of health care. Founded in 1991, the organization is led by Dr. Donald Berwick, an international authority in the field. IHI has worked with thousands of hospitals and health care providers to redesign delivery systems so that health care is more effective, efficient, and patient-centered. The 100,000 Lives Campaign is IHI's most ambitious national initiative yet, aiming to realize dramatic improvements in patient care through implementation of six interventions known to reduce infection, harm and mortality; over 3,000 American hospitals are part of the Campaign, including all of the Massachusetts hospitals, with support from Blue Cross Blue Shield of Massachusetts, the Massachusetts Hospital Association, MassPRO and other state associations.[29]

Additional Regional and National Health Care Improvement Initiatives

There are many initiatives across the country that meet at least some of the criteria for improving patient safety and quality of care as suggested in the IOM report *Crossing the Quality Chasm*. Two initiatives stand out as exemplary in their efforts: The *Pittsburgh Regional Healthcare Initiative* and the Veteran's Administration's *National Center for Patient Safety*. Both work across disciplines and stakeholders to bring together all the necessary support and resources to make patients safer and to improve quality of health care.

The ***Pittsburgh Regional Healthcare Initiative*** *(PRHI)* was founded to pursue a singular idea: that quality would prove to be the best long-term cost containment strategy for healthcare, saving lives, saving money and improving employee satisfaction. Leaders in Pittsburgh, representing all of healthcare's stakeholders, made their own community the testing lab, with an ambition of pushing healthcare quality in Southwestern Pennsylvania to a pacesetting level that the nation would follow. They defined quality as the use of best practices and elimination of waste, inefficiency and error. PRHI's partners tested their idea in a unique experiment involving more than 40 hospitals that committed to eliminate hospital acquired infections and medication errors within a few years working together.

The demonstration, thought to be the largest of its kind, reduced the incidence of central line associated bloodstream infections by an average of 63 percent across the region. Some institutions far surpassed that level. At the best performing institutions, PRHI typically found the projects were led by impassioned clinical leaders. As a neutral convener of Southwestern Pennsylvania's healthcare stakeholders, PRHI has become a unique community resource, helping identify, train and support clinical champions in improving care through the use of quality engineering disciplines similar to those used in manufacturing. Building on concepts introduced by Toyota, PRHI developed a unique method of improvement adapted to health care called Perfecting Patient Care.™ Hundreds of professionals attend the PPC University each year.

PRHI and its partners are engaged in some 20 different demonstrations, including 11 in infection control. In addition to infection control, PRHI's portfolio includes projects to improve cardiac care, implement new protocols to improve care for diabetics and to reduce pathology errors. In two novel applications, PRHI is also testing its theory and method of change in primary care settings and long term care. [30]

The Veteran's Health Administration's ***National Center for Patient Safety*** *(NCPS)* was conceived with a goal of creating a safer environment for patients through medical error prevention. By focusing on systems rather than individuals, the NCPS strives to change and enhance systems of care rather than targeting individuals. Based on this formula, the NCPS has formed a "multidisciplinary team approach" to medical error reduction that, unlike the PRHI, suggests it is impossible to eliminate errors entirely. Rather, the goal of the NCPS is to design systems that minimize "harm to patients."

Systems are designed using, "human factors engineering" intended to enhance individual abilities rather than trying to force individuals to meet the requirements of the system or device. There are currently 158 Veteran's Hospitals participating in the program, which is intended to identify systemic errors and address these, rather than find blame with and punish individuals (although egregious errors and criminal acts are of course punishable).[31]

More specifically, the NCPS looks to errors committed as well as errors that were almost committed or "near misses." These near misses can be very instructive in the drive to improve patient safety and quality of care. Using a technique called, "root cause analysis", or RCA, the NCPS can describe what happened, why it happened and how to prevent it from happening again in the future. RCA is intended to be an objective, inter-disciplinary and in-depth analysis involving front-line workers, so that viable solutions will be implemented to prevent errors and near-misses from occurring in the future. NCPS and its director have received a number of awards and accolades for work done in the area of patient safety.

Conclusion

Two important conclusions come from this issue brief. First, there are a wide range of initiatives aimed at improving patient safety and quality of care in Massachusetts. The new *Health Care Cost and Quality Council* established by the new health care reform legislation and funding for the *Betsy Lehman Center* may accelerate progress on quality improvement initiatives. Second, while Massachusetts health care providers generally perform better than those in other parts of the country based on a limited set of measures, substantial effort is necessary to assure that high quality health care is delivered equitably across the state.

Although Massachusetts is a leader in health care information, cost and quality data actually available to the public are limited in both scope and detail. More timely data on patient safety and health care system quality are required. A deeper understanding of the problem is essential to support continuous quality improvement. Data must be accurate and comprehensive, and accessible to both health care providers and consumers.

Quality and efficiency demand better coordination across the entire continuum of care. For quality efforts to work, coordination and alignment of all players along the same goals is critical. This may be an important role for the Health Care Quality and Cost Council. Having disparate initiatives diffuses resources and dilutes impact. For example, if payers implement pay for performance initiatives around different goals/measures, then providers may not know where to focus attention. Better coordination and more uniform data and standards have the potential to increase the use of best practices, and reduce variation in quality between services and between hospitals. The Pittsburgh Regional Health Initiative provides an example of a region-wide effort with demonstrated success in bringing together payers, providers, purchasers and others committed to broad based quality improvements. The Veterans' Administration has made profound quality improvement throughout its decentralized system. These examples provide some valuable insight with which to continue and better coordinate health care quality improvement in the Commonwealth.

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