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Prescriptions for Excellence in HEALTH CARE

A COLLABORATION BETWEEN JEFFERSON MEDICAL COLLEGE AND ELI LILLY AND CO.

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Editorial

Doing Things Right and Doing the Right Things – Quality and Safety in Health Care

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

Welcome to the premiere issue of *Prescriptions for Excellence in Health Care*, a series of supplements to our *Health Policy Newsletter* devoted to the quality improvement agenda. Change - in regulations, technology, and quality measurement, to name a few - is accelerating exponentially. Amid this constant change, it is challenging for health care professionals to remain current on the programs and initiatives being implemented. To help address this issue, the Department of Health Policy has partnered with Eli Lilly and Company to provide you with essential information from the quality improvement and patient safety arenas.

Improving the quality of health care in America has been the focus of policy debates since the Institute of Medicine (IOM) published its groundbreaking study, *Crossing the Quality Chasm*. Most of the first decade of the 21st century has

been spent deliberating how best to measure, monitor, and manage health care delivery to ensure that patients receive the type of care they have a right to expect in the world's richest nation. While the intent to provide safe, scientifically validated treatment has never been in doubt, there definitely is room for improvement in the execution of these efforts.

The IOM specified that the "right" or high-quality health care is safe, effective, timely, efficient, evidence-based, and equitable. Driving our health care system to the point of consistently getting these "right things" right will not only help to optimize outcomes, it also will reduce costs.

Government, payors, and providers have been working diligently to develop appropriate systems, incentives, and reporting mechanisms that will assist providers to optimize quality and reduce costs, and empower patients to make informed choices regarding their care. Beginning in 2008, the Centers for Medicare and Medicaid Services (CMS) will no longer pay for the consequences of medical errors. Hospitals will have to absorb the costs of flawed processes and delivery systems that result in "never" events such as wrong-site surgery and hospital-acquired infection. Forward-thinking leaders in an increasing

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number of states are requiring public reporting of a variety of quality measures that will enable patients to make more informed decisions about whether and where to have elective surgery, and even to compare costs.

These efforts align with CMS' Quality Improvement Roadmap, which was outlined in detail in a previous editorial.¹

Progress will begin on several of the strategies outlined in the roadmap in the coming months, namely: creating partnerships to improve performance; applying useful measures of quality of care (eg, outcomes, consumer experience, cost of care); and implementing a payment schedule that focuses on quality of patient care rather than services received.

In March 2007, the Department of Health Policy convened a diverse panel of national health care thought leaders to discuss the most recent efforts in performance improvement, public reporting, patient safety, and health information technology. Panelists will contribute articles to this supplement series that reflect their experiences and areas of expertise.

Among the offerings in this inaugural issue are a general overview of the national quality landscape; a discussion of the role of regional quality improvement organizations (QIOs); a review of an innovative leadership training program in patient safety; and a report detailing Pennsylvania's efforts in public reporting on hospital quality. Future issues will provide insight on such issues as

hospital quality improvement efforts, improving the quality of care in outpatient settings, and the role of health information technology and public reporting. I am extremely proud of the wealth of information presented by our awesome initial group of authors, and hope you will find it enlightening. As always, I am interested in your feedback; you can reach me by email at david.nash@jefferson.edu.

David B. Nash, MD, MBA is the Raymond C. and Dis N. Grandon Professor of Health Policy, and Chairman, Department of Health Policy at Jefferson Medical College. He can be reached at david.nash@jefferson.edu.

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Collaboration to Create a Better Health Care System

By Jack Bailey

At Eli Lilly and Company, we understand that we have an important role in the transformation of the health care industry. We are committed to effecting positive change via continued partnerships with other stakeholders to enhance the health care delivery process and maximize value through improved outcomes for each patient.

The pace of change in health care is accelerating, and a new health care system is evolving that will balance cost, quality, access, and innovation by leveraging price/quality transparency, and will use more health information technology to deliver value-based care. To meet the demands of this market, we at Lilly

challenge ourselves to reevaluate our processes at every level, seeking to consistently transform how we do business so that we align with the needs of our customers and the marketplace. By doing so, we strive to continue delivering value through innovation and partnerships.

Greater transparency, accountability, value, and efficiency will characterize the emerging health care system – qualities that are necessary to provide health care in the face of the greatest demographic shift the United States and the world have ever seen. While the degree of change required is daunting, collectively we are making progress.

I believe that we will be successful in our efforts to help create a health care system for this country that will be the envy of the world—a system based on innovation, choice, and competition that enables the betterment of the lives of its citizens. It will not be easy. It will require hard choices, tough trade-offs, and disciplined implementation, but few things could be more important than creating a company and a health care system worthy of the next generation. The credo of our founder, Colonel Eli Lilly, was: "Take what you find here and make it better." We remain steadfast in our commitment to improve US health care delivery. I am confident that we will succeed in our collaboration to shape the evolution of the health care system and look forward to our role in this journey.

Jack Bailey is Vice President, Business to Business, at Eli Lilly and Company.

The Cottage Industry Crumbles: QI and the Foundations of Health Care

By Michael L. Millenson

Confident predictions about the future of health care are notoriously unreliable, be it the surefire status of single-payer (c.1973) or the unstoppable march of “managed competition” (c. 1993). Yet, while the noisy 50-year war over the design of the ideal health insurance system continues to command headlines, a quiet consensus has developed that is beginning to shape the future of actual patient care.

When compared to even 5 years ago, the expectations of payors, government, and the general public about what providers should be doing and how they should be held accountable for doing it have changed significantly. Legislatures and oversight organizations are adding new requirements related to safety, evidence-based care, and transparency on a regular basis. Old standards are being toughened. The pace of change is increasing.

What gives the current situation the potential to be transformational rather than transitional? Three powerful forces are converging to undermine what was previously a cottage industry and reshape it into a high-quality, cost-effective, care delivery system. These forces are:

- *Economics.* For the first time, the economic inefficiency of American health care is being defined as a problem affecting both our economic and national security, according to Comptroller General David Walker. That assessment by the head of Congress’ United States Government Accountability Office has drawn support from the public and private sectors, from all points on the

political spectrum, and from the American Association of Retired Persons (AARP).

- *Technology.* The slow adoption of information technology (IT) by health care providers, a high-visibility failing, is being tracked by employers, health plans, and government. Meanwhile, health plans and government agencies have begun routinely using IT to identify hospitals and physicians who fall short of quality and cost standards.
- *Zeitgeist.* The “spirit of the times” is exemplified by increasing public intolerance for unsafe and unnecessary care. Whether it be large corporations refusing to pay hospitals for “never events” (ie, egregious medical errors, such as wrong-site surgery, which should never occur), or *The Onion* satirizing doctors for not washing their hands, the spotlight on costly care deficiencies has become impossible to avoid.

A series of statistics illustrates why out-of-control health care costs are being scrutinized. Health care was the nation’s greatest tax expenditure in 2005, and the growth of health care costs (Medicare and Medicaid), along with Social Security, far outpaces overall economic growth at a time of deep and worrisome federal budget deficits.¹ According to a Boston University study,² if the growth in health care expenditures from fiscal 2000 to 2005

had been limited to the same rate as the overall US economy, the savings would have totaled \$1 trillion – an amount roughly equivalent to the entire US defense budget in fiscal 2005, *plus* the total spent by all levels of government on elementary and secondary education.

This is the framework within which arguments over “pay for performance” must be viewed. At present, incentives are modest. For example, the employer-sponsored Bridges to Excellence program rewards physicians who provide evidence-based diabetes care with a small financial payment and a public listing of their names. If these voluntary provider incentives fail to prompt significant improvements, however, the only alternative is bigger incentives and stiffer penalties from payors. Moreover, as with Bridges, the accountability will be provider-specific.

Unlike the managed competition movement of the mid-1990s, the effort to press providers for higher-quality, more cost-effective care is likely to enjoy broad public support. As Kaiser Family Foundation 2006 data show, premiums for employer-sponsored health insurance in the United States have been rising significantly faster on average than workers’ earnings since 2001, although the pace has recently slowed.³ Even among larger companies, the percentage of employees who can afford to pay their share of those benefits is declining.

Just as importantly, the new demands for accountability are seen as both justified and achievable. The medical literature regularly reveals new examples of inefficiency. One oft-cited study is Elliott Fisher and colleagues’ research concluding that high-spending Medicare regions have the same or lower technical quality, health outcomes, and physician and patient

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satisfaction than lower-spending regions, while consuming up to 60% more resources.^{4,5} The next step is to apply similar measures to individual hospitals and publish the results.

The CMS/Premier Hospital Quality Incentive Demonstration (HQID), involving more than 260 hospitals, translated quality improvement research theory into practice. HQID showed measurable success in improving care quality in 5 clinical areas, saving a startling 1,284 lives from heart attacks alone. According to Premier's analysis, if all pneumonia, heart bypass, heart attack (acute myocardial infarction), and hip and knee replacement patients nationally received most or all (76% to 100%) of a set of widely accepted care processes in 2004, it could have resulted in nearly 5,700 fewer deaths, 8,100 fewer complications, 10,000 fewer readmissions, and 750,000 fewer hospital days. In addition, hospital costs could have been as much as \$1.35 billion lower.

Health IT alone does not improve care, but it is a critical tool for doing so, particularly in the area of patient safety. Especially in large, complex organizations, focused use of IT is essential for measuring and managing care to consistently achieve high-performance results. More pragmatically, payors and government are using sophisticated databases to hold hospitals, physician groups, and even individual physicians accountable for meeting certain care standards. Analytic computer technology plus Internet dissemination technology has made it possible to identify high performers (either in outcomes or in adherence to evidence-based practices) for specific procedures, specific hospitals, and specific physicians. Patient satisfaction data is moving in the same direction.

Providers also need a means for measuring and managing their processes to avoid losing control over their professional reputations and their reimbursement.⁴ It is precisely this inability of a cottage industry to cope with measurement and management demands that will force providers to confront a choice: change or professionally "die" (ie, seek to earn some sort of living until retirement or simply retire immediately).

Some health care organizations have approached the "manage and measure" challenge by proactively posting their performance data online. Perhaps the foremost example of this trend is the decision by Louisville's Norton Healthcare to post more than 200 specific clinical and patient satisfaction measures while providing an easy graphical comparison between Norton's performance and national benchmarks for each measure.

While the *zeitgeist* of health care is shaped by economic and technological forces specific to the health care industry, it is also affected by events in the broader culture. Transparency and accountability are ascendant, whether in ratings of graduate schools or one-click access to your neighbor's house price and real estate taxes. Meanwhile, a new generation of physicians is entering practice with different expectations than their elders about income, autonomy, and technology. Some have also emerged from training with a new understanding of "quality care" that looks beyond the "I know it when I see it" empiricism of the cottage industry model to the data-driven model of benchmarks related to both individual patients and to specific patient populations.

At first, the undermining of the old ways will bring uncertainty rather than utopia. Some quality improvement measures are

applicable to hospitals, others to groups of physicians, and others to individual physicians. It is not always obvious which measures can reliably be tied to which group. There will be arguments over who should be doing the measuring (eg, health plans, consumers, peers). And, for all the talk of "blame the system and not the individual," no one expects regulators, accreditors, or attorneys to abandon the concept of individual accountability.

Science historian Thomas Kuhn famously pointed out that the "traumatic" process of a "paradigm shift" does not occur until the defenders of the old ways "can no longer evade anomalies that subvert the existing tradition." The evidence that the cottage industry model of medicine wastes money and kills and injures patients needlessly is decades old. But it is only because of powerful economic, technological, and cultural pressures that the traumatic process of change, uncomfortable yet irreversible, is finally under way.

Michael L. Millenson is a consultant, author, and the Mervin Shalowitz, MD Visiting Scholar at Northwestern University's Kellogg School of Management. He can be reached at m-millenson@northwestern.edu.

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The Role of Medicare Quality Improvement Organizations

By Donald F. Wilson, MD

The major strategies of the national health policy to improve the performance of the American health system are to:

- Develop better tools to monitor performance,
- Increase transparency by making performance information available to purchasers and consumers, and
- Develop appropriate incentives to drive performance improvement.

Medicare Quality Improvement Organizations (QIOs) are critical enablers for the implementation of these strategies on the national level. Created by an act of Congress in 1982, every state has a QIO with the primary mission of improving health care for all Medicare beneficiaries.

Nursing Homes

In the fall of 2002, nursing homes became the first provider group to have mandatory reporting on a set of performance measures at the national level. QIOs were involved in publicizing the initial release of performance data and helping nursing homes learn the mechanics of proper data collection and submission. They also provide ongoing support to improve performance. A list of publicly reported nursing home performance measures and performance data for any nursing home can be viewed on the *Nursing Home Compare* Web site at www.medicare.gov/NHCompare. Areas of national focus for improvement include high-risk pressure ulcers, rate of physical restraints, and incidence of chronic pain.

Home Health Agencies

Reporting became mandatory for all home health agencies in the fall of 2003. Current home health measures are available on *Home Health Compare* at www.medicare.gov/HHCCompare. Again, QIOs facilitated national implementation of these measures and have provided ongoing assistance with performance improvement. A major area of focus has been to reduce the rate of acute care hospitalization among patients receiving home health services. QIOs in every state have been working with their state agencies to implement interventions for improved home monitoring, which allows for timely modifications to treatment plans, thus avoiding the need for acute care hospitalizations.

Hospitals

A major breakthrough for hospital performance monitoring occurred in 2002 when The Joint Commission and the Centers for Medicare and Medicaid Services (CMS) began to standardize their hospital performance measures. Hospitals accredited by The Joint Commission are required to submit self-collected performance data on a set of measures for acute myocardial infarction (AMI), congestive heart failure (CHF), and pneumonia. Standardization enabled transmission of the same data to a national QIO data warehouse. Access to these data enabled QIOs to assist hospitals with planning QI interventions.

The American Hospital Association teamed with other national stakeholders to create a hospital voluntary public reporting initiative that eventually became the Hospital Quality Alliance (HQA). Hospitals were asked to voluntarily report performance on a set of 10 measures: 5 for AMI, 2 for CHF, and 3 for pneumonia.

In the fall of 2004, HQA data became publicly available. Initially, QIOs were tasked with helping hospitals understand the mechanics of data submission. QIOs also were instrumental in recruiting hospitals to participate in this voluntary program.

The program became somewhat less than voluntary with the passage of the Medicare Modernization Act of 2003 that required hospitals to report on this starter set of 10 measures in order to receive their full annual payment update. Almost overnight, all hospitals were participating. The requirements for reporting have now been expanded to include 21 measures. Performance data on these measures can be viewed on the *Hospital Compare* Web site at www.hospitalcompare.hhs.gov.

A recent change in hospital performance evaluation occurred with the creation of composite measures called Appropriate Care Measures (ACM). The initial composite measures gather data from the original 10 HQA measures. A hospital must obtain credit for having provided all care as measured by the 10 starter measures in order to be counted in the numerator for the ACM measures.

QIOs have continued to work with hospitals throughout the process, providing technical assistance for improving internal care processes and thereby improving performance. This assistance has ranged from face-to-face visits at hospitals with one-on-one consultation, to facilitation of large, statewide hospital collaboratives that promote sharing of best practices. Steady

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performance gains have occurred in the overall ACM measurements as well as the topic-specific ACMs for Pennsylvania and the nation.

Physicians and Other Individual Providers

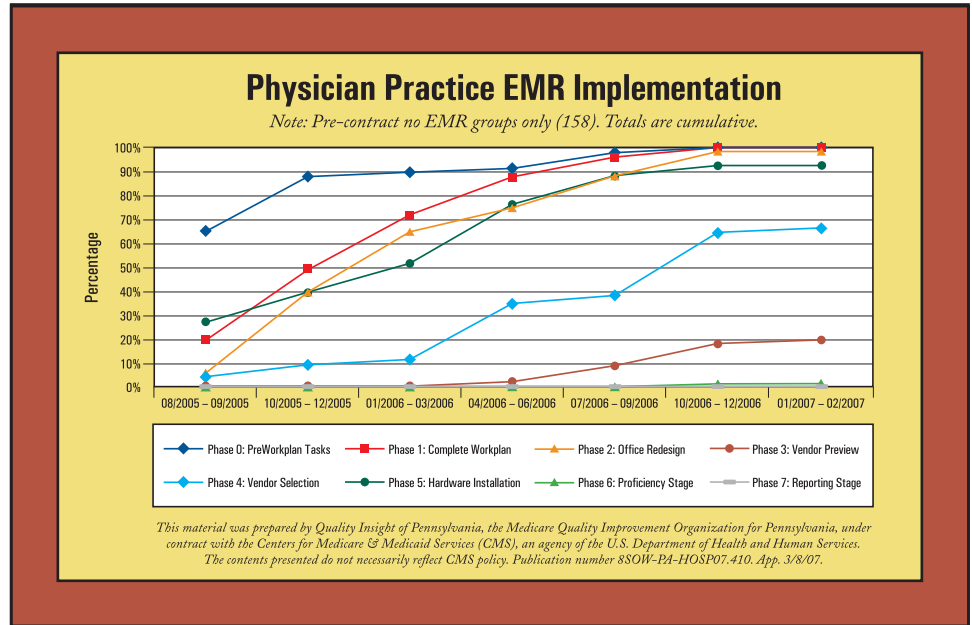
A major barrier must be overcome for large-scale public reporting of performance measures to occur at the individual practitioner level. Currently, the only mechanism that exists for collecting and reporting performance data at the individual provider level is administrative claims data. These data have many significant limitations. Most experts agree that the only viable long-term solution is widespread adoption of electronic medical records (EMRs), followed by standardized electronic health information exchange (HIE). HIE will not only facilitate more efficient care, but will allow for provider-specific performance data to be collected and transmitted to appropriate warehouses for analysis and reporting.

To help fuel the adoption of EMRs, QIOs have been involved in the national Doctor's Office Quality – Information Technology (DOQ-IT) initiative for the past 3 years. Currently, QIOs are working with up to 5% of the primary care practitioners in each state to facilitate EMR adoption. Following EMR implementation, physician practices will be supported in using health information technology to provide better preventive care and improve care management for their patients with chronic diseases. They will also be supported as they begin to transmit performance data directly from their EMRs into a national data warehouse for analysis and feedback.

The Pennsylvania QIO is working with approximately 200 practices

to implement and effectively use an EMR. We have developed a road map for tracking our progress with the practices. The goal is to get as many practices to the reporting stage as possible by the completion of the project in July 2008. Figure 1 depicts our progress to date.

Figure 1



Value-Based Purchasing

As noted in the opening of this article, the last strategy to be implemented on a large scale will be the concept of value-based purchasing. Congress has directed CMS and other public programs to conduct pilot initiatives that will lead to broader implementation. Going forward, providers will receive differential payments for Medicare based, initially, on their reporting of quality measures and, eventually, on their actual performance on the measures.

By passage of the Tax Relief and Health Care Act in December 2006, Congress has already mandated implementation of the Physician Quality Reporting

Initiative (PQRI), a pay-for-reporting program for Medicare providers, effective July 2007. More information, and the list of included performance measures, can be viewed at www.cms.hhs.gov/pqri. QIOs have been tasked with disseminating information

about the initiative and encouraging providers to participate in this still voluntary effort. QIOs will undoubtedly be involved in the successful implementation of a hospital value-based purchasing initiative scheduled for launch sometime within the next year.

This is an exciting time for health care in the United States. We have finally begun a long-overdue transformation of our health care system. QIOs should be viewed as a precious national resource that works to keep us focused and moving forward.

Dwight Wilson, MDs Medical Director for Quality Insights of Pennsylvania. He can be reached at dowilson@wvomi.org.

The Patient Safety Leadership Fellowship: Creating Change Agents

By Deborah Bohr, MPH

“An unexpected outcome of the Fellowship was developing a community of experts to whom I can turn when faced with a patient safety challenge in my own organization. The support and advice provided by the other Fellows was—and continues to be—indispensable. The front line perspective of the Fellows provides ‘real world’ balance to the theoretical, academic lessons of the program. When in the trenches, the support and advice of my Fellowship colleagues helps me navigate in my day-to-day work.”

— Kathy Leonhardt, MD, MPH, Associate Medical Director,
Care Management, Aurora Health Care, Elm Grove, Wisconsin

Leadership is widely recognized as a—if not the most—critical element in a successful patient safety program. In cooperation with the National Patient Safety Foundation, the Health Research and Educational Trust launched the Patient Safety Leadership Fellowship in 2002 to help prepare the next generation of health care leaders to champion a culture of safety and make it a reality. Partners in this effort are the American Hospital Association, the American Organization of Nurse Executives, the American Society for Hospital Risk Managers, and the Society for Hospital Medicine.

Since 2002, more than 150 Fellows have graduated from this program. Fellows return to their organizations with the skills, models, and leadership capabilities needed to spearhead improvement projects, create culture change, and establish long-term strategic planning for safety in their organizations.

What Is the Patient Safety Leadership Fellowship?

The Patient Safety Leadership Fellowship is an intensive 12-

month learning experience that develops leadership competencies and advances patient safety science in health care through a dynamic, highly participatory, and structured learning community. Fellows are exposed to a broad array of tools, strategies, and methodologies in the field of patient safety.

The Fellowship brings together participants through leadership retreats, a meeting held in conjunction with the National Patient Safety Foundation Congress, and a virtual learning community in which Fellows learn from, and interact with, expert faculty. Everything in the Fellowship is designed to support Fellows’ implementation of important projects in their own organizations. A significant portion of the Fellowship curriculum focuses on how to engage others in their organizations both through their passion for patient safety and through their technical skills.

What Do the Fellows Learn?

The coursework includes self-study modules and face-to-face meetings designed to support each

Fellow’s Action Learning Project. The core curriculum covers 6 major areas. The first, *what creates safe health care systems*, explores what a safe organization looks like, as well as the epidemiology of patient safety. The second area focuses on *leadership, collaboration, and complexity* and is designed to build skill sets for the innovation and adaptation necessary for advancing patient safety in a multidisciplinary environment. Fellows learn the nature of complex change and how to use a systems approach to advance patient safety.

The *path to a culture of safety*, the third module, explores the diverse subcultures within each health care organization, and identifies what can impede or enhance the development of a culture of high reliability and safety. The fourth module, *lessons from inside and outside health care*, addresses fundamental safety concerns, principles, and practices, focusing on industries where safety depends on coordinated team action and factors that influence human performance.

The fifth module deals with *disclosure, reporting, and transparency*. It teaches Fellows how to effectively report errors, how to disclose errors to patients and other key stakeholders, and how to promote transparency throughout the system. The sixth and final module addresses *the business case for creating cultures of safety*, helping Fellows to understand and measure the relationship between safety, quality, and cost.

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Who Becomes A Fellow?

The Fellows are a diverse group of motivated and innovative health care leaders whose positions involve safety, quality, and risk: namely executive officers, medical officers, nurse executives, risk officers, physicians, nurse practitioners, infection control practitioners, pharmacy leaders, quality improvement leaders, and other health care professionals. Selection criteria for Fellows include prior training and experience and/or demonstrated interest in working to develop and implement patient safety initiatives, and an Action Learning Project proposal that uses a collaborative, problem-solving approach for integrating patient safety initiatives at the applicant's organization. Preference is given to teams from the same institution. References from 2 peers with personal knowledge of an applicant's leadership abilities and knowledge of patient safety science are required, along with a letter of support from senior leadership or the board of the applicant's organization, which authorizes release time for the Fellowship and other support.

Action Learning Projects

Each Fellow or team has an Action Learning Project, which is the heart of the program. Each project focuses on advancing patient safety and health outcomes and is designed to address a priority of the Fellow's organization. Fellows are asked to provide a midyear and final report to their organization's executives and/or board, in addition to their learning community of Fellows.

Over the past 5 years, the Fellows' Action Learning Projects have

clustered into 6 main categories: (1) error reporting/data collection systems, (2) the use of technology and medication administration, (3) improving clinical communication and coordination, (4) building organizational awareness and culture change, (5) building patient safety awareness through partnerships, and (6) staff training and development.

An example of an Action Learning Project is *Improving Patient Safety Transitions* (Jane Foley, MHCA, Director of Operations, Cardiology/Critical Care; Kathleen P. Murray, Director, Process Improvement, Healthcare Quality; Gary B. Schweon, MSN, Director, Administration and Special Projects; and Julius Yang, MD, PhD, Medical Director. Beth Israel Deaconess Medical Center, Boston, MA.) This project team sought to promote process, system, culture, and technology change to ensure seamless, safe, and efficient passage for patients across the many transitions during their hospital experience (eg, from the intensive care unit or the operating room to a regular floor in the hospital). The project addressed improvement opportunities in key areas such as primary team responsibility, transfer of responsibility, sign-out/handoff processes, and the care of "boarders" from one environment to another.

Examples of other Action Learning Projects include *Creating an Organizational Culture Supporting Patient Safety*, *Learning from Medical Errors*, *Training Medical Residents in Patient Safety*, and *Patient Safety and Toyota Work Principles*. Select papers developed from these projects will be submitted for peer review and consideration of publication in

a special Health Research and Educational Trust section of the *American Journal of Medical Quality*.

Fellowship Advisors and Faculty

A hallmark of the Fellowship is the personalized attention and mentoring by nationally recognized faculty and program advisors. A list of the faculty can be seen on the Fellowship's web page: <http://www.hret.org/hret/about/pslf.html>.

Fellowship Alumni Association

The Fellowship is an ongoing journey rather than a onetime experience. The Fellowship Alumni Association fosters lifelong connections and provides access to an influential network of health care leaders and safety researchers. Fellows can continue their learning through active involvement, networking, and educational opportunities with the Alumni Association.

In summary, the goals of this Fellowship are to advance the theory and practice of transformational leadership in patient safety. The program supports Fellows in learning how to take action in a framework that emphasizes innovation, understands complexity, builds personal mastery, and facilitates a change agenda within their organizations. To achieve this mission-critical work, Patient Safety Leadership Fellows first explore what right things to do, and in doing those things right, ultimately transform health care.

Dorah Bohr, MPH is Director of Special Projects for the Health Research and Educational Trust of the American Hospital Association, Chicago, IL. She can be reached at dbohr@aha.org.

PHC4: Disseminating the Principles and Practices of Quality Improvement

By Flossie Wolf, MS

Last year, the Pennsylvania Health Care Cost Containment Council (PHC4) celebrated its 20th anniversary. The road to public accountability has not always been easy, but the journey has been rewarding. Today, PHC4 is widely recognized as a national leader in public reporting and health care transparency, and it remains committed to providing Pennsylvanians with unparalleled access to health care information. As PHC4 enters its third decade, it is venturing further into the next frontier of public reporting with an increased focus on payment data, readmissions, and hospital-acquired infections (HAIs).

Although PHC4 has been collecting and reporting HAI data for less than 5 years, the value of making this information public is already apparent. In addition to raising national awareness of HAI, a number of quality improvement initiatives have stemmed from these activities. This article provides an overview of PHC4's most recent HAI report and discusses how data collection and reporting on such infections are spurring quality improvement.

The First Hospital-Specific Report

In November 2006, PHC4 took an unprecedented step forward in the public reporting of HAIs. (Figure 1) Previous PHC4 reports had focused on the aggregate quality-of-care and financial consequences of HAIs. The latest report identified the actual number of infections reported by each of Pennsylvania's 168 individual hospitals for 2005, thereby establishing a baseline

against which an individual hospital's future performance can be measured. As the first state to release a hospital-specific report on HAIs, Pennsylvania raised the bar for other states and the nation as a whole.

Statewide, the report presented the following highlights¹:

- Hospitals reported 19,154 cases in which patients contracted an HAI, a rate of 12.2 per 1,000 cases.
- The mortality rates for patients with and without an HAI were 12.9% and 2.3%, respectively.
- The average lengths of stay for patients with and without an HAI were 20.6 days and 4.5 days, respectively.
- The average hospital charges for patients with and without an HAI were \$185,260 and \$31,389, respectively. (Table 1)

Table 1. Report Findings: Cost Comparisons

PHC4 Report Findings	Average Hospital Charge	Average Commercial Payment
Cases <i>with</i> a hospital-acquired infection	\$185,260	\$53,915
Cases <i>without</i> a hospital-acquired infection	\$ 31,389	\$ 8,311

- When looking at private sector insurance reimbursements, the average payments for a case with and without an HAI were \$53,915 and \$8,311, respectively.

American Journal of Medical Quality (AJMQ) Supplement: 3 Pivotal Studies

PHC4's public reporting on infections has sparked discussions among patients, policy makers, purchasers, and medical professionals. Contrary to conventional wisdom, HAIs are not inevitable, unavoidable by-products of health care. In fact, many can be prevented, a theme that was reinforced in the groundbreaking *AJMQ* supplement published a week after the release of PHC4's hospital-specific report. The 3 studies contained in the supplement were unveiled during a press conference at the National Press Club in Washington, DC. All noted that HAIs are not about what the patient brings to the table; they are about improving hospitals' processes of care.

The first article described one hospital's infection reduction efforts, demonstrating that the costs of treating an HAI can outstrip the payment system resulting in losses for the hospital, payors, and patients.² The study is the explicit business case for eliminating these infections.

Shannon et al found that although the average expense for a case with a central line-associated bloodstream (CLAB) infection was \$91,733, the average payment

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was \$64,894 – an average loss of \$26,839.² Additionally, the study found that the patient's severity of illness on admission was not a predictor of risk for developing a CLAB, but that dramatic reductions in the rates of CLABs could be achieved by standardizing processes of care and workflow redesign.

The supplement's other 2 studies confront and successfully challenge the issue of "blaming" patient characteristics (ie, age, risk factors, severity of illness) for the cost and quality impact of higher infection rates.^{3,4} Both of these articles reported on analyses of HAI data collected by PHC4.

Peng et al examined differences in mortality, length of stay, and hospital charges between hospitalizations with and without an HAI.³ They found that differences in these measures cannot be explained on the basis of how sick the patient was at admission.

The third study, by Hollenbeak et al, used statewide data collected on surgical wound infections to estimate the impact of patient-specific factors on the risk of infection.⁴ Although patient-specific factors had a significant association with risk of infection, much of the risk was determined by hospital factors.

Demonstration Projects

The collection and reporting of data are necessary first steps in reducing HAIs; however, the ultimate goal is to provide infection-control practitioners with tools to identify areas of improvement. For this reason, PHC4 has collaborated on 2 major initiatives that emphasize infection reduction.

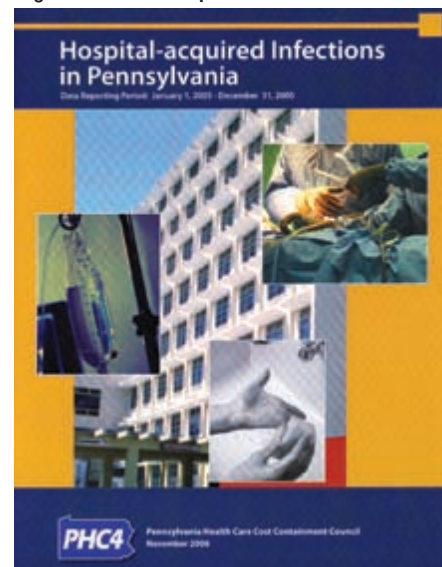
In 2005, PHC4 collaborated with the Jewish Healthcare Foundation in awarding grants to 5 hospitals for demonstration projects to quantify the costs and reduce the number of HAIs. The hospitals were challenged to duplicate the groundbreaking work pioneered by Shannon and staff at Pittsburgh's Allegheny General Hospital (ie, to reduce to near zero the number of infections in critical care units).

Although the 5 hospitals focused on different aspects of infection reduction, the results across the board were impressive, with each hospital reporting a decrease in infections. Notably, payment issues were somewhat less clear; some hospitals suffered financial losses on infection cases while others did not lose money. The consensus was that any determination about the economics of infection reduction depends somewhat on how hospital costs are allocated.

Ultimately, the work by the hospitals demonstrated that more study is needed, particularly around hospitals' disparate cost accounting methods. Each of the 5 hospitals reported that their awareness of issues relating to infections was significantly increased due to this project. The work also served as a springboard for other infection reduction strategies, and demonstrated what can be accomplished when organizations strive for perfection rather than unquestioningly accepting standard benchmarks.

In 2006, PHC4 launched a second pilot project aimed at infection reduction. PHC4 and the Highmark Foundation awarded grants to 10 Pennsylvania hospitals and 1 health system to implement new technology for tracking and proactively preventing HAIs. The

Figure 1. PHC4 Report (11/06)



hospitals selected for the *Reducing Hospital-Acquired Infections with Electronic Surveillance Demonstration Project* received funding to assist in their utilization of an electronic surveillance system that removes subjectivity from identification and reporting of infections. Although it is too early for results, the hospitals using this technology have said it frees infection-control staff from labor-intensive manual collection so they can spend more time actually finding and preventing the causes of HAIs.

The Positive Impact of Public Reporting

Even though public reporting of the incidence of HAIs has just begun, there is evidence that such reporting of health care outcomes improves quality. Two examples from the literature highlight the benefits of publicly reporting hospital performance. Dr. Judith Hibbard and colleagues (from the University of Oregon) found that Wisconsin hospitals that publicly reported hospital performance were significantly more likely to increase their quality improvement activities than 2 comparison groups that reported privately or not at all.⁵ In addition, researchers

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found that, while coronary artery bypass graft surgery mortality rates have dropped nationally, they have dropped more significantly in states with public reporting (eg, Pennsylvania, New York).⁶

As the issue of HAIs has come to the forefront of patient safety, important quality improvement efforts are being instituted. The Institute for Health Improvement's 100,000 Lives Campaign (now the 5 Million Lives Campaign) has provided many success stories among hospitals. Medicare has indicated that it will stop paying hospitals for expenses related to HAIs in 2008, and more states are passing laws that require public reporting of infection rates.

By continuing its history of public reporting, PHC4 hopes to spur additional quality improvement initiatives and further contribute to the ongoing national conversation about HAIs.

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References

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3. Peng MM, Kurtz S, Johannes RS. Adverse outcomes from hospital-acquired infection in Pennsylvania cannot be attributed to increased risk on admission. *Am J Med Qual*. 2006;21(6 suppl):17S-28S.
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5. Hibbard JH, Stockard J, Tusler M. Does publicizing hospital performance stimulate quality improvement efforts? *Health Affairs (Millwood)*. 2003;22(2):84-94.
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Web Sites of Interest

Agency for Healthcare Research and Quality

Quality and Patient Safety

- ▶ www.ahrq.gov/qual/

Medical Errors and Patient Safety

- ▶ www.ahrq.gov/qual/errorsix.htm

AQA Alliance

Organization dedicated to both ambulatory and hospital quality

- ▶ www.aqaalliance.org/

Centers for Medicare and Medicaid Services (CMS)

Hospital Quality Alliance 10 Measure "Starter Set"

- ▶ www.cms.hhs.gov/HospitalQualityInits/downloads/HospitalStarterSet200512.pdf

CMS/Premier Hospital Quality Incentive Demonstration (HQID)

Government/industry partnership demonstration project to improve quality and safety

- ▶ www.premierinc.com/quality-safety/tools-services/p4p/hqi/index.jsp

Health Research Education Trust

General information

- ▶ www.hret.org/hret/about/

Institute for Healthcare Improvement

General Information about the organization

- ▶ www.ihc.org/ihc/about

Institute of Medicine

Access to two seminal reports, *Crossing the Quality Chasm* and *To Err is Human*

- ▶ www.iom.edu/CMS/8089.aspx

The Chasm in Quality: Select Indicators from Recent Reports

- ▶ www.iom.edu/CMS/8089/14980.aspx

National Committee for Quality Assurance

Home Page

- ▶ web.ncqa.org/

National Quality Forum

Home Page

- ▶ www.qualityforum.org/

Pennsylvania Health Care Cost Containment Council (PHC4)

Hospital-Acquired Infections in Pennsylvania 2005

- ▶ www.phc4.org/reports/hai/05/docs/hai2005report.pdf

Upcoming Issues

Look for the following articles in future issues of *Prescriptions for Excellence in Health Care*

- ▶ *Quality and Safety by Dign* – Creating a hospital building environment designed to reduce error and improve patient safety
- ▶ *Ambulatory Quality Measurement: The Jefferson University Physicians Experience* – Developing a system-wide approach to ambulatory quality improvement