GIH

Rx FOR PROGRESS

Putting Patient Safety Into Practice

ISSUE BRIEF NO. 13

OCTOBER 2002

BASED ON A GRANTMAKERS IN HEALTH ROUNDTABLE

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Foreword

As a result of the Institute of Medicine's (IOM's) 1999 report, *To Err Is Human: Building a Safer Health System*, hospitals, health systems, and other organizations throughout the country are implementing plans to reduce medical errors and improve patient safety. They are embracing recommendations from *To Err Is Human* and its companion report, *Crossing the Quality Chasm*, to conduct research on how and why errors occur, identify best practices, create cultures of safety, report and analyze errors, and develop patient safety programs.

A key message from the IOM's work is that medical errors are rarely the result of individual misconduct; they are caused by failures in health care systems and organizations. System improvements have been shown to substantially reduce error rates and improve the quality of health care. In many cases, we already know how to improve systems and make health care safer.

As part of its continuing work to advance health care quality and to promote grantmaker involvement in comprehensive patient safety improvements, Grantmakers In Health (GIH) convened a group of representatives from foundations, government, research, and health care organizations to share their experiences and expertise on medical errors and patient safety. This Roundtable Meeting – held February 27, 2002 in New York City – featured both grantmakers and their grantees, allowing attendees to draw upon multiple perspectives while learning about specific strategies to reduce medical errors and improve patient safety. The session also highlighted emerging opportunities and challenges for foundations that wish to fund patient safety programs and research.

GIH Roundtable Meeting discussants – including physicians, researchers, and health care administrators – shared their experiences with real-life medical errors and how, with the help of public and private funding, their organizations have altered operations and care practices to prevent errors from happening. The meeting was designed to enhance attendees' knowledge of medical errors and patient safety work, as well as their understanding of best practices and lessons learned by those supporting research and dissemination, technology, leadership, and patient care improvements. Furthermore, the meeting emphasized the importance of collaboration between public and private funders to support research and specific patient safety strategies, as well as dissemination of findings and new knowledge.

This Roundtable Meeting represents a natural continuation of the patient safety work that GIH has been involved in since 2000. GIH's work began shortly after the release of the catalytic IOM report, *To Err Is Human*. With funding from The Robert Wood Johnson Foundation, GIH held an Issue Dialogue, *Advancing Quality Through Patient Safety*, in February 2001. Attendees at this one-day meeting learned about the scope of medical errors and their ramifications; government, purchaser, and provider responses to the medical errors crisis; strategies for reducing medical errors, including lessons learned from other high-risk industries; and opportunities for foundations to

collaborate with stakeholders, including government, health care professionals, and purchasers. After this meeting, GIH released an Issue Brief that provided an in-depth look at each of these topics.

The success of this event, along with increased grantmaker interest in patient safety, convinced GIH and its partners of the need for a venue to facilitate the exchange of information on patient safety. With funding from The Robert Wood Johnson Foundation, and through collaboration with a number of public and private organizations, GIH formed a patient safety working group that brings together public and private funders working to reduce medical errors and enhance patient safety. This collaborative initiated the following activities:

- Hosting a meeting in June 2001 where representatives from the federal Agency for Healthcare Research and Quality (AHRQ), Blue Cross Blue Shield of Michigan Foundation, the Centers for Medicare & Medicaid Services, The Commonwealth Fund, The Robert Wood Johnson Foundation, and other organizations discussed, among other topics, the possibility of sharing grant applications to increase the number of high-quality medical error and patient safety proposals that are funded. The group also identified ways in which it can continue to communicate, such as face-to-face meetings, site visits, conference calls, and e-mail.
- Coordinating a site visit to the Pittsburgh Regional Health Initiative (PRHI) in January 2002, which provided an on-the-ground look at a successful medical error reduction model. At this event, public and private funders were able to tour a PRHI participating hospital and observe error reduction strategies in practice. Participants also learned about the collaborative nature of the initiative and how regional leaders developed a community network around the concept of advancing quality and safety. Participants also had the opportunity to attend a case study focusing on PRHI's application of the Toyota Production System to health care.

This report provides a synthesis of the presentations and discussion at the February 2002 GIH Roundtable Meeting. It begins with an overview of the origins of the patient safety movement, then details the work of researchers, providers, and grantmakers to reduce medical errors by improving the functioning of health care systems.

Special thanks are due to those who participated in the Roundtable Meeting, but especially to presenters and discussants: Linda K. DeWolf, vice president of the VHA Health Foundation Inc.; Sandra Gold, Ed.D., executive vice president of The Arnold P. Gold Foundation; Peter A. Gross, M.D., chairman of internal medicine at Hackensack University Medical Center; Ellen W. Kramer Lambert, Esq., senior program officer at The Healthcare Foundation of New Jersey; Lucian L. Leape, M.D., adjunct professor at the Harvard School of Public Health; Gregg S. Meyer, M.D., M.Sc., director of the Center for Quality Measurement and Improvement at AHRQ; Stephen C. Schimpff, M.D., chief executive officer of the University of Maryland Medical Center; and Paul Tarini, senior communications officer at The Robert Wood Johnson Foundation.

Lauren LeRoy, Ph.D., president and CEO of GIH, served as moderator of the session. Kate Treanor, M.S.W., a program associate at GIH, planned the program and wrote this report. Larry Stepnick of The Severyn Group, Inc. also contributed significantly to this report.

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About GIH

Grantmakers In Health (GIH) is a nonprofit, educational organization dedicated to helping foundations and corporate giving programs improve the nation's health. Its mission is to foster communication and collaboration among grantmakers and others and to help strengthen the grantmaking community's knowledge skills, and effectiveness. Now celebrating its 20th year, GIH is known today as the professional home for health grantmakers and a resource for grantmakers and others seeking expertise and information on the field of health philanthropy.

GIH generates and disseminates information about health issues and grantmaking strategies that work in health by offering issue-focused forums, workshops, and large annual meetings; publications; continuing education and training; technical assistance; consultation on programmatic and operational issues; and by conducting studies of health philanthropy. Additionally, the organization brokers professional relationships and connects health grantmakers with each other, as well as with others whose work has important implications for health. It also develops targeted programs and activities and provides customized services on request to individual funders. Core programs include:

- **Resource Center on Health Philanthropy.** The Resource Center monitors the activities of health grantmakers and synthesizes lessons learned from their work. At its heart are staff with backgrounds in philanthropy and health whose expertise can help grantmakers get the information they need and an electronic database that assists them in this effort.

- **The Support Center for Health Foundations.** Established in 1997 to respond to the needs of the growing number of foundations formed from conversions of nonprofit hospitals and health plans, the Support Center now provides hands-on training, strategic guidance, and customized programs on foundation operations to organizations at any stage of development.

- **Building Bridges with Policymakers.** GIH helps grantmakers understand the importance of policy to their work and the roles they can play in informing and shaping public policy. It also works to enhance policymakers' understanding of health philanthropy and identifies opportunities for collaboration between philanthropy and government.

GIH is a 501(c)(3) organization, receiving core and program support from nearly 200 foundations and corporate giving programs each year.

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The History of the Patient Safety Movement

Concerns about patient safety within the health care system have been present since the early 1900s and reappeared sporadically throughout the 20th century. Until recently, however, the public, the media, and the medical establishment ignored most warnings about the harm being caused by medical errors.

By the 1970s, patient safety began to command attention, particularly within the field of anesthesiology. In fact, a concerted effort over a 20-year period helped to reduce the mortality rate due to anesthesia errors by more than 90 percent, from a 1-in-20,000 chance of dying in the 1970s to 1-in-300,000 by the early 1990s. This remarkable decrease resulted from the deliberate identification of safety as a problem and application of human factors principles and design concepts in anesthesia. The Anesthesia Patient Safety Foundation, formed in the mid-1980s, was instrumental during the latter part of these efforts.

Outside of anesthesiology, however, patient safety continued to receive little attention until the mid- to late-1990s. Even the 1991 Harvard Medical Practice Study, which found that 3.7 percent of hospitalized patients in New York state were injured due to a medical error (with two-thirds of these errors potentially being avoidable), failed to command much attention.

As described by Lucian L. Leape, M.D., adjunct professor at the Harvard School of Public Health, the landscape began to change in the mid-1990s, due in part to a series of high-profile errors that caught the public's attention. One mistake – a chemotherapy overdose at the Dana Farber Cancer Institute that led to the death of *Boston Globe* journalist Betsy Lehman – played a particularly important role in placing a spotlight on medical errors. "Now, she is not the first, not the last, and not the worst medical tragedy," said Dr. Leape. "But her death occurred at a propitious time. It occurred just when we were beginning to understand that there was a way to prevent medical errors," he continued.

Yet it was not until 1999 that the patient safety movement began in earnest with the release of the landmark IOM report, *To Err Is Human: Building a Safer Health System*. This report documented the magnitude of unnecessary deaths and injuries caused by avoidable medical errors in this country and called on the nation's leadership to make reducing these errors a national priority. The estimates included in this report – most notably that between 44,000 and 98,000 individuals die in hospitals each year due to medical errors – were extrapolated from the 1991 Harvard study.

The Transforming Message: Bad Systems, Not Bad People, Are to Blame

The central message of the 1999 IOM report, as well as its 2001 sequel, *Crossing the Quality Chasm*, is that medical errors are the result of bad systems, not bad people. To fix the problem, the focus needs to be on redesigning these systems, not on

"What we have is conscientious, hard-working, dedicated doctors, nurses, and pharmacists who spend their day working in error-prone systems and trying not to make the mistakes they are being set up to make."

LUCIAN L. LEAPE, M.D.

changing individual behavior. Systems need to be designed so that fewer bad things happen and so that individuals are less likely to make mistakes. Dr. Leape commented that one cannot overestimate the importance of this transformational message, as it "turned on its head" the conventional wisdom about the causes of medical errors. Physicians have historically been trained to believe that it is their individual responsibility not to make mistakes. Yet physicians are human, and thus will inevitably make mistakes. Given their training, moreover, it is not surprising that individual clinicians were blamed when errors did occur. But the IOM findings suggest that individual responsibility is not enough. Error-prone systems must be fixed.

Intuitively, one might think that physicians would readily embrace the idea that systems, rather than individuals, are to blame for errors. Yet in reality, some physicians endorse the concept while others, as described by Dr. Leape, "recoil in horror." This message challenges conventional thinking and has radical implications for the practice of medicine. First, effective redesign of systems of care requires that physician actions be standardized and codified requiring practices consistent with medical evidence. Second, quality of care becomes a team responsibility, rather than an individual one. Medicine becomes a collective social enterprise in which care must be integrated and coordinated across a variety of caregivers. This represents a tremendous change for physicians, many of whom were attracted to medicine because it offered the opportunity to be autonomous. Finally, everyone, including patients, consumers, and regulators, has a stake in safety, and, therefore, all voices need to be considered. Stakeholders must take responsibility for working together to ensure safety.

The prospect of change has led some physicians to resist the patient safety movement, primarily by questioning the data on the number of deaths and injuries caused by errors. The vast majority of physicians, however, accept that, even if the data overstate the problem, the number of deaths from medical errors in hospitals each year is simply not acceptable.

Foundation Strategies for the Future

During the Roundtable Meeting, Dr. Leape suggested that foundation leaders can build upon the substantial work that has already been done in the field of patient safety. At this point, researchers generally know a great deal about why people make mistakes, and there is not a pressing need to fund more work on the basic science of errors and error prevention.

There are, however, plenty of opportunities for foundations to promote safety through other initiatives. Four such opportunities are described.

- **Translational research** investigates how concepts of work design from other industries can be used to redesign health care systems and prevent mistakes by making it "easy to do it right and hard to do it wrong." To date, most health care organizations are relatively immature in their ability to adapt the error-reducing lessons from other disciplines, such as aviation.

- **Best-practices research** helps develop new practices, studies their effectiveness, and determines how best to implement them in the nation's 5,000+ hospitals. In other words, this research determines answers to three critical questions: what to do, how to do it, and how to do it 100 percent of the time.
- **Human factors research** on issues, such as how to develop and utilize teams effectively; and how to eliminate and/or minimize the impact of fatigue, sleeplessness, and overwork will help prevent medical errors from occurring.
- **Education and training** on patient safety for nurses, physicians, and other caregivers is needed, as are faculty and tools for teaching. Dr. Leape called for investments in learning how to form and utilize effective teams in health care, something that historically has been lacking. He also advocated the promotion of simulation training in which caregivers can practice emergency situations when errors are likely to occur.

In addition, foundations can collaborate with others in dealing with the external pressures that often prevent progress from being made, such as a lack of funding for error-reporting systems and an outdated tort system. For example, only 15 states have mandatory reporting systems, and most of these are grossly underfunded, thus preventing program officials from effectively analyzing the data. With respect to the tort system, Dr. Leape encouraged the evaluation of alternatives, such as no-fault compensation, as well as the development of a system to deal with problem physicians before they hurt people, rather than after the fact when the only recourse is to discipline or remove them.

Finally, foundations can focus on supporting the victims of errors, which include both the patient and the person who makes the mistake. "There are two victims in every accident," said Dr. Leape. "There is the patient, and there is the person who made the mistake. We tend to shy away from the patient when they need us most. We don't listen; too often we're not honest; and we don't give the physical, financial, and emotional support they desperately need. We do even worse with the caregiver," he explained.

"The way we effect change is through partnerships . . . we cannot do this alone."

GREGG MEYER, M.D., M.SC.

The Role of Government in Enhancing Patient Safety: The Agency for Healthcare Research and Quality

The Agency for Healthcare Research and Quality (AHRQ) is one of two research agencies within the U.S. Department of Health and Human Services. The other is the National Institutes of Health (NIH).

Despite AHRQ's relatively small budget – $297 million annually compared to $27 billion at NIH – Gregg Meyer, M.D., M.Sc., director of the agency's Center for Quality Measurement and Improvement, explained that AHRQ wants to be the "mouse that roars." Through partnerships with other organizations, AHRQ's leaders hope to have a powerful impact on health care. The agency's goal is to enhance the quality, appropriateness, and effectiveness of health care services, and access to such services, through the establishment of a broad base of scientific research and through the promotion of improvements in clinical practice, patient safety, and in the organization, financing, and delivery of health care services.

This approach is evident in AHRQ's examination of patient safety. Rather than following the traditional model of setting a research agenda by asking researchers about their needs, AHRQ asked those people who might use the research – including patients, advocates, providers, purchasers, and policymakers – what questions they need answered to meaningfully improve patient safety. To that end, in September 2000, AHRQ's Interagency Coordination Task Force sponsored the first National Summit on Medical Errors and Patient Safety Research, where input was solicited from over 100 stakeholders, including 25 groups that gave oral testimony and 71 that gave written guidance. With this user-driven agenda in place, AHRQ committed $50 million in 2001 to a variety of patient safety research projects, such as:

- health system error reporting, analysis, and safety improvement demonstrations;
- centers of excellence for patient safety research and practice;
- clinical informatics to promote patient safety;
- effect of working conditions on patient safety; and
- patient safety research dissemination and education. (A list of grantees can be found on the agency's Web site, www.ahrq.gov.)

The Challenge for Foundations: Getting AHRQ Research into Practice

AHRQ's ultimate goal in funding research is to improve people's lives. But the agency lacks the financial resources and the stakeholder relationships that are necessary to get research findings incorporated into the everyday practice of medicine. As a result, AHRQ is looking to support the efforts of other organizations to reduce errors and improve patient safety. To that end, the agency has funded 10 projects totaling $6.4 million to expand the evidence base on what does and does not work in patient safety.

AHRQ'S FIVE STEPS TO SAFER HEALTH CARE

- Speak up if you have questions or concerns.
- Keep a list of all the medications you take.
- Make sure you get the results of any test or procedure.
- Talk with your doctor and health care team about your options if you need hospital care.
- Make sure you understand what will happen if you need surgery.

AHRQ is working with foundations and other organizations in a variety of ways at the national, state, and local level to promote the use of AHRQ's research findings into everyday practice. AHRQ recognizes that promoting patient safety is a local endeavor. The federal government can provide information and facilitate work, but states, individual hospitals, health care providers, and the people in communities make health care safer every day. For example, AHRQ has supported local communities by facilitating meetings at the state and local level, testing the feasibility of a patient safety improvement corps, sponsoring small conference grants, and developing uniform vocabulary and coding standards.

At the Roundtable Meeting, Dr. Meyer also shared examples of how foundations can work with AHRQ on these and similar types of efforts. Foundations can:

- Serve as the essential connectors between research and practice and provide financial resources for local health care communities – especially in rural areas – to address specific issues.
- Promote the spread of best practices, such as simulation training and computerized physician order entry (CPOE), which is presently used in only 3 to 5 percent of hospitals. Many of these high-technology interventions are expensive; foundations can help fund evaluations of the business case for such investments.
- Promote the use of low- and no-cost interventions that are known to enhance safety, such as involving patients more in their care and making routine use of order readback, checklists, and cross-discipline team training.
- Add a credible, trusted voice to patient safety issues. For example, foundations can take advantage of *Five Steps to Safer Health Care*, an AHRQ publication available in English, Spanish, and low-literacy versions. They can put their logo on this document and distribute it to local health care organizations, thereby enhancing the effectiveness of the message. Foundations can also take advantage of other AHRQ resources, such as a report that reviews the evidence on safety practices and an on-line slide presentation on patient safety that can be downloaded and used in talks with local stakeholders.

"Advice to consumers: Go to hospitals with the highest rate of reported errors, as these are the organizations that are doing something about it."

GREGG MEYER, M.D., M.SC.

- Educate the public and the medical community on patient safety issues. For example, most consumers do not understand that reported rates of medical errors and adverse events will likely increase at the safest hospitals, as these institutions have made the investment in reporting systems and other programs designed to identify errors, minimize their impact, and prevent future recurrences. The provider community must also be educated on the need to acknowledge medical errors, as admitting mistakes is the first step in preventing their recurrence.

Looking to the Future

Patient safety represents just the tip of the iceberg with respect to quality issues within health care. In his remarks, Dr. Meyer highlighted a few areas where business remains unfinished, including getting patients more involved; speaking a uniform language focused on safety (not errors); addressing cultural and legislative barriers to safety; integrating traditional state-based levers, such as licensing, into the patient safety movement; releasing the potential for informatics to enhance safety; and translating momentum on patient safety into a broader focus on quality. He urged foundation leaders to form partnerships with AHRQ and other federal agencies to work on these tasks and on disseminating and implementing a wide variety of AHRQ research products and services, with the ultimate goal of enhancing patient safety and bettering people's lives.

Promoting Patient Safety in a Hospital Setting: The University of Maryland Medical Center

The University of Maryland Medical Center (UMMC) handles 30,000 admissions and 50,000 emergency department visits each year. With 4,300 full-time employees and 800 medical staff, UMMC is a high-intensity facility with the highest Medicare case mix in Maryland.

Given this environment, the chance of a medical error at UMMC is relatively high. As a result, the facility's leadership has taken an organized approach to patient safety, which includes:

- making patient safety a priority of the facility's executive leadership, in part by tying a portion of incentive compensation to levels of safety;
- focusing on a few high-leverage areas, including medication errors, nosocomial infections, errors in blood administration, and errors in the intensive care unit (ICU). For example, use of intensivists in the ICU has helped to enhance safety;
- creating a nonpunitive environment where nurses and physicians feel comfortable acknowledging and reporting errors;
- increasing the reporting of errors;
- collaborating with human factor specialists; and
- committing to required investments, such as CPOE. In fact, UMMC is implementing a CPOE system with fiber optic cable

and has committed the vast majority of its $15 million capital budget to purchases that will enhance patient safety.

Despite Our Best Intentions, Errors Still Occur

Physicians, nurses, and other caregivers do not come to work each day with the intention of making a medical mistake or causing an adverse drug event in a patient. The Hippocratic oath – which teaches "first do no harm" – reinforces the notion that errors are to be avoided if at all possible. Yet errors do occur. As the 1999 IOM report's title, *To Err Is Human*, made clear, people make mistakes. Even as new technologies and drugs allow our health care system to cure patients who previously might have died, errors continue to harm and even kill patients on a regular basis.

In some instances, there is no known cause for the error. To illustrate this point, Stephen C. Schimpff, M.D., chief executive officer of UMMC, shared with Roundtable Meeting participants the story of a premature baby who died after a nurse inadvertently plugged a feeding tube into an intravenous (IV) line. Root cause analysis could find no reason for the mistake – the nurse was qualified, alert, and not distracted or rushed. She simply made a mistake.

Rather than firing or disciplining the nurse who made the mistake, Dr. Schimpff suggested that she receive grief counseling. Those who make deadly medical mistakes must live with them for the rest of their lives. Yet, as also noted by Dr. Leape, the caregiver is often a forgotten victim. When mistakes occur, hospital leaders and physicians must quickly acknowledge them to the patient and family, take corrective action, if possible, to minimize the damage, and make financial retribution to the victims of the error.

Equally important, hospitals must establish a nonpunitive environment with respect to medical errors. Realizing that everyone makes mistakes, the key is to take a systems approach that seeks to overcome the human tendency to err. At UMMC, the response to the baby's death was to change the tubing on the feeding and the IV lines so as to make it impossible for this particular mistake to be repeated.

The UMMC Program for Reducing Medical Errors

Approximately 40 percent of patients at UMMC require treatment in the ICU, and the average patient is taking 13 different drugs each day, some in multiple doses. As a result, the medical center implemented a number of programs to eliminate medical errors and improve patient safety. A portion of this work has been funded by AHRQ.

Reducing Medication Errors

According to Dr. Schimpff, 60 percent of medication errors and adverse drug events are due to problems in ordering and transcriptions, e.g., poor handwriting. Another 25 percent are the result of errors in administering the drug, while the remaining 15 percent are due to errors in pharmacy preparation.

To reduce these types of errors, UMMC has eliminated the availability of dangerous drugs and combinations of drugs on the hospital floor. UMMC has also redesigned the packaging of certain drugs

> ***"We don't need to be punitive, but we do need to put systems in place that will help that nurse not make that mistake."***
>
> STEVEN C. SCHIMPFF, M.D.

to eliminate the availability of deadly concentrations – these are replaced with premixed solutions – and to avoid mistakes due to similar packaging of different drugs and different doses of the same drug. Similar packaging causes many errors that could easily be avoided.

Technology is also being used to reduce medication errors. The facility's new CPOE system is easy for physicians to use and provides links to the pharmacy system and knowledge-based decision support systems, thus making it capable of catching potential errors before they occur. UMMC has also instituted a bar-coding program, as well as several surveillance mechanisms.

Eliminating Errors in the Resuscitation Unit

Making use of a grant from AHRQ, UMMC instituted the Development Center for Patient Safety. The center uses human factors techniques to improve safety for trauma patients by creating educational programs and evidence-based guidelines for unit staff. For example, an AHRQ-supported program focused on the procedures used in thoracotomy for chest tube insertion at the Maryland Shock Trauma Center. Researchers used video and audio recording to demonstrate how medical errors can occur through deviations in processes and to prompt discussion among the clinical team about using practice guidelines to encourage appropriate clinical actions. Another grant, awarded by the National Patient Safety Foundation, supported the use of auditory warning signals in critical care settings. The goals of the project are to: understand the value of auditory alarms as an information source with which clinicians consult, and establish a set of guidelines that are based on empirical research to safeguard patients and reduce errors.

Looking to the Future

Enhancing patient safety is critical. At the Roundtable Meeting, Dr. Schimpff advised foundation and health care leaders to implement proven strategies in high-priority areas, such as medication errors. Such actions will not only enhance the quality of care for patients, but they will also create several fringe benefits, including superb research and continuing education opportunities for staff members, reduced hospital costs, and increased physician and employee satisfaction and retention.

The Role of a National Foundation in Enhancing Patient Safety

The Robert Wood Johnson Foundation initiative, *Pursuing Perfection: Raising the Bar for Health Care Performance*, came out of the foundation's clinical care management team, which focuses on closing the quality gap for people with chronic conditions by improving clinical care management, emphasizing value-based purchasing and the consideration of quality in purchasing decisions, and increasing consumer education and patient activation.

Pursuing Perfection has its roots in a foundation grant to the Pittsburgh Regional Health Initiative (PRHI), a collaboration of local providers and employers who work together on enhancing patient safety. The *Pursuing Perfection* program was set up as a multi-site demonstration project, with grants to be made to physicians and hospitals willing to make the quality of patient care a core part of their business strategy. The goal is to prove that quality can be dramatically improved, and then communicate this message to the rest of the world.

In addition, foundation leadership worked to ensure a mix of organizations that were not perceived by the health care industry as elite providers. The foundation wanted to show that quality improvement is possible anywhere. As Paul Tarini, senior communications officer at The Robert Wood Johnson Foundation, described at the Roundtable Meeting, "We wanted organizations that could make dramatic improvements in quality and safety, but of who we were able to say to other organizations, 'You know, they look a lot like you'."

Pursuing Perfection has three primary components: (1) major grants and technical assistance for health care providers to plan and implement programs that pursue perfection as a central business strategy, (2) a learning network that helps all program applicants and also has a public component, and (3) a communications campaign targeting providers and opinion leaders about the need and the opportuni-

DEFINING PURSUING PERFECTION

Pursing perfection means striving to do the following:

- deliver all indicated preventive, acute, and chronic care services accurately;
- deliver all indicated services at the right time;
- avoid services that are not helpful to the patient or reasonably cost-effective;
- avoid safety hazards and errors that harm patients and employees; and
- respect the patient's unique needs and preferences.

ties to improve the quality of health care in America. The Institute for Healthcare Improvement (IHI) serves as the national program office for the initiative.

Operationally, the *Pursuing Perfection* initiative consists of two phases: developing a business plan and implementing that plan.

Phase I: Developing the Business Plan

Of the 225 applications from around the country, the foundation selected 12 grantees to receive $50,000 each to develop a business plan on how the organization will pursue perfect health care. Grantees were also provided with up to $50,000 of consulting assistance. The following strategies were integrated into each grantee's business plan:

- supporting pilot efforts to pursue perfect health care in at least two care processes;
- training clinical and administrative employees to redesign their processes based on the lessons from the pilots;
- building partnerships beyond the boundaries of the organization, as necessary;
- building infrastructure to support organization-wide improvements in such areas as clinical measurement, business processes, accounting information systems, staff training, and human resources;
- developing a business case for efforts to pursue perfect health care, including an internal financial analysis and a marketing strategy oriented at purchasers, insurers, and consumers. This marketing strategy should advocate for contractual changes that support perfect health care; and
- strengthening leadership and enlisting the CEO, medical leadership, and trustees or board members as persistent champions of the change.

One grantee, Tallahassee Medical Center in Florida, proposed an end-to-end redesign of its medication system, including prescribing, ordering, dispensing, administering, and monitoring. Another grantee, Scripps Health in San Diego California, proposed to improve care processes for diabetes and acute myocardial infarction to reduce deaths.

Phase II: Implementing the Business Plan

Based on the strength of the 12 initial business plans, seven of the Phase I grantees were awarded two-year grants ranging from $1.5 to $3.5 million each. These grantees will be required to provide significant financial and in-kind matching of the grant. (A list of Phase I and Phase II grantees is available at www.ihi.org.)

At the end of the two-year period, the foundation expects grantees to have achieved the following:

- produced perfect care processes and substantial improvement in outcomes indicators for at least two pilot care processes;
- trained a sufficient proportion of the organization's staff in skills needed to improve and redesign processes and systems to pursue perfect health care;
- begun implementation of projects in at least five other major care areas;
- extended efforts to pursue perfect health care processes to partner organizations;

- adopted key infrastructure changes across the organization as identified during the pilot projects;
- completed a quantitative analysis supporting the case for making quality a central business strategy; and
- demonstrated detectable changes in the entire organization's culture relevant to the pursuit of excellence, the priority of quality improvement, and the improvement of patient safety.

In addition, Phase II grantees will be required to collect a wide variety of data, both before and after implementation, that will allow a systematic evaluation. Grantees will work with AHRQ, the lead organization conducting an external evaluation of grantee initiatives.

Ultimately, the *Pursuing Perfection* grantees who are successful in improving quality will have had to collaborate and build strong relationships with many different types of organizations. As Mr. Tarini described at the Roundtable Meeting, "They will have to work with payers in their communities to seek changes in financing and reimbursement systems, providers and different organizations in the workforce, and patients, because the most successful projects are going to be patient-centered."

The Pursuit of Perfection: Hackensack University Medical Center

Hackensack University Medical Center (HUMC) in Hackensack, New Jersey has experienced steady growth in both inpatient and ambulatory admissions, which have more than doubled since 1990 to 66,000 total admissions in 2001. Profitable for the last 16 years, HUMC has proven that strong financial performance can go hand-in-hand with high quality and satisfied employees. The medical center as a whole has consistently been the highest-quality provider in its area, while the nursing staff, which boasts a turnover rate that is half the national average, has received several quality awards.

The HUMC Model for Patient Safety

The HUMC model for patient safety addresses one of the critical problems within health care today – poor patient care results from the failure of system components to effectively interact. For example, failure to utilize evidence-based medicine or insufficient information technology infrastructure can lead to serious medical errors. Similarly, poor communication and coordination of care and lack of a shared organizational vision may jeopardize patient safety.

"In health care, as it stands now, the physical and emotional environment for healing is poor," said Peter A. Gross, M.D., chairman of internal medicine at HUMC.

"Physicians and nurses often have to act without appropriate data. Poor communication and cooperation is the rule of the day. Evidence-based medicine is not practiced as often as it should be. And information technology systems are inadequate."

HUMC is working to change the status quo. Its goal is to establish a new paradigm of care in which the highest quality patient-centered care is consistently provided. Under this model, for example, physicians are part of an interdisciplinary team and must meet group-determined standards of care. Physicians and other providers receive feedback and assess success or failure. Beyond improved communications and coordination of patient care, the medical center has enhanced its physical environment by including complementary medicine and patient education. The underlying intent is to align all of the system components so that they work together in a coordinated, cooperative, collaborative fashion to improve the quality of patient care.

Using this model, HUMC has become "a learning organization with a willingness to change. In fact, we're willing to keep doing it over and over again until we get it right," said Dr. Gross. Twelve service line teams at HUMC represent the centerpiece of the hospital's performance improvement infrastructure. In addition, a separate clinical effectiveness committee has been established that makes use of the Malcolm Baldrige National Quality Health Care Criteria for Performance Excellence as an overall framework for improvement.

The Advanced Practice Nurse Model

One of the most successful programs at HUMC is its advanced practice nurse (APN) program. Under this initiative, APNs are responsible for monitoring and implementing guidelines and measures that have been developed by consensus groups led by individual physicians, who get local "buy-in" and departmental approval.

In the past, HUMC guidelines had little or no impact on care delivery, primarily because physicians simply were not able to remember everything they were supposed to do. By making notes on charts, calling physicians, and placing orders themselves with physician approval, the APNs have been successful in enhancing compliance with care guidelines.

The APN model was particularly successful in the hospital's telemetry unit. A variety of strategies for improving compliance with telemetry guidelines had failed, including dissemination, consensus meetings, and grand rounds. The APN concept was then presented to the Division of Cardiology and the Department of Internal Medicine. After physicians agreed to have the APN call them when necessary, telemetry utilization declined significantly, allowing the unit to care for more patients. As a result, HUMC was able to avoid building expensive new units.

Based on the success within telemetry, HUMC applied the same approach to community-acquired pneumonia (CAP), another area where past improvement efforts had met with little success. The effort, which centered on getting agreement from caregivers on appropriate performance measures and using the APN

to monitor compliance with agreed-to guidelines, resulted in nearly 100-percent adherence to guidelines that focused on early collection of blood cultures, early administration of oral antibiotics, screening for influenza and pneumococcal vaccinations, and early discharge therapy or treatment. The average length of stay for patients with CAP fell by 1.3 days. This drop reduced costs per case by $444, which translates into projected cost savings of nearly $320,000 annually.

Multidisciplinary Rounds

Dr. Gross also described the multidisciplinary coordination of care rounds model, an expansion of the APN program designed to pick up the pieces that are omitted by focusing on disease-specific measures. Under this program, a patient's physician and staff nurse join with an APN, senior staff nurse (SSN), social service staff, discharge planning staff, nutritionist, and pharmacist to conduct 20-minute rounds on all patients every day. If the plan of care is not clear or if safety issues arise, the team leader speaks to the physicians, and the system is redesigned. As a result of this initiative, length of stay has been reduced by three-quarters of a day on those units where multidisciplinary rounding occurs, compared to a one-quarter day drop on nonintervention floors.

Senior Staff Nurse Career Pathway Model

HUMC recently introduced the SSN career pathway model, which was developed to create new career advancement opportunities for experienced staff nurses at the unit level. These nurses help to implement the *Pursuing Perfection* initiatives. The SSN program not only serves to enhance nursing education, it also improves the coordination of care, enhances patient safety, and helps assure achievement of performance measures.

Current and Future Plans

HUMC's current plans call for extending these activities beyond those areas that are defined as priorities by Medicare peer review organizations. Through CPOE systems, computer checks, and participation in additional quality improvement collaboratives, HUMC hopes to minimize errors in other clinical departments within the medical center and in the outpatient setting. HUMC will focus on patients with congestive heart failure and other outpatient-sensitive disorders, as well as those in need of geriatric care and preventive medicine.

As a recipient of the Phase II *Pursuing Perfection* grant, HUMC has chosen to tackle seven areas that involve some of the most pressing health care issues in society, including: improving the function of failing hearts, reducing complications of atrial fibrillation by improving anticoagulation safety, spreading appropriate care models for geriatric patients, reducing medication errors and improving safety, reducing stroke complications and accelerating rehabilitation, saving heart muscle in patients with heart attacks, and implementing methods to prevent diseases through early diagnosis.

> ***"Physicians now have to function as part of a multidisciplinary team. They have to follow standards of care. They have to realize they're going to get feedback on what they're doing."***
>
> PETER A. GROSS, M.D.

"One of the most exciting things about the Pursuing Perfection grant is that everybody in our institution wants to participate. If somebody has been left out, they come up to me and say, 'I have an idea in mind, something I want to do'."

PETER A. GROSS, M.D.

10 NEW RULES FOR 21ST CENTURY HEALTH CARE

Dr. Gross emphasized the importance of adopting the 10 new rules for 21st century health care that were highlighted in the IOM's *Crossing the Quality Chasm* report.

- Focus on healing relationships.
- Customize to the patient.
- Recognize that the patient is the source of control.
- Share knowledge.
- Make evidence-based decisions.
- Make safety a system property.
- Embrace transparency.
- Anticipate needs.
- Reduce waste.
- Cooperate.

Lessons Learned on Improving Patient Safety

Dr. Gross highlighted a number of lessons that HUMC leadership and staff have learned as a grantee in the *Pursuing Perfection* program:

- Strive for near 100 percent compliance with performance measures; achieving this goal is possible.
- Focus on rapid cycle change.
- Be a learning organization.
- Spread best practices; most provider organizations want to be involved.
- Do not be afraid to try new models for care.
- Solicit strong technical advice; the technical adviser supplied by The Robert Wood Johnson Foundation proved to be invaluable to HUMC.

A Corporate Giving Program Addresses Patient Safety: VHA Inc. and VHA Health Foundation Inc.

VHA Inc. – an association of more than 2,300 health care organizations that collectively represent 27 percent of the nation's community hospitals – is using its power as an alliance to improve the quality of health care. VHA is helping its member organizations and physicians build healthy communities and succeed in local markets through the delivery of superior clinical and operational performance. According to Linda K. DeWolf, vice president of the VHA Health Foundation Inc., VHA's interest in patient safety was sparked by research findings from organizations such as the IOM, the National Quality Forum, the Joint Commission on the Accreditation of Healthcare Organizations, and AHRQ, as well as its own research. Research conducted by VHA Inc. found that enhancing

patient safety is one of the top issues for its hospital members and for consumers. It showed that 52 percent of consumers report having had a bad experience with a doctor or hospital, with many of the problems related to clinical issues and errors, including inadequate clinical treatment, mistakes in diagnosis, the failure to receive the most up-to-date care, and errors in surgery. Consumers reported inadequate clinical treatment, lack of staff communication, mistakes in diagnosis, and errors in prescription ordering or dosage as the more frequent causes of their poor experiences. Additionally, VHA research showed that consumers clearly hold hospitals and their medical staff accountable for patient safety.

VHA's Goals in Patient Safety

Given the importance of patient safety both nationally and among member hospitals and their patients, VHA Inc. has made a concerted effort to work with members to improve safety. With respect to patient safety, the company's goals include focusing on safety as a key component of quality, offering a responsive portfolio of services to help members meet evolving external requirements and continuously create safer health care systems, facilitating the transfer of knowledge and better safety practices across organizations, assisting members with implementation of safety initiatives, and advocating for safety within the health care community.

To that end, VHA Inc. has embarked on six patient safety programs:

- use of team training, including use of simulation training and order repetition in several sites;
- development of a patient safety community to serve as a network to share best practices and allow residents to learn from one another;
- promotion of product enhancements, such as bar coding;
- education of hospital staff via the VHA Web site (www.vha.com);
- development of an annual patient safety symposium that emphasizes a team approach and the dissemination of learning; and
- design of strategic research and planning.

The VHA Health Foundation Inc.

The VHA Health Foundation Inc., which is overseen by an 18-member national board of directors, strives to act as a national catalyst for improving health care by creating synergies among health care leaders, consumers, and businesses. It promotes leadership, knowledge, and innovative solutions that lead to healthier individuals and communities by bridging the gap between ideas and practice.

Within the area of patient safety, the foundation has embarked on several initiatives. It joined the National Patient Safety Foundation, Premier, and, p4ps in sponsoring the Partnership Symposium 2001. This two-day conference provided a venue for health care professionals and administrators to exchange information about solutions, strategies, and innovations in patient safety. Taking accountability for avoidable patient harm was also a featured topic.

Another area of patient safety in which the foundation has engaged is testing technology for physician order entry systems,

"You can't talk about team development, mobilizing and galvanizing a health workforce, or leadership without talking about humanism. And you can't talk about patient-centered care without talking about person-centered care."

SANDRA GOLD, ED.D.

specifically systems where the physician writes his or her order on a hand-held electronic pad, which then translates the order into the computer. This relatively inexpensive technology saves physicians time and is easy to use. Given VHA Inc.'s large member base, VHA Health Foundation Inc. has also tested dissemination of information on patient safety strategies via fax, e-mail, and written materials.

Challenges

Ms. DeWolf described the challenges that VHA Inc. and VHA Health Foundation Inc. face as they try to improve patient safety. While the vast majority of physicians, nurses, and other caregivers want to do the "right thing," error-prone systems, outdated technologies, and a "blame-and-shame" culture continue to get in their way. In addition, it can be difficult to keep the issue of patient safety on the radar screen.

VHA Inc. and the VHA Health Foundation Inc. are trying to overcome these challenges by providing resources and services to assist nearly 30 percent of the nation's hospitals in becoming safer. The foundation's unique role, said Ms. DeWolf, is to "bridge the gap between innovative ideas and practice by sponsoring demonstration projects and practical research, and then broadly disseminating findings so as to promote the replication of best practices."

Efforts of Smaller Foundations to Improve Patient Safety and Quality Through Humanism in Medicine

The Roundtable Meeting included presentations by representatives of two smaller foundations that have worked together and separately to promote patient safety.

The Healthcare Foundation of New Jersey

Ellen W. Kramer Lambert, Esq., senior program officer at The Healthcare Foundation of New Jersey, offered her perspective on how a small foundation can play a role in enhancing patient safety. The Healthcare Foundation of New Jersey awards approximately 190 grants each year at a funding level of $8 million. The foundation's effort to promote safety began several years ago with grants to produce programs, such as educational videos, and promote use of software and other technology to enhance safety. Unfortunately, the foundation's effort to bring local hospitals together on this issue never got off the ground.

Ultimately, the foundation found success by promoting humanism in health care. Humanism is important to patient safety. Understanding a patient's needs and exhibiting care and nurturing can help to reduce the incidence of medical errors. In addition, humanism enhances safety by emphasizing the needs of caregivers. Overworked, sleep-deprived caregivers will

be more prone to making mistakes and will be unable to exhibit care and nurturing in their work. They are also more likely to experience burnout, creating high turnover that could leave patient care in the hands of less experienced staff who are more likely to make mistakes. By recognizing and addressing the problems of caregivers, humanism can help to reduce turnover.

Humanism in Action

The cornerstone of The Healthcare Foundation of New Jersey's humanism efforts is its humanism in medicine awards, which include $1,000 to $2,000 grants to faculty members and graduating medical students who exhibit caring and nurturing in their work. In collaboration with The Arnold P. Gold Foundation, The Healthcare Foundation of New Jersey also sponsors a $500 per-person award for four individuals within each of 25 hospitals in northern New Jersey who demonstrate humanism in their work. Winners are honored at an awards ceremony that receives regional publicity.

The foundation is also involved in a number of other activities related to humanism in health care:

- In collaboration with The Arnold P. Gold Foundation, The Healthcare Foundation of New Jersey sponsors a speaker on humanism at the annual meeting of the Association of American Medical Colleges. This speaker reaches 300 to 400 medical school deans, hospital administrators, and faculty members each year.
- The foundation maintains a Web site that focuses on best practices in the U.S. and abroad where physicians and hospital staff members are working together as teams to create quality medical communities and to be responsive to patients by focusing on caring, nurturing, and attentiveness.
- In 2002, the foundation created a model program on ways to teach medical students around the country to deal with stress and remain focused on humanism when caring for patients. Additionally, the foundation will host a symposium for all New Jersey hospitals and residents that focuses on opportunities for improvement for residents, as well as the needs of hospitals that host these residents. After the symposium, the foundation will fund three pilot projects across the state.

The Arnold P. Gold Foundation

The Arnold P. Gold Foundation has collaborated with The Healthcare Foundation of New Jersey and many other foundations to promote greater humanism, attentiveness, and caring in health care.

Founded 13 years ago, the foundation has humanism programs in place in 130 of the 145 medical schools and schools of osteopathy in America. It also sponsors programs in other countries, including China, Israel, and Venezuela. Sandra Gold, Ed.D., executive vice president of the foundation, described the foundation's belief in humanism as the core of what needs to be emphasized within health care. Through its efforts, the foundation is hoping not just to enhance patient safety and quality, but to change the fundamental nature of health care. Institutions must be challenged to embark upon efforts and substantially alter the way care is delivered to patients.

> ***"The goal is to treat a patient as if she were your mother. Or, to put it another way, to take care of people the way you want to be taken care of yourself."***
>
> SANDRA GOLD, ED.D.

THE ROLE OF RACE, ETHNICITY, AND CULTURE WITH RESPECT TO PATIENT SAFETY

Several participants at the Roundtable Meeting raised the issue of race, ethnicity, and culture as it relates to patient safety and quality of care.

Dr. Meyer noted that AHRQ has a number of activities related to this topic, including the following:

- a forthcoming report on the quality of care in the nation that will include breakdowns by ethnic group and race,
- a forthcoming report that will evaluate disparities in care as they apply to the health care system, and
- a new evidence-based practice center dedicated to reviewing the evidence with respect to disparities in care.

In addition, The Robert Wood Johnson Foundation is sponsoring a program that will evaluate financial and nonfinancial rewards to improve quality; one area of focus relates to reducing racial and ethnic disparities with respect to health care.

The Arnold P. Gold Foundation is looking at broader issues of language and cultural competency in its work. The foundation has funded approximately 30 programs on cultural competency, including initiatives that focus on learning and understanding language and other cultural issues. AHRQ has also begun to look at these areas. It has translated *Five Steps to Safer Health Care* into Spanish and has an agreement with the California HealthCare Foundation to have it translated into eight Asian languages.

Some of these initiatives are beginning to reach the provider community. At HUMC, for example, caregivers are taught to speak the languages of the patients and to understand their ethnic and racial customs. This training is a building block for creating the type of environment where staff members can do their jobs in a caring, nurturing manner.

The Need for Collaboration

The Arnold P. Gold Foundation could not have sponsored the 26 programs that are currently under way (with total funding of $1.2 million) without the help of other organizations. The foundation plans carefully and collaborates with individuals and organizations to ensure that it attains its ambitious goals. It leverages available funding to have maximum impact.

Examples of collaborative activities include the following:

- The Barriers in Humanism and Medicine symposium, cosponsored by The Healthcare Foundation of New Jersey, brings together 40 to 50 individuals to work on specific problems related to humanism in medicine. For example, during one event that focused on the experiences of residents, participants were

required to work in groups to come up with 10 ideas to address problem areas. This approach creates an automatic distribution network for the implementation of ideas, thus ensuring that progress does not stop after the event is over.

- The foundation is working with UMMC on student clinician ceremonies and resident awards for outstanding teaching and compassion in medicine. It is also working with UMMC and HUMC to help medical students and residents see the value of humanistic care.
- The foundation supports an honor society on humanism in medicine, an idea that grew out of the barriers symposium. The honor society, which is supported by The Robert Wood Johnson Foundation, is now in place in five schools around the country. Eleven additional sites have expressed an interest in joining the initiative.
- With financial support from The Healthcare Foundation of New Jersey, the foundation is introducing humanism to hospitals that are already active in reforming their institutions. The effort, which is also being supported by the American Hospital Association, the state hospital and nursing associations, and others, includes a Web site (www.humanism-in-medicine.org) that serves as a resource center and virtual community for hospital leaders to find colleagues who have been successful in changing their institution's culture. Hospitals profiled on the Web site have agreed to host visits from interested representatives of other hospitals.

TOP FIVE ACTIVITIES FOR FOUNDATIONS TO PROMOTE PATIENT SAFETY

- Disseminate research findings on best practices in patient safety.
- Promote public education on patient safety and build the public's trust in the nation's health care system.
- Promote the education of practicing health care professionals, as well as individuals training to enter the field, on the new and emerging field of patient safety.
- Work with health care organizations and providers to promote use of high-technology interventions (e.g., barcoding and CPOE) and low-technology strategies (e.g., the removal of dangerous drugs from patient units and reading back physician orders by nurses or other professionals) that are known to be effective in reducing medical errors.
- Promote system change and leadership development through the convening of conferences, seminars, and other forums that bring together key stakeholders (e.g., policymakers, providers, consumer advocates, and foundations) within a community or across the nation.

Conclusion

New ideas and opportunities for both health care providers and grantmakers to engage in improving quality and reducing medical errors are continuously being uncovered. New organizations and individuals are joining the effort every day, bringing an unbelievable amount of resources, energy, and expertise to the patient safety movement. Many more organizations want to get involved, as evidenced by the 225 applications to The Robert Wood Johnson Foundation's *Pursuing Perfection* initiative.

With varying levels of experience, expertise, capacity, and financial resources among those organizations that are involved (and those that want to become involved), foundations have a tremendous opportunity to assist with promising efforts. Some organizations need to be energized, while others have the desire but need technical assistance. Foundations can also play an important role in bringing together the various stakeholders within an ongoing collaborative to share information. They can also assist in keeping up with all of the information available through public Web sites, AHRQ, grantmakers, and other organizations involved in patient safety. With so much information out there, there is a tremendously valuable role to be played as a portal to guide interested parties to relevant resources.

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