The Jewish Healthcare Foundation of Pittsburgh

April 2000

# BRANCHES

**Charting a New Course**
A community unites for systems change.

**Bringing Home Best Practices**
Applying technology to measure outcomes and reduce error.

**To Err May Be Human**
But faulty systems may be blamed.

## INTRODUCING THE PITTSBURGH REGIONAL HEALTHCARE INITIATIVE

A little more than two years ago, Alcoa Chairman Paul O'Neill, Jewish Healthcare Foundation President Karen Wolk Feinstein, and a group of other concerned Pittsburgh-area leaders noted that the region's economic development strategy was missing an important piece: a plan for the healthcare industry.

Health care is the largest sector of the region's economy, employing one in eight workers and conducting more than $7.2 billion of business transactions. The region's healthcare institutions are a significant source of talent, innovation, and import revenue (from patients traveling to our transplant facilities and other centers of excellence). They are a key to the quality of our workforce and to our quality of life. But the industry is also under growing pressure. Bankruptcies, operating losses, consolidation and layoffs are the headlines of a sector at risk.

Presented with these facts, the civic body charged with devising a new regional economic development strategy, the Working Together Consortium, authorized the creation of the Pittsburgh Regional Healthcare Initiative (formerly the WTC Healthcare Initiative), with O'Neill and Feinstein at the helm.

Unique among community healthcare initiatives nationally, PRHI created a consensus planning process with the leaders of the major stakeholder groups, including hospitals, physicians, insurers, business, and labor. The corporate community did not try to dictate prices or standards to healthcare providers.

After a year of benchmarking and study, participants reached a consensus goal: healthcare systems will exceed all regions in reputation for quality and value and will be distinguished by their ability to measurably improve the outcomes of care they provide. In an era of health systems retooling, PRHI's goal is to establish Southwestern Pennsylvania (SWPA) as the global model of health system performance, using modern management tools and information systems.

### Aspiring to an Error-Free Healthcare System

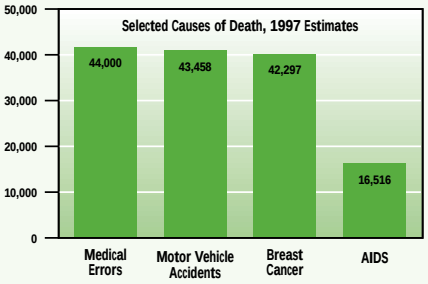
PRHI has sought the personal and institutional commitment of regional healthcare executives and corporate leaders to attack these patient safety concerns. Two community charters—one for the healthcare community and one for the corporate executives—have attracted unprecedented support (see article titled Charting a New Course) and position Pittsburgh for rapid progress. The PRHI's leadership group has also outlined sample processes for the implementation of each of these projects.

CONTINUED ON BACK COVER

*"By creating work cultures and systems capable of eliminating medical errors, patient-by-patient, healthcare institutions can realize powerful improvements across every dimension of their work."*

Paul O'Neill
*Alcoa Chairman*

## MEDICAL ERROR IS A LEADING CAUSE OF DEATH




Source: *To Err Is Human: Building A Safer Health System*, Institute of Medicine, November 1999.

# BRINGING HOME BEST PRACTICES

Long before the release of the Institute of Medicine's report on medical mistakes, a select group of U.S. hospitals and health systems were demonstrating that it is possible to reduce the rate of errors and their often dire consequences through the adoption of more effective information tools and management systems. Their experiences provide valuable insight as the Pittsburgh region wrestles with its own systemic challenges.

Perhaps the single best example can be found in Salt Lake City, where LDS Hospital designed and implemented a computerized monitoring system in the early 1970s known as HELP (Health Evaluation through Logical Processing). By developing a highly structured numerical coding scheme that translated medical orders into terms the computer could understand and then loading the system with clinical knowledge, LDS researchers set the standard for hospitals nationwide.

In the mid-1980s, the HELP system expanded to automatically alert caregivers to potentially life-threatening lab results. In one group of patients, the number of hours spent in life-threatening conditions dropped by a third. In another group, it dropped by half.

LDS researchers also identified 35 possible causes of an adverse drug reaction, then launched a campaign using HELP to minimize or eliminate each one. In 1990, LDS patients suffered only 41 severe reactions to medications, and by 1994, that number was reduced to nine. In other words, seven out of ten reactions were eliminated.

Another shining example of healthcare quality improvement can be found at New Hampshire's Dartmouth-Hitchcock Hospital, one of a consortium of five northern New England hospitals that undertook a two-year study of bypass surgery in 1990-91. After carefully examining the relationship between the processes of care and their outcomes, the hospital took a series of seemingly small changes—removing breathing tubes more quickly, reducing the size of sutures, and flushing the heart with blood at a key point during surgery. The results were extraordinary. Within two years, the death rate of bypass patients dropped by 25%, saving an estimated 74 lives.

### It All Begins With Reporting

Shortly after the IOM report's release, the Veterans Administration Health System divulged the startling results of its own internal analysis of medical mistakes. Released in December, the report revealed nearly 3,000 mistakes and more than 700 deaths between June 1997 and December 1998. Of those mistakes, 171 were medication errors.

While these numbers easily claimed the headlines, what industry experts found even more newsworthy was the fact that they came to light at all. Partly by offering cash rewards to employees who make improvements in patient safety, the V.A. system has been able to ensure a stream of more than 200 reports a month. Believed to be the first examination of its kind by any healthcare system in the nation, the V.A.'s experience demonstrates what might happen if all hospital staffs diligently reported errors.

Of course, the process cannot end with reporting. The V.A. also created a National Center for Patient Safety to analyze those reports and suggest corrective actions. Lessons learned are then disseminated throughout the healthcare system. In addition, the V.A. requires its staff to inform patients of any injuries resulting from medical errors.

As Michael Millenson points out in *Demanding Medical Excellence*, his seminal work on the subject "systematically measuring the outcome of patient care must inevitably lead to systematically improving it."

**LDS researchers identified 35 possible causes of an adverse drug reaction, then launched a campaign using HELP to minimize or eliminate each one.**

INTRODUCING THE

# PITTSBURGH REGIONAL HEALTHCARE INITIATIVE

CONTINUED FROM FRONT COVER

### Clinical Quality Improvement Agenda Gaining Momentum

Through a partnership with the Pennsylvania Health Care Cost Containment Council, the PRHI has undertaken pilot efforts to measure and improve care in five inpatient procedures. Reports on two of those efforts – dealing with caesarean section deliveries and total hip and knee replacement surgery – have already been issued, documenting enormous differences in patient care outcomes. Similar reports will follow for invasive heart procedures, inpatient psychiatric care and the care of diabetes. In addition, the PRHI efforts to help physicians, hospitals and communities use data from these studies to improve care. Advanced quality databases have been provided to each hospital staff, and large purchasers are pressing to improve care in these areas. To sustain change over the long term, the community's physician and hospital leadership are designing a training and technical assistance system to help physicians and other healthcare professionals use continuous quality improvement techniques. "A critical component of this pilot evaluation is collecting data for the purposes of quality improvement, not punishment," said Dr. Carl Sirio, a UPMC Health System physician who chairs the PRHI's Clinical Advisory Committee. "The emphasis will not be on public disclosure but on developing and communicating useful information to hospitals and doctors."

## DR. BERWICK'S PRESCRIPTION

PRHI recently invited IOM committee member Donald M. Berwick, MD, MPP, president and CEO of the Institute for Healthcare Improvement, to address its leadership group. In addition to expanding upon the report's findings, Berwick, a nationally recognized figure in quality improvement, outlined his own "Eight Elements of a Management System for Safety":

1. **The hospital board's aim must be specific, declared and serious and board meeting agendas should include progress reports on safety goals.**
2. **The hospital CEO must lead the effort to review safety systems. Safety records should be included in annual reports, and favorable safety records should be celebrated.**
3. **Hazard and error reporting must be non-punitive in nature. Establishing financial incentives for voluntarily reporting errors can turn error reporting into a positive experience.**
4. **Accurate collection and analysis of data are the key. Case studies of errors and near-misses must be reviewed and analyzed. Meticulous collection and confirmation of data about all adverse events is of the highest importance.**
5. **There must be a clear focus on oversight responsibility for the safety system. Hospitals should employ full-time safety officers who can take an integrated view of the systems.**
6. **Embrace an organizational science base for safety. Hospitals must employ adoption of scientific, multidisciplinary approaches to the interpretation of data and patterns of error.**
7. **The system must have cultural supports if it is to succeed. Unless a hospital's pursuit of patient safety is characterized by a "relentless drumbeat," it will fail.**
8. **There should be an organization-wide concept base for safety in day-to-day work. Hospitals must reduce their complexities, using standard report forms and allocating human resources appropriately.**

## Selected Resources & Contacts

### Organization Web Sites

Institute for Healthcare Improvement (www.ihi.org)
Institute of Medicine (www.iom.edu)
Institute for Safe Medication Practices (www.ismp.org)
National Patient Safety Foundation (www.npsf.org)
U.S. Food and Drug Administration (www.fda.gov)

### Books

*Medication Errors*
Edited by Michael R. Cohen
(American Pharmaceutical Association)

*To Err is Human: Building a Safer Health System*
The Institute of Medicine
(National Academies Press)

*Demanding Medical Excellence:*
*Doctors and Accountability in the Information Age*
Michael L. Millenson
(The University of Chicago Press, 1997)

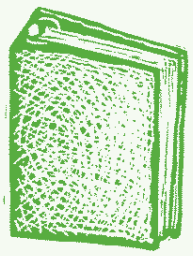
### Patient Information Brochures

*Your Role in Safe Medication Use:*
*A Guide for Patients and Families*
Massachusetts Hospital Association

*How to Take Your Medications Safely*
Institute for Safe Medication Practices

### Journal Articles and Speeches

Escape Fire: Plenary Address, 11th Annual National Forum on Quality Improvement in Healthcare, Nov. 9, 1999
Donald M. Berwick, M.D.



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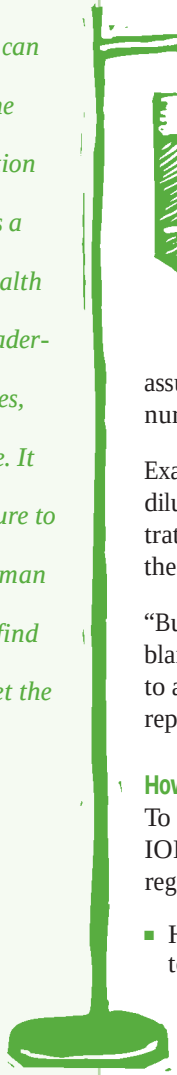
# TO ERR MAY BE HUMAN, BUT SYSTEMS CAN BE FIXED

By now, we've all seen the horror stories: Surgeons Amputate Wrong Leg, Woman Dies from Chemo Overdose, Man Paralyzed by IV Infection. What most of us do not realize is that these incidents are not exceptions to some golden rule of good health care.

*"Although no single activity can offer the solution," states the IOM report, "the combination of activities proposed offers a roadmap toward a safer health system…With adequate leadership, attention and resources, improvements can be made. It may be part of human nature to err, but it is also part of human nature to create solutions, find better alternatives and meet the challenges ahead."*



In two large studies cited in "To Err Is Human: Building A Safer Health System," the groundbreaking new report from the Institute of Medicine (IOM), "adverse events" were found to have occurred in 2.9 and 3.7 percent of hospitalizations, respectively. In the former case, 8.8 percent of these medically induced injuries led to death, while the mortality rate in the second study was as high as 13.6 percent. In both of these studies, over half the events resulted from medical errors that are currently considered preventable.

Other IOM findings are equally startling—the total national costs of medical mistakes range from $17 billion to $29 billion a year, and that 7,000 people die annually from medication errors alone. Contrary to long-held assumptions that behind every medical error is an overtired resident or an under-trained nurse, the IOM committee found that the real culprit is the healthcare system itself.

Examples abound. Patient-care units stocked with full-strength drugs that are toxic unless diluted. Illegible handwriting in prescriptions and medical records has led to the administration of drugs for which patients have known allergies. Inaccessible sinks that decrease the likelihood of washing between examinations contribute to the spread of infection.

"Building safety into processes of care is a more effective way to reduce errors than blaming individuals… The focus must shift from blaming individuals for past errors to a focus on preventing future errors by designing safety into the system," states the report's executive summary.

### How Can You Mend A Broken Healthcare System?

To achieve its stated goal of a 50% reduction in errors over the next five years, the IOM committee recommends a four-part plan designed to create both financial and regulatory incentives to build safety into the process of care:

- Healthcare organizations must create an environment in which safety will become a top priority. This means designing systems geared to preventing, detecting and minimizing hazards and the likelihood of error—not attaching blame to individuals.
- Taking its lead from recent safety advances in air travel and at the workplace, Congress should create a Center for Patient Safety within the U.S. Department of Health and Human Services to set national safety goals, track progress in meeting them and invest in research to learn more about preventing mistakes.
- Establish a nationwide, mandatory public reporting system that will enable healthcare facilities to learn about medical treatments that result in serious injury or death. In this controversial recommendation, the IOM suggests that first hospitals, then other caregiving facilities, would be responsible for reporting such events to state governments. Voluntary reporting efforts should be encouraged as well.
- Because a top-down system won't be enough to bring about the kind of changes needed to improve patient safety, public and private purchasers of healthcare insurance must make safety a prime concern in their contracting decisions. Doing so will create financial incentives for healthcare organizations and providers to make needed changes.

# CHARTING A NEW COURSE

## HOSPITALS LEAD MOVEMENT

### HOSPITALS AND INSURERS COMMIT TO SAFETY

**Signatories to date:**

Children's Hospital of Pittsburgh
Citizens General Hospital
Fay-West Health System
Healthsouth Rehabilitation Hospital of Greater Pittsburgh
Latrobe Area Hospital
Lifecare Hospitals of Pittsburgh, Inc.
Monongahela Valley Hospital
Ohio Valley General Hospital
Pittsburgh Mercy Health System
St. Francis Health System
UPMC Health System
Westmoreland Hospital
West Penn Allegheny Health System
Health America
Highmark Blue Cross Blue Shield
UPMC Health Plan

While the ideas set forth by the Pittsburgh Regional Healthcare Initiative's leadership have already passed muster with some of the nation's top healthcare quality improvement experts, the success of the initiative hinges upon the full participation of the region's healthcare providers, insurers and purchasers. In an effort to secure that support, the PRHI earlier this year circulated two "community charters"—one to hospital and insurance CEOs throughout the six-county region, the second to CEOs of southwestern Pennsylvania's largest employers.

The former document, which was distributed in January over the signatures of hospital CEOs Anthony M. Lombardi (Monongahela Valley Hospital), Charles M. O'Brien, Jr. (West Penn Allegheny Health System), and Jeffrey A. Romoff (UPMC Health System) asks its signatories to:

- Create and participate in separate stakeholder work groups on medication errors and infections to provide coordination, cross-institutional learning and guidance;
- Select and apply a well-tested common method of quantifying results by each hospital and benchmarking program-wide results with national exemplar hospitals;
- Supply each hospital with a "starter kit" of high-yield improvement methods in the areas of medication errors and hospital-acquired infections; and
- Develop a specific system of recognition and support for hospitals that achieve breakthrough levels of performance.

*"When Johnson & Johnson responded to the Tylenol scare by creating a tamper-proof bottle, they reinvented safety in packaging," says JHF President Karen Wolk Feinstein. "We're looking for similar 'inventions' in our healthcare system."*

# CEOs JOIN
## REGION'S HEALTHCARE INITIATIVE

In early February, Mellon Financial Corporation Chairman and CEO Martin McGuinn followed suit by asking corporate colleagues to sign a "Statement to Hospital Executives and Chairs Regarding Corporate Expectations and Support for a Regional Healthcare Strategy." Intended as the starting point of an effort to build widespread consensus among key stakeholders, the statement underscores the benefits of a healthy workforce and a higher performing healthcare sector. It identifies specific expectations of healthcare institutions and specific commitments from area corporations. It marks the most significant commitment of regional corporate leaders to a quality-focused healthcare strategy.

The statement begins with the CEO Working Group's expectations of the healthcare system:

- Establishing the World's Best Patient Safety Record. To help eliminate medication errors and hospital-acquired infections, the statement endorses the implementation of proven methods of quantifying and benchmarking results, medication safety measures determined to be critical to patient well-being, and infection control measures determined to be critical to patient safety.
- Clinical Quality Improvement. The statement supports the clinical quality improvement initiatives of the PRHI, targeting improved outcomes for total hip and knee replacement, caesarian sections, depression, diabetes, and cardiac surgery.
- Management Infrastructure Improvements. To ensure the necessary investment in state-of-the-art management and information systems, the statement supports the implementation of electronic patient record systems that are compatible across the community's major health systems, the sharing of an electronic information systems backbone, and the implementation of activity-based cost accounting systems.
- Capacity Control. The statement supports the removal of waste and duplication from the healthcare sector where it threatens the quality of clinical care.

In return, the CEO Working Group promises to take the following actions:

- Endorse and help to seek federal grants, national private foundation awards to support work on these initiatives and national demonstration status from the federal Health Care Financing Administration for these activities.
- Consider financial contributions to help support patient safety initiatives.
- Help streamline administrative relationships with area insurers and third-party administrators to free resources to support improvement processes.
- Highlight to local employees those hospitals that make progress on regional priorities.
- Endorse a template for oversight of these initiatives by health system boards of trustees, including concrete, uniform indicators to track progress.

As further incentives, the CEO Working Group will consider instructing its directors of employee benefits to:

- Restructure healthcare purchasing contracts to require area hospitals to implement specific data collection, safety and management upgrades.

## PRHI IS PURSUING THREE STRATEGIES:

**Improving the outcomes of care—a patient's health status after treatment—for five common hospital procedures. Leading physicians and the Pennsylvania Health Care Cost Containment Council launched pilot efforts to measure and improve care in five clinical areas.**

**Creating the safest hospitals in the nation by eliminating medication errors and hospital-acquired infections. PRHI partners recognize that multiple efforts to reach these patient safety goals can function as a single lever to dramatically improve the performance of healthcare institutions across the board.**

**Discouraging excess capacity that might harm quality of care or other key regional interests. As competition among hospitals grows, some are building new services where evidence suggests that the quality of care can be harmed by the dispersal of high-risk procedures. To counter these trends, PRHI has designed community standards for cardiac surgery centers and emergency helicopters. Hospitals and heath systems are struggling to meet the challenge of putting community interests ahead of their competitive instincts.**

## CEOs COMMIT TO SAFETY

Signatories to date:
Martin G. McGuinn, Mellon Financial Corporation, Chair of the CEO Working Group
Paul H. O'Neill, Alcoa
Alain J. P. Belda, Alcoa
Thomas A. Corcoran, Allegheny Technologies
James S. Broadhurst, Eat'n Park Corporation
David S. Shapira, Giant Eagle
William R. Johnson, H. J. Heinz Company
Thomas H. O'Brien, PNC Financial Services Group
James E. Rohr, PNC Financial Services Group
Raymond W. LeBoeuf, PPG Industries
Thomas J. Usher, USX Corporation