Status 2004

Progress to date

The Pittsburgh Regional Healthcare Initiative (PRHI) is grateful to its funders for their generous support and guidance during strategic development, and early implementation. We are pleased to submit this summary of PRHI's progress in creating a credible, sustainable regional resource for dramatically improving our healthcare delivery system. We believe that our experiences will lend insight to the local and national dialogue.

We see encouraging qualitative and quantitative results that we believe reflect fundamental changes in how the region's healthcare stakeholders are perceiving and addressing healthcare performance. Yet PRHI is at a pivotal stage. We have transitioned from an organization that introduces and promotes ideas to one that actively supports the work of improvement. In implementing our transformational model and pursuing opportunities to move the work forward, we are addressing some key challenges:

- Leadership commitment.
- Competing priorities.
- Continuing sensitivity about what it takes to make problems visible in a blame-free way.

Initially, PRHI established certain target areas to be used as levers to improve overall performance. These target areas include: eliminating medication errors and hospital-acquired infections and achieving the world's best clinical outcomes in five major areas (cardiac surgery, orthopedic surgery, obstetrics, and diabetes and depression care). PRHI's strategy for achieving these goals is based on knowledge of the performance of complex systems. Continuous, positive change must be advanced by healthcare leaders, but can only be realized through the actions of the people who are responsible for doing the work.

Goals should be at the theoretical limit of performance: *zero* medication errors and infections and *zero* unanticipated variation in clinical care. Placing goals high facilitates change in organizational culture and encourages breakthrough thinking.

Continued, page 2

PRHI target areas

- ZERO medication errors
- ZERO hospital-acquired infections
- The world's best patient outcomes in cardiac surgery, obstetrics, diabetes and depression

Inside:

Inside Story	2
Inside Story	2
Inside Story	2
Inside Story	3
Inside Story	4
Inside Story	5
Inside Story	6

Infection control and medication administration

PRHI has targeted the elimination of hospital-acquired (nosocomial) infections and the elimination of medication errors in our region's hospitals. Currently Southwestern Pennsylvania is the only region in the country where competing hospitals share sensitive data, using common reporting systems on infections[1],medication errors[2], and cardiac surgery[3]. These reporting systems facilitate learning and act a catalysts for broader cultural change. Each quarter, reports containing hospital-specific, community, and national data are distributed to clinical and business leaders at each hospital. PRHI working groups, comprising experts from each facility, design reports and interventions in each area of work. These reporting systems are changing over to dynamic registries linking the processes of care to clinical outcomes, patient by patient, close to real-time.

Continued, page 2

[1]with the National Nosocomial Infection System (NNIS) variant developed in partnership with the CDC
[2]MedMARx by U.S. Pharmacopeia *[3]through the PRHI Cardiac Registry*

Progress to date, *from page 1*

Implementing principles of systemic approaches such as the Toyota Production System, when properly applied, can create an atmosphere where fundamental, persistent improvements in employee and patient satisfaction, work processes, and outcomes thrive.

By focusing on these areas for engaging the healthcare community and by using our assumptions for organizational change, we believed that PRHI could facilitate a 30% - 50% improvement in the value of health care delivered in Southwestern Pennsylvania within three years. We still believe that improvements in quality and efficiency of this magnitude are possible and necessary. It has proven challenging, however, to derive the requisite comprehensive and aggressive engagement of all stakeholders.

***Hand-washing*: the concept is easy to understand, difficult to implement**

We have seen a 43% reduction in central line infections in intensive care units at PRHI partner hospitals over the last eight quarters.

Infection control and medication administration, *from page 1*

While PRHI and the community need to be careful not to draw conclusions, our most recent results are encouraging.

Infection Control

Twenty-eight hospitals contribute data on central line-associated bloodstream infection (CLAB). We have seen a 43% reduction in CLABs in intensive care units at PRHI partner hospitals over the last eight quarters. In addition to region-wide reporting, our partners have adopted recommended practices for the insertion, care, and removal of central lines. Partner hospitals have shared interventions, such as line insertion kits and educational campaigns. We are working to identify, document, understand, and communicate these innovations effectively.

Pittsburgh is the only region in the country where dozens of competing hospitals share information on infections, medication errors and cardiac surgery outcomes.

For more than two years, 26 hospitals have provided data each quarter which has enabled PRHI to establish baseline infection rates across the region for methicillin resistant *Staphylococcus aureus* (MRSA) infections, one of the nation's most significant patient safety problems. A community-wide conference was held in October 2003 to plan improvement efforts. A survey of MRSA prevention and control practices has been completed by 24 partner hospitals with over 1325 surveys completed. The survey results are being used to facilitate the development and implementation of a regional approach for the elimination of MRSA.

Medication Administration

Thirty-nine hospitals are participating in the medication safety initiatives. 33 hospitals are reporting errors through the MedMARx system. In 2002, PRHI hospitals reported 12,372 medication errors representing a 45% increase from 2001 (6,819 in 2001). We anticipate over 18,000 errors will be reported in 2003 (reports are currently being generated). Based on a review these medication error reports, we have learned that among PRHI hospitals: three to four drug classes account for approximately 40% of errors reported, opioids and glycemic agents (e.g., insulin and related products) account for 32% of all errors, causes of errors include incorrect use of patient controlled analgesia (PCA) pumps, mistakes in dosing and monitoring of insulin, and product mix-ups related to insulin. The national Medmarx 2000 report reveals that causes of errors include prescription writing mistakes associated with insulin, warfarin, and potassium.

In response to these findings, PRHI has developed three initiatives for improving medication patient safety as a region: safe prescribing and use of fentanyl transdermal patches, preventing use of unsafe abbreviations, safe use

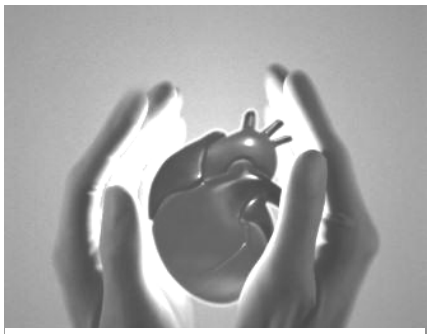
Clinical programs

PRHI's clinical goal is to achieve the world's best patient outcomes in: coronary artery bypass graft surgery; hip and knee replacement surgery; obstetrics, maternal and child outcomes; depression; and diabetes. PRHI has established working groups in each area, consisting of physicians, nurses and other experts.

Coronary artery bypass graft surgery (CABG)

Twelve of 13 cardiac surgery centers collect and share data on each CABG surgery. Over 4000 cases have been submitted to date. For each procedure, nearly 100 data points are captured reflecting processes of care and patient outcome. From these data, clinicians identify unwarranted variations in process with the intent of eliminating them and improving patient outcomes. The registry enables surgeons to learn from every patient in the region instead of relying solely on their own experience.

Four increasingly well attended Cardiac Forums have brought together local and nationally recognized cardiac leaders to share information and develop plans to improve the quality of patient care. A contract with the Centers for Medicare and Medicaid Services (CMS) provides significant support for this program.



Clinicians from 12 of 13 regional cardiac centers identified variations in practice and outcome, and created the PRHI Cardiac Registry to determine which patients get better faster, and why.

Data from the Pennsylvania Healthcare Containment Council (PHC4) for FY 1999 demonstrated a 2.3% in-hospital mortality rate (Risk Adjusted Expected Mortality Rate 2.4%) in southwestern Pennsylvania. In calendar year 2000, the reports indicate a 2.0% in-hospital mortality rate (Risk Adjusted Expected Mortality Rate 2.5%). The difference between the actual and expected rates (2.0% VS 2.5%) is statistically significant – as a group the mortality rate in SWPA was lower than expected.

Chronic Disease

PRHI also targets depression and diabetes, chronic diseases that affect a large, increasing percentage of the region's population that have been shown to be widely under-treated.

A PRHI study revealed that the Pittsburgh region has seen a 75% increase in diabetes-related hospitalizations in the last 5 years. The in-hospital charges associated with diabetes is $1.75 billion annually. Rates of routine care for diabetics and follow-up treatment for depressed patients after hospitalization vary dramatically, increasing the likelihood of subsequent hospitalizations.

Nationwide, deaths from diabetes have risen 58% since 1979. Depression is a leading cause of disability, affecting 17.6 million Americans at a cost of $44 billion each year.

Our current healthcare system is designed to handle *acute* conditions. Intensive, but brief, encounters can cause patients' more subtle, *chronic* conditions to go undiagnosed, or remain inadequately controlled. Diabetes and depression are chronic diseases for which the lack of integrated delivery of information has affected patient care. One result is that individual physician offices must do the work of integrating data from multiple sources in time for each patient visit.

PRHI has created a coalition of primary care physicians and other health professionals, insurers and managed care organizations, labs and pharmacy providers, hospitals and healthcare systems, health care purchasers and consumers. Together, they are building a regional chronic disease registry called the Pittsburgh Health Information Network (PHIN). PHIN puts patient data at physicians' and patients' fingertips when they need it. A central database will collect and organize relevant pharmacy, preventive care, and lab data for diabetic and depressed patients from multiple sources and allow physicians to pull this information on demand from a single Internet source.

Obstetrics

Maternity care and delivery outcomes can have significant implications for mothers and babies, some of which may be life-long. Thus, it is important

Since the inception of the PRHI Cardiac Registry, mortality following CABG surgery in our region has been statistically lower than expected.

Clinical Programs, *from page 3*

for purchasers and the public to understand the factors that influence decisions regarding childbirth and maternity care, and to examine the quality of the maternity care and childbirth services provided by hospitals, physicians and health plans.

In July 1999, PRHI issued the first clinical report contracted through the Pennsylvania Healthcare Cost Containment Council (PHC4) titled "C-Section and Vaginal deliveries in Southwestern Pennsylvania." However, regional obstetricians were all too familiar with this type of report – a C-Section rate report. Too little new information was shared about what mode of delivery provided the best outcomes.

Over the past year, the PRHI Obstetric Working Group and PHC4 developed a breakthrough methodology that provides a risk-adjusted approach to studying maternity care outcomes for mothers. This methodology identifies women who are more likely to develop major and/or minor complications based on their pre-labor risk, and gives "credit" to hospitals for treating higher proportions of these women.

The approach offers the promise of enhancing the quality of care, by accounting for pre-labor risk, and then identifying areas for improvement. It has already yielded surprising new

Practitioners are now looking at the processes of care that produce the best maternal and child outcomes. The result will be a registry similar to the PRHI Cardiac Registry.

MRSA infections on the subject unit at the VA have declined from 12 in 2001 to 2 in 2003.

(While very encouraging, this information has not been statistically authenticated by the CDC and is therefore confidential to this document.)

Perfecting Patient Care System (PPC) as applied in local hospitals

PRHI partners have developed the Perfecting Patient Care System (PPC), which applies to health care what we have learned from:

- ✧ Our clinical data registries
- ✧ Real-time reporting methodology
- ✧ Principles of the Toyota Production System (TPS)

The system provides techniques that allow organizations to learn from every error and problem and improve healthcare delivery processes quickly, frequently, and at low cost while focusing on the needs of each patient. In the following descriptions, different elements of PPC are emphasized at each work site.

VA Pgh Healthcare System

In association with the CDC, PRHI is applying PPC principles to eliminate colonizations and infections of patients with the antibiotic-resistant organism called methicillin-resistant *Staphylococcus aureus*. Initial work focused on a busy surgical unit at the Veterans Administration Hospital, University Drive Pittsburgh (VAHPS), resulting in encouraging improvements. PPC work is now being "rolled out" to other units and facilities in the VA system. The ultimate goal is to eliminate *all* nosocomial infections.

Please note that statistics provided in this section are currently being analyzed for use in upcoming publications. They should not be distributed.

Since work began two years ago on a surgical floor, there has been a steady decline in MRSA colonizations and infections. Infections have decreased from 12 in 2001 to 2 in 2003. These results appear to be statistically significant and are not linked to overall prevalence of MRSA-colonized patients on the floor.

PPC emphasizes problem solving across the whole system of health care delivery. This requires analyzing problems to their root causes in: the design of work activities; connections between customers and suppliers; the design of pathways for goods and services; and the method of system improvement. Work that contributed to the exciting clinical improvements includes:

- ✧ Redesigning the replenishment system for supplies. Stock outs rarely occur and less inventory is stored on the floor.

Clearly labeling supplies and specifying who is responsible for replenishment has all but eliminated stock-outs, and improved hand hygiene compliance among all staff.

- Educating about hand hygiene and ensuring that gloves and hand sanitizers are available. Pre-intervention hand hygiene adherence upon room entry and exit was 7% and 31%, respectively; adherence improved to 51% and 70% respectively following the intervention. A formal education curriculum focused on antimicrobial resistance is being developed by PRHI in association with the CDC and University of Pittsburgh School of Medicine. The CDC funds this program.
- Assigning patients colonized with MRSA to specified patient rooms.
- Establishing cleaning protocols for patient rooms.
- Specifying how equipment should be cleaned and stored.

Based on performance improvements on the surgical floor, many of the interventions are being introduced to other patient care units. PRHI's team is currently expanding its efforts throughout the surgical service line, including a surgical intensive care unit (SICU). A long-term care facility where many of the residents are MRSA-colonized is also participating.

Allegheny General Hospital

Primary components of the PPC System are being applied with the goals of eliminating central line associated bloodstream infections (CLABs) and perfecting cardiac surgical care.

Initial efforts designed to reduce CLABs to zero have been very encouraging. On two medical ICUs, every CLAB is immediately reported to the Chief of Medicine. A team is assembled and potential root cause(s) are determined and interventions are applied in a very compressed timeframe. Within six months, these steps have resulted in a reduction from 24 infections to 4 infections and a reduction in mortality from 50% for central line infections to 0%. This work is now being applied to an additional eight ICUs.

Root cause analyses have resulted in four simple guidelines used placing and removing central lines.

- Subclavian is preferred site.
- No re-wiring of existing lines.
- Remove femoral lines within 12 hours.
- Consider a PICC line
- Remove all lines present at transfer.

Supported by a contract with the Centers for Medicare and Medicaid Services (CMS), early efforts to perfect cardiac surgical care have focused on eliminating readmissions. The Toyota Supplier Support Center (TSSC), recognized as a leading authority on the application of the principles of TPS, regularly consults on this initiative. Initial activities have focused largely on stabilizing environmental factors and specifying patient care activities on a general surgical unit. These include:

- Training/education of hospital leadership and unit staff
- Redesign of key work functions and support systems
- Examining nurses' and nursing assistants' work
- Inventory replenishment
- Medication distribution and administration system redesign
- Medication labeling
- Lab result availability

Continued, page 6

Within 6 months, central line infections at one hospital dropped from 24 to 4.

Mortality among those infected dropped from 50% to *zero*.

PPC as applied at local hospitals , *from page 5*

UPMC Northwest

Real-time problem solving stands in stark contrast with the way error reporting and investigation are usually done in health care. Reporting problems as they occur places enormous demands on leaders, and forces institutions to become adept at solving problems rapidly. The real-time reporting system is inspired by the one in use at Alcoa to report worker injuries. Alcoa is the safest company in the world with a lost workday rate 94 times better than the average American hospital.

UPMC Northwest is the first hospital to commit to reporting and investigating to root cause ALL unsafe situations and errors within 24 hours, as close as possible to where the work is done. These results are shared with staff. In collaboration with PRHI, the hospital CEO and staff are determined to initiate a total organizational transformation. The CEO initiated formal implementation by declaring that, "we will do everything possible to prevent employees, patients, medical staff, visitors and volunteers from experiencing all unsafe conditions."

Hospital leadership and staff have participated in a number of learning opportunities from case studies to observation sessions that convey the ideas and methods required to successfully support real time reporting.

Between September and December 2003, more than 90 managers and physicians engaged in problem solving sessions designed to teach root cause problem solving. More than 65 problems were addressed to root cause. On December 1st, the staff, leaders and medical staff initiated a formal program to identify, investigate and act on all unsafe conditions everyday.

This early work has revealed the difficulties that our healthcare institutions face in identifying and solving problems quickly. PRHI is actively supporting UPMC Northwest's staff to establish the required work processes. The learning path currently being explored is exactly the situation that PRHI worked to devise.

Lifecare Hospitals of Pittsburgh

Lifecare Hospitals of Pittsburgh is utilizing real-time reporting to address medication errors. Last February, Cliff Orme, the CEO of LifeCare, declared, "No employee should ever be subjected to a work environment that tolerates medication errors."

Lifecare is dedicated to reporting, solving to root cause, and addressing all medication errors, including those that do not reach patients. A number of programs have been initiated to fulfill this commitment.

- Daily Report . The senior leadership as well as nursing, pharmacy, and respiratory therapy personnel receive the previous day's list of reported medication errors including the description, action taken, and root cause of the problem.

"No employee should ever be subjected to a work environment that tolerates medication errors."

For LifeCare employees seeing is believing in this very visible demonstration of hand hygiene. ICP Lynette Smith created the inservice for the LifeCare team 3 years ago. Her quest was reinforced after observing similar work at the VAPHS.

- Meetings. One group meets just 15 minutes three times a week to discuss how reported errors have been resolved. Patient safety meetings now take place out on the floor and focus on problem-solving in the "here and now," rather than discussing "dead data" from prior incidents that can no longer be acted upon.
- New Physician Order Sheets. Ten unsafe abbreviations are listed on the order sheets, including those that most often harm to patients.
- Faxing orders. Orders are scanned and e-mailed to the pharmacy, resulting in clearer orders and easy sorting.
- Distraction-free Pharmacy allows the pharmacist to enter orders without interruption.

In 2002, 196 medication errors were reported, 78.1% of which reached the patient. In 2003, that number soared to over 800, 30.8% of which reached the patient. Because more "latent" medication errors are being identified, problems can be tracked to root cause long before they reach patients.

Center for Shared Learning

PRHI has established a curriculum of educational opportunities open to anyone wishing to access them. Nearly 1500 people have completed some form of PRHI training, including participants from nearly 50 national and regional organizations.

Information Sessions

Information Sessions are a chance to learn the basics of the Perfecting Patient Care System (PPC). In this interactive learning session, students learn from a Harvard Business School case study about the PPC process and how it works. The three-hour sessions are held monthly. Thirty-seven information sessions hosting more than 500 students occurred through 2003.

"Go and See"

After attending an information session, participants are invited to attend a four-hour "Go and see" observation session. These occur at one of the participating hospitals and involve problem solving at the point of care under the direction of an instructor, using the principles of the PPC System. More than 90 people participated in through 2003.

Participants in PPC University become part of an interactive chain of learning. Here, they create a circuit board factory.

PPC University

This intensive, five-day program affords a broad look at the principles underlying the PPC System. Lecture is a minor feature in this engaging and interactive program. Those who come looking for a quick set of "tools" will be disappointed. Instead, the University encourages a deeper understanding that leads to breakthrough thinking in problem solving. Participants leave with a basic understanding of how the principles can be applied in their workplace. Participants are eligible, along with other University graduates, to participate in PRHI's online forum, the PPC Virtual Community. More than 300 people have participated in University sessions.

New offerings for 2004

PPC 101. For those who have completed the Information and Go and See sessions, but can't commit to a 5-day University, this one-day session was developed.

Oh! No! Sessions. For PPC University graduates facing those situations that make you exclaim, "Oh! No!" These half-day sessions are designed to help people work through specific problems.

Nearly 1500 people have completed some form of PRHI training

Health care policy

PRHI was an informal "runner-up" with the Center for Medicare and Medicaid Services for a hospital-based "pay for quality" demonstration project. CMS ultimately awarded the demonstration to the Premier hospital network.

Through invited testimony and follow-up, PRHI:

- ✧ Provided input on federal legislation seeking to establish a nationwide non-punitive error reporting system, such as aviation and nuclear power. The bill awaits further action.
- ✧ Demonstrated the utility of Pennsylvania's unique system for measuring the outcomes of care. The PA Healthcare Cost Containment Council (PHC4), the source of PRHI's clinical outcomes data, was up for reauthorization in 2003, and faced a significant threat from the hospital industry. PRHI was instrumental in preserving PHC4 by showing policymakers how PHC4 information was being used to advance a community-wide effort to improve healthcare outcomes.

During 2004, we are committing additional resources to:

- ✧ Solving the "medical malpractice crisis" by linking positive and negative financial incentives to error reporting. (See op-ed published in the *Harrisburg Patriot News*, reprinted below).
- ✧ Completing industry-standard data protocols for electronic medical records (HIPPA addressed standards for billing information, but not clinical information).
- ✧ Implementing much more aggressive "pay for quality" demonstrations at the federal level, and in our own market.

Does Anyone Really Want to Solve the Problem?

(Op-Ed for Harrisburg Patriot-News)

December 24, 2003 *By Paul O'Neill and Ken Segel, PRHI*

It seems we're about to go another round in the Pennsylvania medical liability crisis. But it's not clear that anyone is prepared to solve the real problem.

There is increasing consensus that the medical liability system fails patients, doctors and the public. Studies show little correlation between the severity of medical errors, who sues, and payouts to victims. The punitive nature of the system encourages a well documented code of silence among practitioners – which means errors aren't learned from, and they occur again and again.

Unfortunately, little light is shone on the issue from Harrisburg, Washington or any other political arena. Proposals are either band-aids , such as providing public funds to help physicians pay their malpractice premiums – or so controversial, such as caps on damage awards · that they seem unlikely to generate anything more than continuing political conflict. The more thoughtful approaches are often too complicated.

It's time to rethink the issue and the solution. What is the most important mission of the medical liability system? We think it's to help keep patients safe. That means helping to ensure that each medical error or "something gone wrong" is raised immediately, so that everybody else can learn from it, avoid repeating it, create innovative improvements, and share what they learn. That's how aviation and nuclear power became safe industries, and how Alcoa became the safest corporate workplace in the world.

It also turns out that's what patients and families want. More and more evidence is coming in that patients who've experienced a medical error don't sue if they feel they've been leveled with, and if they believe a genuine effort is being made to make sure that the same problem won't happen to another person.

So if anyone wants to solve the problem, here's a radical solution. If a medical error is reported to the patient, their family and the Commonwealth's new Patient Safety Authority within a day of discovery and a credible corrective action plan is devised and implemented within a week, let's limit recoverable damages to a patient's economic losses. If an error is not reported or acted upon within this timeframe, allow treble or quadruple damages. This would create a tremendous positive incentive to do the right thing for patients, clinicians and the public … and a disincentive to do less.

A lot of "complicating factors" and "political realities" will be cited by insiders as barriers to this approach.

We say, let's break through the barriers and find a solution. Human lives are at stake. Let's solve the problem.

Challenges

Leadership commitment

PRHI has come to recognize that there is no substitute for focused, visible, and active administrative and medical leaders. It is not, in our experience, possible for anybody except for the CEOs and medical staff leaders to motivate and effect comprehensive and aggressive organizational reform. They must own the challenges and reforms if their staff is to effectively address them. PRHI's charter, in which hospital leadership committed to eliminate medication errors and nosocomial infections, represent a good initial step.

However, few administrative and medical leaders have truly "stepped up" in ways that can create the magnitude of change required to reform the delivery system. PRHI has employed a number of strategies to develop these leaders; traditional education, meetings with PRHI staff, regular forums to explore these ideas with other administrative and medical leaders, soliciting specific organizational goals, observation sessions that identify performance deficits, etc.

Now we are asking hospital leaders to pledge to identify and share 100% of medication errors (including latent errors) and nosocomial infections within six months. We believe that leaders who take up this challenge, with our assistance, can evoke the organizational, cultural and operating reforms necessary to produce monumentally improved results. PRHI plans to focus most of its resources with the organizations where the leadership is fully committed.

Pennsylvania patient safety and medical quality reporting

In 1999 PRHI introduced the idea of region-wide reporting of medication errors and nosocomial infections. The purpose of these reports was (and continues to be) shared learning, motivating change, informing action and measuring progress. At that time, no plans existed for the state to require reporting of patient safety incidents except for sentinel events. In 2003 a law established the Pennsylvania Patient Safety Authority (PSA). All hospitals must now report medical errors to the PSA. The specifics are not yet clear about which incidents to report and what actions will result.

Hospitals have been providing extensive clinical data to PHC4 since the early 1990s. PRHI uses these data to generate clinical reports. PHC4 now requires hospitals to provide infection and medication error data patient by patient; but specifics have not yet been provided.

PRHI supports the concept of reporting, that leads to improvement, but remains concerned about:

1) duplication of effort;

2) usefulness of the information collected;

3) imposition of "fixes";

4) punitive consequences that may deter learning – malpractice and State sanctions;

5) resources being applied to reporting rather than remedying delivery/operating processes.

PRHI has entered into negotiations with PHC4 and the PSA to coordinate reporting/learning systems.

Wanting PRHI to do the work

Healthcare organizations must view PRHI as a resource and facilitator for reforming healthcare delivery. PRHI is not staffed nor positioned to do the work required to identify, understand, and remedy the operations and clinical processes of care. Only healthcare institutional and clinical providers can create the environment for such change, which must occur at the point where customer meets supplier. Healthcare institutions will need to face the problems and effect the solutions within their walls, and share the results widely.

PRHI is a resource and facilitator. Healthcare institutions must make the changes and create solutions.

Sustainability

PRHI intends to remain a resource to its partners as long as demand exists. These partners include the institutions and individuals that provide, purchase, insure and support healthcare services in the region. Through their generous gifts of time, energy, thought and financial resources, the Southwestern Pennsylvania community is moving together towards a common vision of perfect patient care.

Our financial partners include the federal government, national and local foundations, healthcare purchasers (corporations), and insurers.

	2000	*2001*	*2002*	*2003*
Corporate (non health care)	$310,000	$295,000	$160,000	$130,000
Corporate (health care)	$0	$25,000	$25,000	$26,000
Foundations (local)	$660,227	$411,443	$642,280	$757,280
Foundations (national)	$56,250	$435,000	$351,000	$342,585
Government (federal)	$0	$0	$764,279	$1,568,578

PRHI's current funding mix is heavily skewed towards federal and foundation sources. Our funding strategy for 2005 and beyond reflects our contention that health care is a local decision and change agents should be locally motivated and funded. With the help of our partners, PRHI is positioned and staffed to effect significant progress in health system quality and efficiency.

As a regional resource, PRHI is looking toward our community's healthcare purchasers and providers to step up as our primary funding sources. We are approaching payors first as these organizations are ideally situated to help PRHI support change, have been working to establish quality standards and programs with providers, and derive immediate service and financial benefit from our progress.

PRHI has negotiated a "hand shake" relationship with Highmark BlueCross Blue Shield, the largest payor in the region. The Institute for Clinical Systems Improvement (ICSI) in Minneapolis, MN, has successfully implemented this funding strategy. ICSI is supported by the six largest health plans in Minnesota.

Sustainability: PRHI intends to remain a resource to its partners as long as demand exists.

For the foreseeable future, PRHI will continue to require the strategic and funding support of local and national thought leaders in the areas of patient safety, healthcare quality, and delivery reform.

Lessons learned

1. There is no substitute for committed leaders who take direct responsibility for ideas and actions.
2. Setting patient-focused goals at theoretical limits (zero nosocomial infections or medication errors) can cut through political and tactical barriers.
3. There should not be any compromise on perfect patient care and performance efficiencies as a goal for all organizations across the community. For example, reporting and interventions focused on a narrow swath of an organization or a particular service or outcome cannot serve as a surrogate for organizational or industry-wide efforts.
4. A project-by-project strategy does not lead to overall continuous improvement. Information sharing must focus on solving all problems and potential problems. PRHI is developing a sharing system that incorporates these ideas.
5. It is possible to create and maintain environments where competitors can share and learn together.
6. PRHI recognized that care and service providers must take responsibility for and execute improvement work.

Lessons learned, continued

However, we may have underestimated our partners' desire to have PRHI *DO* the work rather help build THEIR capacity to solve problems.

7. To be effective, efforts must refocus the system on the *needs of patients* and *safety of workers*. This is only possible if organizational leadership supports and engages the people who manage these relationships as they identify and remedy problems.
8. Partners can be powerfully engaged through structured observation of their actual, current situation, and an understanding of how that differs from their assumed situation. Grounded in this common understanding, PRHI can effectively teach different methods and strategies for improvement.

9. Barriers—real and perceived—include politics, competing priorities, blame, organizational inertia, divergent interests, lack of flexibility, and unclear goals. The "right" ideas can re-emerge when the focus of all activity is the patient.
10. Our progress has been too slow. PRHI is now working on a major strategy adjustment to augment our partners' capacity to share learning across the community.

PRHI is working on a major new strategy to augment our partners' capacity to share learning across the community.

Impact to date

To date, PRHI's impact on healthcare delivery is impressive yet insufficient. Early progress in specific facilities and areas of work across the community is encouraging but has not yet resulted in wholesale improvements in healthcare system performance.

1. Introduced a productive community-wide dialogue about health system performance and how it can be perfected. In short, PRHI has changed the way stakeholders think about healthcare delivery performance and improvement.
2. Formulated a comprehensive transformational model for healthcare delivery, the Perfecting Patient Care System (PPC) based on the principles of the Toyota Production System, and on the experiences of Alcoa and other organizations that have successfully instituted far-reaching improvements.
3. Tested components of PPC at a number of work sites with promising results.
4. Established region-wide information-sharing for medication errors, central line associated bloodstream infections, and MRSA infections.
5. Demonstrated significant reductions in CLAB infections.
6. Implemented a region-wide registry and associated interventions for CABG surgeries.
7. Designed a model for improving the care received by people living with diabetes and depression.
8. Established multidisciplinary working groups for medication administration, infection control, cardiac surgery, depression, diabetes, obstetrics, and orthopedic surgery. These groups are sharing new information that is being learned.
9. Developed an extensive educational curriculum that introduces methods for system improvement. Hundreds of local and national healthcare leaders have availed themselves of these learning opportunities.
10. Implemented a comprehensive communications strategy.

Publications and communications

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The cornerstone of PRHI's communication strategy is the *PRHI Executive Summary*, an 8-page monthly newsletter that addresses key announcements, accomplishments, and challenges. The *PRHI Executive Summary* includes features stories about activities in our community that demonstrate principles of the Perfecting Patient Care System. The newsletter is distributed to approximately 2500 subscribers nationwide.

This publication has been well received. Daniel Hsia, MD, JD, the Medical Officer for the Agency for Healthcare Research and Quality stated, "I read the professional literature for three occupations. The PRHI newsletter is the most useful for practical implementation of patient safety. I plan to shamelessly borrow from your case studies (with suitable attribution) when keynoting at the annual wound care convention this fall."

PRHI maintains a website, www.prhi.org, that provides an overview of PRHI's activities and links to supporting information. This site was redesigned in 2003 and is regularly populated with up to date information.

PRHI is also generating an increasing number of peer-reviewed publications, including a recent article in *Health Affairs,* and articles and opinion pieces for professional and lay publications. Please see publications accompanying this report.