PRHI Executive Summary

DECEMBER 2002

Inside this issue:

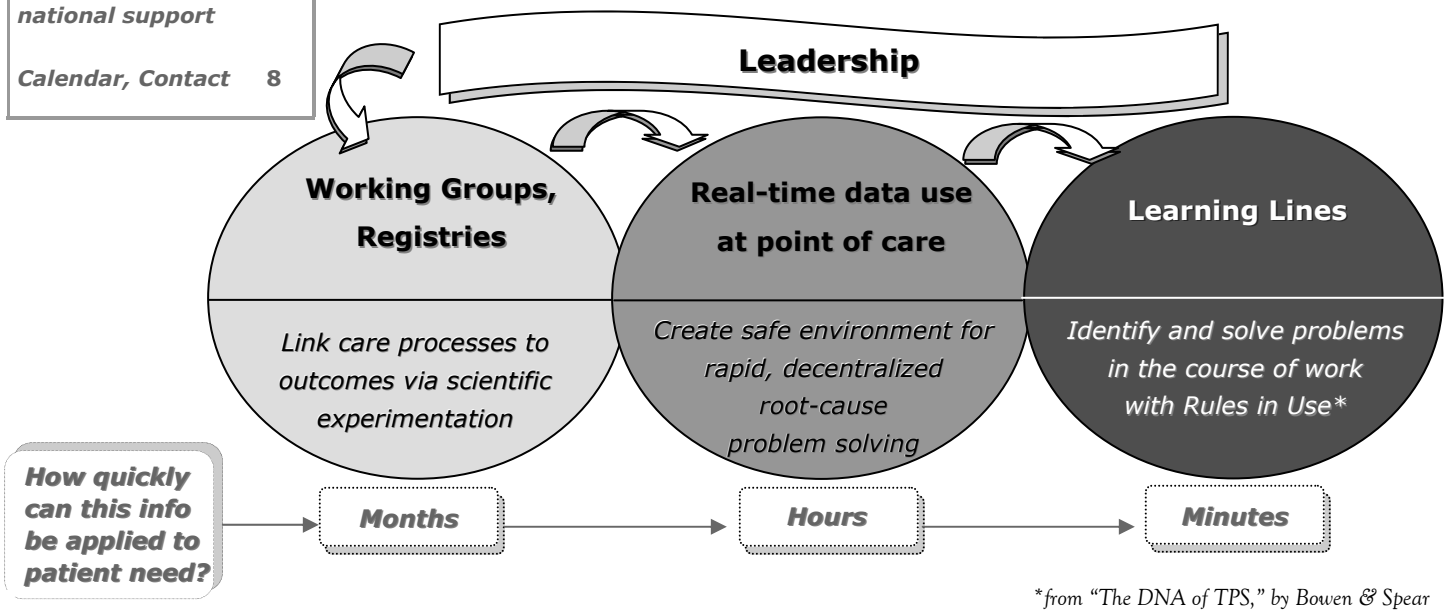
Building on what we've learned

The Pittsburgh Regional Healthcare Initiative is a collaborative effort of the institutions and individuals that provide, purchase, insure and support healthcare services in Southwestern Pennsylvania. We help our members work together to: Achieve the world's best patient outcomes … Through superior health system performance … By identifying and solving problems at the point of patient care. We believe the major challenges in health care—rising costs, frustration and shortage among clinicians and workers, financial distress, overcapacity, and lack of access to care—share the same cause, and will share the same solution.

PRHI continues to challenge the region's healthcare leaders with the question: *How do we get from where we are to where we want to be?* Moving into 2003, we will be talking more explicitly about the resources PRHI can bring to institutions committed to healthcare quality improvement.

Traditionally we have discussed patient safety, clinical initiatives, and the Perfecting Patient Care learning lines as linked-yet-separate entities. As PRHI has grown, these areas of inquiry have begun to "blend" together. For example, it's impossible to discuss the intricacies of coronary artery bypass graft (CABG) surgery—a clinical initiative—without talking about one of the top causes of readmission, hospital-acquired infection. It's impossible to discuss rapid, root-cause problem-solving or learning lines without talking about a professionally safe environment in which to report errors. And leadership is the prerequisite for it all.

The illustration below—and the stories inside—describe how, acting on requests from hospitals, PRHI stands at the ready to help our region's hospitals take those important "next steps" toward dramatic improvement. ☙



**from "The DNA of TPS," by Bowen & Spear*

Conway cites PRHI leadership

At a national conference on the Business Case for Patient Safety in Washington, DC in September, Jim Conway, COO of Boston's Dana Farber Cancer Institute mentioned PRHI as follows:

[Speaking to the PRHI Leadership Obligation Group] was a humbling experience. Never in my career have I seen anything like it. Sitting around the room were the CEOs of what seemed like every hospital in the region. Also the leaders of the corporations, the CEOs themselves. It's a tense room, but they are all there, talking about how to reach dramatic quality of care goals. The opportunity to do something significant in patient safety in Pittsburgh—with significance for the rest of the country—is evident.

Working groups and registries

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Using the community's "greater intelligence"

WORKING GROUPS:

CARDIAC

ORTHOPEDIC

OBSTETRICS

DIABETES

DEPRESSION

MEDICATION ERROR

NOSOCOMIAL INFECTION

DATA REGISTRIES:

CABG SURGERY

(CONTEMPLATED) HIP & KNEE

PRHI began in December 1997 as a way to furnish the community with resources and a safe environment for improving the safety of patients. The central questions remain:

✓ What do people need to have confidence that the decisions regarding their health care are based on the best available evidence?

✓ What do people need to avoid medication errors and hospital-acquired infections?

✓ What does the healthcare community (providers, purchasers and plans) need to enable them to meet those needs every day, in the course of caring for every patient?

A model has emerged out of the community in response to these three questions, based on:

✓ Simple values (respect, dignity, the opportunity to succeed in doing meaningful work and to have it acknowledged).

✓ Neutral collaboration among all stakeholders.

✓ Improvement based on the rigorous application of scientific methods in our daily work.

Through PRHI, we are beginning to track how good we are as a region in recognizing and acknowledging imperfections in our systems of medication administration and infection prevention.

We are beginning as a region to track our patients' outcomes, learning as a region exactly what processes of care are most likely to propel patients to complete recovery. We are ready to implement real-time problem solving to root cause.

PRHI offers powerful resources and a way to use them that have never existed before. Yet as with all resources, they come with limitations. What is unlimited are the wisdom and capability of the healthcare workers, clinicians and others who regularly dedicate their time to attending working group meetings and creating ways to capture data. It is this, the "greater intelligence" of our region, that stands ready to overcome current and future barriers to patient safety. ☙

Spotlight: Cardiac Registry

Linking care to outcomes through scientific experimentation

[The surgeons of the Northern New England (NNE) Cardiovascular Disease Study Group], instead of hiding their data on variation in outcomes and retreating into competitive behaviors, these dedicated professionals chose to work together to understand why they differed and to learn from each other, through visiting, reflection, and exchange, how they might improve the entire process of cardiovascular surgery."

—Dr. Don Berwick, director of the Institute for Healthcare Improvement

In what has been a particularly turbulent year for cardiovascular surgeons and open-heart programs throughout Southwestern Pennsylvania, clinicians could have argued they had too little time to consider what is needed to pursue a platform for regional improvement. But they didn't do that. Instead, in increasingly well attended Cardiac Working Group meetings, the physicians, technicians, administrators

and others who run the region's 13 cardiac surgery centers have pushed through an ambitious Cardiac Registry. Working together across competing institutions, those responsible for cardiac surgery in the region have agreed to track 89 data fields to determine which processes of care lead to quicker, more complete patient recovery.

"We'll be able to actually link processes to outcomes," says Dr. Dennis Schilling, PRHI's Clinical Coordinator. "We can quickly test our hypotheses about which clinical decisions are most likely to bring about optimal recovery—without waiting years for the next clinical study."

Chief among the performance measures doctors want to assess:

- ✓ Patient ages, gender and race
- ✓ Total CABG cases per month, regionally
- ✓ Observed vs expected mortality rate
- ✓ Nonfatal complication rate
- ✓ Mortalities by priority of surgery
- ✓ Primary causes of mortalities
- ✓ Internal mammary artery use per month; by gender; by age; by priority of surgery; % of mortalities
- ✓ Reasons IMA use deferred
- ✓ Aspirin within 5 days of surgery; % of mortalities; % re-op for bleed in aspirin patients
- ✓ Pre-op heart rates
- ✓ Average pre-op heart rate and atrial fibrillation
- ✓ Hematocrit on bypass
- ✓ Return to the operating room

The Cardiac Registry was modeled after the one created by Northern New England Cardiovascular Disease Study Group, a consortium of four hospitals. PRHI's Cardiac Registry, to begin operating in early 2003, will track more processes over more hospitals, holding promise for a treasure trove of new knowledge.

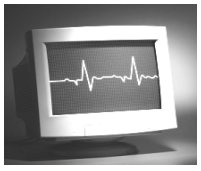
"A cardiovascular surgeon performs an average of 200 CABGs in a year," says Dr. Jon Lloyd, PRHI's Medical Advisor. "Each year, 6000 such cases are performed across the region. Surgeons who participate with the cardiac registry and cardiac forums can now access the greater intelligence that exists in the data and in our shared experience."

CMS RECENTLY REGISTERED ITS APPROVAL OF PRHI'S CARDIAC REGISTRY WITH A CONTRACT TO SUPPORT IT **(SEE PAGE 6)**

Cardiac Facility	Cardiac Working Group	IRB* approval	Agree-ment signed	Data submit-ted
Allegheny General Hospital	✓		✓	
Butler Area Hospital	✓			
Dubois Regional Medical Center	✓	✓	✓	
Jefferson Hospital	✓		✓	
Mercy Hospital of Pittsburgh	✓		✓	
St. Clair Hospital	✓		✓	
The Medical Center of Beaver	✓	✓	✓	✓
UPMC Passavant	✓		✓	
UPMC Presbyterian	✓		✓	
UPMC Shadyside	✓		✓	✓
Washington Hospital	✓	✓	✓	
Western Pennsylvania Hospital	✓	✓	✓	
Westmoreland Regional Hospital	✓			

Coming in early 2003
PRHI Cardiac Forum
Information will be posted
www.prhi.org

Cardiac Registry Progress Report



The PRHI Cardiac Registry is a regional effort by 13 cardiac surgery units in Southwestern Pennsylvania to collect and share data to promote the best patient outcomes in the country for coronary artery bypass graft (CABG) surgery.

This table shows the progress of Pittsburgh's regional units in preparing for the launch of PRHI's Cardiac Registry.

Real-time data reporting

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PRHI field managers fan out through the region

Have you met a PRHI Field Manager? If you work in a hospital in the 6-county SWPA region, you may have.

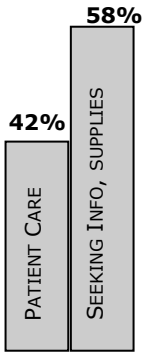
FIELD MANAGERS PROVIDE UPDATES, OBSERVATIONS AND OTHER LEARNING SESSIONS BASED SOLELY ON "PULL," OR REQUEST FROM TOP HOSPITAL ADMINISTRATION.

Funded through a grant from the Agency for Healthcare Research and Quality (AHRQ), four PRHI Field Managers and their Director make the rounds among partner hospitals. Their primary mission: act as a resource and troubleshooter as hospitals implement electronic medication error and infection reporting systems, such as MedMARx and NNIS. They also help partners work toward a safe environment for rapid, decentralized root-cause problem solving.

Recently the Field Managers have begun to offer much more comprehensive and valuable service, aimed at promoting a safe environment for the reporting of those errors. For hospitals expressing interest, Field Managers prepare individualized CEO updates, for a quick look at the status of medication error and infection reporting systems. Every CEO exposed to this information has asked for more.

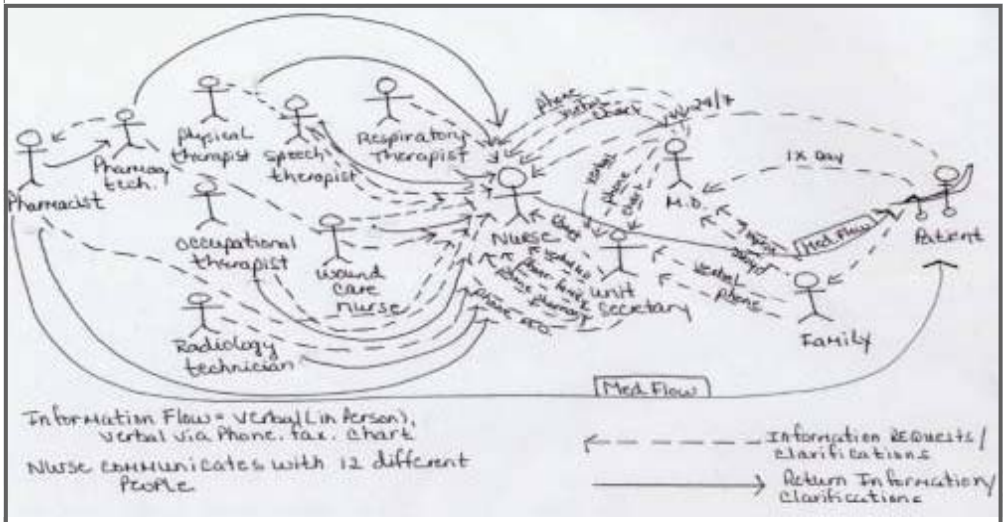
That "more" comes in the form of 40+ hours of close observation in various places throughout the hospital, providing an overview or "state of the hospital" report. Of the hospitals opting for the observation, ***all*** have requested or "pulled" for a more thorough understanding of the findings.

Field managers then take top management on a sort of "field trip" of their own hospitals, so that they can see for themselves the heroic efforts of their staff, and begin to see new ways the often chaotic system can be improved.



A typical finding: Caregivers must spend more time looking for supplies or information than doing the work they trained for—*caring for patients*.

Hospital managers are often surprised and dismayed to see how much staff time is wasted in seeking information or supplies. In such a system, tracking medication errors and hospital-acquired infections can initially seem like an added burden. Yet, soon these same managers see for themselves the power of ***real-time reporting***—where they can learn every day which errors have taken place within the past 24 hours, and exactly which patients have been affected. ***This system deepens the understanding that each error involves a real patient and a real worker***. Managers soon realize that real-time information, coupled with rapid, decentralized problem-solving, can create dramatic gains in patient safety and worker satisfaction. ☙



Reality check: a 40-hour observation can point the way toward systemic improvements that benefit both patients and the heroic workers who care for them.

UPMC Northwest: solving problems along the way

During a recent observation at UPMC Northwest, PRHI Field Manager Leslie Corak investigated a specific type of IV-pump error. During "piggyback" connections of IVs (a secondary drug, usually an antibiotic), connections can remain clamped due to human error, which can result in missed doses.

Ordinarily, "*solving*" such an error would consist of exhorting nurses to "*remember*" to release the clamp, and "*counseling*" them when they didn't. Such solutions rarely work in the long run. Why? Because human error has multiple components, and because the root cause of the error—in this case, pumps that allow an IV to remain clamped—usually remains unaddressed.

Leslie's deeper investigation led her to a discussion with the manufacturer of the IV pump, ("We get these kinds of calls all the time," the technician lamented.) While on the phone with Leslie, the technician conceived of a simple, effective countermeasure. She then helped the staff implement this "call-back" solution using existing sensors and alarms on the pumps to notify staff when an IV remains clamped.

During her investigation, Leslie discovered some revealing information. Searching the MedMARx national database, she discovered 2,425 IV errors in the past four years. The causes of error were attributed either to incorrect medication activation, improper pump use, or issues with the dispensing device. Of these, 130 referred to the IV clamp. The problem is so common that a "Nursing Lite" item in the September 2002 *RN* described a patient giving a puzzled student nurse a reason why a piggyback IV wasn't dripping, saying, "*It's the clamp!*"

Once the staff at UPMC Northwest tried the new configuration and found that it worked, the hospital gave its approval for PRHI to share the learning through a regional advisory to all 40 partner hospitals in six counties.

If you have questions about IV pumps, ask your PRHI Field Manager about how a "nurse call-back feature," available on some pumps for the main IV, can be used to alert a nurse that a piggyback IV remains clamped. ☙

These hospitals have begun to "pull" for updates, observations and further involvement by PRHI Field Managers

Hospital	CEO/ CMO update	Other up-date	PRHI 40+ hour observa-tion	CEO/ CMO debrief	CEO/CMO observa-tion
Medical Center, Beaver	tba	√			
Sewickley Valley Hospital	tba	√			
UPMC Franklin	√		√	√	scheduled
Monongahela Vly	√		√	tba	
Jefferson Reg'l	tba	√	√		
St. Clair Memorial	√		tba		
Latrobe Area Hospital	tba				
Washington Hospital	√				
Canonsburg Hospital	√		tba		
Greene County	√		tba		
UPMC Braddock	√		tba		
UPMC McKeesport	tba	√			

Hospital	CEO/ CMO update	Other up-date	PRHI 40+ hour observa-tion	CEO/ CMO debrief	CEO/CMO observa-tion
UPMC Shadyside	√		tba		
UPMC Presbyte-rian	√		tba		
UPMC Bedford	√		tba		
UPMC Lee	√		scheduled		
Mercy Hospital	√		scheduled		
UPMC Magee Womens	√				
UPMC Southside	√				
Lifecare Hospitals	√		√	√	scheduled
Mercy Providence	√		scheduled		
Ohio Valley	tba				
UPMC St Margaret	√		tba		
Allegheny General	tba		scheduled		
Suburban General	√		scheduled	scheduled	

Learning Lines

PRHI learning network grows

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To err may be human, but failure to share those errors, learn from them, and prevent them from happening again is unforgivable. Cloaked in darkness, secrecy, and fear of reprisal, medical mistakes are not used for learning, so they are repeated. Like Sisyphus—condemned to roll a boulder up a hillside, only to have it roll down again—we err and err again because we do not fix the system after each error to prevent future ones. —"The Sisyphus Dilemma," by Karen Wolk Feinstein, PhD

PRHI exists in large part to help its partners learn collectively from the errors and problems occurring across the region. Aggregate data collection, through systems like MedMARx, NNIS, and registries can point to areas for improvement. Sometimes the "fixes" are simple and obvious. More often, they are not.

Four days seemed like a big commitment, but it's one I'm glad I made. Even after four intense days, I found myself wanting to learn even more about the Perfecting Patient Care approach.

—William Jesserer
District Manager
Aetna US Healthcare

Note: the next PPC University will be held March 3-6, 2003. It's open to all who have completed the PPC introductory course. Call

Hospital Learning Lines

The Perfecting Patient Care System offers a way to identify and solve problems in the course of work. Based on the Toyota Production System, it represents an adaptation of this industrial model to health care. Far from adding to the work load of overburdened healthcare workers, PPC Learning Lines offer these workers a way to streamline their own work, wringing out waste and inefficiency in the process. Several articles in the *PRHI Executive Summary* this year* have given glimpses into the workings of the PPC Learning Lines.

Learn by doing: one exercise in PPC University involves group building of circuit boards.

PPC Introductory Sessions

PRHI also offers monthly introductory sessions on the Toyota and Perfecting Patient Care systems. In the past year, we've even taken this introductory session "on the road," presenting at various hospitals and corporations as requested. Sessions for 2003 include January 14, February 11, and March 11.

PPC University

For those who complete the introductory session and want to learn more, we offer the intensive, four-day PPC University. This course has been recognized by the Accreditation Council for Continuing Medical Education (ACCME) which grants 0.27 continuing education units (CEUs) to those who complete it. In PPC University, participants "learn by doing," a basic tenet of the Toyota system.

"PPC University [was] a wonderful learning experience. The depth of understanding, enthusiasm and skill of every teacher left me with a renewed sense of hope and a new set of eyes," said Margaret Toth, MD, Medical Director of Ohio KePRO. The next PPC University is scheduled for March 3-6.

National Clinical Improvement Network (NCIN)

This year PRHI extended the learning network nationally to include other vigorous quality improvement efforts across the country. The first meeting of the National Clinical Improvement Network (NCIN, pronounced *Ensign*) took place in Pittsburgh this fall. Leaders of quality initiatives from California to Massachusetts attended to learn from one another. The next NCIN meeting, scheduled for March, will be hosted by the New England Cardiovascular Study Group at Dartmouth.

PRHI's commitment to learning and improvement deepened throughout 2002. If you would like to attend an introductory session or PPC University, contact Diane Frndak at 412-594-2577, or *frndak@jhf.org*.

* All editions of *PRHI Executive Summary* are available online at *www.prhi.org/publications*.

The power of leverage

Local funders help PRHI attract national support

Through the unwavering support of its local business partners, the Pittsburgh Regional Healthcare Initiative has helped Southwestern Pennsylvania begin to think about healthcare improvement in new ways. This local support has in turn attracted national funding from the Centers for Medicare and Medicaid Services (CMS); the Centers for Disease Control and Prevention (CDC); the Agency for Healthcare Research and Quality (AHRQ); and the American Medical Association (AMA). These contributions build on support from the Robert Wood Johnson Foundation (RWJF).

"The generous financial contributions of community partners—Aetna Insurance and the Scaife Charitable Foundation are two of the most recent—have allowed PRHI to begin solving healthcare delivery problems at the patient level," said Ken Segel, PRHI Director. "This local commitment has also attracted national support."

CMS award for Cardiac Registry and Perfecting Patient Care Learning Lines

CMS awarded PRHI a 3-year contract for a regional improvement effort in patient safety and clinical outcomes. The contract will allow PRHI to deploy a clinical patient care registry and shared learning system across all 13 hospitals in the region performing coronary artery bypass surgery (CABG). The objective of the registry is to reduce the rates of in-hospital complications, mortality and readmissions.

The contract will also help fund in-depth testing of the Pittsburgh Perfecting Patient Care (PPC) System, (derived from the Toyota Production System), on two cardiac units*. These units will incorporate the use of the cardiac registry with state-of-the-art infection and medication error reporting systems as they establish PPC Learning Lines. On the Learning Lines, problems of healthcare delivery will be solved, one by one, by the people doing the work, at the point of patient care.

CDC renews commitment

The CDC has extended additional funding to augment PRHI's work and "reinvent" infection control by regional implementation of: 1) "real-time" reporting; 2) CDC National Healthcare Safety Network; 3) automated, region-wide clinical microbiology laboratory data collection as a first step towards predictive modeling; 4) clinical practice targets for MRSA; 5) expansion of the CDC's Antimicrobial Resistance Campaign; 6) tool development linking process to outcomes.

Separately, CDC is supporting the application of PPC principles to infection control. Pilot sites include the VA Hospital and UPMC Presbyterian.

AHRQ support continues

PRHI has received additional funding from AHRQ to expand the number of hospitals served by the Patient Safety program. The grant allows PRHI and its funding partners, the University of Pittsburgh, RAND, and Purdue University, to offer more education, regional communication and shared learning, as well as the Real-Time Safety System.

AHRQ/AMA support Chronic Care Model

AHRQ awarded the AMA a $100,000 planning grant to explore regional partnerships with innovative approaches to treating chronic diseases. In October, AMA selected PRHI's model for diabetes and depression care as one to be explored, opening the possibility of future funding through AHRQ. ☙

National funders

Centers for Medicare and Medicaid Services (CMS)

Centers for Disease Control and Prevention (CDC)

Agency for Healthcare Research and Quality (AHRQ)

Robert Wood Johnson Foundation (RWJF)

Local funders

Aetna US Healthcare Foundation
Alcoa Foundation
Allegheny Technologies, Inc.
AT&T
Claude Worthington Benedum Foundation
Dietrich Industries, Inc.
Dollar Bank Foundation
Equitable Resources
Federated Investors, Inc.
FedEx Ground Package System, Inc.
Giant Eagle, Inc.
The Hillman Foundation, Inc.
Kirkpatrick & Lockhart, LLP
McKesson HBOC Automated Healthcare
Mellon Financial Corporation
Richard King Mellon Foundation
Mine Safety Appliances Company
The Pittsburgh Foundation
PPG Foundation
PNC Financial Services Group
SMC Business Councils
USS Foundation, Inc.

Calendar, December 02/January 03

Tuesday, December 10	
Medication administration advisory committee	3 pm
Thursday, December 19	
Buying Healthcare Value Committee	2:30 pm
Clinical Advisory Committee (TBA)	6 pm
Monday, January 6	
PRHI Co-chairs	noon–2 pm
Depression Working Group	4-6 pm
Tuesday, January 7	
Nosocomial infection advisory committee	8–10 am
Wednesday, January 8	
Diabetes Working Group	6-8 pm
Tuesday, January 14	
Medication administration advisory committee	3–4:30 pm
PPC Information Session	6-9 pm
Wednesday, January 15	
PPC Hospital Observation, location TBA	8 am-noon
Thursday, January 16	
Buying Healthcare Value Committee	2:30–4 pm
Clinical Advisory Committee, location TBA	6-8:30 pm

All meetings at JHF Offices, Centre City Tower, 650 Smithfield unless otherwise noted. For further information contact Helen Adamasko at 412-594-2581

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PRHI Executive Summary is also posted monthly at **www.prhi.org**
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ON THE WEB AT
WWW.PRHI.ORG

Uniting hospitals, practitioners, business and community leaders in Southwestern Pennsylvania to lead the world in perfecting patient care.

Founded by the Jewish Healthcare Foundation of Pittsburgh