PRHI Executive Summary

JANUARY 2003

Inside this issue:

Working groups and registries

- OB Working group gears up 2
- Cardiac Registry Progress Report 3
- Cardiac Registry submittals 4

Real-time data reporting

- "Top 11" medication errors used for regional 5

Learning lines 6

- Untangling a problem at West Penn

PRHI announces status change, Board of Directors 7

Calendar, Contact 8

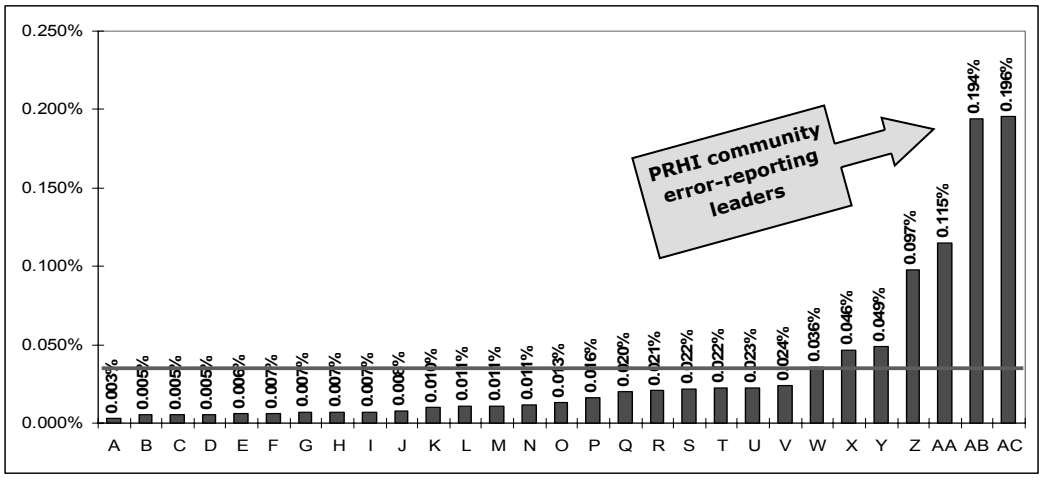
Medication Error Reporting

As good as it gets? . . . or can we do better?

More medication errors are being reported in PRHI partner hospitals, and that's a good thing. When it comes to learning and improving, the only good error is a reported error.

The Institute of Medicine estimates that medication errors occur in about 5% of all orders. And yet the chart below shows that, during the second quarter of 2002, PRHI partner hospitals reported an average error rate of just .034%.

Reported Medication Errors Per Units Dispensed: by PRHI hospital partners
Second quarter 2002



The best voluntary reporting system won't capture every error. But is .034% as good as it gets?

A few hospitals are reporting much more aggressively than the rest. What sets them apart?

- ✓ Their leaders personally, regularly communicate with employees the expectation that errors will be reported in a non-punitive environment.
- ✓ Their error reporting systems are simple to use.
- ✓ Error reports result in ***feedback*** and ***action***—not blame.

The hospitals with more aggressive reporting rates are beginning to realize dividends. Increased reporting has led to increased problem-solving.

We can do better. PRHI's error-reporting leaders are willing to share their approaches with others interested in driving up their reporting rates. Contact PRHI for further information.

In the coming year, PRHI will examine ways to recognize and reward the institutions that have been successful in promoting error reporting by frontline staff. Your ideas are welcome.

O'Neill to work with PRHI

PRHI is excited to welcome former Treasury Secretary and Alcoa CEO, Paul O'Neill, back to Pittsburgh. Mr. O'Neill has announced his intention to work on health care and education, and has already committed a portion of his time to working with PRHI. More information will be forthcoming.

David Broder's national column about Mr. O'Neill and PRHI (*Why O'Neill Will be Missed*, December 10, 2002) summarizes our belief that Washington's loss is Pittsburgh's gain. You can find the article at *www.washingtonpost.com*.

Working groups and registries

Obstetrical Working Group gears up

Jon Lloyd, MD
412-535-0292, ext.115
lloyd@prhi.org

Geoff Webster
412-456-0973
webster@prhi.org

Dennis Schilling, PharmD
412-535-0292, ext. 116
schilling@prhi.org

THE CENTRAL QUESTION IS:

WHAT PROCESSES OF CARE LEAD TO THE BEST OUTCOMES AND FEWEST COMPLICATIONS FOR MOTHER AND CHILD?

In 1999 PRHI produced its first report on obstetrical care in the region. The report, using data from the Pennsylvania Health Care Cost Containment Council (PHC4), focused on the rate of cesarean sections, and on the number of vaginal births after cesareans (VBACs). However, the report failed to capture the imagination of the region's obstetrical community.

"We were asking the wrong question," says Tobias Walbert, M.D., a Fulbright scholar currently serving as PRHI Fellow in charge of the OB Working Group. "We learned something important from the Cardiac Working Group. The question that really engaged the region's cardiac surgeons, really got them to work together, was this: *What processes of care led to the best outcomes and the fewest complications for mother and child?*"

The question of outcomes has begun to galvanize the work of area obstetricians, much as it did with the cardiac surgeons. And as with cardiac surgery, the rates of complications in obstetrics is relatively low—but the consequences can be devastating. Because few complications occur, it is difficult for any single hospital to collect enough data to point the way toward improvement. Data from 25,000 deliveries annually across the region creates more opportunity to study and learn about the leading causes of obstetrical complications and how to prevent them.

PRHI asked PHC4 for help in comparing state and regional data on complications of pregnancy with a focus on outcomes. This custom PHC4 report, due in March, will represent a departure from the typical recitation of rates. Instead, it will include risk-adjusted outcome data, which will help PRHI physicians analyze procedures of care.

"The PHC4 report is being developed in close cooperation with PRHI and the obstetrician community," Dr. Walbert says. "PHC4's amazing data collection ability and vast epidemiological skills offer us the unique opportunity to look at unwarranted variations in outcomes across the state."

Dr. Walbert adds, "We keep learning from the experience of the PRHI cardiac surgeons. "When they discovered unwarranted variations in their outcomes, they accepted the findings as a challenge to improve collectively. They've resisted the urge to place or dodge blame. Instead, they're focusing a huge amount of energy toward improving as a community. They're competing on quality."

The OB Working Group will be tackling an equally large task in the coming months. They will be learning what more they can do to optimize the outcomes for mothers and babies, and sharing what they learn.

Contact Tobias Walbert at 412-535-0292, ext. 117 or by e-mail at **walbert@prhi.org**.

Working groups and registries

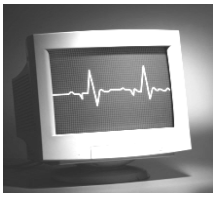
Getting on board

Care to become involved in a PRHI Working Group? If you would like to learn more or become part of a clinical or patient safety area, please contact a committee chair, listed in the table below, or PRHI staff member, listed on page 2. Also check the calendar in this publication or at ***www.prhi.org*** for times and dates of working group meetings.

Working Group	*Chairs*	*Staff contact*
Cardiac Surgery	Michael Culig, MD, 412-688-9810 Jerome Itzkoff, MD, 412-687-8300 George Magovern, MD 412-359-8820, gmagover@wpahs.org Richard Shannon, MD, 412-359-3022, rshannon@wpahs.org	Jon Lloyd, MD Dennis Schilling, PharmD
Orthopedic Surgery	*TBD*	Jon Lloyd, MD; Tobias Walbert, MD
Obstetrics	*TBD*	Tobias Walbert, MD
Diabetes	Nicholas DeGregorio, MD, 412-561-0692, nick282@aol.com Ralph Schmeltz, MD, 412-647-4545, schm@med.pitt.edu	Geoff Webster; Dennis Schilling
Depression	Alan Axelson, MD	Geoff Webster; Dennis Schilling
Medication use	Robert Weber, FASHP, 412-647-8104, weberrj@msx.upmc.ed Joanne Narduzzi, MD, 412-232-7601 jnarduzzi@mercy.pmhs.org	Geoff Webster
Hospital-acquired infection	Carlene Muto, MD, 412-692-2566, mutoca@msx.upmc.edu	Geoff Webster

Cardiac Facility	Cardiac Working Group	IRB* approval	Agreement signed	Data submitted
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	✓			

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.

The Centers for Medicare and Medicaid have just underwritten its operation as a potential national model.

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

More cardiac news

Working groups and registries

Cardiac Registry submittals begin

Dennis Schilling
412-535-0292, ext. 116
schilling@prhi.org

Of the region's 13 cardiac surgery centers, 11 have signed commitments to share information through the PRHI Cardiac Registry that will help clinicians answer key questions about the outcomes of coronary artery bypass graft (CABG) surgery. With all of the cardiac surgery centers filling in the Registry's 89 data fields each quarter, over time, a picture should emerge showing which processes of care enable patients to recover faster and more fully from CABG.

Clinicians will continue to make treatment decisions based on each patient's unique set of needs. PRHI will collect the data for every patient in the 6-county region and aggregate it, helping clinicians to understand the outcomes of those individual decisions.

"Physicians flock to the care practices that seem to produce the best outcomes in their own patients," says PRHI Clinical Coordinator, Dennis Schilling, PharmD. "By collaborating, the experience of the entire region can guide each physician."

OUR PARTNERS NEED TO KNOW WE ARE WORKING TO PROVIDE THE RESOURCES WE EACH NEED FOR STANDARDIZED DATA COLLECTION.

—DENNIS SCHILLING PRHI CLINICAL COORDINATOR

Technical challenge to date:

3 hospitals, 3 databases= *1 registry*

Of the 11 cardiac surgery units who have pledged to participate in PRHI's Cardiac Registry, three have exported their data—each from a completely different data collection system. Charged with populating the registry's 89 data fields, Dr. Schilling considers each of these a success story:

UPMC Shadyside has a large, proprietary software system for collecting data on cardiovascular surgery. Their system does not collect the information in exactly the same form that the PRHI Cardiac Registry requires. However, from the information supplied by their system, PRHI was able to glean the 89 pieces of information in exactly the right format.

The Medical Center of Beaver has developed its own in-house database for collecting cardiovascular surgery data. They quickly adapted their data sets to include PRHI's 89, very specific process and outcome measures.

UPMC Passavant also recently developed an in-house data system. Their information systems department helped them to develop a way to capture all the necessary data for their use and that of the PRHI registry.

PRHI helps hospitals meet the goal

"PRHI stands ready to help our hospital partners in submitting these data," says Schilling. "We can work with a variety of electronic exports from different systems, and our partners need to know we are working to provide the resources we each need."

For further information or assistance in submitting data for the PRHI Cardiac Registry, please call Schilling at 412-535-0292, ext. 116.

Planning Stages: Third Cardiac Forum, early 2003

As soon as data are submitted from all 11 hospitals comprising the PRHI Cardiac Registry to date, plans for the Third Cardiac Forum will be finalized. The event will feature speakers with experience in registries, and will provide an opportunity for participants to learn from sharing this newly developed source of regional, de-identified information.

For further information, contact Dennis Schilling at schilling@prhi.org; or Jon Lloyd at lloyd@prhi.org.

Real-time data reporting

Learning from the "Top 11"

Annette Mich
412-535-0292. ext. 112
mich@prhi.org

Last summer, members of the Regional Working Group on medication errors (practitioners from the region's 39 hospitals) considered this question: ***Of the medication errors brought to your attention in the past year, which ones provided the richest learning opportunities for the region?*** The group defined 11 such errors.

Based on the information from this Working Group, PRHI Administrative Manager, Annette Mich, formatted these 11 errors as they would appear in a complete MedMARx daily report. Identifying data were removed, and dates changed.

The objective of the exercise was twofold:

1. To take advantage of the regional coalition of medication professionals for sharing information and potentially preventing those same errors from recurring elsewhere; and
2. To demonstrate the degree of detail available in a simple MedMARx report. If every error were reported every day in this complete way, everyone from the frontline worker to the CEO would have access to complete information.

Over the coming months we will describe the "Top 11" medication errors and the learning derived from them. In the meanwhile, should your hospital desire more information about how to deploy MedMARx or another electronic medication error reporting system to their fullest capability, please contact Annette Mich . ☙

Practitioners describe the "Top 11" medication errors for use in regional learning

Two of the Top 11

Presented in MedMARx custom search format

Data reflect real events between 2001-02, but have been de-identified for regional learning

Date of error	Date record was entered	Description of error	Root cause analysis summary*	Action taken detail	Location of error detail
#1 8/15/2002	8/21/2002	A trend in the number of actual and/or potential PCA medication errors was identified.	Inconsistencies in use of Standing Order and of double checks at time of administration increase risk of misinterpretation and preventable medication errors.	Mandate use of PCA Standing Order Forms for all PCA orders including verbal orders. Provide dosing parameters for each drug referenced on Order Form. Mandate a double-check of doses and pump settings for all order changes, at the time of any patient transfer and at the change of shift.	
#2 8/15/2002	8/21/2002	A trend in actual and/or potential medication errors resulting from the use of dangerous abbreviations was identified.	Use of dangerous abbreviations increases chances of preventable medication errors.	Medical Executive Committee approved policy to not use Pharmacy order abbreviations. A memo was sent to all physician services. Education provided to the residents. A list of most common drug and dose expressions is posted in each patient chart (bright yellow) for the physicians to refer to. A 3-month trial was performed with the pharmacy calling each time and saying, "You truncated the _____. Do you want _____?" The physician service/doctor not complying was tallied and contacted. After 3 months the pharmacy would not fill any abbreviated order. The physician must re-write order. There was support from all on Pharmacy and Therapeutics	

* *This portion of the MedMARx report sometimes causes confusion. A "Root Cause Analysis" in a hospital setting is ordinarily a detailed, lengthy report published at the end of a months-long investigation into a sentinel event. For purposes of MedMARx reporting, it is a simple analysis of what went wrong, rendered as close as possible to the time the problem occurred. The terminology should not discourage those closest to the problem from describing what happened.*

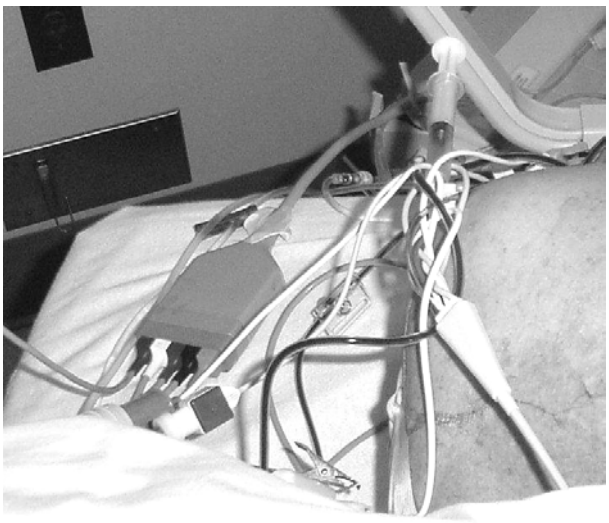
Learning lines

Untangling a problem at West Penn

Vickie Pisowicz
412-535-0292, ext. 113
pisowicz@prhi.org

Nurses in West Penn's Surgical Cardiac ICU noticed a troubling trend among patients arriving after coronary artery bypass graft (CABG) surgery: their IV lines were tangled. Untangling the lines took upwards of 20 minutes of RN time—a waste and a nuisance. But far worse, tangled IV lines represented a potential hazard for patients.

A group of workers teamed up to solve the problem. The ICU director, nurses, nurse anesthetists, and support generalists convened to discuss ways to make transfer from the OR to the ICU flawless. Step 1 had already been accomplished: the problem (an unfulfilled patient need) had been identified.

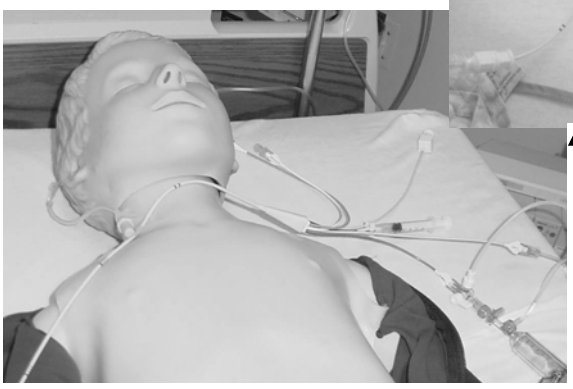


Step 1: Identify the problem

Patients arrive in ICU with tangled IV lines

Step 2: Define the ideal condition

Using a mannequin, the nurses collaborated to show the other team members their ideal, the condition in which patients should arrive at the ICU. They showed every detail, including placement of incoming and outgoing lines, and placement of the IV bags.



Step 2: Define the ideal

Using a mannequin, the ICU nurses and nurse anesthetists showed the ideal condition in which each patient would arrive following CABG surgery.

Step 3: Find the root cause—5 whys

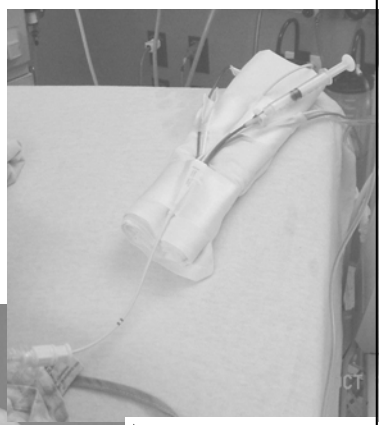
Why couldn't the ideal condition be met? On its journey to the root cause of the problem, the team asked, "Why?" five times, as prescribed in the Toyota Production System. Repeating this question led them to discover:

- ✓ In the OR, the IV bags are held on 2 poles. During transfer, the bags are all loaded onto one. The tangle begins.
- ✓ During transfer from the OR to ICU, the oxygen bottle is placed at the foot of the bed, under the patient's feet. This leaves only one place for the heart monitor: by the patient's shoulder, on top of the IV lines, with the screen facing away from the person transporting the patient.

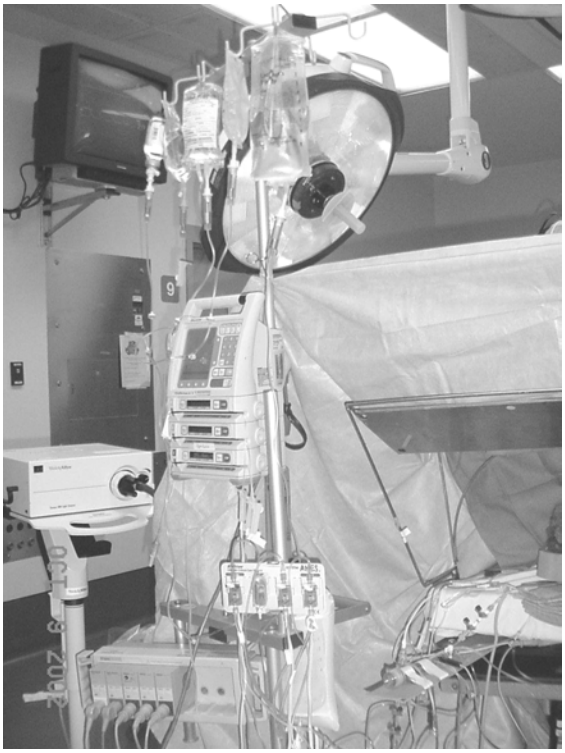
Step 4: Design countermeasures

The IV bags needed to be kept separated during transport—in left and right banks, just as in the OR. A nurse suggested using the bed's IV pole to transfer one bank of IV bags, and a wheeled IV pole for the other.

The heart monitor needed to be held off the bed, off the patient, and off the IV lines during transport. A nurse anesthetist suggested using the portable table designed for the end of the bed. An added benefit: the screen now faces the transporter.



An ICU nurse devised a "Swan Pillow," above, to keep lines straight, and separate incoming from outgoing lines.

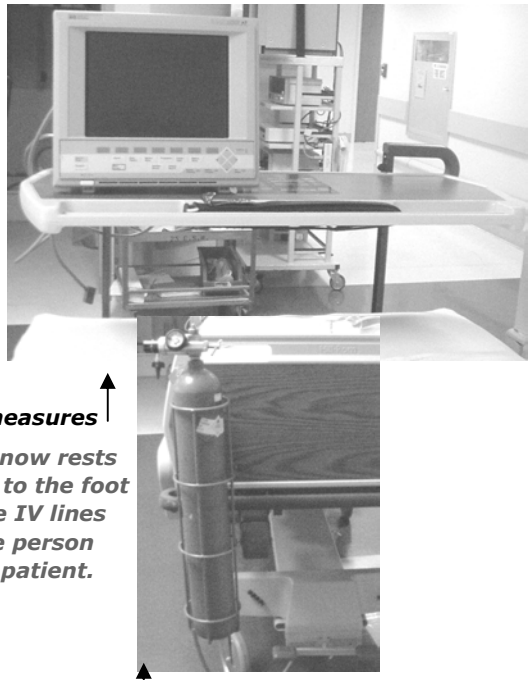


Step 3: Determine the root cause — 5 Whys

Two IV poles hold separate banks of IVs in the OR. When all bags are placed on just one IV pole for transport, the tangle begins.

The new table for the heart monitor eliminated the storage "area" for the oxygen bottle, beneath the feet of the patient. The support generalist discovered a previously unused bed accessory made for the purpose and installed it on the beds used to transport CABG patients.

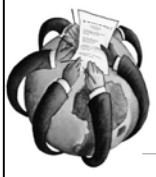
Solving one problem to its root cause allowed a team to address a host of issues, resulting in safer transfer of patients following heart surgery, and incidentally, saving valuable time of healthcare workers.



Step 4: Countermeasures

The heart monitor now rests on a table mounted to the foot of the bed—off the IV lines and visible to the person transporting the patient.

The oxygen bottle now rests in a bed-mounted basket designed for the purpose.



Change of status

PRHI announces new Board of Directors

PRHI recently changed its legal status from a *project* of the Jewish Healthcare Foundation to a *supporting organization*. This change will not alter the operation, collaboration or nature of the initiative. The change does allow us to acquire a Board of Directors that comprises regional healthcare leaders, many of whom have been involved in PRHI, and others who bring fresh expertise. We welcome PRHI's first Board of Directors.

Ronnie L. Bryant, CEcD, President and Chief Operating Officer, Pittsburgh Regional Alliance

Charles C. Cohen, Esq., Treasurer Chairman, Cohen and Grigsby

Roy Dorrance, Vice Chairman and Chief Operating Officer, U.S. Steel

Karen Wolk Feinstein, PhD, Chair President, Jewish Healthcare Foundation

Alan Guttman, Chief Executive Officer, Guttman Group

Timothy W. Merrill, Jr., President Competitive Energy Strategies Company

Mark Schmidhofer, MD, Director UPMC Institute for Performance Improvement

Kenneth T. Segel, Director, Pittsburgh Regional Healthcare Initiative

Richard P. Shannon, MD, Secretary Professor and Chairman, Department of Medicine, Allegheny General Hospital

Donald D. Wolff, Jr., Managing Director, Guyasuta Investment Advisors

PRHI's address remains 650 Smithfield Street, Pittsburgh 15222— but we've moved to Suite 2150. New phone: 412-535-0292

Calendar, January 2003

Monday, January 6	
PRHI Co-chairs	noon–2 pm
Depression Workinig 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
Information Session, Part 1: Perfecting Patient Care	6–9 pm
Wednesday, January 15	
Information Session, Part 2: Hospital Visit (location tba)	8 am–noon
Thursday, January 16	
Buying Healthcare Value	2:30–4 pm
Clinical Advisory Committee (location tba)	6–8 pm

All meetings at PRHI Offices, Centre City Tower, Suite 2150, unless otherwise noted. For further information call Helen Adamasko, 412-535-0292, ext. 100

Contact Us

As of January 1, 2003
Phone: 412-535-0292
Fax: 412-535-0295

Karen Wolk Feinstein, PRHI Chair
412-594-2555
feinstein@jhf.org

Ken Segel, PRHI Director
412-535-0292, ext. 104
segel@prhi.org

PRHI Executive Summary is also posted monthly at **www.prhi.org**

Please direct newsletter inquiries to:

Naida Grunden,
Director of Communications
412-535-0292, ext. 114
grunden@prhi.org

Pittsburgh Regional Healthcare Initiative

650 Smithfield Street, Suite 2150
Pittsburgh, PA 15222

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.

...a supporting organization of the Jewish Healthcare Foundation of Pittsburgh