Pittsburgh Regional Healthcare Initiative

PRHI Executive Summary

April 2002

Patient Safety Accelerates

AHRQ Resources Deployed

The PRHI Patient Safety Program continues to deploy the resources awarded to our community by the Agency for Healthcare Research and Quality (AHRQ). Seven new staff members have joined PRHI Patient Safety Director, Edward Harrison, to form our PRHI/AHRQ Patient Safety operations team:

Administrative Managers

Mary Blank, MPH
Annette Mich, NHA

Field Managers

Leslie Corak, LPN
Marty Kurth, RN, MPM
Elaine Oley, BS, MP, ASCP
John Snyder, MS
Sherry Swarmer, RN

These Administrative and Field Managers will work directly with participating hospitals to help them deploy and use in two patient safety reporting systems:

- MedMARx, for medication errors; and
- The National Nosocomial Infection Surveillance (NNIS) system, for these hospital-acquired infections:
  1. Central line-associated bloodstream infections.
  2. Methycillin resistant staphylococcus aureus (MRSA)in (a)ventilator-associated pneumonias in ICUs and step-down units; (b) bloodstream infections (whole hospital); and (c) surgical site infections in hip and knee replacement and coronary artery bypass surgeries.

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ICSI Founder Visits PRHI

*You have learned what we have learned about the limitations of benchmarks. We don't want to ask what is **done**, but what is **possible**. Thinking this way is like a nasal decongestant for the mind.*

—James Reinertsen, MD, during his April 10 visit to PRHI

Dr. Reinertsen is one of the founders of Minnesota's Institute for Clinical Systems Improvement (ICSI), considered a pioneer collaborative healthcare improvement effort. ICSI and PRHI share another common focus: quality, not just cost, as the entry point for change. Dr. Reinertsen was the first to sponsor a healthcare Learning Line based on the principles of TPS.

After an overview of PRHI, Dr. Reinertsen heard presentations of the VA learning line on antibiotic-resistant infection, and toured the West Penn learning line in the Ambulatory Surgery Center.

Dr. Reinertsen is the principal of The Reinertsen Group, an independent consulting and teaching practice helping healthcare leaders create environments in which the work of nurses and doctors can thrive. Previously, he served as CEO of Boston's CareGroup and of Harvard's teaching hospital, Beth Israel Deaconess Medical Center.

PRHI subject of study on health coalitions

The Robert Wood Johnson Foundation has awarded RAND a planning grant to study regional healthcare improvement coalitions. The study will assess which factors stimulate such coalitions and contribute to their successes and difficulties; and which strategies are most likely to induce real improvements in the health and safety of patients.

PRHI is honored to be among the four coalitions included in the RAND study. The others are: Institute for Clinical Systems Improvement (ICSI); Rochester Health Commission (RHC); and Cleveland Health Quality Choice Program (CHQCP), (no longer operating).

Study directors are Dr. Shan Cretin and Dr. Donna O. Farley, senior researchers in the RAND Health Program.

Inside . . .

Perfecting Patient Care

Vickie Pisowicz
412.594.2589
pisowicz@jhf.org

The *Perfecting Patient Care System* supports the testing and implementation of a system-based approach to healthcare management, drawn from the Toyota Production System (TPS) and Alcoa Business System.

VAPHS Pioneers Learning Line on Antibiotic-Resistant Infection

The basics of antisepsis—hand washing, gloves, gowns and masks—have been known to medicine since Lister's work in 1865. Yet studies confirm—as does a stubborn threshold of hospital-acquired infection—that workers sometimes circumvent the basics.

Last year the Centers for Disease Control and Prevention (CDC), in collaboration with the Veteran's Administration Pittsburgh Healthcare System (VAPHS), began investigating what it would take to establish a PRHI Perfecting Patient Care Learning Line focusing on infection control. Specifically, the CDC is interested in *increasing compliance with procedures known to halt the spread of infection*.

The VAPHS became the site for this Learning Line despite its low rate of hospital-acquired infection. To act on PRHI's bold goal of ZERO nosocomial infections, VAPHS's top leadership joined with the CDC in making the necessary resources available to create this Learning Line—eight rooms in 4 West, the inpatient surgery unit at the confluence of 12 surgery lines. Although a small sub-unit, the VAPHS Learning Line marks a new level of collaboration among government agencies, community-based PRHI and frontline caregivers.

"The cupboards talk to us now," says Ellesha Miller, RN, Team Leader on the VA Learning Line

"This is a great opportunity for two federal agencies and a community organization to partner in an effort to solve a problem that exists in all of health care," said VAPHS Director, Michael Moreland. "Although the rates of nosocomial infections at the VAPHS have been at or better than the industry standard, this collaborative is focused on achieving a zero rate of infections. This effort matches our goal of providing the highest quality of care to America's veterans."

"The first thing we had to do was change the question," says Peter Perreiah, the Perfecting Patient Care teacher at the VA. "We had to stop asking, 'Why ***don't*** you follow procedures?' to 'Why ***can't*** you follow procedures?' Workers are conscientious people of good will, and the reasons usually involve systemic barriers that prevent them from getting something done. It's a principle in the Perfecting Patient Care System that you follow those reasons: ask ***WHY*** five times and you'll usually uncover the root cause."

Under the guidance of Team Leader, Ellesha Miller, RN, the Learning Line is striving to create an ideal system where each patient receives what is needed on demand, without waste or defect, one by one, immediately. For the worker, waste will be eliminated, the environment will be physically, emotionally and professionally safe, and work will be redesigned and balanced.

But they had to start somewhere. They began to look for ways to begin stabilizing the system.

It didn't take long to discover one reason why workers were having trouble complying with infection control procedures. Some glove dispensers were empty. Some rooms had gowns; some did not. Stock-outs occurred daily.

*Methycillin Resistant Staphylococcus aureus

Workers on the Learning Line established (1) who would be responsible for re-stocking gloves and gowns (the nurse's assistant); (2) how often supplies would be checked (daily); and (3) how the cupboards would be labeled so that any deficiency would immediately become obvious (see illustration, page 2). Visual cues are key.

"The cupboards talk to us now," said Miller. "We can't be out of something and not know it."

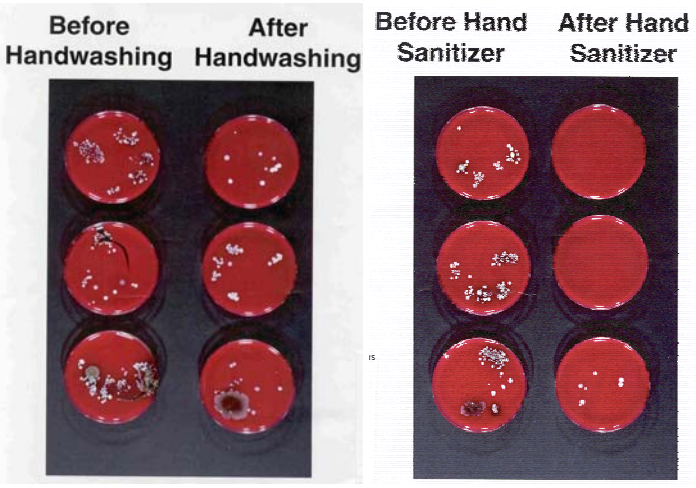
Within days, the new system became successful: "stashes" of gloves and gowns workers had secreted away came out of closets as the system supported the workers. Within weeks, the system was introduced throughout the floor.

Most important, because compliance is up, patients have more protection against the spread of infection. (Interestingly, although gloving compliance is up, glove consumption and costs have dropped by about 15%. Those "stashes" are costly.)

The most frequent reason given for skipping hand washing was " lack of time." Workers feel tremendous pressure to complete their work in a system that does not ensure that they have what they need, when they need it. Setting up a system to guarantee a steady supply of gloves and gowns helped workers recoup several minutes of work time each day, and immediately raised compliance rates. Miller and Perreiah set their sights on freeing up even more time.

Two opportunities were identified for capturing time to redirect to compliance: one involving the bar-code medication administration (BCMA) process, the other involving shift change.

The BCMA process required nurses to scan armbands multiple times due to weak batteries in the BCMA computer. The other area was the time required to brief oncoming staff at shift change. For the BCMA system,



Visual cues are key. Posters are installed in staff areas in 4 West show petri dishes created on-site from clinicians' hands. The poster demonstrates the superiority of hand sanitizing as opposed to hand washing alone.

the team installed operating instructions, a method for ensuring reliably charged batteries, a quick troubleshooting guide and a way to get help when needed.

The nurses also teamed up to streamline shift change. By applying a manufacturing technique for quick changeovers, nurses aim to reduce the briefing time from 1 hour to just 15 minutes. And standardizing the briefings is expected to improve the quality of the reports.

Another principle of Perfecting Patient Care is to strive to reveal problems in their true dimension. On 4 West, they have begun performing nasal swabbing of every patient upon admission and discharge from the unit. This procedure has produced something close to "real-time" data. What is the possible effect?

"The ability to say, 'You remember Mr. Smith, who was released last week? Well, when he came in, he didn't have MRSA, but when he left, he'd been colonized.' You say that to a professional, and that one data point has far more impact than generic quarterly data on infection 'rates,'" says Perreiah.

Can swapping out weak batteries and putting gowns in the cupboard reduce the rate of infection? By shutting down opportunities for transmission, by removing barriers to compliance, 4 West at the VAPHS believes it can. The unit has already gained ground on the CDC's original goal of improved compliance. Hand hygiene is up; frustration is down.

The system changes that regain worker time and produce a safer environment for patients—these are initial Learning Line benefits that accrue to the whole hospital.

THIS IS A GREAT OPPORTUNITY FOR TWO FEDERAL AGENCIES AND A COMMUNITY ORGANIZATION TO PARTNER IN AN EFFORT TO SOLVE A PROBLEM THAT EXISTS IN ALL OF HEALTH CARE.

—MICHAEL MORELAND, VAPHS DIRECTOR

Clinical Initiatives

Jon Lloyd, M.D.
PRHI Medical Advisor
412.594.2566
lloyd@jhf.org

Geoff Webster
PRHI AssociateDirector
412.456.0973
websterchc@stargate.net

PRHI's partnership among clinicians, businesses, hospitals and insurers aims to achieve perfect patient care in six pilot areas* by constructing outcome data that caregivers trust; and supporting collaborative efforts to improve care based on those data.

Clinical Work Meets Patient Safety

Did the patient get better? This fundamental question guides PRHI's clinical initiatives.

Through data on complications and readmissions, clinical groups are able to look at patient outcomes, and then take a critical look at the processes of care—those that produced excellent outcomes and those that didn't.

In 1999, the Pennsylvania Health Care Cost Containment Council (PHC4) prepared data for PRHI on the region's hip and knee replacement surgeries. The Orthopedic Work Group was surprised to see that the rate of readmissions due to infections was 0.6% for hip replacement and 0.5% for knee replacement. Stated another way, infection caused 11% of readmissions for hip and 13% for knee replacement surgeries.

The Cardiac Work Group was in for a similar surprise in September 2000, when PHC4 data showed that the overall readmission rate within 30 days following discharge for coronary artery bypass graft (CABG) surgery was 17% in Southwestern Pennsylvania, statistically higher than the statewide rate of 15.3%. The *leading* cause of readmission for CABG—23.6%—was infection.

On January 1 of this year, PRHI's Nosocomial Infection Advisory Committee (NIAC) began comparing institutional variations in methycillin-resistant staphylococcus aureus (MRSA) infection rates in:

- Primary bloodstream infection.
- Ventilator assisted pneumonia.
- *Surgical site infection rates for CABG, and hip and knee replacement surgeries.*

Infection Control Practitioners at all PRHI hospitals have begun reporting nosocomial infections in these three targeted infection groups to the Centers for Disease Control and Prevention (CDC).

At March's Cardiac Forum, presenters described the Veteran's Administration Learning Line dealing with MRSA. The Cardiac Working Group will continue to collaborate with the NIAC—a significant development as the Cardiac Registry comes online. Over the coming months, the Cardiac Registry—90 data points measuring patient outcomes following CABG—will become a tool for learning from results reported at all 14 cardiac surgery centers in the region.

Through collaboration among clinical and patient safety initiatives, among hospitals of our region and the CDC, our region is poised to begin discovering better and better processes of care. The chief beneficiaries will be the patients whose health will be restored sooner and more completely.

Percentage of readmissions attributable to infection*

Hip replacement	11%
Knee replacement	13%
Coronary artery bypass graft	23.6%

*Source: Pennsylvania health care cost containment council, regionally aggregated data prepared for PRHI

* PRHI's six clinical pilot areas are: cardiac and orthopedic surgery, diabetes, depression, obstetrics and gynecology, and radiation oncology.

Ed Harrison
Director, Patient Safety
412.594.2584
harrison@jhf.org

Patient Safety

PRHI partners are working collaboratively to eliminate two major patient safety concerns: healthcare-acquired infections and medication errors.

AHRQ Resources Deployed

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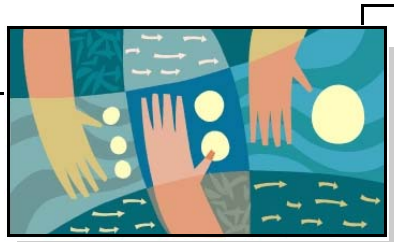
Administrative Managers will help coordinate intra-system activities by participating in facilities' regular medication error and/or infection control meetings. For efficiency, Field Managers are assigned to hospitals that are geographically clustered. They will help distribute and interpret the reports, promoting shared learning throughout each system and the entire region.

Field Manager assignments are shown below. Each hospital's designated Site Captain is currently arranging introductory site visits. While all hospitals participate in the regional learning network, those listed in **bold print** are part of the AHRQ-funded program evaluation.



REGION 1: NORTH
LESLIE CORAK, LPN

Aliquippa Community
Butler Memorial Hospital *
HealthSouth Rehab. Hospitals
HVHS, Medical Center –Beaver *
HVHS, Sewickley *
UPMC HS, UPMC Horizon
UPMC HS, UPMC Northwest Medical Center, Franklin
WPAHS, Allegheny Valley

REGION 2: SOUTH
JOHN SNYDER, MS

Greene County Memorial
Jefferson Regional Medical Center *
Latrobe Area Hospital *
Monongahela Valley Hospital, Inc.
St. Clair Memorial Hospital *
Uniontown Hospital *
Washington Hospital
WPAHS, Canonsburg

REGION 3: EAST
MARTY KURTH, RN, MPM AND LESLIE CORAK, LPN

UPMC HS, UPMC Bedford Memorial (MK)
UPMC HS, UPMC Braddock (MK)
UPMC HS, UPMC Lee Regional (MK)
UPMC HS, UPMC McKeesport (MK)
UPMC HS, UPMC Presbyterian (MK)
UPMC HS, UPMC Shadyside (MK)
UPMC HS, UPMC Western Psychiatric Institute (MK)

REGION 4: CENTRAL
ELAINE OLEY, BS, MT, ASCP

Children's Institute
Children's Hospital of Pittsburgh
Life care Hospitals of Pittsburgh, Inc.
PMHS, Mercy Hospital of Pittsburgh/PMHS, Mercy Providence Hospital
SFHS, St. Francis Medical Center/SFHS, St. Francis New Castle
Magee Women's Hospital of the UPMC HS
UPMC HS, UPMC Rehabilitation
UPMC HS, UPMC Southside
WPAHS, West Penn Hospital

REGION 5: NORTH/ CENTRAL
SHERRY SWARMER, RN, CCM, CMCN

Ohio Valley General Hospital
UPMC HS, UPMC Passavant
UPMC HS, UPMC St. Margaret
WPAHS, Allegheny General
WPAHS, Forbes Regional
WPAHS, Suburban General

* VHA-affiliated facilities

As we move forward with this initiative, we encourage each Health System to send a representative to the Infection Control and Adverse Drug Event Advisory Committees that will coordinate programs across the region. (See *Calendar*, page 8.)

The PRHI/AHRQ meeting on April 15-16 centered on detailed plans for the Patient Safety operations team. Next month's *PRHI Executive Summary* will feature the discussions and results of this meeting.

PRHI Partner Spotlight

Medication Administration Advisory Committee

Bakow, Eric
Process Improvement Specialist
Institute for Performance Improvement
UPMC Health Plan

Brooks, Daniel
Vice President and Chief Medical Officer
Heritage Valley Health System, Inc.

Cherok, Cheran
Pharmacist
The Medical Center of Beaver

Combes, John
Senior Medical Advisor
The Hospital & Healthsystem Association of PA

Ettinger, Joel
Principal
Pugh Ettinger McCarthy

Fera, Toni
Senior Director
Allegheny General Hospital

Glunk, Daniel
Pennsylvania Medical Society

Hallisey, Peter
Manager, Clinical Pharmacy Operations
Jefferson Regional Medical Center

Hayes-Leight, Kathy
Director, Risk Management
West Penn Allegheny Health System

Hern, Susan
Risk Management
Mercy Hospital of Pittsburgh

Kowiatek, Joann
Pharmacy Manager
UPMC Presbyterian

Laskow, Mark
CEO
Greycourt & Co., Inc.

Lundquist, Thomas
Director, Department of Performance Improvement
Allegheny General Hospital

McKenna, Erin
Clinical Pharmacist
UPMC Health Plan

Narduzzi, JoAnn
Executive Vice President, Medical Affairs
Mercy Hospital of Pittsburgh

Ramusivich, Donna
Senior VP, Professional Services and Quality
Monongahela Valley Hospital

Rousseau, Denise
H.J. Heinz Professor of Organizational Behavior and Public Policy
Carnegie Mellon University

Rudolph, Marilyn
Vice President, Performance Improvement
VHA Pennsylvania

Sacco, C. Daniel
Vice President, Planning & Managed Care
West Penn Allegheny Health System

Schmidhofer, Mark
Director
UPMC Institute for Performance Improvement

Schulhoff, John
Director of Surgery
St. Francis Medical Center

Sirio, Carl
Associate Professor
University of Pittsburgh School of Medicine

Weber, Robert
Executive Director and Department Chair, Pharmacy
UPMC Presbyterian and Shadyside

Weinberg, Richard
Senior Vice President, Medical Affairs
St. Francis Health System

Yarchak, Mary Kay
Information Services Division
UPMC Health System

Progress Report

This month has marked increased participation in the MedMARx medication error and National Nosocomial Infection Surveillance (NNIS) reporting systems.

PRHI Partner	NNIS Blood Stream Infect'n Report to CDC: 2nd qtr 2001	3rd qtr 2001	4th qtr 2001	MedMARx med. error report sys.: Con-tract?	System in use?
Butler Memorial Hospital*					
Children's Hospital of Pittsburgh	✓	✓	✓	✓	✓
HealthSouth Rehab. Hospitals	n/a	n/a	n/a		
Heritage Valley Health System, Inc.*					
Sewickley Valley Hospital	✓	✓	✓	✓	✓
Medical Center—Beaver	✓	✓	✓	✓	✓
Latrobe Area Hospital*	✓	✓	✓	✓	✓
Lifecare Hospitals of Pittsburgh, Inc.	n/a	n/a	n/a	✓	
Monongahela Valley Hospital, Inc.	✓	✓	✓	✓	✓
Ohio Valley General Hospital				✓	
Washington Hospital	*NEW PARTICIPANT*				
Pittsburgh Mercy Health System					
Mercy Hospital of Pittsburgh	✓	✓	✓	✓	✓
Mercy Providence Hospital	✓	✓	✓	✓	✓
South Hills Health System					
Jefferson Hospital	✓	✓	✓	✓	✓
St. Clair Memorial Hospital*	✓	✓	✓		
St. Francis Health System	✓	✓	✓	✓	✓
Uniontown Hospital	✓	✓	✓	✓	✓
UPMC Health System					
Bedford Memorial	✓	✓	✓	✓	
Braddock	✓	✓	✓	✓	✓
Horizon	✓	✓	✓	✓	✓

PRHI Partner	NNIS Blood Stream Infect'n Report to CDC: 2nd qtr 2001	3rd qtr 2001	4th qtr 2001	MedMARx med. error report sys.: Con-tract?	System in use?
UPMC, continued					
Lee Regional	✓	✓	✓	✓	✓
Magee Womens Hospital	✓	✓	✓	✓	✓
McKeesport	✓	✓	✓	✓	✓
Passavant	✓	✓	✓	✓	✓
Presbyterian	✓	✓	✓	✓	✓
Rehabilitation Hospital	n/a	n/a	n/a	✓	◐
Shadyside	✓	✓	✓	✓	✓
South Side	✓	✓	✓	✓	✓
St. Margaret	✓	✓	✓	✓	✓
Western Psychiatric Institute	n/a	n/a	n/a	✓	✓
West Penn Allegheny Health System					
Allegheny General Hospital	✓	✓	✓	✓	✓
Allegheny Valley Hospital	✓	✓	✓	✓	✓
Canonsburg General Hospital	✓	✓	✓	✓	✓
Forbes Regional	✓	✓	✓	✓	✓
Suburban General	✓	✓	✓	✓	✓
West Penn Hospital	✓	✓	✓	✓	✓
Westmoreland Health System					
Frick Hospital	✓	✓	✓	✓	✓
Westmoreland Regional Hospital	✓	✓	✓	✓	✓

* *Collaborating w/ national VHA Patient Safety Initiatives*

✓ *Fulfilled* ◐ *In progress*

Calendar at a glance, May 2002*

Tuesday, May 7	Nosocomial Infections Work Group	8—10 am
Tuesday, May 14	Medication Administration Advisory Committee	3—4:30 pm
	Perfecting Patient Care (TPS) Information Session**	7—9 pm
Weds, May 15	Go-and-see (Gemba) session**	8 am-noon
	Clinical Advisory Committee Location TBA	6—8 pm

All meetings at JHF offices unless otherwise noted
**Call Helen Adamasko at 412-594-2581*

Tony Kelly, Administrative Coordinator
412.594.2567, *kellyt@jhf.org*

Contact Information

Karen Wolk Feinstein, PhD
PRHI Chair
412.594.2555
FEINSTEIN@JHF.ORG

Ken Segel
PRHI Director
412.594.2558
SEGEL@JHF.ORG

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

Please direct inquiries to:
Naida Grunden, Communications Director
412.594.2572 GRUNDEN@JHF.ORG

Pittsburgh Regional Healthcare Initiative
650 Smithfield Street, Suite 2330
Pittsburgh, PA 15222

www.prhi.org

The Pittsburgh Regional Healthcare Initiative, 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*