Linda Dudjak (center) with Deborah Sormaz (left) and Lisa Krivosh, cochairs of the evidence-based practice council.
Implementing Evidence-Based Practice in a Community Hospital Serving a Rural Population

After the baseline survey was completed, the group developed a tool kit to introduce the concepts of EBP to clinical staff based on the individual needs of the institution. The approach they developed leverages existing strengths. “You have to grow from where you start,” Burns says. “Our goal was to position EBP and research into the existing hospital structure.” The tool kit included strategies to introduce the concepts of EBP through the hospital’s Professional Practice Council (PCC).

“Practicing what we preached, the team applied the principles of EBP throughout the process, researching and testing different approaches to identify the most effective implementation tactics,” Burns says.

The PCC, made up of 25 staff nurses representing every area of the hospital, became ambassadors of information to their peers and helped develop an action plan to implement EBP at UPMC Horizon. After a year, PPC transitioned its role as a steering committee and formed a separate EBP nursing council to expand staff participation and support the growth of the initiative.

“One of the tools the group developed was a colorful puzzle logo to visually depict the defining elements of EBP and to illustrate how they relate to ultimately impact patient care,” Dudjak says. “We tried to incorporate the puzzle image into all of the EBP information pieces and on bulletin boards that were used to help educate the staff in each department about the EBP initiative and inform them about the council’s ongoing activities.”

Another strategy used a journal club format as a way of introducing staff nurses to the research findings of the Center for Research in Chronic Disorders and other relevant research to answer their clinical questions. Journal club discussions continue to be a regular agenda item for each EBP council meeting.

Next, an on-site educational session provided by Mary Lou Klem, reference librarian and liaison to the School of Nursing from the University of Pittsburgh Health Sciences Library...
System, taught nurses how to access a database of systematic reviews on clinical topics. The hands-on instructional session showed nurses how to access reviews that summarize current research findings, along with implications for the most up-to-date clinical practices, from a hospital computer or from home.

“It was an exciting moment to see staff nurses totally engaged in this new learning and becoming proficient in the use of these resources,” Dudjak says. “They were then able to share what they learned with nursing peers in their respective departments.”

Another key step in achieving staff proficiency in applying EBP was to provide the resources required to integrate the principles into daily practice. “We set up an e-mail address where nurses can submit their clinical questions that they encounter in daily practice,” Dudjak says. “Designated members of the EBP nursing council, including the nurse(s) who submitted the question, review the available literature to determine if there is sufficient evidence to answer the question and/or propose a change in current practice.”

To further educate the nursing departments about the concept of evidence-based practice, a pilot study was conducted with patients who had been discharged from two units. Kitty Kightlinger, RN, and Denise Mertz, RN, contacted patients following discharge and asked them a scripted set of questions to evaluate how well patients understood and were able to follow discharge instructions and the usefulness of the written materials they received. Burns and her research team collated the data from that study and incorporated the results into an instructional session on the topic of adherence. Burns also used the data to demonstrate how various statistical tests could be applied in a way that is understandable and meaningful to a practicing nurse.

“Staff investment and ownership in that study brought research to a personal practice level and illustrated the complementary synergy that exists between nursing research and clinical practice,” Dudjak says. “Every step of the way, the staff was supported by the academic expertise of the faculty who do research every day. And they could see the research translated and applied in a way that is understandable and meaningful to a practicing nurse.”

Most recently, Lisa Krivosh, RN, and Deb Sormaz, RN, staff nurse co-chairs of the EBP council, shared their work at a systemwide nursing conference on quality innovation and as part of Nurses Week activities at UPMC Horizon. “Presenting their own evidence to nursing peers promoted a full appreciation of the research process as well as principles of EBP,” Dudjak says.

Many of the nurses in this rural setting were practicing in the same ways they had been trained when they earned their basic nursing education decades earlier. “There has been a lot of teaching involved so far,” Burns says. “At the beginning, we needed to be both salespeople and educators.” But Burns and Dudjak know that making a difference in a person’s life can take time. “Perseverance is one way to make a change,” Burns says. “The first step was getting nurses comfortable enough to develop a clinical question.”

As a result of these initiatives, a spirit of inquiry has been fostered that empowers nurses to constantly question how and why they do things. “Nurses at Horizon are really beginning to embrace a culture of change,” Dudjak says. “They are comfortable looking at the literature and are more aware of the importance of asking clinical questions to learn if there is a way to do things that can result in better patient outcomes.”

Another valuable effect of the collaboration between UPMC Horizon and the School of Nursing has been an increased interaction and collaboration between nurses in a practice setting and nurses in an academic and research environment. “The EBP initiative has helped bridge the gap between research and practice at Horizon by establishing an academic and clinical partnership,” Dudjak says.

Burns and her research team are incorporating lessons learned at UPMC Horizon into an EBP implementation plan that can be adapted to apply at rural hospitals across the commonwealth and the nation.
IT’S IMPORTANT TO LISTEN TO THE CONCERNS and interests of patients and families, as well as those of clinicians and scientists,” says Mary E. Kerr, PhD, (MNEd ’81), RN, FAAN, deputy director of the National Institute of Nursing Research and associate director of its scientific programs.

The National Institute of Nursing Research (NINR), a division of the National Institutes of Health (NIH), includes a dedicated team of scientists that helps move nursing science forward. “At the NIH we are able to seek out the opinions of public advisors, health experts, scientists, and other shareholders across the United States about what they think are important health care needs,” she says. “We use this information to identify gaps in scientific areas, places where scientific consolidation or synthesis is possible and opportunities for interdisciplinary approaches to address current problems. These efforts guide us in directing our energy and resources in order to support research that produces the best evidence for practice.”

Kerr helped develop the strategic plan for the NINR with a focus on the agency’s mission to promote and improve the health of individuals, families, communities, and populations. “My background as a biobehavioral researcher helps me identify and assemble the resources necessary to accomplish the intermediary tasks required to achieve the mission of the NINR: helping scientists achieve their ideas and attain their goals,” she says. “In addition, my experience working in an interdisciplinary and collaborative environment at the University of Pittsburgh School of Nursing gave me an excellent model for integrating activities across NINR and NIH, seeing opportunities, and finding creative approaches that no one person alone could effect.

“Nurses are in an excellent position to look at both biological and behavioral measures that influence a patient’s health,” Kerr says. “In addition to looking at a patient’s biological markers, nurses receive information about the patient’s family and personal factors. They take advantage of opportunities to ask questions about the social context.”

One of Kerr’s goals is to create guidelines to take research from bench to practice to policy. “The majority of research conducted by nurses involves the patient or individual as well as the family, in a clinical setting,” she says. “The results can often be translated directly into practice and become the foundation for evidence-based practice.”

Kerr has received numerous honors and awards throughout her career, including the University of Pittsburgh School of Nursing Outstanding Alumni Award in 2004, the Excellence in Nursing Nightingale Award of Pennsylvania for Nursing Research in 2002, and the Distinguished Research Lectureship Award from the Eastern Nursing Research Society in 2001. She also has been recognized as a fellow in both the American Academy of Nursing and the American College of Critical Care Medicine.

At the NINR, Kerr is influencing the broader areas of nursing research that support, encourage, and value direct clinical care. But she also left a legacy of research at the School of Nursing in Paula Sherwood and Sheila Alexander (PhD ’04, BSN ’89), both assistant professors in the Department of Acute and Tertiary Care, who continue Kerr’s work to identify physiologic biomarkers that may help predict outcomes in traumatic brain injury patients as well as patients who experience a subarachnoid hemorrhage, or spontaneous arterial bleeding into the space that surrounds the brain.
The Nursing Profession has always had a commitment to pass knowledge from one generation of nurses to the next to ensure continuous progress and improvement in nursing practice.

Mary Kerr, PhD, (MNEd ’81), RN, FAAN, left a legacy of nursing research and knowledge at the School of Nursing that exemplifies that commitment. When she left the School of Nursing to assume the position of deputy director of the National Institute of Nursing Research and associate director of its scientific programs, Kerr was leading three major projects. Two of Kerr’s research projects focused on identifying biomarkers (substances made in the body) that predicted which patients suffering from subarachnoid hemorrhage (SAH) would develop complications. A third study focused on genetic biomarkers in patients who experienced a traumatic brain injury.

Kerr, who was mentored by former Dean Ellen B. Rudy, PhD, RN, FAAN, passed the baton of nursing knowledge to Sheila A. Alexander (PhD ’04, BSN ’89) and Paula Sherwood, PhD, RN, CNRN, both assistant professors in the Department of Acute and Tertiary Care. Sherwood and Alexander are continuing Kerr’s work, researching patients who suffer vasospasm, a narrowing of cerebral arteries after SAH that decreases blood delivery to brain tissue and can lead to stroke. This research is important because vasospasm occurs in 20 percent to 50 percent of patients recovering from an aneurysmal SAH—bleeding into the space that surrounds the brain from an aneurysm—and accounts for much of the disability and death associated with ruptured aneurysms in a fairly young population.

Continuing a study begun by Kerr, Sherwood and Alexander are working with Leslie Hoffman, PhD, RN, FAAN, professor and chair of the Department of Acute and Tertiary Care, to collect data with the hope of identifying physiologic biomarkers that may help predict which patients will develop poor neurologic and functional outcomes after injury. By identifying patients at increased risk, health care professionals can tailor care by increasing monitoring and administering prophylactic treatments to help prevent a second stroke.

Conducting the research also has begun to spawn new areas of interest. During data collection, several researchers became interested in the relationship between magnesium and vasospasm, which other studies have begun to report. Team members including Elizabeth Crago, MSN, RN, project manager and another of Kerr’s protégés, conducted analysis using data from the project and verified the work of others who have reported that patients who receive intravenous magnesium are less likely to develop cerebral vasospasm. As a result of this finding, the standard of care for aneurysmal SAH patients at UPMC Presbyterian hospital and many other facilities across the country now includes magnesium infusion for cerebral vasospasm. “That’s really the very essence of evidence-based practice,” Sherwood says. “It wasn’t the original purpose of the grant, but it was pulled straight from the grant. It was initiated by clinicians, carried through by researchers. It was a collaborative effort, and it resulted in a change in practice.”

In addition to carrying on Kerr’s work, Alexander and Sherwood have branched out to their own areas of research.

An additional area of research for Alexander is to clarify gene expression after traumatic brain injury (TBI) and explore its association with markers of recovery. Identifying pathways involved in TBI recovery may lead to tailored pharmaceutical interventions or therapies that can speed recovery and improve outcomes. “If we can find a gene that’s turned on and producing a lot of proteins in patients who have good outcomes, we may someday be able to intervene in the pathway and improve patients’ outcomes,” Alexander says.

Sherwood is conducting a study funded by the National Cancer Institute to examine the interaction of behavioral and biological markers of distress in caregivers of patients with a primary malignant brain tumor (PMBT). Patients with a PMBT often suffer significant physical and cognitive
problems, causing family caregivers to assume the patient’s familial, social, and financial obligations. “Research has shown that caregivers of patients with other chronic diseases are at risk for depression, anxiety, sleeplessness, problems with immune function, and increased mortality,” Sherwood says. “Despite high morbidity and mortality rates for patients with a PMBT, caregiver issues in neuro-oncology have been virtually ignored.” One of the purposes of Sherwood’s study is to use a multidisciplinary, integrative model—the Pittsburgh Mind-Body Center model—to examine how biologic and behavioral responses to stress interact. Established in 2000, the Pittsburgh Mind-Body Center is a joint center administered by the University of Pittsburgh and Carnegie Mellon University and is funded by the National Institutes of Health, with additional support from the two participating universities. The Pittsburgh Mind-Body Center model suggests that common pathways—psychological, behavioral, and biological—link to diverse disease end points.

Alexander and Sherwood are passing on Kerr’s legacy of nursing knowledge to their students—the next generation of nurses. “We are very fortunate and spoiled in this environment,” Alexander says. “I am honored to be a link in this chain of truly spectacular nurses.”

THE MISSION OF THE NATIONAL INSTITUTE OF NURSING RESEARCH (NINR) is to promote and improve the health of individuals, families, communities, and populations. A division of the National Institutes of Health (NIH), the NINR supports and conducts clinical and basic nursing research and research training on health and illness across the life span.

In addition to supporting a wide variety of nursing research, the NINR offers both individual and institutional training opportunities and supports both extramural and intramural research training. The intramural research program supports scientists at NINR on the NIH campus in Bethesda, Md. The extramural research program supports the work of scientists in universities, teaching hospitals, and other organizations outside the NINR.

Recognizing that the resources of the NIH were underutilized in the preparation of the next generation of biomedical scientists, the Graduate Partners Program (GPP) was started in the late 1990s to take advantage of the academic environment of highly respected universities and the breadth and depth of research at the NIH.

Following the success of that program, in 2004 the NINR launched a GPP pilot training project in biobehavioral research with a consortium of six schools of nursing, including the University of Pittsburgh. The dual missions of the NINR GPP are to establish and foster graduate education partnerships with national and international universities and other institutions dedicated to quality education in biomedical basic and clinical research, and to provide the infrastructure and community support needed by the students in these
programs. These university partnerships help the NIH strengthen and expand its role as a provider of excellent training for the biomedical scientists of the future.

Graduate scholars selected for this GPP complete their course work at their respective graduate partnership university and then go to the NIH campus to begin research for their graduate dissertations in an intramural laboratory under the guidance of a NIH intramural investigator and the partnership university mentor. Upon successful completion of the program, scholars earn a PhD degree from their respective university.

University of Pittsburgh School of Nursing BSN to PhD candidate Taura Barr (BSN ‘04) is one of the first students to have been enrolled in the NINR GPP, which provides up to five years of funding. Barr learned about this pilot program from former Professor Mary Kerr (MNEd ’81), whom she met during the second semester of her freshman year while working in the unit where Kerr was collecting data for her research. The two developed a bond as Kerr mentored Barr throughout her undergraduate studies. As a result of this relationship, Barr had an opportunity to present a research abstract based on Kerr’s data at two national conferences in 2004. “It was very exciting to have such an opportunity as an undergraduate student,” Barr says. “My original goal was to become a nurse practitioner, but this experience got me totally hooked on research.”

Sheila A. Alexander (PhD ’04, BSN ’89), the school’s first BSN to PhD graduate, was the research coordinator on Kerr’s study. Alexander continued to support Barr through her undergraduate studies and encouraged her to enroll in the BSN to PhD program. Barr completed her PhD course work at the School of Nursing and is collecting data for her dissertation at the NIH campus in Maryland, where she is mentored by Steven Warach, MD, PhD, chief of the NIH stroke program, National Institute of Neurological Disorders and Stroke; and Andrew Singleton, PhD, chief of the Molecular Genetics Unit Laboratory of Neurogenetics. “My goal is to complete my thesis in 2009, before my funding runs out,” Barr says. If she is successful, Barr will earn a PhD degree from the University of Pittsburgh School of Nursing at the end of the program.

“I wouldn’t be where I am if it wasn’t for Mary and Sheila,” she says. “They gave me time and a passion for research.”

Matt Gallek
Continued

A CHAIN OF NURSING KNOWLEDGE

Matt Gallek (BSN ’01), BSN to PhD student, also benefited from the legacy of Mary Kerr’s nursing knowledge.

Gallek became a nurse specifically for the research. “I became interested in research as an undergraduate psychology student at Allegheny College,” he says. Working as a mental health counselor for children in a community setting, Gallek met former Associate Dean John Clochesy, who encouraged Gallek to pursue a career as a nurse researcher. So, with one bachelor’s degree under his belt, Gallek enrolled in the University of Pittsburgh School of Nursing BSN program, working with Richard Henker, PhD, (MSN ’02), RN, associate professor and vice chair in the Department of Acute and Tertiary Care, and Tina Hines, former research faculty in the Department of Health Promotion and Development. “I enjoyed the ‘helping people’ part of nursing, but I especially liked the science,” Gallek says. “I like the method-to-the-madness aspect of research.”

Gallek was accepted into the BSN to PhD program and hired in the neurovascular intensive care unit at UPMC Presbyterian, where Kerr was conducting her subarachnoid hemorrhage study. “I knew Dr. Kerr from the school, but now I was able to see firsthand what she was doing at the bedside,” Gallek says. “It was exciting to see the connection between bedside nursing and the research we do at the school.”

“As a teacher, you hope you are imparting knowledge that makes a difference at the bedside,” says Paula Sherwood, PhD, RN, CNRN, assistant professor in the Department of Acute and Tertiary Care. “And as researchers, our goal is to develop interventions that can improve patient outcomes and help speed recovery,” adds Sheila A. Alexander (PhD ’04, BSN ’89), assistant professor in the Department of Acute and Tertiary Care.

Gallek did some independent studies with Kerr, working on his PhD part time while continuing to work at the hospital full time. He also worked with Sherwood and Alexander as a graduate student researcher on Kerr’s 20-HETE subarachnoid hemorrhage research project, now under the direction of Leslie Hoffman, PhD, RN, FAAN, chair and professor in the Department of Acute and Tertiary Care. And, adding to the chain of nursing knowledge, Alexander sits on Gallek’s PhD advisory review board.

For Gallek, the legacy of nursing knowledge at the school goes beyond a simple chain. “I’ve been influenced by so many faculty during my studies,” Gallek says. “It’s more like a web of nursing knowledge.”
In January 2005, Richard Henker, PhD, (MSN ’02), associate professor and vice chair in the Department of Acute and Tertiary Care, took his first trip to Cambodia to work as a volunteer nurse. Henker always intended to practice abroad someday—after his kids went off to college, and after a few other things—but an encounter with cancer in 2002 convinced him to do it immediately. So, when he heard a presentation about Health Volunteers Overseas (HVO) at the 2003 American Association of Nurse Anesthetists convention in Seattle, Wash., Henker knew he had found his mission. A private, nonprofit organization dedicated to improving global health through education, HVO sends qualified health care professionals to clinical sites in Asia, Eastern Europe, Latin America, Africa, and the Caribbean to train local health care providers, giving them the knowledge and skills they need to make a difference in their communities.

On that first mission, Henker provided clinical instruction and lectures to the clinical staff at the Sihanouk Hospital Center of Hope in Phnom Penh, a non-government organization that provides free care for the poor in Cambodia. Working with staff from the United Kingdom, Australia, and Switzerland, Henker taught the staff about preoperative evaluations, airway management, neuromuscular monitoring, and fluid management during multidisciplinary morning and afternoon rounds. Using a laptop computer and lecture material generously made available from his fellow faculty at the School of Nursing, Henker took advantage of found space and time to lecture the clinical staff about opioids, respiratory physiology, muscle relaxants, thermoregulation, airway management, and care of the patient with renal disease.

In February 2006, Henker returned to Cambodia, spending two weeks at Angkor Hospital for Children (AHC) in Siem Reap, which serves as a resource to the hospitals in the provinces in the more rural areas of Cambodia. “Many anesthesia providers in these provinces and nurse anesthesia students from Phnom Penh come to AHC for their anesthesia training,” Henker says. “Some patients travel for days to be seen there.” Henker’s goals for this trip were considerably different than they were on his first trip, in Phnom Penh. His mission this trip focused on teaching clinical staff how to teach, lecture, and precept anesthesia care providers and students. “The training we provide in Cambodia is important because the country lost a whole generation of health care providers in the 1970s, when the Khmer Rouge, under Pol Pot, killed 2 million people—including most of the educated population in the country.”

Henker returned again to Sihanouk Hospital Center of Hope in March 2007 for two weeks to teach and work with the nurse anesthetists. In addition, he made a trip to AHC to work on setting up a clinical rotation for the nurse anesthesia program. Henker will return to Cambodia in November 2007 with two senior School of Nursing anesthesia students to AHC for their final clinical rotation.

**The Power of Evidence-Based Practice**

While working with a student administering anesthesia in the operating room, Richard Henker, PhD, (MSN ’02), associate professor and vice chair in the Department of Acute and Tertiary Care, had an opportunity to see the power of evidence-based practice (EBP) training on the job. An attending physician came in and quoted from a study. Coincidentally, Henker and his class had recently reviewed the same study. Recalling class discussions and their evaluation of the study’s validity, the student replied, “But there is a problem with that study.” Henker, the student, and the physician then stood at the head of the bed and discussed the applicability of that study to the patient currently under anesthesia. “EBP isn’t just about the literature,” Henker says. “You also look at the patient’s situation and preferences.”
"NURSING IS THE CORNERSTONE OF PUBLIC HEALTH," says Linda Frank, PhD, (MSN ’83), ACRN, assistant professor in the Department of Infectious Diseases and Microbiology at the University of Pittsburgh Graduate School of Public Health (GSPH). “The basic principles of safety, hygiene, health assessment, health promotion, and patient education are the foundations of both public health and nursing practice.

“Nurses have always done public health work,” she says. “When you look at Florence Nightingale’s work, you see there is a public health overlay to everything she did.” Frank believes nurses are particularly well suited for public health work because they are systems oriented. “Nurses understand the patient in the context not only of their disease condition, but also of their families and communities.

“The nursing process and the scientific method are the same,” she says. “Different groups may call it continuous quality improvement, quality management, or evidence-based practice, but it is all the nursing process.” Whether they work in a medical surgical unit or as public health professionals in the community, “nurses are always testing what they do—they try things,” Frank says. “Nurses see a problem, develop an intervention, test it, and make an improvement.”

Frank also serves as principal investigator and executive director of the Pennsylvania/MidAtlantic AIDS Education and Training Center (PA/MA AETC), which she has directed since 1988. The PA/MA AETC is a part of a nationwide network of AIDS Education and Training Centers established by the Health Resources and Services Administration of the U.S. Department of Health and Human Services. The AETC helps build clinical capacity for HIV treatment and reduce barriers to care by improving the knowledge and skills of clinical providers through education, consultation, and technical assistance. The program targets health professionals, emphasizing physicians, dentists, nurses, nurse practitioners, physician assistants, pharmacists, and other members of the HIV treatment team. “Our mission is to provide health care providers with training and education on HIV/AIDS and related public health issues such as sexually transmitted diseases, tuberculosis, hepatitis, substance abuse, and mental health issues that have an impact on HIV,” Frank says.

Frank also directs the communicable disease and behavioral health MPH program in the Department of Infectious Diseases and Microbiology at GSPH. “As a public health professional, my laboratory is in the street,” she says. “In community clinics, regional hospitals, local community health centers, and in jails and prisons, I help health care providers build their capacity to provide better care.”

Frank also has taken the public health framework and applied it internationally. She was invited by the Eurasian Medical Education Program, which is funded by the National Institutes of Health, to serve a training faculty in the Russian Ural region and the Russian Far East. In March 2005, she was part of a delegation of HIV experts who trained 100 physicians at the Ural Medical Academy in Yekaterinburg, Russian Federation. And in June 2005, she traveled with a second delegation to Vladivostok, Russia, to conduct HIV training with more than 100 physicians in the Russian Far East. That same month, Frank helped organize and convene a conference, HIV/AIDS East of the Urals, in collaboration with the Center for Russian and Eastern European Studies at the University of Pittsburgh, where she also serves on the faculty. The conference included a delegation of clinicians and policymakers from the Ural region and Siberia with a shared goal of research and training collaboration. Efforts are now under way for Frank to conduct training in Samara and speak at a national nursing conference in the Russian Federation.

“One of the reasons I’ve been as successful as I have in what I do is because I graduated from Pitt’s psych nurse program, which was very systems oriented,” Frank says. “That training taught me a new way to think about problems.”
From Small Details to Big-Picture Scenarios, every task in Connie White-Williams’ day is dedicated to making someone else’s hospital experience better.

“What I do makes a difference in someone’s life,” says White-Williams, MSN, (BSN ’84), FAAN, a cardiothoracic transplant coordinator at the University of Alabama Medical Center in Birmingham. “Whether I am holding a hand, adjusting medications, or planning out the patients’ care, I know what I do can improve their quality of life,” she adds.

Currently a second-year graduate student in the doctoral program at the University of Alabama School of Nursing at Birmingham, White-Williams has developed a passion for research and hopes to assume a leadership role in the future. “I’ve been involved in research from the clinical side in the past, but now my goal is to be the primary investigator on my own grants,” she says.

As a volunteer in the hospital’s quest for magnet recognition, White-Williams has had an opportunity to share her interest in research by formalizing evidence-based practice principles and procedures and integrating them into the hospital’s daily routine.

The Magnet Recognition Program was developed by the American Nurses Credentialing Center, the largest and most prestigious nursing credentialing organization in the United States. The principle behind the program was to recognize health care organizations that provide excellent nursing care and uphold the tradition of professional nursing practice. In addition to elevating nursing standards, the program also seeks to provide patients with a benchmark measuring quality of care.

White-Williams believes the profession is up to the task.

“As nurses, we need to brainstorm,” she says. “It is important for us to sit and talk about issues, to go through the process of testing ideas and finding the evidence to back them up.”

In 2002, White-Williams was honored with the American Heart Association’s Excellence in Cardiovascular Nursing Clinical Practice Award in recognition of her ability to maintain roles in both clinical and research areas. As part of a nationally recognized team that performs a large volume of transplants every year, she coordinates care for about 200 patients but also conducts research in several treatment areas, including quality of life for patients and spouses.

In addition, White-Williams has been published in scientific journals and books, helped develop educational manuals and videos for patients, and served on the editorial review boards of Progress in Transplantation and the Journal of Cardiovascular Nursing.

Even so, she keeps in mind a simple adage that reminds her that patients are the reason for all that hard work: “Don’t let the urgent take over what is really important.”
Hospitals Can Be Dangerous Places. In her role as director of nursing measurement and improvement at Brigham and Women’s Hospital in Boston, Mass., Diane R. Novotny Lancaster, PhD, MSN, (BSN ’79), uses information gleaned from daily staff practices and safety reports to build evidence for required improvements in care processes. “A part of my job is to help nurses connect the dots among a vast array of data sources so that they can see where they have the power to impact and advance nursing practice,” Lancaster says. To that end, she leads numerous program activities related to patient care, quality, safety, regulatory and compliance standards, and evidence-based practice.

In relation to nurse-sensitive outcome measures, Lancaster is leveraging the hospital’s participation in the Patients First: Continuing the Commitment to Safe Care program, to show nurses how their participation in safety reporting activities can help them create better patient outcomes. The program, a sweeping quality and safety initiative endorsed by the Massachusetts Hospital Association and the Massachusetts Organization of Nurse Executives, includes a five-part leadership agenda adopted by Brigham and Women’s as well as 77 other hospitals (see sidebar). These hospitals are voluntarily publicly reporting their performance on nurse staffing data as well as outcome measures such as falls, falls with injury, and nosocomial pressure ulcers.

In addition to influencing staff practice at Brigham and Women’s, Lancaster also is involved in projects that might directly impact patients. In 2005, she was awarded a $250,000 research grant from the Susan G. Komen Breast Cancer Foundation for a three-year project that seeks to produce a tool that will help clinicians assess a woman’s perceived risk of developing breast cancer. Although clinicians already have tools to estimate biological risks, a woman’s perception of those risks plays a critical role in what actions she may take to reduce such risk.

Lancaster’s deep commitment to advancing the profession and making a difference in the lives of patients is tied to her own educational experiences. “I am privileged to have this level of academic preparation,” she says, “and I am committed to making sure there is adequate return on that investment.”

What They’re Promising: The Patients First Initiative

The Massachusetts Hospital Association and the Massachusetts Organization of Nurse Executives have endorsed a quality and safety initiative dubbed Patients First: Continuing the Commitment to Safe Care.

Participating hospitals pledge to:

- Provide staffing that meets patient needs.
- Promote a safe and supportive working environment for all those who provide care and in which patient safety is the top priority.
- Provide the public with the hospital performance measures they need to make informed decisions about their care.
- Build strategic partnerships and initiatives to address the shortage of nurses and other caregivers.
- Educate the public about what hospitals are doing to improve safety, and forge partnerships to promote access to high-quality care.

Source: Patients First
ADVANCE PRACTICE NURSES provide more than hands-on medical care in the mind of Marilyn Hravnak (PhD ’00, MSN ’83), RN, CRNP, FAAN. To her, they are the frontline bearers of potentially crucial information—and as such, must be armed with the best possible tools of their trade.

“Master’s-level nurses bring a more scientific basis to their practice,” says Hravnak, an associate professor in the Department of Acute and Tertiary Care. “It is important for advance practice nurses to be aware of the most current evidence as they do their rounds, because they are bedside ambassadors of information to patients and their families.”

Toward that end, Hravnak is spearheading a project that seeks to provide these nurse ambassadors with the most up-to-date and useful information at all times. She serves as coleader with Michael Pinsky, MD, professor in the University of Pittsburgh School of Medicine, of a collaborative team of medical doctors and clinicians in a pilot evaluation of an intelligent monitoring system called Biosign™, a product that integrates small changes in data from multiple physiologic monitors into a single amalgamated biological status index. The project, part of a University of Pittsburgh Medical Center (UPMC) and School of Nursing partnership for quality improvement, will determine whether the device can improve patient safety by anticipating functional deterioration sooner.

“Technology is an extension of our senses,” Hravnak says. “What we call ‘nursing intuition’ is the nurse’s ability to pick up on subtle changes in patient conditions and trends over time, and develop pattern recognition to recognize impending instability. We teach that to a large degree in our advanced practice nursing diagnosis and management courses. In the same way blood pressure cuffs and stethoscopes help us verify biophysical signs we already see in a patient, this device may improve patient safety by detecting changes earlier than our senses or traditional technologic monitoring systems, thereby anticipating functional deterioration earlier and applying supportive interventions earlier.”

One of five faculty across the University to be honored with the 2007 Chancellor’s Distinguished Teaching Award, Hravnak believes her job is not to provide the answers, but rather to refine the critical thinking skills that will allow students to discover the answers themselves. “My primary goal as an educator of advance practice nurses is not to teach knowledge, but to teach thinking,” she says. With every patient care problem her students encounter, Hravnak believes they should be able to think through the underlying pathophysiologic process and its differential diagnoses, then use critical thinking and advanced assessment skills to reach a diagnostic certainty.

In presenting the Distinguished Teaching Award, Chancellor Mark Nordenberg cited Hravnak’s “clinically relevant lectures, your ability to make difficult concepts understandable, and your respectful and reassuring supervision in [students’] clinical setting.” The chancellor also commended her use of realistic laboratory simulation techniques that prepare students to care for critically ill patients.

For her part, Hravnak credits the supportive systems within the School of Nursing and collaborative relationships with faculty in the School of Medicine, as well as with UPMC hospitals that support clinical practical training. “All of these factors work together to help us to produce exceptionally well-prepared graduates who are highly valued in the employment setting,” she says.
A customer walked into his pharmacy carrying an armload of information pulled from the Internet. “Why am I not getting this dosage?” he asked. The pharmacist looked through the information the customer had brought and replied, “Because you aren’t a horse.”

The discipline of evidence-based practice (EBP) is a systematic approach to access and evaluate evidence to make clinical decisions. But EBP requires much more than identifying the best evidence. Practitioners must integrate high-quality quantitative and qualitative research with clinical judgment and expertise as well as the background, preferences, and values of patients and families. The Center for Evidence-Based Medicine lists five steps to practice EBP: (1) ask an answerable question, (2) find the best evidence, (3) critically appraise the evidence, (4) act on the evidence, and (5) evaluate the performance. LaRue is developing technology tools that facilitate the first three steps, the access and evaluation of evidence for practice, which are crucial for success in EBP.

To develop an appropriate and answerable question, health care providers must first build a Patient, Intervention, Comparison, Outcome (PICO) outline. LaRue was part of a team of educators at the school that created a Web-based tool to train students and clinicians to develop an appropriate and answerable question using PICO. Accessing and assessing the evidence allows students to review clinical scenarios, create questions using the PICO format, learn about EBP search tools such as clinical queries, and evaluate journal citation and abstract relevance in answering an expert’s clinical question.
A second tool developed by LaRue, known as Site, Publisher, Audience, and Timeliness (SPAT), helps health care providers and consumers evaluate the accuracy, validity, and relevance of the information. SPAT is an acronym for the four components of information. “Dot-com sites may be sponsored by manufacturers or advertisers who provide information, unsubstantiated by scientific evidence, with the goal of promoting their product or service,” LaRue says. SPAT prompts users to ask, “Are the publishers or authors of the information credible, and do they cite reliable references? Is the audience for the text on the Web page appropriate for the reader—not using medical terms or biased? And finally, is there a date on the document or site to indicate how timely the information is?”

“SPAT is fast, easy to use, and memorable,” LaRue says. “It is a tool nurses can use to teach patients and their families how to access and evaluate current best evidence when making decisions about best care.”

It might seem obvious that people are not horses, but evaluating the relevance, accuracy, and validity of health care information can be even more confusing than picking stocks or selecting wine—and the consequences are far more significant when making decisions about the care of individual patients. LaRue is making it easier.

Although most health care professionals are open to personal research, stating that this can open lines of communication between doctors and patients, there is concern by other doctors about misuse of the Internet by people who mistakenly believe that the information they find is sufficient to make a self-diagnosis.

People increasingly use the Internet to gather information on health or health care, for themselves or people in their care. However, easy access to a wide range of medical information on the Internet also has resulted in increased cases of a condition health care professionals call cyberchondria—the deluded belief that you suffer from diseases featured on the Internet. Cyberchondriacs imagine they have a particular disease because their symptoms match those listed on an Internet health site.

Pharmaceutical companies and medical organizations maintain Web sites that include brief overviews of various conditions for individuals with a general curiosity, or more detailed information to aid the understanding of people who have been properly diagnosed. The problem is that consumers may not understand that many conditions (both major and minor) can have similar symptoms. General flu-like symptoms may be present in conditions as varied as allergies to HIV infections—or the flu. Without a proper diagnosis, cyberchondriacs may believe that their minor illnesses are symptoms of crippling diseases. These incorrect self-diagnoses can lead to anxiety, guilt, and depression. In rare cases, some doctors have reported that their patients have demanded dozens of tests for obscure, nonexistent infections and insisted on expensive, unnecessary medication for imagined illnesses.
“The PhD program at the University of Pittsburgh School of Nursing is distinguished by its strong research mentoring component,” says Judith Erlen, PhD, (BSN ’66), RN, FAAN, professor in the Department of Health Promotion and Development, PhD program coordinator, and associate director of the Center for Research in Chronic Disorders.

The Center for Research in Chronic Disorders (CRCD) was founded in October 1994. Now in its third cycle of funding from the National Institutes of Health (NIH) and the National Institute of Nursing Research (NINR), the CRCD is an independent entity in the School of Nursing that provides infrastructure support for multidisciplinary, outcomes-based research in chronic disorders across the life span. The CRCD also manages a pilot program for new investigators and more senior investigators who are proposing a substantial shift in research emphasis.

Under Erlen’s leadership, the school expanded its mentoring program to help other institutions develop their faculty and their research programs. In 2005, Erlen established links with Southern University and A&M College in Baton Rouge, La.; West Virginia University in Morgantown, W.Va.; and the State University of New York in Brooklyn. Willa Doswell, PhD, RN, FAAN, associate professor in the Department of Health Promotion and Development and associate director of the research development core of CRCD, shares responsibility for mentoring faculty at Southern University.

In 2005 and 2006, representatives from each of these universities attended a series of grant writing workshops sponsored by CRCD. Mentored by School of Nursing research faculty, workshop attendees began to develop research proposals. Several of those proposals were submitted for funding; two have been funded to date, and others are being revised and resubmitted.

This year, Erlen developed additional partnerships at the University of Oklahoma and the University of Connecticut, where she was appointed visiting professor for the 2007 academic year. “Each of the schools we work with is unique, but they all share the same missions of scholarly activity, teaching, and service,” Erlen says.

Doswell has made two visits to Southern University, and Erlen has visited all of the schools except for the University of Oklahoma. “I plan to go there in 2007–08,” she says. On-site visits provide an opportunity to continue mentoring the scholars who attended the workshops and talk with other faculty researchers who are interested in moving their research careers forward. “These visits are
stimulating for the faculty and for me,” Erlen says. “These young faculty have great ideas that arise from their clinical work.”

In addition to grant writing, mentors from the School of Nursing research faculty also teach researchers from the participating institutions how to recruit and retain subjects, address reviewers’ critiques, and manage a grant once it is received. “We have a responsibility to help our younger colleagues move forward with their research activities,” Erlen says. “In the same way, we have a responsibility to share ideas and to help them become successful. We need to demonstrate that nurses make a significant contribution to patient care through research.”

The school also benefits from these research linkages. “These research linkages enable researchers at the school to collaborate with faculty and recruit study participants from a wider population of patients within the participating institutions’ communities,” Erlen says. “In addition, the program helps energize the field of nursing research and reinforces the school’s national reputation as a major nursing research center.”

With nearly $10 million in research funding, the University of Pittsburgh School of Nursing is ranked third among schools of nursing in number of research grants awarded from the NIH and has been designated a research-intensive environment by the NINR. Nationally recognized for its high quality, innovative research, and multidisciplinary and multi-institutional collaborative process, the school is committed to preparing the next generation of nurse researchers to respond to future national health care needs.

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**THE CLINICAL AND TRANSLATIONAL SCIENCE INSTITUTE** (CTSI) serves as the integrative academic home for clinical and translational scientists across the University of Pittsburgh’s six schools of the health sciences, Carnegie Mellon University, the University of Pittsburgh Medical Center, and the region. The primary focus of CTSI is to develop, nurture, and support a cadre of clinical and translational scientists by building on the University’s existing clinical research training programs to establish a comprehensive program with activities ranging from early research exposure for high school students to advanced doctoral programs.

The objective of CTSI is to speed discoveries to improve patient care by:

- Developing a distinct discipline for clinical and translational science at institutions across the country.
- Providing opportunities and resources for original research on novel methods.
- Developing translational technologies and a knowledge base for the full spectrum of clinical and translational science.
- Synergizing partnerships with industry, foundations, and community physicians.
- Training the interdisciplinary teams who will conduct the clinical and translational research of the future.

Integration and innovation will enable CTSI to excel in the development of new biomedical knowledge and the translation of that knowledge from the basic and preclinical research settings to individuals, communities, and health practice. The resulting transformations in the institution, scientist, research, health practice, and community will improve health locally, regionally, and nationally.