The University of Pennsylvania School of Nursing is a school of many firsts. It is the first Ivy League school to offer three levels of nursing education, at the bachelor’s, master’s, and doctoral levels. It is the first nursing school in the nation to offer a Program of All-Inclusive Care for the Elderly (PACE). And it also is the first to have a privately-funded Center for Nursing Research. This early commitment to nursing research illuminates the School’s current ethos, the generation of new knowledge to educate scholars and practitioners who will change healthcare from practice to policy. That is the reason for the fresh face of Penn Nursing, UPfront — Where Science Leads. Research at Penn informs and influences practice which in turn improves patient outcomes. We are proud of the influence of our research on nursing practice and policy nationally and internationally. From our creation of the first privately funded Center for Nursing Research to today’s multiple research centers, Penn Nursing is a leader in developing and advancing nursing knowledge from bench to bedside to global healthcare policy.
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The Barbara Bates Center for the Study of the History of Nursing – page 18
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IF practice is the heart of our nursing discipline, then science is the mind that shapes and drives it, and caring is the soul and moral imperative that guards and provides its meaning. Together, they provide the intricate framework for the evidence that dictates the care that nurses give. To make a difference in the lives of people, families, communities, and indeed, nations, the journey from practice to practice must be complete.
Practice drives the questions we ask about why people lose their ability to detect the symptoms of hypoglycemia; or why some people with sleep apnea tend to benefit from Continuous Positive Airway Pressure (CPAP) and others do not; or why some nurses tend to deliver safe care while others are not able to; or whether there is a relationship between exposure to insecticides and a person’s ability to understand and process and interpret educational messages; or how we provide more effective nursing therapeutics to enhance recovery and healing of wounds for people who are injured with guns; or why pain is experienced differently due to gender or culture. These questions are all stimulated by our nursing practice and framed by our discipline’s mission. The journey to answer these questions, as you will see in this issue of UPfront, is provided by faculty at Penn Nursing. The inspiring research trajectories described in the following pages include an informative dialogue about the different ways by which translating science is interpreted and practiced, generating approaches to translational science, ranging from translation from animal to human, from bench to patients, from human research to community, and from individual studies to policy changes.

Among the many stimulating questions that result from reviewing this issue of UPfront are: what are the best venues for disseminating research? How soon after dissemination should research and evidence be translated? Who should be involved in the translation? And what are the best methods to evaluate the translated research?

These and other questions continue to challenge us at Penn Nursing and create an inspiring environment for our researchers and students. Other critical dialogues that intrigue us are those framed by national trends (decreasing funding from the National Institutes of Health, the Doctor of Nursing Practice degree, the nurse leadership program, the shortage of faculty) and regional trends (new legislation about continuing education, changing certification requirements), and local trends (best space configuration in our school to meet the future demands of our faculty, staff, and students). There is never a quiet moment in our School, nor is there a lack of vigorous and robust dialogue about our history and how it impacts the present and how it shapes our investment in the future.

Speaking of history, we have two major events coming up for this academic year which we will celebrate in big ways. The first is an October celebration of our School’s 120th anniversary. In 1887, the Hospital of the University of Pennsylvania School of Nursing (HUP) was developed from which 5,000 graduated (of our total of 13,000 alumni). Through a series of transformations, the HUP school closed in the late ‘70s. During this journey, several different programs were developed leading to our current programs which seamlessly progress from a BS to post-doctoral education in nursing. We are also proud of our many joint efforts at our University with other Schools such as Wharton, Law, Arts and Sciences, and the Annenberg School for Communication.

The second major celebration in our School in 2006-7 is the naming of our building for Dean Emerita Claire Fagin who was also an interim president of the University from 1993 to 1994. We feel very honored that her name will adorn our building. Naming our building, The Claire Fagin Hall, will happen along with the launch of the public phase of our $60 million development campaign in a gala on November 30 at the Philadelphia Museum of Art.

Finally, dear readers, just as we now have a new face for our building (a completed first phase renovation of our lobby and mezzanine level), we have a new face for our publications. This the first issue of UPfront (the University of Pennsylvania at the forefront). We hope you will like our transformation, that you enjoy UPfront and that you will join us in our celebrations. Most of all, we hope you participate in our dialogue about translational science and our journey from practice to practice.

Afaf I. Meleis, PhD, DrPs(hon), FAAN
Margaret Bond Simon Dean of Nursing
International Council of Nurses Global Ambassador for the Girl Child
Creating New Knowledge with the Public’s Trust for the Public Good

This important issue of UPfront focuses on translational science – what is it and how it will improve human health. Nurses have always recognized that the patient is at the center of both their care and their science, knowing that research should lead to solutions that patients and healthcare providers can use to improve health. In recent years, the National Institutes of Health has also emphasized the need to focus on major opportunities and gaps in research to develop scientific knowledge that results in tangible benefits for people.

What most people do not realize is how much support from the public contributes to health research discovery in the United States. There is strong public trust in the notion that research will be conducted with resultant benefit for people. In January 2006, Research!America published the results of its poll, finding that 6 out of every 10 Americans support greater funding for health research as essential for health and economic prosperity. More than half the members of the U.S. public believe that a greater commitment to research is a way to manage healthcare costs. Without public trust and support, it is doubtful our research programs would be as strong. This issue of UPfront highlights significant work that faculty in the Penn School of Nursing are conducting that has strong potential to directly benefit people with improvements for prevention of disease, better health, while promoting healthcare delivery.

While Research!America and many other public and private groups have emphasized the need for increased funding for research, the current projections for federal research funding is zero growth. In this issue, we highlight cutting edge Penn research that is being investigated for translation for the public good or major programs of research reflecting national priorities.

Our programs of research reflect the urgent need for discovery to improve the lives and care of our increasingly elderly population. The work of Drs. Mary Naylor, PhD, RN, FAAN, Kathryn Bowles, PhD, RN, and Neville Strumpf, PhD, RN, FAAN is recognized internationally for significant contribution to knowledge that can be applied in the care of elderly patients and families facing major health transitions. Dr. Deborah Watkins Bruner’s PhD, RN, work within the Abramson Cancer Center and Dr. Rosemary Polomano’s, PhD, RN, FAAN, work with researchers at the Philadelphia Veterans’ Affairs Medical Center reflect the urgent need for more clinical trials on effective prevention and treatment strategies for cancer and pain management. Drs. Therese Richmond, PhD, CRNP, FAAN and Marilyn Sommers’ PhD, RN, FAAN programs of research reflect the impact of violence on daily life and public health measures to decrease deaths from firearm and other traumatic injuries.

The research that is ongoing at Penn Nursing is dynamic, translational, inspiring – and most important – immediately relevant to the care and health of those here and around the globe. I encourage you to read the outstanding accomplishments of these researchers. As you consider the importance of nursing science to our lives, I urge you to continue to support stellar nursing science.

Linda A. McCauley, PhD, RN, FAAN
The National Institutes of Health recently released its roadmap for translational research which seeks to put “live humans at the center of the spectrum.” (NIH website) What that may require in terms of interdisciplinary teams, new models for academic centers, IRB approvals and standards is still a point of discussion for many. Several of the nation’s top researchers, based at Penn, discuss these and other issues influencing methods and means to translation, including:

Kathryn Bowles, PhD, RN
Mary Naylor, PhD, RN, FAAN
Therese Richmond, PhD, CRNP, FAAN
Barbara Riegel, DNSc, CS, RN, FAAN
Julie Sochalski, PhD, RN, FAAN
Neville Strumpf PhD, RN, FAAN
Eileen Sullivan-Marx, PhD, CRNP, RN, FAAN

Here are some excerpts of their discussion:

**Dr. Naylor:** For many years, translation of research into practice has generally focused on moving basic science findings into clinical trials. Much less attention has been paid to studies that attempt to promote adoption of findings from clinical trials into the “real world” of clinical practice. The NIH roadmap includes an emphasis on this type of research. Most clinical disciplines, however, are at a very early stage in research efforts aimed at promoting integration, adoption and diffusion of research-based practices.

**Dr. Strumpf:** Is this (focus on translational research) actually undercutting the fundamental premise of science where the investigator looks for new knowledge for its own sake? Presumably, if the science is good, innovative, and builds on the work which preceded it, it will ultimately result in enhancing the public good. Now, as in the past, the notion of translation for me is that science should be relevant.

**Dr. Naylor:** The reality is that often years elapse before findings from rigorous research are integrated into everyday clinical practice and even then adoption is uneven. Consumers of healthcare can’t afford such delays. Placing a priority on translational research will help us to understand the reasons for large gaps between the production of important research findings and its use by providers, health systems, insurers, etc. It also will help us develop new methods to speed up the adoption of important advances in knowledge.

**Dr. Richmond:** So then, what is translational research versus research utilization?

**Dr. Naylor:** Research utilization includes the use of a number of strategies to encourage staff members and other end-users to apply new findings in their work. For example, staff members might synthesize findings from relevant studies and then make the case for changes in clinical standards or practices. Research translation, on the other hand, involves the careful design of studies aimed at increasing the rate and spread of adoption of research-based innovations or models of care. The goal of our projects with Aetna Corporation and Kaiser Permanente Health Plan is not one more test of the APN Transitional Care Model. These projects are designed to promote widespread adoption and diffusion of this model by an insurance organization and a health plan. Such efforts require different methods than those employed in the NIH clinical trials upon which this work is based. In our translation efforts, for example, an expert in organizations is helping the project team to assess the facilitators and barriers to integration and diffusion of a research-based model of care.

**Dr. Riegel:** The barriers encountered in the transplantation of research into real life settings are a major issue in the conduct of translational research. In the public access defibrillation clinical trial, probably our biggest barrier was that people wanted to implement it before the trial began. And, we had sites crossing over based on what they had heard from public media. One site might have been randomized to receive CPR, but then they went out and bought their own AED (Automated External Defibrillator). It illustrates that by the time you get to the point of true translational research there are so many aspects that are coming into the public eye and coming from so many places that people have formed their own opinions before the research begins.

**Dr. Richmond:** At the Firearm & Injury Center at Penn, we have, under review right now, an application for a Centers for Disease Control youth violence center.
It’s a community participatory research model. The grants have not yet been awarded but we are meeting with the communities to set up sustainability-ownership work groups. So before we even start with a centerpiece research study, we are already putting into place how we think about sustainability and infusion into real life.

**Dr. Bowles:** I think that the push on translational research is great. It puts a focus and emphasis on what each of us has always thought about when writing and designing our studies, we try to answer the “so what” question. The push to think about translation makes us plan for what we will do with this knowledge when the study is completed, what makes it practical and diffusible into practice.

**Dr. Sochalski:** We need to determine which strategies are needed for dissemination and diffusion. The way that we frame the research question, or design a clinical trial, will impact whether the findings can be implemented and the policy implications. This must be addressed in the design.

**Dr. Sullivan-Marx:** Then again, there’s the question of community-based action research. The public good, the questions bubbling up from the community, are at the heart of what community-based action research embraces. We can design questions up front, or perhaps questions bubble up from the community that then turn into a partnership.

**Dr. Strumpf:** I am thinking about two kinds of research that get done in our own school that are enormously complex in terms of translation. One of them is gun violence and the other is HIV/AIDS. Translation can have a political context to it.

**Dr. Richmond:** Also, let’s consider what might be the unintended consequences. We’ve always taught students not to change practice based on results from one study. A body of research—accumulated evidence—can support a change of practice. As I listen and ponder our discussion, I wonder if one of the unintended consequences is moving too quickly.

**Dr. Naylor:** One of the barriers we have encountered is the cultural chasm between research intensive universities and the real world of business, each with their unique sets of goals and values. In our on-going efforts to integrate a research-based model of care in an insurance organization, for example, these differences became apparent in our efforts to negotiate legal contracts. The strong commitment of the leaders in both organizations has been instrumental in addressing this and other barriers.
**Dr. Richmond:** Another barrier is how to embed interventions within the system. In our sites for the trauma center community partnership study, one site excelled because the advisory group was powerful. So interventions would then become embedded within their system.

**Dr. Bowles:** Adoption may require incentives as well. We conducted one study that asked agencies to enroll patients which occurred only with difficulty. In the next study, we planned for and provided reimbursement to agencies and the study is progressing beautifully.

**Dr. Richmond:** Should we consider maximizing incentives while also minimizing disincentives?

**Dr. Strumpf:** There is so much to learn. Another good example about the complexities of translation is all of the attention right now on obesity. Making those findings truly translatable includes attention to family dynamics, to the neighborhoods, to the availability of products in stores, to safe playgrounds where people can exercise. There are so many translational things to think about. Look at exercise: we have had multiple studies of older people and exercise, but if the sidewalks are uneven and if it’s not safe to go out, there’s a barrier to exercise. There are multiple sets of issues like the ones that we’re all talking about – legal, political, economic, social, cultural factors. All have much to do with translation.

**Dr. Richmond:** One of the 10 public health successes of the 20th century was decreased death from motor vehicle crashes. What it took for that to occur was having an excellent data system, scientists’ access to the data, a federal agency (National Highway Traffic Safety Administration) created and in charge that could take the data and put out regulations, [e.g. mandatory seatbelts, airbags, improved road design]. So if you look at that as a success story, there are multiple things that have to be in place for translation in a broader scope to occur systematically.

**Dr. Riegel:** And one of those things has to be funding for outcomes research or data tracking. I have this nightmare that will move from accumulating research to translating findings into practice – and who chooses what’s translated – and we won’t monitor what happens. What kind of secondary, unintended effects will occur? We need to be tracking the results so that we can monitor them.

**Dr. Sochalski:** Perhaps what we are starting to see is a new paradigm for research at a school of nursing, that partners the building of the science with diffusion efforts so that your research is not complete until you have done both.

**Dr. Sullivan-Marx:** In the practice world, health systems just want to fix problems. Perhaps they are proceeding in a thoughtful way. Perhaps the dollar will drive quality, or perhaps quality drives the dollar. When we look to these questions of the public good, how do we find a solution to multi-faceted problems.

**Dr. Sochalski:** So part of what we’re looking at in translational research is that we are on the cutting edge of building the body of knowledge and methods about how we begin. The pathways that we need to go down are not in the research textbook. We’re writing that now with our work.
Beginning the Process of Translation

Researchers parse the mysteries of life at the molecular level to understand the mechanisms in animals that may one day improve the health of humans.

From bench to bedside, from Petri dish to people, from animal to human. This is what has been typically meant by translational research. Scientists work at the molecular, then cellular level to test “basic research,” then proceed to applications for animals, and onto humans. The work is translated into practice in order to improve human health as its lasting legacy.
However, this is often thought of as a “medical model.” As nursing science has expanded and evolved to include bench science, it has come to be understood that nurses bring a special perspective to the process as they seek to find the basis for and help explain human behaviors.

In the case of bench science conducted at the University of Pennsylvania School of Nursing, Associate Professor Nancy Tkacs, PhD, RN is investigating, at the pre-clinical stage, changes in the brain cells of rats to help determine how the human brain may fail to recognize hypoglycemia, leading to a condition known as “hypoglycemia unawareness.” In the case of Assistant Professor Karen Badellino, PhD, RN, the action of enzymes at the cellular level is being examined to determine a possible relationship to type 2 diabetes and atherosclerosis, diseases that, of course, affect millions of persons around the globe.

One approach that contributes to development of new therapies to translate into practice is to work with animal models of human diseases. Some animal research is directly translational, for example, animals with certain diseases are treated with experimental pharmaceutical compounds to test the ability of those drugs to cure or alleviate that condition in animals. This testing is required before testing the same drugs in humans with similar conditions, and leads to benefits for both animals and people. Other types of animal research are considered “preclinical.” One goal of preclinical research is to develop and validate animal models of human diseases or conditions. These models are then used to understand the cellular mechanisms underlying the disease process, leading to development of targeted therapies that are then tested for their effectiveness for treating the disease.

The DCCT findings established that “intensive insulin therapy” reduced rates of long-term diabetic complications such as loss of vision and kidney failure, compared to patients receiving standard care. Patients in the DCCT’s intensive insulin therapy group tried to keep their blood glucose as close to normal as possible by taking several insulin shots daily, or by using an insulin pump, and by self-monitoring their blood glucose several times a day. Unfortunately, while intensive insulin therapy reduced several chronic diabetes complications, patients in this group had three times as many episodes of severe hypoglycemia than the control patients.

In the years since the publication of the DCCT results, intensive therapy has become the standard of care for all patients using insulin treatment for diabetes mellitus. In that time, there has also been an increase in rates of hypoglycemia, including the most severe forms of hypoglycemia, resulting in coma and seizures. Hypoglycemia reduces quality of life in patients with diabetes, and increases the cost of the disease by requiring more emergency treatment and causing loss of work days. Perhaps the most frightening aspect of severe hypoglycemia to the patient with diabetes, is that recurrent episodes of hypoglycemia result in “hypoglycemia unawareness,” the loss of the ability to detect the warning signs of falling blood glucose. As these patients lose the awareness that they are going low, they are at increased risk of coma and seizures.

Dr. Tkacs’ work aims to develop a rodent model of hypoglycemia unawareness. How can one compare responses to hypoglycemia in rats, and expect to learn something about recurrent hypoglycemia in humans? First, it is well known that when a human experiences hypoglycemia, certain hormones are secreted that act on liver and muscle cells to help restore normal blood glucose levels. The most important of these hormones are glucagon and epinephrine. Rats also respond to hypoglycemia by secreting glucagon and epinephrine, producing a measurable outcome that is comparable to human studies. Dr. Tkacs has demonstrated that, in adult rats, even a single episode of hypoglycemia leads to reduced epinephrine responses to a second episode of hypoglycemia. Her research also showed that a few brain regions appear particularly vulnerable to hypoglycemia, showing evidence of cell damage.
after a single episode of hypoglycemia. This work with hormone measures provides evidence that the rodent model has validity for studying responses to recurrent hypoglycemia, in that humans also show reduced epinephrine responses to hypoglycemia after a single episode of prior hypoglycemia.

Hypoglycemia unawareness, however, is more difficult to study in a rodent model. Unawareness in humans is studied by asking them about their usual hypoglycemic symptoms, or by studying them in a clinical research laboratory, inducing hypoglycemia, and surveying them at frequent intervals for hypoglycemic symptoms. While considering how to assess awareness of hypoglycemia in rodents, Dr. Tkacs read a research study on the effects of nocturnal hypoglycemia in patients with diabetes and in control subjects without diabetes. The patients with diabetes, who presumably have experienced many episodes of hypoglycemia in their lives, were much less likely to wake up when hypoglycemia was induced at night than were the control subjects. Waking in response to hypoglycemia, or “hypoglycemic arousal” can be considered the nighttime equivalent of “hypoglycemia awareness” – that is, that the person becomes conscious of the state of hypoglycemia, and awakens as a result of that perception. This ability appears lost in those patients who have experienced recurrent hypoglycemia due to insulin treatment of diabetes.

Dr. Tkacs has collaborated with Drs. Adrian Morrison and Leszek Kubin, sleep researchers at the University of Pennsylvania School of Veterinary Medicine, to study hypoglycemic arousal in rats. This research team has studied the effect of hypoglycemia on the sleep/wake patterns of rats during the day, when rats, as nocturnal animals, spend most of their time sleeping. Their data indicate that rats do show hypoglycemic arousal. When rats are treated with insulin to induce hypoglycemia in the afternoon, they spend significantly more time awake than on a day when they are treated with saline. In addition, exposure to prior hypoglycemia reduces the wakefulness-inducing effect of a later episode of hypoglycemia, thus, the rats appear to develop hypoglycemia unawareness. Dr. Tkacs and her team now plan to study changes in brain gene expression and protein levels to gain greater understanding of the mechanisms underlying hypoglycemia unawareness in rats. They expect that these experiments will lead to targeted interventions that will help restore the ability of diabetic patients to detect when they are becoming hypoglycemic at night, and alleviate the distress of severe nocturnal hypoglycemia.

Reference List
For many years, doctors and nurses believed that as people gained weight, their fat cells were inactive depositories. However, research has since shown that fat cells are actually active endocrine organs, secreting angiotensinogen, the precursor of the blood pressure-regulating hormone, angiotensin II, as well as other pro-inflammatory substances called cytokines.
One of these cytokines, tumor necrosis factor alpha, causes an increase in plasma levels of an enzyme, endothelial lipase (EL). EL functions to break down the fat on plasma lipid particles known as lipoproteins with a preference for high-density lipoproteins (HDL), otherwise known as “the good cholesterol.”

Because research already shows that people who exhibit high levels of this EL enzyme are at an increased risk for atherosclerosis, Assistant Professor of Nursing Karen Badellino, PhD, RN, is currently working to understand how EL is regulated, as a basis for developing strategies to slow down EL production.

“The goal is to translate the very basic mechanisms of how endothelial lipase works into strategies to control its plasma levels – what nurses and doctors can do about it in people,” she says.

Dr. Badellino is still in the bench stages of her work, which aims to minimize the contribution of endothelial lipase to the development of atherosclerosis, a condition that occurs when the inner walls of the arteries become coated with plaque, fat, cholesterol and other substances that harden over time. As the condition worsens, the walls of the arteries thicken and blood flow slows down.

One way to prevent atherosclerosis, Dr. Badellino says, is to increase the amount of HDL and decrease the amount of bad cholesterol, or low-density lipoproteins (LDL). Her study, however, seeks to increase the amount of good cholesterol by blocking the EL enzyme that breaks it down.

Dr. Badellino is conducting her studies under grants from the National Heart, Lung, and Blood Institute of the National Institutes of Health to “determine the relationship between plasma levels and activity of endothelial lipase and the development of coronary artery disease” and the National American Heart Association “to study the relevance of endothelial lipase to the low levels of HDL found in individuals with metabolic syndrome.”

“The research goes from little dishes to a human study and the outcome of that human study will determine how people change their behavior in order to improve their health – Is weight loss enough to prevent atherosclerosis or do you have to be on a low fat diet? And what kind of fat is okay? Those are the questions we need to answer,” says Dr. Badellino.
While advances in cancer treatment such as surgery and chemotherapy have saved millions of lives, this comes at a cost to persons who may be left with a number of chronic health issues, including chronic neuropathic pain.
Traumatic injury, from accident or the battlefield, can also produce the same type of pain from nerve injury. Many Americans and their families struggle with ways to manage this disabling form of pain, and ways to prevent and treat chronic pain have become a serious and growing issue for healthcare professionals.

And yet, while the need for research to find better pain management therapies continues to grow, such research, particularly on humans, presents a unique and problematic set of ethical and practical issues for researchers. In the clinical setting, one cannot hurt someone intentionally in order to figure out how to manage their pain, yet such a deliberate action is often at the heart of experimental or laboratory research. Clinical trials, the gold standard for research, are conducted to test which treatments are better than others, but sometimes these are impractical and raise ethical issues. So how do researchers find new information on pain therapies when they cannot conduct these types of controlled studies?

Enter a program of translational research conducted by Associate Professor of Pain Practice Rosemary C. Polomano, PhD, RN, FAAN. Her work began at the bench investigating pain response in rats, and has extended to studying human experiences with neuropathic pain both in persons with cancer. And now, the research path has led to the Philadelphia VA Medical Center where she and other Penn investigators will help military anesthesiologists determine whether early aggressive pain therapy for battlefield traumatic injuries in Iraq and Afghanistan leads to better pain outcomes and quality of life in the long run. The research trajectory arcs from the bench to humans to the community and finally to the policy arena as there is great hope that these findings will better inform Congress about how best to allocate healthcare resources on the battlefield.

Earlier in her career, Dr. Polomano sought to explain the mechanism for neuropathy, specifically peripheral neuropathy in rats induced by the administration of paclitaxel or Taxol, a drug commonly used for the treatment of breast cancer. The bench science looked at the mechanism in rats in order to extend it to an explanation for human pain. Testing the animals for pain enabled Dr. Polomano and fellow researchers to quantify the severity of the neuropathy. Toxicity from chemotherapy drugs causes neuropathy via a mechanism called central sensitization, essentially a neural overload so overwhelming that even following the event, nerves maintain such a heightened level of sensitivity that even a soft touch can render pain.

That same mechanism is thought to be one of the causes of chronic pain resulting from traumatic war injury. While such conditions do not lend themselves to the standards of the clinical trial, pain management for blast or mangled limb injury generally falls into two categories – administering a regional block to the central nervous system or morphine by injection – that then result in two separate cohorts available for study.

In the three-year study, funded with $750,000 from the U.S. Department of Defense through the U.S. Department of Veterans Affairs, Dr. Rollin (Mac) Gallagher will lead a team of Penn investigators, including Dr. Polomano, and Army investigators, Chester Bucenmaier, M.D., Geselle McKnight, CNA, and Alex Stojadinovic, M.D. to show the long-term implications of effectiveness of regional anesthesia treatments with continuous peripheral nerve block infusions, or a single nerve block, compared to morphine injections. Preliminary data from the Army Regional Anesthesia Combat Casualty Database (ARACCD) on the use of these techniques were so convincing that funding was provide to conduct a full scale study.

“Central sensitization is exactly what I studied in rats receiving chemotherapy neurotoxic agents. It is now time to see if this disturbing process that causes so much pain and suffering can be interrupted with early aggressive interventions,” says Dr. Polomano. “Data from this study will provide the needed information to support the allocation of fully-trained anesthesiologists and nurse anesthetists to deliver regional anesthesia within 72 hours of a blast or mangled limb injury.”
In a keynote presentation at the 2005 scientific meeting of the Association of Professional Sleep Societies, Dr. Elizabeth Nabel, director of the National Heart, Lung, and Blood Institute, became the first person to characterize the work of Terri E. Weaver, PhD, RN, FAAN, Associate Professor and Chair of the Biobehavioral and Health Sciences Division at the School of Nursing, as translational.

Specifically, she was referring to Dr. Weaver’s clinical trial that examined the impact of the Continuous Positive Airway Pressure machine (CPAP) on daytime sleepiness in milder Obstructive Sleep Apnea (OSA) patients.

Despite the fact that 70 percent of the estimated 10 million OSA patients in the United States have mild to moderate disease, the majority of research on CPAP efficacy focuses on patients who are more severe cases, those who suffer from more than 30 respiratory disturbances per hour of sleep (RDI) each night. Such research has shown the effectiveness of the CPAP device in eliminating RDIs when used by these patients.

“Physiologically, we know CPAP works,” said Dr. Weaver, “but does it work on the largest percentage of people who suffer from sleep apnea?”

Her research to improve the daily functioning of the Catnap clinical trial aimed to answer that question. In the international, triple-blinded study, Dr. Weaver examined the effectiveness of CPAP on more than 300 patients with mild and moderate cases of OSA, defined by the American Academy of Sleep Medicine as those who have between 5-15 and 16-30 respiratory disturbances per hour of sleep (RDI), respectively.

She used four sites for the study: the University of Western Ontario in London, Ontario, Canada; the North Shore Long Island Health System in New York; New York University Hospital; and Emory University Hospital in Atlanta, Georgia. At each site, mild to moderate OSA patients who reported daytime sleepiness were randomly assigned into two groups. Half slept with a CPAP machine; the other half, those in the control group, received a sham-CPAP, which looked, sounded and felt like a CPAP, but, of course, did not perform the functions of a real machine.

The study, which began in September 2003, was completed this summer, 25 years after the first CPAP device was used.

Dr. Weaver is currently analyzing the data from her clinical research study to see whether technology that has been proven to work in one population can be translated to another.

Still, final results will prove invaluable. “For healthcare providers to recommend CPAP treatment in sleepy patients with mild to moderate cases of OSA and for third party providers to pay for it, we need evidence to show it works,” she said.
When technology revolutionizes care, it often takes a strong communicator to translate technical concepts to everyday application. For Associate Professor of Nursing Kathryn Bowles, PhD, RN, however, the task isn't too much of a challenge.

Dr. Bowles, has extensive experience in testing and implementing telehomecare, a new form of technology that utilizes modern telephone communications to support long-distance clinical care for patients who require close monitoring. With the use of telemonitoring, nurses make “video visits” into a patient’s home via a monitor that receives and transmits images as well as information about blood pressure, pulse, weight, temperature, blood glucose, and other medical factors.

“Technology is designed to be simple to use,” says Dr. Bowles, “and this is not a complicated computer. Patients simply plug it in the wall.”

While the device might be easy for patients to operate, translating information also means teaching patients how to monitor themselves daily. The average episode of home care lasts between 45 and 60 days and patients typically meet with a nurse via telehealth two times per week, Dr. Bowles explains. Nurses must therefore teach patients the importance of continued self-monitoring, even after the telemonitoring system has been removed.

“We teach patients to make it part of their daily routine,” she says. “They genuinely enjoy using the machines.” And if, by chance, they forget to monitor themselves, the nurses know. Each time a patient uses the device, their reading is transmitted to the central homecare agency, with one nurse constantly assessing the data.

Such collaborative effort between nurse and patient makes for better care and clearer knowledge. For example, patients often tell Dr. Bowles, “I understand now what nurses and doctors are looking for because I’ve been involved with measuring it myself.”
So far, evidence indicates that telehomecare enables information to be translated smoothly and effectively, with research showing that rehospitalization rates decrease significantly. Further studies suggest that technology could be the first step in tackling the nursing shortage problem. In the pre-telemonitoring days, one nurse could average approximately five patient visits a day. Now, through the use of the technology, the number of patients a nurse can examine is quadrupled to about 20.

Still, not all homecare agencies utilize this service. “Once research shows that it is cost effective, insurers will be more willing to pay for nurses to use it,” she says. And to translate her research into change, Dr. Bowles is currently analyzing the monetary costs saved through increased nurse-patient efficiency and decreased re-hospitalization cases for heart failure patients.

She expects the findings of this study to be even greater than a previous study with diabetics because the former group have substantially higher rates of rehospitalization.

“Telemonitoring will help us address the question of how to provide the best patient care in an environment where nurses are in short supply and healthcare dollars scarce,” says Dr. Bowles. “Our current research is focusing on questions of access to ongoing nursing care and how to best translate what we know works into policy. We are also very interested in involving patients in learning how to care for themselves.”
Nightingale Professor of Nursing and Associate Dean for Nursing Research Linda McCauley, PhD, RN, FAAN has always viewed herself as a community-based nurse, so when confronted with research instead of day-to-day patient care, she was prepared for the interactive relationships that come with translational research.

“The work that I do really comes out of the practice setting. When I start my work, I am already working with the group that will be affected by it, so translation becomes easier,” says Dr. McCauley. “The groups are asking for researcher to help them solve a problem, which is different than traditional research.”

Dr. McCauley’s work is primarily concerned with how pesticides, especially continuous low levels of exposure, affect communities, particularly children. In a recent study, communities of farm workers wanted her to look at whether pesticides were causing learning difficulties for their children and, if so, how they could change that.

“They knew enough about pesticides to ask questions and be concerned,” she says. “My studies take questions the community wants answered and inspects them in scientifically rigorous ways. Then I do two things. I publish in peer review publications, just like any other scientist, but then I develop a message about what I found that is meaningful and relevant and send it back to the community.”

That community involvement – the true translation in translational research – is also what excites Associate Professor of Nursing Therese Richmond, PhD, CRNP, FAAN, (at right) whose research in firearm injury and death is aimed at its prevention in the first place.

“We wanted to partner with the communities we were studying,” says Dr. Richmond. “Our intent was to get local data about gun violence, which is sometimes difficult to do. Then we wanted to involve the community to see whether they understood the magnitude of their problem. They would be the ones eventually taking action. We are just the researchers. They are the community.”
Dr. Richmond’s group wanted to particularly go into smaller-to-mid-sized communities.

“In Philadelphia, people know they have a problem with gun violence. We weren’t sure whether they did in Bethlehem and Allentown, two places we chose to study,” she says, about a project that also looked at Youngstown, Ohio, and Cedar Rapids, Iowa.

Strangely enough, she said, the people in Bethlehem and Allentown were willing to believe they had gun violence problems, but thought they were primarily about homicide. When Dr. Richmond’s group painstakingly collected all the data, however, the bigger problem turned out to be gun-related suicide.

“We uncovered a new problem for them to deal with,” she says. “Gun suicide is a double whammy. First, suicide is not often discussed, then second, when a gun is involved, it becomes even more complex, because guns are a polarizing topic in our society. Finally, suicide by gun is highly lethal.”

At first, she says, the community boards that had been set up to aid the study came to the conclusion that there was nothing much they could do about the gun suicide problem.

“If you are old and sick and want to kill yourself, what are we going to do about it? That was the thinking,” she says. Then, she says, the data showed that it was not just terminally ill patients committing suicide, but often people in pain, or people who thought they were burdens to their families. The research gave the community a whole new way of looking at the problem. With the community boards, Dr. Richmond and her interdisciplinary team of researchers came up with other alternatives by analyzing data in a different way, that helped them identify points of intervention. These points of intervention highlighted the need for better pain management by healthcare providers, the identification and treatment of depressive symptoms, and better community resources and support for the elderly with non-terminal but serious health problems.

“You don’t have to call it translational research for it to be so,” she says. “In my mind, anything that goes from basic science to studies to practice is translational. But whatever you call it, it is good science.”
Dr. Linda McCauley similarly stresses that in her work with pesticides she does not like to use the word, “poison” in her studies, primarily because that work, she feels, is done.

“We have the science on poisoning. We know what happens when you have, for instance, lead poisoning from paint,” she said. What she wants to research is what lower levels of things like pesticides are doing to immune systems and the like, especially in children. She does not imagine a dream world with organic food for everyone and open markets curing hunger around the world. “As a scientist, you have to be more cautious and analytical. In this case, it is all tied up in the food you and I expect to eat, what we are willing to pay for it, international trade, a whole range of things.”

What is important for Dr. McCauley, though, is that community members become involved in the solutions to the problems they present. In that regard, she and her researchers have to establish trust.

“Communities have been abused in this kind of way for years,” she said. “Researchers have engaged members of the community and taken their blood and their personal information and so forth and then, when they get the results they want, do not go back and tell the community what they found. In order to build trust, we want to assure them we will do that.”

On the other hand, she admits that the problem in this kind of translational research is that by the time it is finished, the people who originally asked for help may be beyond its question. In the communities she is now studying in New Jersey, for instance, it is likely the children being affected by the pesticides will be grown when the study is completed.

“When Nancy Reagan appealed for more help in treating Alzheimer’s Disease, she knew it wasn’t going to help her husband,” she says. “But I think the community understands that. Even good translational research takes time, not unlike clinical trials, but to see it get to the community it originated with, and with those people’s input, is gratifying.”

As with her colleagues, Professor Deborah Watkins Bruner, PhD, RN has a similar take on her research. “I work with national clinical trials, bench to bedside, which combine a traditional translational research model with quality of life outcomes,” said Dr. Bruner.

Currently, Dr. Bruner is studying what different biomarkers will do during cancer therapy. For instance, will continued use of hormones, in prostate cancer therapy cause cognitive dysfunctions?

“Or, say, if certain treatments, such as radiation therapy, used to cure a prostate cancer then also cause inflammations that make it hard to urinate or maintain sexual function, what do we do about that?” she says. “As scientists, we have to understand when we try to cure one thing, there is a broader impact beyond cure that often affects quality of life. Finding what patient or tumor characteristics, treatments or biomarkers predict changes in quality of life and then translating that work to improve quality of life outcomes for patients who are burdened by cancer is what challenges me.”
Associate Professor Barbara Riegel, DNSc, CS, RN, FAAN has been translating research findings for public use for most of her career. Specifically, over the past 15 years, she has led a nationwide effort to train laypersons in the use of Automated External Defibrillators (AEDs) and the prospect of immediate lifesaving help for the general public.

“My work has been in translating not simply technology, but [in translating] a practice that we used in a very specific, constrained and controlled manner from the healthcare sector to public use,” she said.

“Historically, only physicians were trained in – and allowed to use – defibrillators. Then nurses began reading electrocardiograms and using defibrillators in hospital settings. Now the technology has developed to the point that the machine reads the rhythm, so no one – not physicians, nurses, or lay people – needs to interpret the rhythm before using a defibrillator,” Dr. Riegel explains. “The machines do it with excellent accuracy.”

That’s where Dr. Riegel’s work comes in. An estimated 340,000 people die suddenly of out-of-hospital cardiac arrest (OOH-CA) every year, and Dr. Riegel’s research has shown that training laypersons to perform Cardiopulmonary Resuscitation (CPR) in conjunction with use of a defibrillator significantly increases survival rates.

In a three-year study, from 2000 to 2003, Dr. Riegel was responsible for training more than 1,200 lay people in 993 non-medical community settings with high estimated risks of OOH-CA, such as office complexes, apartment buildings, shopping malls, and fitness centers. Half of the volunteers received CPR training only; the other half received training in CPR and AED use. The investigators found that the number of cardiac arrest survivors doubled when CPR-trained lay volunteers were also trained in AED use.

“Use of a defibrillator is safe. If the heart rhythm is normal, the defibrillator will not shock so it does nothing to disrupt the normal heart rhythm,” comments Dr. Riegel.

The lifesaving nature of defibrillators has been known for years, but Dr. Riegel’s efforts have been spent on translating this knowledge for public use. Rates of bystander CPR remain low, perhaps because of hesitation to administer mouth-to-mouth resuscitation to strangers. So, now that AEDs, used by the public in conjunction with CPR, are known to be effective, she can see the direct benefits of her work. The ubiquitous presence of AEDs – from airports to gymnasiums to grocery stores – perhaps best highlights how her research has been translated into practice in the community.

In translating this research, Dr. Riegel finds that a common misconception needs to be overcome. Unlike what’s seen on television, using an automated external defibrillator is safe. If the heart rhythm is normal, the defibrillator will not shock, so it does nothing to disrupt the normal heart rhythm, comments Dr. Riegel.

“Really moving the technology into the public, we hope can help solve one of our most devastating health problems, sudden cardiac death,” she says. “The way it’s being translated into practice is through its transition into community use and public policy. People are no longer questioning whether laypersons can be trusted to use defibrillators. People now view AEDs in the same light as CPR. And the good news is that using both CPR and AEDS is even more effective.”
For the scientists gathered at a recent Penn roundtable on nursing research, it soon became clear they were not just talking about the latest buzzword for a decades-old idea. Rather, these eminent investigators realized “translational research” is a fresh approach with new methodology that could be a crucial missing link to ensuring that knowledge from science takes root in everyday policy.
“For years, our team has engaged in a number of innovative efforts to have findings from our program of research influence the care of high risk, chronically ill elders and their families in this country. With support from Penn’s Center for Technology Transfer, we tested a variety of business models. We prepared policy briefs, testified on the Hill, but kept confronting a host of barriers,” explains Mary Naylor, PhD, RN, FAAN, a roundtable panelist and Penn’s Marian S. Ware Professor in Gerontology. “While frustrated at times, we never lost sight of the goal. We were determined to make a proven approach to care accessible to the growing numbers of older adults who need it.” It is just such a strong commitment to improving the quality of healthcare that is motivating more researchers to enter board rooms of healthcare insurers and purchasers.

Armed with data, “they are prepared to show how their interventions or models of care can work within that system and make a difference for the people they serve,” she says.

Translational research involves “studies designed to increase the rate and speed of adoption” of scientific findings into healthcare organizations, Dr. Naylor explains. A major goal, Dr. Naylor says, is to “promote widespread diffusion of proven interventions.” As the potential for real change is fastracked, results can be achieved much sooner than through legislation.

For nearly two decades, Dr. Naylor has led a multidisciplinary team of distinguished scholars to develop an innovative, transitional form of hospital-to-home care in which advance practice nurses (APNs) establish a relationship with an older adults and family caregivers soon after hospital admission; design the discharge plan in collaboration with the patient, the patient’s physician and family members; and implement the plan in the patient’s home following discharge, substituting for transitional nurse follow-up.

The “hand-off” from hospital to home has often been linked to breakdowns in care for older adults who are coping with multiple chronic conditions and complex treatments, Dr. Naylor explains. Up to one-third of rehospitalizations for these patients are considered preventable. Poor communications among providers across healthcare agencies, inadequate patient and caregiver education, poor continuity of care, and limited access all have impacted negatively on the quality and costs of care. Indeed, a recent Institute of Medicine report targeted care coordination as one of 20 national priorities for action.¹

Findings from three clinical trials led by Dr. Naylor and funded by the National Institute of Nursing Research², “have consistently demonstrated the ability of the APN Transitional Care Model to improve quality and substantially decrease healthcare costs” for high-risk elders, Dr. Naylor notes. Compared to standard care, coordination by APNs led to increased time until first re-hospitalization, fewer re-hospitalizations, shorter hospital stays, and better patient satisfaction. Moreover, following a four-year trial with a group of elderly patients hospitalized with heart failure, the APN Care Model cut total hospitalization costs by more than $500,000, compared to a group receiving standard care, for an average savings of approximately $5,000 per Medicare patient.

As part of their efforts to use research findings to change the care of vulnerable chronically ill elders in this country, Dr. Naylor approached John W. “Jack” Rowe, MD, then president and CEO of Aetna, the healthcare insurer. Within a few weeks, Dr. Naylor was presenting the case for the APN Transitional Care Model to Randall S. Krakauer, MD, Aetna’s National Medical Director, and a major translational research effort was launched. With the support of several foundations³, study findings have led Aetna to test the APN Care Model with a sample of their beneficiaries in the Philadelphia and Chicago areas. Kaiser Permanente, another nationally recognized health plan, is testing the model in northern California. If successful, the leaders of these organizations will seriously consider widespread adoption of the model in their respective organizations. “These projects are not only testing our team’s ability to translate what we have learned from rigorously controlled clinical trials into the real world of clinical practice, but also the capacity of an insurance organization and health plan to integrate this approach to care into their existing systems,” Dr Naylor explains. The partnerships include assessments by an organizational expert to identify both facilitators and barriers to further promote successful diffusion.
One of the team’s primary goals is to package the tools of translation – web-based training modules and a clinical information system – to enable widespread adoption by other insurers and health systems as well as to facilitate changes in health policy needed to reimburse this approach to care.

Dr. Naylor is also the director of The Robert Wood Johnson Foundation’s (RWJF) sponsored Interdisciplinary Nursing Quality Research Initiative (INQRI), a five-year, $10 million program (in collaboration with Dr. Mark Pauly of Penn’s Wharton School, co-director, and Dr. Lori Melichar, RWJF program officer). Launched last August, INQRI is designed to generate, disseminate and translate findings from studies conducted by interdisciplinary teams focused on establishing the relationships between nursing and quality with a special focus on hospital settings. “Despite nursing’s pivotal role in the delivery of healthcare,” says Dr. Naylor, “there is little rigorous research that demonstrates causal relationships between nursing care and high-quality patient outcomes. INQRI will support projects that examine these relationships and, in doing so, uncover opportunities to make important clinical, health system and policy changes.”

As part of Penn’s Marian S. Ware Alzheimer Program and with support provided by a National Institute on Aging grant4, Dr. Naylor is leading an interdisciplinary team in developing, implementing, and evaluating a care coordination model for cognitively impaired older adults and their family caregivers within the University of Pennsylvania Health System.

Cognitive impairment is a major health problem complicating the care of an increasing number of hospitalized elders. These patients are particularly vulnerable to systems of care that fail to meet their needs. The timing is excellent for rigorous research aimed at identifying care management strategies that will contribute to high quality, cost-effective outcomes for these patients and their caregivers.

Additionally, in collaboration with Karen Wilkerson, PhD, RN, FAAN, Lois Evans, DNSc, RN, FAAN and others, she has successfully established the only PACE (Program of All-Inclusive Care for Elders) program in the country operated by a school of nursing.

In other venues, Penn nursing science already has dramatically cut the lag time between the production of new research and its translation into national policy.

In July 2004, Associate Professor of Nursing, Ann E. Rogers, PhD, RN, FAAN, published her research findings on nurse fatigue and patient safety, which concluded that the risks of making an error increased when work shifts were longer than 12 hours, when nurses worked overtime, or when they worked more than 40 hours a week.

By year’s end, Dr. Rogers’ findings were used in the language of the Veterans Affairs’ Health Personnel Enhancement Act of 2004. “It is in the sense of Congress,” the Act states, “to encourage the Secretary of Veterans Affairs to prevent work hours by nurses providing direct patient care in excess of 12 consecutive hours or in excess of 60 hours in any 7-day period…” The recommendation stemmed directly from an Institute of Medicine report, Keeping Patients Safe: Transforming the Work Environment for Nurses, one of the first publications to discuss Dr. Rogers’ findings on nurse staffing and fatigue.

Normally, it can take seven years on average for research findings to be put into practice, but the compelling nature of the IOM report, which detailed Dr. Rogers’ research, influenced workforce policy in the VA system, the largest national employer of nurses, within months of publication.

Further, in winter 2005, the Joint Commission on Accreditation of Healthcare Organization (JCAHO) included three fatigue-related requirements in its Proposed 2006 National Patient Safety Goals. First, the document recommended that hospitals assess the degree to which fatigue impacts safety and care, and

References

3. Grants referenced: National Institutes of Health, National Institute of Nursing Research, [1R01NR002095-03, 2R01NR002095-07, 1R01NR004315-04].
then take action to minimize such impact. It also called for educating staff on how to recognize fatigue as well as strategies to minimize and manage it. Finally, the proposals advocated for additional support services for staff working shifts of more than 12 hours.

JCAHO’s rationale for the proposed requirements? “Research shows that the risk of making error significantly increases when a work shift exceeds 12 hours, when overtime [is] worked or when work hours exceed more than 40 hours a week.” Although the document does not ban nurses from working over 40 hours a week or longer than 12 consecutive hours, it highlights the potential impact of fatigue, and that, according to Dr. Rogers, “is a positive start” to addressing the challenges of the hospital workplace.

The research on nurse staffing has also prompted an unusual collaboration between the Washington State Nurses Association and the Hospital Organization in Washington, which are working to establish an agreement on work hours and staffing concerns. Locally, the Hospital of the University of Pennsylvania, one of the premier research hospitals in the nation, has banned 16-hour shifts.

Dr. Rogers has an explanation for such rapid translation of her findings: “I think it’s just something people can understand,” she says. “It makes sense.”

In April 2006, Penn Nursing took another step as an important advocate for change. At its retreat meeting that month, Penn’s Consortium for Health Workforce Research and Policy established the Council on Physician and Nurse Supply, a national, multidisciplinary group of policy leaders from academic institutions and healthcare organizations dedicated to studying trends in the supply and demand of physicians and nurses. Cochaired by Linda Aiken, PhD, RN, FAAN, FRCN, the Claire M. Fagin Leadership Professor in Nursing, Professor of Sociology and director of Penn’s Center for Health Outcomes and Policy Research, and Richard Cooper, MD, of the Leonard Davis Institute for Health Economics at Penn, the Council’s ultimate goal is to inform decision-making to achieve greater self-sufficiency in the U.S. healthcare workforce. By examining data and providing targeted policy analysis and recommendations, the Council aims to link policies that impact the supply of physicians and nurses domestically and internationally. In particular, the Council will work to understand the domestic and global implications of U.S. workforce policy.

The fundamental problem is that there are simply not enough English-speaking nurses and physicians produced worldwide to meet the combined demand of developed and developing countries. In the U.S., which employs half of all nurses and physicians in English-speaking countries, projected shortages are as many as 800,000 nurses and 200,000 physicians by 2020-2025. “The crisis in developing countries is numerically smaller but proportionally greater, and it is exacerbated by the migration of physicians and nurses from those countries to the U.S. and other developed countries,” note Drs. Aiken and Cooper in the recommendations from the April retreat, Human Resources for Health: National Needs and Global Concerns. Among the chief targets, the recommendations address nurse and physician education capacity, source nation stability, financial systems and other professional rewards impacting employment and retention of healthcare workers, promotion of coherent immigration policies, and developing the political will in the U.S. and elsewhere to incorporate principles of global responsibility into national policies on human health resources. The retreat was supported by the Rockefeller Foundation and the University of Pennsylvania.

The Council on Physician and Nurse Supply will hold its first meeting at Penn in October 2006.
While not on the roadmap, researchers consider the value of implanting what has been learned into the curriculum to inform new generations of leaders in research, today’s students.

As a School of Nursing dedicated to educating the next generation of nurses, putting new knowledge into the classroom and then to work is of critical importance.
The essence of translational research is “how do we put what we know from clinical research into the real world and does it still work?” says Professor of Pediatric Nursing Jane Barnsteiner, PhD, RN, FAAN, who fills a dual role as a faculty member at the School of Nursing while holding a hospital appointment. Presciently developed decades ago, the clinician educator model now embodies the idea of translational research.

As Director of Translational Research at the Hospital of the University of Pennsylvania (HUP), Dr. Barnsteiner is now uniquely poised between research and practice, where “real world” conditions can act as an unmanaged variable to tweak research results from the clinical trial.

“For example, if we have developed evidence-based practice guidelines for care of patients with foley catheters, one would expect no infection. But what if the infection rate is high? Does this mean the guidelines are not being followed? Or that there is something in the care environment that is unique? Translation research looks at what happens in the real world with different populations under different circumstances,” says Dr. Barnsteiner.

Dr. Barnsteiner describes translational research as beginning in the laboratory, “at the bench,” where studies at the cellular level provide information on the mechanisms that can influence disease. The findings, found in the Petri dish, or from animal investigation, then can move to applications for humans. That can be determined by how the application functions at the bedside or at the community level in research studies requiring Institutional Review Board (IRB) approval or through an academic center or team comprising researchers from multiple disciplines. If successful, these findings are then implemented broadly, translated into a wider population through the benefit of legislation, third party payer organizations, or the implementation of professional standards. To close the loop, new knowledge or best practices are incorporated into curricula to influence the next generation of practitioners.

To that end, Dr. Barnsteiner has been selected to participate in the Partnerships for Quality Education initiative, begun by The Pew Charitable Trusts and continued by The Robert Wood Johnson Foundation, to identify “competencies clinicians need to be successful in the evolving world of healthcare and supporting academic programs to incorporate them into their curricula.” (RWJ website)

Post-doctoral Opportunities

Through the Hartford Center of Geriatric Nursing Excellence directed by Neville Strumpf, Penn sponsors both John A. Hartford Foundation Pre- and Post-Doctoral Scholars.

Through The Center for Health Outcomes and Policy Research directed by Dr. Linda Aiken, Penn sponsors a large interdisciplinary NINR-funded pre-and post-doctoral training program in health outcomes research preparing scholars for careers in health services research. Fellowships are for 2 years with an option for a 3rd year. Applicants must be U.S. residents.

Though the Hampton-Penn Center to Reduce Health Disparities, directed by Dr. Loretta Jemmott, Penn offers several innovative post-doctoral training opportunities. Applications will be due by December 16th, 2006 for the Summer Nursing Research Institute. Fellows who are accepted to the Institute will participate in an intensive mentorship program for 2 years with meetings here at PENN for 2 weeks each May.

Another traditional post-doctoral training opportunity is offered through this Center. Applications for a fellowship for the 2007 academic year are due by December 16th, 2006.
I knew I wanted to be a nurse when I was in the second grade,” said Loretta Sweet Jemmott, PhD, RN, FAAN, the van Ameringen Professor in Psychiatric Mental Health Nursing, director of the Center for Health Disparities Research, and an assistant provost for Gender and Minority Equity Issues at the University of Pennsylvania.

Struck by a car, she spent weeks in the hospital recuperating and re-learning how to walk. Dr. Jemmott recalled that the nurses were kind, nurturing, and supportive during her recovery, especially when she missed her parents. (It wasn’t until later that the research of Claire Fagin, the namesake of the distinguished researcher award, provided the research which changed hospital practice to allow for parental “rooming in” with their hospitalized children.)

Dr. Jemmott told the story of her life and research career before an audience of more than 200 well-wishers, including Philadelphia Councilwoman Blondell Reynolds Brown, state Sen. Vincent Hughes, and U.S. Rep. Chaka Fattah. The Congressman noted Dr. Jemmott is a distinguished scholar who, as a young girl from West Philadelphia, might have been “written off.” Now, she is one of the nation’s leading HIV prevention researchers, producing 61 articles in peer-reviewed journals.

Following her recovery, Dr. Jemmott’s next challenge as a schoolchild was being bused in the effort to achieve school integration. However, in Dr. Jemmott’s case, the lunchroom wasn’t integrated and she was then bused back to her neighborhood school at noontime. Her parents urged her to persevere in the new school and to attend an integrated middle school and high school.

“Several of my classmates at the time were getting pregnant, and I wanted to stamp out teen pregnancy,” said Dr. Jemmott, reporting that she went to Planned Parenthood for information to distribute to her friends, thus becoming a peer sexual health counselor at 16. “It’s okay to say ‘no,’ but if you say ‘yes,’ be safe,” she reported telling her classmates.

These early experiences, knowing what nursing care means to a patient, learning perseverance, and influencing friends’ behavior, later birthed an ambitious research program which, in partnership with her husband Penn professor John Jemmott, PhD, has reached across America and several oceans, to South Africa, Jamaica, Puerto Rico, and in coming months, to Botswana.

“We know that we need to create interventions that work and to do that we need to involve the community. Without effective interventions, we could lose an entire generation of adolescents, particularly on the African continent,” said Dr. Jemmott.

Dr. Jemmott’s program of research seeks to:

• Elucidate the social psychological factors that underlie HIV risk associated with sexual behavior
• Identify the particular conceptual variables that are most important to achieving intervention-induced sexual behavior change
• Identify theory-based, culture-sensitive, developmentally appropriate strategies to reduce HIV risk-associated sexual behaviors
• Answer practical questions about the most effective way to implement HIV risk-reduction interventions with ethnic minority youth
• Test the effectiveness of such interventions using scientifically rigorous methodologies and experimental designs
• Disseminate effective research-based behavioral interventions to community-based organizations, schools, clinics.

Tracing her research trajectory, Dr. Jemmott found in 1992 that her HIV risk-reduction “Be Proud! Be Responsible!” curriculum could change behavior in adolescents in a randomized controlled trial involving 157 African American male adolescents. The results, published in the
American Journal of Public Health, reported that more than 80 percent of the young men had experienced sexual intercourse and that the intervention reduced the frequency of sexual intercourse, increased condom use, and resulted in fewer sexual partners.

In 1994, Dr. Jemmott’s HIV risk-reduction curriculum was adopted as a model by the U.S. Centers for Disease Control and Prevention (CDC) and, later repeatedly selected as a national curriculum as well as for a national Trainer of Trainers program for educators, nurses, and state Departments of Health. The latter program was attended by representatives from 26 states in 1996.

In a series of NIH funded randomized controlled HIV risk-reduction intervention trials, Dr. Jemmott and her team continued to conduct studies to answer important questions regarding the best way to intervene to reduce HIV risk-related sexual behavior. For instance, they wanted to know: did the facilitators need to be the same gender and ethnicity of the participants to achieve the same effect?

They conducted a study, involving nearly 500 African American male and female adolescent, and slightly more than half were sexually experienced with a mean age of 13. Using her “Be Proud! Be Responsible!” curriculum, the researchers found the effects of the earlier study were replicated regardless of the facilitator’s gender, race, and the gender of the group.

But which messages worked best? And who is most effective in getting the message heard? These were the questions of the next study.

A group of even younger adolescents (mean age 11.8) was gathered in West Philadelphia, nearly equally divided between males and females. A quarter were sexually active. The researchers tested three interventions: abstinence-based, safer sex, and health promotion.

The results, published in 1998 in The Journal of the American Medical Association, showed that the in the first three months after the interventions, the abstinence intervention delayed the adolescents’ first sexual encounter and reduced sexual frequency; and the safer sex intervention increased condom use. However, 12 months post intervention, only the safer sex intervention results were maintained. For all interventions, results were unrelated to whether the facilitator was a peer or an adult.

Based on that study, in 2001 the CDC selected the two HIV risk-reduction intervention curricula, “Making Proud Choices: A Safer Sex Approach to Reducing HIV/STD and Teen Pregnancy” and “Making a Difference: An Abstinence Approach to Reducing HIV/STD and Teen Pregnancy” to be disseminated as national models. To date CDC’s DASH has selected seven HIV risk-reduction curricula and Dr. Jemmott developed three of the seven and is the only nurse curriculum developer.

In this era, 25 years into the AIDS epidemic, Dr. Jemmott says, “when it comes to designing HIV risk-reduction interventions for adolescents from various cultural groups, we do not have to reinvent everything.” Some of what was learned from working with adolescents has been replicated, following the proven process of beginning with focus groups to “learn the code of their streets,” to get to know and understand the population of interest, developing questionnaires, redesigning and tailoring the intervention to what has been learned, pilot testing the intervention, evaluating results, and disseminating effective curricula.

As time has gone on, Dr. Jemmott has implemented her curricula in other countries, but only after a careful process rendering it culture-specific.

In her NINR-funded research on women, Dr. Jemmott’s nurse-led primary care clinic-based HIV risk reduction curriculum “Sister to Sister” found that it reduced HIV risk related sexual behavior, including unprotected sexual intercourse. Most important, it reduced the incidence of STDs at the 12-month follow-up. These findings will be published in the American Journal of Public Health in October 2006. In addition, the CDC is translating, replicating, and disseminating this curriculum in public health departments in the Southern region of the U.S.

Years and miles from West Philadelphia, the research trajectory has grown to include projects involving women-to-women, mothers-to-sons, church-based, clinic-based, and community-based interventions, and lastly, to interventions in other cultures in other countries, notably, retooling the curricula to the African language of Xhosa and the youth of South Africa. Projects are also underway in Jamaica and Puerto Rico, where the researchers first learn, from the adolescents themselves about the culture they live in before beginning the process of change.

For HIV risk-reduction programs to be effective, we must remember that “the answer lies in the community,” said Dr. Jemmott.
Leading from the Top

Penn Nursing prides itself on cultivating the next generation of nursing leaders, and faculty teach by example.

This spring, Associate Professor of Cardiovascular Nursing, Class of 1942 Endowed Term Professor, and Associate Dean for Academic Programs Kathleen McCauley, PhD, CS, RN, FAAN and Professor of Primary Care Nursing Ann L. O’Sullivan, PhD, CRNP, FAAN completed terms as president of the American Association of Critical Care Nurses (AACN) and the National Organization of Nurse Practitioner Faculties (NONPF), respectively. Nearly simultaneously, Associate Professor of Nursing Terri E Weaver, PhD, CS, RN, FAAN began her term as chair of the American Lung Association board (ALA).

Kathleen McCauley

Dr. McCauley’s tenure focused on the creation of healthy work environment standards for hospitals stressed by the ongoing shortage of nurses. “There’s no white horse coming to save our units, we have to do it ourselves,” Dr. McCauley noted. As the largest specialty organization in nursing, AACN determined that eliminating toxic work environments was essential for its members and the profession. The six standards (skilled communication, true collaboration, effective decision-making, appropriate staffing, meaningful recognition and authentic leadership) provide a clear direction for nurses and others to use in creating the kind of work environment where excellent nursing practice can thrive. Her theme as president, “Live your contribution,” enabled her to emphasize the importance of staying current with an ever-growing body of knowledge, working together to achieve better results, and mentor new nurses, while remembering the difference a nurse makes. “Leaders, and faculty teach by example,” she says.

Ann L. O’Sullivan

Dr. O’Sullivan’s presidency reflected direct involvement with the shaping of many new national standards for advanced practice nurses. Under her guidance, NONPF revised curricular guidelines and core competencies for nurse practitioner education, updated national taskforce criteria for evaluation of nurse practitioner programs, and developed an advanced practice nursing consensus paper in concert with 21 other organizations. In addition, Dr. O’Sullivan’s position as president of one of the organizations leading support for the Doctorate in Nursing Practice as a clinical doctoral degree required her to promote the degree nationally.

Being at the helm of national organizations, “helped me to bring hot national issues to the students and faculty at Penn,” says Dr. O’Sullivan.

Terri E. Weaver

As Dr. Weaver settles into her term as Chair of the national Board of the American Lung Association, she looks forward to implementing strategies to reduce tobacco-related disease, diminish smoking in children, decrease the incidence of asthma, improve care of individuals with chronic lung disease, and increase air quality. “As the third nurse – and the first academic nurse – Chair of the ALA, I welcome the opportunity to affect lung health on a wide scale and be intimately involved on a national level,” Dr. Weaver says. Building on six years of membership on the board, and more than 25 years with the ALA, her presidency will also focus on increasing research funding to facilitate improvements in the quality of life of individuals with lung disease and to find cures.

Penn Nursing “should be in the forefront of shaping national and local health policy and advocacy for improving health and quality of life of the public and patients that we serve,” Dr. Weaver says.
Two faculty members have joined the ranks of full professors. One familiar face, Sarah Hope Kagan, PhD, RN, FAAN, a clinician-educator, is now Professor of Gerontological Nursing whose clinical scholarship focuses on care of older adults who have cancer, particularly those who have cancer of the head and neck. Her work has earlier been recognized through a John D. and Catherine T. MacArthur Fellowship. Known as the “genius” award, it has only been awarded to two nurses – Kagan and Penn alumna Ruth Watson Lubic.

A face that is both new and familiar has returned to the School. Deborah Watkins Bruner, PhD, RN, who received her PhD from Penn Nursing, has returned as Professor of Nursing. Dr. Bruner is known for her work in prostate cancer risk and treatment outcomes. Her work also focuses on patient decision-making and empowerment regarding treatment options and how they correspond to quality of life and other patient-reported outcomes. Dr. Bruner has worked with two of the National Cancer Institute-sponsored clinical trials cooperative groups for 17 years and is a Vice Chair for Outcomes Research in the Radiation Therapy Oncology Group. This work has led to her research into methods to improve the recruitment of cancer patients to participate in clinical trials, especially those from various ethnic groups. With these specialties in mind, she will be the director of a Recruitment, Retention, and Outreach Core Facility at the Abramson Cancer Center of the University of Pennsylvania Health System.

Familiar faces leaving the School include Dr. Karen Buhler-Wilkerson, PhD, RN, FAAN, a noted historian with a special expertise on home care. Dr. Buhler-Wilkerson played a watershed role at the School when she and two other faculty members founded a day care program for the frail elderly, Living Independently for Elders (LIFE). That program, which offers comprehensive nursing home level care for elders during the day enabling them to stay in their own homes, now cares for 500 elderly in impoverished neighborhoods of Philadelphia. In her astonishing 34 years at Penn, Dr. Buhler-Wilkerson’s research has sensitively considered complex and nuanced interaction among caregivers, physicians, nurses, hospitals, payers, and others. Dr. Buhler-Wilkerson’s departure also left open the directorship of the Barbara Bates Center for the Study of the History of Nursing. Julie A. Fairman, PhD, RN, FAAN, Associate Professor of Nursing, and Class of 1940 Bicentennial Term Professor, will be taking over as the new center director. Her work has included a noted history of critical care. She is currently writing a book on the nurse practitioner movement.

Two new faculty are joining the School this fall. Professor of Nursing Marilyn S. Sommers, PhD, RN, FAAN brings with her a specialization in risk reduction and injury prevention research. She develops and tests interventions to reduce injury, with a particular focus on health compromising behaviors such as problem drinking and risky driving in young adults. She also has developed innovative techniques using digital image analysis to quantitate injuries following sexual assault. This work, which has the potential to create a paradigm shift in the forensic examination after rape, has the potential to change injury outcomes as well as those in the criminal justice system. In so doing, her work seeks to reduce the human and financial cost of injury.

Associate Professor of Pharmacology & Therapeutics Joseph Boullata, PharmD is conducting innovative work in a previously neglected area of science including drug-nutrient interactions. His work seeks to understand the influence of competition between nutrient and drug absorption via intestinal transporters and the dosing of weight-based drugs in obesity. His work includes a reference textbook on these and other topics. The second edition, now in process, seeks to describe “pharmacokinetic and pharmacodynamic properties of individual drugs in obese patients, clarifying pharmacologic properties of parenteral nutrition admixtures, and describing the influence of individual drugs on nutrient status.”
2006 Keynotes and International Presentations

Linda Aiken

Jane Barnsteiner
Evidence Based Nursing Practice, International Congress on Nursing, Monterrey, Mexico, October 2005.
Transforming Practice in Healthcare: Applying the Evidence, The University of Hong Kong, Hong Kong, China. March 2006.

Kathryn Bowles

Sean Clarke
Future Directions for Nursing Outcomes Research: Challenges, and Opportunities. 4th National Conference of State Nursing Workforce Leaders. Jersey City, NJ. April 2006.
Research on Nurse Staffing and Patient Safety and Its Implications for Public Policy, Marian Barrett Lecture, University of Melbourne School of Nursing, Melbourne, Victoria, Australia. July 2005.

Margaret Cotronoe

Janet Deatrick


Julie Fairman

Sarah Kagan
Geriatric Nursing – Creating Principled Care, Grantham Hospital Department of Nursing. Hong Kong, SAR, China. (invited) April 2006.
Palliation in Gerontological Care – Key to Optimal Function, Hong Kong Nurses Association – Gerontology. Hong Kong, SAR, China. (invited) April 2006.

Gero-Oncology Nursing in the United States: Caring for Older Adults across the Trajectory, Grantham Hospital Seminar on Palliative Medicine. Hong Kong, SAR, China. (invited) November 2005.

Kathleen McCauley

Trends in Cardiovascular Nursing, Washoe Medical Center, Reno, NV. March 2006.

Critical Care Spring Symposium, Inland Northwest Chapter of AACN. Spokane, WA. March 2006.


Engage and Transform Your Work Environment, University of Hong Kong Department of Nursing. November 2005


White River Chapter, American Association of Critical Care Nurses (AACN), Muncie, IN. October 2005.


Afaf Meleis


With McCauley, K., To DNP or Not to DNP: That is the Question. (Not), American Association of Colleges of Nursing Conference on Critical Care Nursing. Anaheim, CA. May 2006.

Magnet Hospitals: Research, Criteria, and Evidence-Based Practice, Queen Emma Nursing Institute. Honolulu, HI. June 2006.

Mary Naylor

Rosemary Polomano

Barbara Riegel

Ann Rogers


Eileen Sullivan-Marx

Lorraine Tulman

Connie Ulrich

Faculty Honors and Awards 2005-2006

Linda Aiken
Armenian Church of America (Eastern) and the Fund for Armenian Relief Award 2005; Research!America Raymond and Beverly Sackler Award; 2006 Baxter International Foundation Prize for Health Services Research; Honorary Doctorates, University of Florida and State University of NY

Claire Fagin
American Academy of Nursing Civitas Award 2005

Karen Hirschman
Research Investigator Award, American Alzheimer’s Association; Helen Rehr Award, Social Work in Health Care

Arlene Houldin
Expert Alumni Award for Clinical Excellence

Sarah Kagan
Sigma Theta Tau International Marie Hippensteel Lingeman Award 2005; Excellence in Care of the Older Adult with Cancer Award, Oncology Nursing Society

Lenore Kurlowicz
2006 Leadership Award, International Society of Psychiatric Mental Health Nurses; Fellow, American Academy of Nursing

Anne Keane
National Institutes of Health Science Education Partnership Award

Carol Ladden
Higher Education Resource Service Bryn Mawr Summer Institute Awardee

Joan Lynaugh
American Academy of Nursing Living Legend Award 2005

Linda McCauley
American Association of Occupational Health Nurses Slack Publisher’s Golden Pen Award

Barbara Medoff-Cooper
Colket Endowed Chair, The Children’s Hospital of Philadelphia/University of PA SoN; Outstanding Researcher Award, Association of Women’s Health, Obstetric and Neonatal Nurses; Outstanding Alumni Award in Nursing Research, The College of New Jersey

Jane Barnsteiner
Sigma Theta Tau International Dorothy Garrigus Adams Award 2005

Kathy Brown
Fellow, Philadelphia College of Physicians

Karen Buhler-Wilkerson
2005 Sigma Theta Tau International Pinnacle Award

April Chmielinski
Excellence in Critical Care Practice Award, Southeast Chapter of the American Association of Critical Care Nurses

Sean Clarke
Fellow, American Academy of Nursing

Christopher Coleman
Award for Commitment to Health and Wellness in the African American Community, Community Care Behavioral Health Organization

Charlene Compher
2006 Award for Excellence in Clinical Dietetics

Patricia D’Antonio
Fellow, American Academy of Nursing; 2005 Best of Journal of Nursing Scholarship

Afaf Meleis
Robert E. Davies Award, Penn Professional Women’s Network; Elected Honorary Fellow, Royal College of Nursing, United Kingdom

Mary D. Naylor
Elected, Institute of Medicine

Victoria Rich
University of Pittsburgh Distinguished Alumnae Award; Fellow, American Academy of Nursing

Barbara Riegel
American Heart Association Lembright Award 2005

Julie Sochalski
Governor’s Appointment, Member, PA Health Care Cost Containment Council; Higher Education Resource Service Bryn Mawr Summer Institute Awardee

Diane Spatz
The Children’s Hospital of Philadelphia Nursing Leadership Award 2005
Grants

Research Grants

Linda Aiken

Beyond quick fixes: evidence based policy analysis
The Robert Wood Johnson Foundation (#049530)
2/1/2004-7/31/2005
Principal Investigator: Linda Aiken

Center for nursing outcomes research
National Institutes of Health
(5-P30-NR-005043)
2/15/2004-4/30/2010
Principal Investigator: Linda Aiken
Co-Investigators: Susan Gennaro, Barbara Medoff-Cooper, Douglas Sloane, Sean Clarke, Mary Naylor
Pilot Projects: Nancy Hanrahan, Arlene Houldin, Barbara Riegel, Stella Volpe, Eileen Lake, Jeannie Cimiotti, Robyn Cheung, Sean Clarke, Diane Spatz, Terri Weaver, M. Katherine Hutchinson

How nursing affects the volume-outcomes relationship
National Institutes of Health
(2-R01-NR-004513)
Principal Investigator: Linda Aiken
Co-Investigator: Julie Sochalski

Neutropenia outcomes: nurse staffing and environment effects
Oncology Nursing Society
10/1/2003-9/30/2006
Principal Investigator: Linda Aiken
Co-Investigator: Christopher Friese

Nursing intervention for HIV regimen adherence among the seriously mentally ill
National Institutes of Health
(5-R01-NR-008851)
9/1/2003-5/31/2008
Principal Investigator: Michael Blank
Co-Investigators: Linda Aiken, Nancy Hanrahan

Outcomes of nurse practice environments
National Institutes of Health
(2-R01-NR-004513)
Principal Investigator: Linda Aiken
Co-Investigators: Sean Clarke, Douglas Sloane, Eileen Lake, Herbert Smith

Temporary nurse staffing, hospital organization and nurse and patient outcomes
American Staffing Association
2/1/2005-10/31/2005
Principal Investigator: Linda Aiken

Karen Badellino

Human endothelial lipase in cardiovascular disease
National Institutes of Health
(1-K23-HL-074867)
Principal Investigator: Karen Badellino

The role of endothelial lipase in HDL metabolism in individuals with metabolic syndrome
American Heart Association (#0435279N)
7/1/2004-6/30/2008
Principal Investigator: Karen Badellino

University of Pennsylvania diabetes endocrinology research center
National Institutes of Health
(5-P30-DK-019525-28)
Principal Investigator: Mitchell Lazar
Co-Investigators: Karen Badellino, Nancy Tkacs

Kathryn Bowles

Empowering elders through technology
Pennsylvania State University
(5-RO1-NR-007674)
9/15/2001-8/31/2005
Principal Investigator: Kathryn Dansky
Co-Investigator: Kathryn Bowles

Factors to support effective discharge decision-making
National Institutes of Health
(5-R01-NR-007674)
9/15/2001-8/31/2005
Principal Investigator: Kathryn Bowles

Managing chronic illness: comparing telemonitoring and telephone interventions
Centers for Disease Control
(RO1-DP0000215-01)
Principal Investigator: Kathryn Bowles

Promoting self-care using telehomecare: impact on outcomes
National Institutes of Health
(5-R01-NR-008923-02)
Principal Investigator: Kathryn Bowles
Co-Investigators: Mary Naylor, Barbara Riegel

Sean Clarke

Organizational climate and hospital patient/nurse safety
National Institutes of Health
(1-K01-NR-007895)
7/1/2002-6/30/2005
Principal Investigator: Sean Clarke

Charlene Compher

A study of the efficacy and safety of teduglutide in subjects with parenteral nutrition (PN) dependent short bowel syndrome (SBS)
Wyeth Pharmaceuticals, Inc. (#CL0600-004)
Principal Investigator: Charlene Compher

Impact of intravenous proton pump inhibitors on ostomy output and nutrient absorption in the home TPN patient with short bowel syndrome
University of Pennsylvania diabetes endocrinology research center
National Institutes of Health
(5-R01-NR-008923-02)
7/1/2005-6/30/2006
Principal Investigator: Charlene Compher

Norma Cuellar

A comparison of type 2 diabetes with/without RLS
American Association of Diabetes Educators
Principal Investigator: Norma Cuellar

The use of alternative medicine for the sleep disorder restless leg syndrome
Christian R. and Mary F. Lindback Foundation
Principal Investigator: Norma Cuellar

The use of alternative medication for the sleep disorder RLS
Office of the Vice Provost for Research-University Research Foundation Award
7/1/2006-6/30/2007
Principal Investigator: Norma Cuellar

Patricia D’Antonio

Nursing history review
American Association for the History of Nursing
1/1/1992-12/31/2006
Principal Investigator: Patricia D’Antonio

Nursing in the US: a history of people and places
National Institutes of Health
(5-G13-LM-008199)
8/31/2004-12/31/2006
Principal Investigator: Patricia D’Antonio
Janet Deatrick
Assessing family management of childhood chronic illness
Yale University (R01-NR-008048)
Principal Investigator: Kathleen Knafl
Co-Investigator: Janet Deatrick
Family management and survivors of childhood brain tumors
Oncology Nursing Society
Principal Investigator: Janet Deatrick

Susan Gennaro
Mechanisms for preterm birth in African American women
National Institutes of Health
[1-R03-NR-008548]
8/15/2003-7/31/2005
Principal Investigator: Susan Gennaro

Ellen Giarelli
Transition to self to self management of a chronic genetic disorder in adolescents
National Institute for Health
[RO1-NR-00892]
Principal Investigator: Ellen Giarelli

Karen B. Hirschman
Enhancing brain health awareness
Commonwealth of Pennsylvania
1/1/2006-6/30/2006
Principal Investigator: Jason H. T. Karlawish
Co-Investigator: Karen B. Hirschman
Healthy actions for persons with dementia program
University of Pittsburgh (600637-1)
1/1/2006-6/30/2006
Principal Investigator: John Q. Trojanowski
Co-Investigator: Karen B. Hirschman
Redesigning the hospice medicare benefit for persons with advanced dementia
Alzheimer’s Association (RG-05-13570)
Principal Investigator: Jason Karlawish
Co-Principal Investigator: Karen B. Hirschman

Arlene Houldin
Enhancing connection: helping the mother with breast cancer support her child
University of Washington
Principal Investigator: Frances Lewis
Co-Investigator: Arlene Houldin
Experiences of colorectal cancer patients and their caregivers
Oncology Nursing Society
9/15/2003-9/15/2005
Principal Investigator: Arlene Houldin

M. Katherine Hutchinson
Parental influence of adolescent sexual risk behaviors: comparing Catholic and non-Catholic parochial and public families
Office of the Vice Provost for Research - University Research Foundation Award
Principal Investigator: M. Katherine Hutchinson

Loretta Sweet Jemmott
AIDS clinical trial unit
National Institutes of Health
[5-U01-AI-032783]
1/1/2000-8/31/2006
Principal Investigator: Pablo Tebas
Co-Investigators: Loretta Sweet Jemmott, M. Katherine Hutchinson, Freida Outlaw
Church-based parent-child HIV prevention project
National Institutes of Health
[5-R01-MH-063070]
7/1/2001-6/30/2006
Principal Investigator: Loretta Sweet Jemmott
Co-Investigator: M. Katherine Hutchinson

Linda H. Aiken
Karen O. Badellino
Jane H. Barnsteiner
Deborah E. Becker
Joseph Boullata
Kathryn H. Bowles

Hampton Penn Center to reduce health disparities
National Institutes of Health
[1-P20-NR-008361]
9/30/2002-6/30/2007
Principal Investigator: Loretta Sweet Jemmott
Co-Investigators: Janet Deatrick, Susan Gennaro, M. Katherine Hutchinson, Barbara Medoff-Cooper, Lorraine Tulman

HIV prevention trial unit
National Institutes of Health
[5-U01-AI-048014]
7/1/2000-6/30/2006
Principal Investigator: David Metzger
Co-Investigator: Loretta Sweet Jemmott

HIV sexual risk reduction for Black drug-using women
National Institutes of Health
[1-RO1-MH-64407]
Principal Investigator: Loretta Sweet Jemmott
Co-Investigator: John Jemmott

HIV/STD prevention interventions for Black adolescents
National Institutes of Health
[5-R01-MH-062049]
9/10/2000-8/31/2005
Principal Investigator: John Jemmott
Co-Investigator: Loretta Sweet Jemmott

HIV/STD risk reduction for African American couples
National Institutes of Health
[5-U10-MH-064394]
4/1/2002-1/31/2007
Principal Investigator: John Jemmott
Co-Investigator: Loretta Sweet Jemmott

South African adolescent health promotion project
National Institutes of Health
[5-R01-MH-063867]
9/20/2002-7/31/2007
Principal Investigator: John Jemmott
Co-Investigator: Loretta Sweet Jemmott

Translating proven interventions for underserved and emergent high-risk populations: the sister to sister project
Centers for Disease Control & Prevention
[U65-PS-00024]
Principal Investigator: Loretta Sweet Jemmott
Eileen Lake
Nurse staffing and adverse events on inpatient units
National Institutes of Health (R01-NR-00906)
Principal Investigator: Eileen Lake

Lisa M. Lewis
Exploring beliefs, attitudes, and perceived behavioral control associated with medication adherence for African-Americans with hypertension
Principal Investigator: Lisa M. Lewis

Terri Lipman
Evaluation of linear measurement in an inpatient pediatric setting
Principal Investigator: Terri Lipman

Linda McCauley
Analysis of home dust for pesticide residues
University of Illinois-Chicago (R01ES11377) 2/01/2006-1/31/2007
Principal Investigator: Victoria Persky
Co-Investigator: Linda McCauley

Barbara Medoff-Cooper
An expert center of excellence for inner city health
National Institutes of Health (5-P60-MD-000209) 9/30/2002-7/31/2007
Principal Investigator: Barbara Medoff-Cooper
Co-Investigator: Shrinki Kumanyika

Mary Naylor
Coordinating care between hospital and home: translating research into practice, phase II
Principal Investigator: Mary Naylor
Co-Investigators: Kathryn Bowles, Kathleen McCauley

Jennifer Pinto-Martin
Center of excellence for autism epidemiology
Centers for Disease Control & Prevention (U10/CCU320394) 9/30/2001-9/29/2006
Principal Investigator: Jennifer Pinto-Martin
Co-Investigator: Ellen Giarelli

Mary Powell
Sharing clear health messages
Pfizer Scholars Grants 7/1/2005-7/1/2007
Principal Investigator: Mary Powell
Therese Richmond

Alcohol, firearms, and adolescent gunshot injury risk
National Institutes of Health
9/20/2005-7/31/2009
Principal Investigator: Douglas Wiebe
Co-Investigators: Therese Richmond

Case-control study of alcohol outlets & firearm violence
National Institutes of Health
[S-R01-AA-013119]
8/1/2002-4/30/2007
Principal Investigator: Charles Branas
Co-Investigator: Therese Richmond

Major depression following minor injury
National Institutes of Health
[S-R01-MH-063818]
Principal Investigator: Therese Richmond
Co-Investigator: Charles Schwab

Project safe neighborhoods (PSN) research partner
U.S. Department of Justice Assistance
#2003-GP-CX-0110
4/7/2003-9/30/2006
Principal Investigator: Therese Richmond, Charles Schwab

Reducing firearm injury through interdisciplinary and community partnership
The Joyce Foundation
5/1/2001-6/30/2006
Principal Investigator: Charles Schwab
Co-Principal Investigator: Therese Richmond

The Philadelphia gun crime deterrence study
The Joyce Foundation
Principal Investigator: Therese Richmond

Barbara Riegel

Nurse-delivered focused education and counseling intervention to decrease delay in seeking treatment
University of California, San Francisco
[S-R01-NR-007952]
Principal Investigator: Kathleen Dracup
Co-Investigator: Barbara Riegel

Ann Rogers

Neurobehavioral effects of partial sleep deprivation
National Institutes of Health
[S-R01-NR-004281]
Principal Investigator: David Dinges
Co-Investigator: Ann Rogers

Staff nurse fatigue and patient safety
Agency for Healthcare Research and Quality
[S-R01-HS-11963]
9/2001-9/29/2005
Principal Investigator: Ann Rogers
Co-Investigator: Linda Aiken

Julie Sochalski

Home care medication management for the frail elderly
University of Wisconsin-Milwaukee
4/01/2006-1/31/2011
Principal Investigator: Karen Marek
Co-Investigator: Julie Sochalski

Improving quality and efficiency: coordinated care for Medicare beneficiaries with heart failure
Commonwealth Fund
7/1/2005-9/30/2006
Principal Investigator: Julie Sochalski
Co-Investigator: Barbara Riegel

Nurse staffing and patient outcomes in the VA
U.S. Department of Veterans’ Affairs
[V663P-5946]
10/1/2002-9/30/2005
Principal Investigator: Anne Sales
Co-Investigator: Julie Sochalski

Predicting pediatric risk of death after hospitalization
The Children’s Hospital of Philadelphia
[20640-01-01]
8/1/2003-7/31/2006
Principal Investigator: Julie Sochalski

Quality of nursing care and outcomes of hospitalized patients
Leonard Davis Institute of Health Economics, University of Pennsylvania
Principal Investigator: Julie Sochalski

Diane Spatz

Breastfeeding promotion at primary care in University City
The Pennsylvania Department of Health
7/1/2004-6/30/2006
Principal Investigator: Diane Spatz

Breastfeeding promotion at primary care Market Street
The Pennsylvania Department of Health
Principal Investigator: Diane Spatz

Support for low-income breastfeeding: cost and outcomes
Johns Hopkins University (R01-NR-007675)
Principal Investigator: Linda Pugh
Co-Investigator: Diane Spatz

Neville Strumpf

Pilot Projects:
Valerie Cotter, Eileen Sullivan-Marx, Karen Buhler-Wilkerson

Leadership in creating and disseminating innovations for frail vulnerable elders
The John A. Hartford Foundation, Inc.
1/1/2001-12/31/2005
Principal Investigator: Neville Strumpf
Co-Investigators: Lois Evans, Mary Naylor
Eileen Sullivan-Marx
Health education in West Philadelphia
First Hospital Foundation
1/1/2005-6/30/2006
Principal Investigator: Eileen Sullivan-Marx
Outcomes of an exercise program for older African American women in a PACE model
Commonwealth of Pennsylvania
1/1/2006-12/31/2009
Principal Investigator: Eileen Sullivan-Marx
Visiting Nurse Service of New York scholars program
Visiting Nurse Service of New York
Principal Investigator: Eileen Sullivan-Marx
Co-Investigator: Kathryn Bowles

Nancy Tkacs
Hypoglycemic brain injury and loss of hypoglycemic arousal
Diabetes Research Foundation
(S-2005-966)
Principal Investigator: Nancy Tkacs

Connie M. Ulrich
Ethical issues encountered by nurses and social workers
National Institutes of Health
Principal Investigator: Connie M. Ulrich

Stella Volpe
Changing cafeteria portion sizes to prevent weight gain
National Institutes of Health
(5-U01-DK-061230)
Principal Investigator: Gary Foster
Co-Investigators: Stella Volpe, Terri Lipman

Terri Weaver
Impact of CPAP on functional outcomes in milder OSA
National Institutes of Health
(S-R01-HL076101)
9/1/2003-6/30/2007
Principal Investigator: Terri Weaver
SCOR in neurobiology of sleep and sleep apnea
National Institutes of Health
(2P50HL060287)
9/1/2003-8/31/2008
Principal Investigator: Allan Pack
Co-Investigator: Terri Weaver

Jean C. Whelan
Never enough: nurse supply and demand, 1900-1965
National Institutes of Health
(G13-LM-008295)
Co-Investigators: Karen Buhler-Wilkerson, Jean C. Whelan

Institutional Training Grants
2004-2005 Independence Blue Cross Nurse Scholars Program for PhD students
Pennsylvania Higher Education Foundation
7/1/2004-6/30/2005
Principal Investigator: Anne Keane
2004-2005 Nursing Education Grant Program - Supplemental
Pennsylvania Higher Education Foundation
7/1/2004-6/30/2005
Principal Investigator: Anne Keane
2005-2006 Johnson & Johnson promise of nursing for Pennsylvania gala
Pennsylvania Higher Education Foundation
7/1/2005-6/30/2006
Principal Investigator: Anne Keane
2005-2006 Nursing Johnson & Johnson promise of nursing for Pennsylvania gala
Pennsylvania Higher Education Foundation
7/1/2005-6/30/2006
Principal Investigator: Anne Keane

Compher, Stella
Volpe, Rosalyn Watts
4/1/2005-9/30/2005
The Joyce Foundation (#05-28290)
Firearm & Injury Center at Penn (FICAP)
Principal Investigator: Anne Keane
Co-Investigators: Kathleen Burke, Rosalyn Watts
Research on vulnerable women, children and families
National Institutes of Health
[5-T32-NR-007100]
Principal Investigator: Susan Gennaro, Janet Deatrick
Co-Investigator: Loretta Sweet Jemmott
University based nurse anesthesia program
Health Resources and Services Administration (1-D09-HP-04061)
Principal Investigator: Anne Keane
Conference Grants
Bridging the cultural canyon: Strategies to reduce health inequities for American Indians
Novo Nordisk Pharmaceuticals, Inc.
Principal Investigator: Terri Lipman
Co-Investigators: Kathleen Burke, Rosalyn Watts
Bridging the cultural canyon: Strategies to reduce health inequities for American Indians
National Institutes of Health
[1-R13-DK-071454]
Principal Investigator: Terri Lipman
Co-Investigators: Kathleen Burke, Charlene Compher, Stella Volpe, Rosalyn Watts
Firearm & Injury Center at Penn (FICAP)
national research collaborative meeting on firearm violence
The Joyce Foundation (#05-28290)
4/1/2005-9/30/2005
Principal Investigator: Therese Richmond
Geriatric mental health nursing: State of the future conference
van Ameringen Foundation, Inc.
1/1/2005-12/1/2005
Principal Investigator: Lois Evans
Modeling the built and social environments for health, development and behavior research
Penn Institute for Urban Research
2004-2007
Principal Investigator: Dennis Culhane
Co-Director: Stella Volpe
Penn summit on global issues in women’s health: Safe womanhood in an unsafe world
Bill and Melinda Gates Foundation
(#36122)
Principal Investigator: Afaf Meleis
Penn summit on global issues in women’s health: Safe womanhood in an unsafe world
Carnegie Corporation of New York
(#D05131)
Principal Investigator: Afaf Meleis
Post-doctoral nurse scientist training research
Agency for Healthcare Research and Quality (016295-01)
Principal Investigator: Linda McCauley
Co-Investigator: Kathleen Burke
State of the science nursing approaches to the late and long-term sequelae of cancer and cancer treatment
Agency for Healthcare Research and Quality (R13-HS-01607)
Principal Investigator: Arlene Houldin
Summit on American Indian healthcare: Bridging the cultural canyon
Lifespan, Inc. (HCC00748A)
4/1/2005-9/30/2005
Principal Investigator: Terri Lipman
Co-Investigators: Kathleen Burke, Rosalyn Watts
The summit on American Indian health care
The Robert Wood Johnson Foundation
(053048)
6/1/2005-11/30/2005
Principal Investigator: Rosalyn J. Watts
Practice Grants
Building RN training skills for geriatric education excellence
Health Resources & Services Administration (1-D62HP01912)
9/1/2003-6/30/2006
Principal Investigator: Eileen Sullivan-Marx
Co-Investigators: Linda Carrick, Kathleen Burke, Rebecca Phillips, Rosalyn Watts
Health education in West Philadelphia
First Hospital Foundation
1/1/2005-12/31/2005
Principal Investigator: Eileen Sullivan-Marx
Issues in nutrition, exercise and fitness-promoting physical activity in elementary school children of West Philadelphia
Center partnerships, University of Pennsylvania
2005-2006
Principal Investigator: Stella Volpe
Pre/Post Doctoral Fellowship Awards
African American grand family HIV prevention identifying needs, barriers, and concerns
Hampton University (#05-060)
10/31/2004-8/31/2005
Principal Investigator: Judith Cornelius
Critical analysis of nursing home management styles and identification of management strategies aimed at producing constructive work cultures
The John A. Hartford Foundation, Inc. through the American Academy of Nursing
7/1/2006-6/30/2007
Principal Investigator: Katherine K. Hostvedt
Mentor: Lois Evans
Developing and testing a cultural model for long-term female urinary incontinence
The John A. Hartford Foundation, Inc. through the American Academy of Nursing
Student: Christine Bradway
Mentor: Neville E. Strumpf

Improving nursing home care through

Improving physical and functional outcomes
Faculty Advisor: Student: 2004-2006 Penn Institute for Urban Research

Identifying and evaluating barriers to
Mentor: Fellow: 9/1/2005-6/30/2006 National Institutes of Health (F31-NR-00897)

Functional status and motor activity in PPD
Mentor: Faculty Advisor: Student: 8/1/2005-7/31/2007 American Cancer Society (MSCN-04-166-01-SCN)

Improving physical and functional outcomes of critically ill older adults
Student: Michele Balas Mentor: Therese Richmond

Improving nursing home care through palliative care
Principal Investigator: Rebecca Trotta Mentor: Neville E. Strumpf

Incidence of postpartum depression in mothers of infants admitted to a neonatal intensive care unit and the relationship to breastfeeding
Holz Award 8/1/2005-5/30/2008 Fellow: Nicole Hitti Faculty Advisor: Diane Spatz

Interdisciplinary geriatric research: a study of group culture to identify facilitators and barriers of successful collaboration
The John A. Hartford Foundation, Inc. through the American Academy of Nursing 7/1/2004-6/30/2006 Fellow: Stascen Keating Mentor: Mary Naylor

The lived experiences of Korean immigrant caregivers after nursing home placement of their elderly non-English languages (NELS) relatives with dementia
American Nurse Foundation (2005084) 11/14/2005-11/14/2006 Student: Eui-Hi Kong Faculty Advisor: Lois Evans

Masters degree scholarship in cancer nursing

Master’s scholarship in cancer nursing
American Cancer Society (CN-06-232-01) 8/1/2006-7/31/2008 Fellow: Monica Ploof Sponsor: Janet Deatrick

Menstrual cycle and insulin sensitivity in diabetes
National Institutes of Health (F31-NR-008179) 9/1/2002-7/31/2005 Fellow: Kimberly Trout Mentor: Nancy Tkacs

Nurse practitioner legislation and access to healthcare
National Institutes of Health (1-F31-NR-008302) 8/1/2003-7/31/2006 Fellow: Deborah Ann Sampson Mentor: Julie Fairman

Obstructive sleep apnea: African American perceptions

Older Black women’s stories of hypertension treatment with physicians

Organizational culture, nursing care delivery and nursing home resident outcomes
The John A. Hartford Foundation, Inc. through the American Academy of Nursing 7/1/2005-6/30/2007 Student: Jennifer Bellot Mentor: Lois Evans

Parental beliefs about neonatal clinical trials

Physical activity determinants and behavior in older breast cancer survivors

Sharing clear health messages
Pfizer Scholars Grant 7/1/2004-6/30/2006 Mentor: Linda Aiken Fellow: Mary Powell

Variables affecting heart failure self-care management in the workplace
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Bradway, Christine


Brown, Linda Phillips

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**Cuellar, Norma**


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Rogers, Ann


Spatz, Diane


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