What happens when parents in the U.S. don’t want their children to be vaccinated?

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Our health systems are moving away from acute care to chronic disease management.

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Putting Health Data on the Map

Data visualizations offer a map to health care’s future.

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Education and Leadership Vision

“I chose Penn Nursing to become a Certified Registered Nurse Anesthetist because of its renowned clinical rotation sites, excellent board pass rates, and nursing simulation center. Receiving a scholarship has been a life changing opportunity and I am tremendously grateful. I plan to honor the legacy of Colonel Tillman-Ortiz by serving those communities with a dire need of health care services.”

Alexie Maria Smith, GRN’19
One of the inaugural recipients of the Tillman-Ortiz Memorial Nursing Endowed Scholarship, named for Penn Nursing graduate Col. Sophia A. Tillman-Ortiz, GNu’97.

Support Penn Nursing’s Innovating for Life and Living Campaign. Your contribution ensures that our graduates will lead the way in boardrooms and courtrooms, in hospitals, laboratories, and communities, and on Capitol Hill and the global stage. Please use the enclosed envelope or visit us online at www.nursing.upenn.edu/campaign.
Penn Nursing has always been committed to innovation. From the very moment we opened our doors, our faculty and students have been at the forefront of advancing discoveries, developing policies and practices to support and promote health, improving quality of care, and designing technologies to make “health” an easy option. Innovation is a critical component of our work, and will continue to be—because now more than ever, we need to address the rapid changes that affect health and health care.

Nurses—in whatever role they are in—are uniquely positioned not just to identify those changes, but to design and test evidence-based approaches and move implementation of new ideas forward. Why? Because nurses are natural innovators. We see this clearly in Florence Nightingale’s work in pioneering state-of-the-art health care data visualization in the nineteenth century, which were used to help develop legislative policy in her time (page 18). We see this in the daily practice of nursing—as nurses work with individuals, families, and communities to promote health. We see it in the work of Penn Nursing researchers who integrate geographic information systems, statistical and data analysis, Google Street View, and other cutting-edge methods of visualizing data—all with an eye toward better understanding the social determinants of health (pages 20–29). Nurses lead the way, initiating collaborations with engineers, computer programmers, and other interdisciplinary colleagues to further our collective efforts and push the limits of knowledge, resources, and tools to improve health.

One thing is certain: There will always be new health and health care problems to solve, from bedside to policy making, and most new solutions that reach individuals, families, and communities involve nurses. The Penn Nursing community represents the best opportunity for these solutions. Not only are we a leader in this area, we are part of a university founded by Benjamin Franklin, one of history’s best-known innovators. The University of Pennsylvania lives up to its founder’s vision: Innovation is a key component of the Penn Compact and one of the values that makes Penn unique. It’s perhaps not a surprise, then, that Penn Nursing is routinely ranked among the best in the country and in the world. Innovation and nursing go hand-in-hand.

Our faculty and students lead the way, but innovation is only possible because of the continued investment of so many. Funders who invest in our students and faculty, and the spaces where we work help build a springboard to learning and success. We have developed extraordinary partnerships and collaborations locally in the Philadelphia region and internationally, such as our projects in India, that further push us toward new solutions and new technology. It’s an exciting time to be part of the Penn Nursing community, no matter the role you play.

It’s with this excitement that we launch Penn Nursing’s Innovating for Life and Living Campaign, focused on driving innovation across three fundraising priorities: Research and Discovery; Education and Leadership; and Policy and Practice. I hope you’ll enjoy reading about the solutions we’re pioneering and the leaders we’re developing, and be inspired to join us in this effort. Thank you for your continued commitment to Penn Nursing and the future of the profession.
A Mass Casualty Simulation

At the end of the lecture on emergency preparedness at the Helene Fuld Pavilion this past fall, things got real. A loudspeaker announcement informed the 90 nursing students in attendance that a suspicious-looking package had just been delivered to the first floor. Moments later, sounds of an explosion erupted from a nearby classroom.

According to Penn Nursing Simulation Education Specialist Ann Hoyt Brennan, the students, all in their final semester of undergraduate nursing training, went into action, fanning out into teams that responded to one of nine simulated, smoke-filled disaster scenes, each meticulously staged with victims presenting an array of injuries. Also in the mayhem: anxious family members desperate for news about loved ones.

The family members were actually Penn social work students and other volunteers who “really got into their roles and scripts,” said Brennan. The wounded patients included high-fidelity patient simulators—mannequins that can be programmed to display symptoms like cardiac arrest; respond to interventions such as CPR and defibrillation; and even moan and cry. Among the “live” patients were pregnant women who went into delivery on the scene, and a victim with a realistic-looking head wound. While the crisis was simulated, the students’ responses were authentic. Relying on their training, they formed command centers, inspected the scenes for safety, chose team leaders, and successfully used a “smart tagging system” to triage victims based on their needs for medical treatment.

The University of Pennsylvania School of Nursing undergraduate program has been sponsoring this biannual mass casualty simulation since 2013.

For more information, visit
www.nursing.upenn.edu/simlab

Students take action in one of nine smoke-filled simulated scenes on Disaster Day.
High Honor

Professor Therese Richmond has been elected for membership to the National Academy of Medicine (NAM), formerly the Institute of Medicine. Election to the Academy is considered one of the highest honors in the fields of health and medicine and recognizes individuals who have demonstrated outstanding professional achievement and commitment to service.

"Newly elected members represent the most exceptional scholars and leaders in science, medicine, and health in the U.S. and around the globe," said National Academy of Medicine President Victor J. Dzau. "Their expertise will help our organization address today’s most pressing health challenges and inform the future of health and health care to benefit us all."

Lifetime Achievement

Last fall, Linda Aiken PhD FAAN FRN, the Claire M. Fagin Leadership Professor in Nursing, Professor of Sociology, and Director of the Center for Health Outcomes and Policy Research, received The Nell J. Watts Lifetime Achievement in Nursing Award from Sigma Theta Tau International (STTI) Honor Society of Nursing. The award is given to a member who has demonstrated exemplary achievements in nursing throughout his or her lifetime.

Aiken’s extensive, pioneering research has documented the impact of nursing care on patient outcomes globally. Her research has created an evidence base showing the importance of nurses caring for fewer patients, having most nurses with bachelor’s or higher qualifications, and improving nurse work environments.

Aiken led the effort to improve clinical work environments for nurses when she was president of the American Academy of Nursing in 1979. This led to the development of the Magnet University. Its goal is to cultivate health equity, eliminate health disparities, invent new models of care, and achieve higher quality health care at lower cost by training nurse and physician researchers who work as leaders and collaborators embedded in communities, health care systems, government, foundations, and think tanks in the U.S. and around the world.
Recognition Program®, a voluntary accreditation program for nursing that represents a high-quality working environment for nurses that results in better patient outcomes. She is an authority on nurse shortages around the world, and has received numerous major research awards in her field of health services and policy research.

### Inaugural Fellowship

**Erin Teeter**, a Penn MSN-Health Leadership and masters in Bioethics dual-degree student, received the Hospital of the University of Pennsylvania’s inaugural Nursing Research Fellowship. The one-year fellowship began in January and is facilitated by **Rebecca Trotta PhD RN**, Director of Nursing Research and Science. Together, Dr. Trotta and the Nursing Research Core Council will assist Ms. Teeter in her study investigating moral distress in surgical and hematology oncology nurses.

### Stress Relief

Mindfulness, a positive focus technique used to increase a person’s awareness and acceptance of daily experiences, may offer an active coping mechanism for mothers faced with the stress of having a newborn diagnosed with congenital heart disease (CHD).

A team of nurse-researchers from Penn Nursing and the Children’s Hospital of Philadelphia (CHOP) published a study in the *Journal of Pediatric Nursing* in which they gathered perspectives on coping mechanisms from focus groups with 14 mothers of critically ill infants, and explored the feasibility of mindfulness as a stress-reduction technique.

“Mothers of infants with complex congenital heart disease are exposed to increased stress, which has been associated with numerous adverse outcomes,” said **Barbara Medoff-Cooper PhD RN FAAN**, principal investigator and nurse scientist at Penn Nursing and in the Cardiac Center at Children’s Hospital of Philadelphia. “The coping mechanisms these mothers use critically impact the family’s adaptation to the illness, and most likely infant outcomes as well.”

The mothers participating in the focus group agreed that mindfulness should start early, preferably immediately after the prenatal CHD diagnosis. That way, they felt that they would have time to learn and practice the skill by the time the baby is born. There was also a general agreement that the worst time to begin the practice is around surgery, as that is an overwhelming time and mothers are too busy to learn a new skill. The mothers preferred engaging in mindfulness in a private, quiet room.

The team plans to conduct more research on mindfulness meditation with a larger cohort of mothers, and hopes to develop a program based on the findings.

### Higher IQ

Children who eat fish at least once a week sleep better and have IQ scores that are four points higher, on average, than those who consume fish less frequently or not at all, according to new findings recently published in *Scientific Reports*.

Previous studies showed a relationship between omega-3s, the fatty acids in many types of fish, and improved intelligence, as well as omega-3s and better sleep. But they’ve never all been connected before. This work, conducted by Penn Nursing’s **Jianghong Liu PhD RN FAAN**, **Jennifer Pinto-Martin PhD MPH**, **Alexandra Hanlon PhD**, and Penn Integrates Knowledge Professor **Adrian Raine DPhil**, reveals sleep as a possible mediating pathway, the potential missing link between fish and intelligence.

“It adds to the growing body of evidence showing that fish consumption has really positive health benefits and should be something more heavily advertised and promoted,” Pinto-Martin said. “Children should be introduced to fish early on.” That could be as young as ten months, as long as the fish has no bones and has been finely chopped, but should start by around age two.

For the moment, the researchers recommend incrementally incorporating additional fish into a diet; consumption even once a week moves a family into the “high” fish-eating group as defined in the study.

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Every product and process that touches a patient goes through a nurse.
—*Therese Richmond PhD CRNP FAAN*

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**Numbers of Note**

1
FY17 rank of Penn Nursing in NIH research funding among nursing schools

$9.3 million
Total funds awarded from NIH for FY17

31
Total NIH awards

$1,753,609
Largest single award

49%
Percentage of Penn Nursing’s total research funding for the same NIH-ranked period

17
Faculty Investigators

3
T32 training grants

38
Pre and post-doctoral students and fellows working on NIH-funded research
Innovation Grants

Penn Nursing Assistant Professor Sara Jacoby PhD MPH RN and Dennis Flores PhD ACRN, Postdoctoral Fellow, each received a Hillman Emergent Innovation Program Grant from the Rita & Alex Hillman Foundation. The one-year, $50,000 award accelerates development of bold, new interventions targeting the needs of vulnerable populations. “Funders tend to shy away from this stage of development, despite the fact that support is vital,” said Rachael Watman, Vice President of Programs at the Rita & Alex Hillman Foundation. “Risk taking is key in launching work that has the capacity to radically reimagine and improve how care is delivered to communities in need.”

Jacoby’s project will utilize wearable devices, such as wrist monitors, and a web-based platform called Way to Health (WTH), to redefine the scope of conventional trauma care. The field is traditionally siloed, making it difficult for disenfranchised populations to achieve a full recovery. Her technology-assisted program will allow nurses to follow recovery metrics like physical activity and sleep patterns, and develop referral mechanisms and incentivize recovery-promoting behaviors.

Flores’ project, Parents ASSIST, will help gay, bisexual, and queer (GBQ) teenage boys avoid HIV and other sexually transmitted infections by equipping their parents with communication skills to have affirming and supportive discussions with them.

Both Jacoby and Flores are principal investigators on their projects.

Editor-in-Chief

Eileen T. Lake PhD RN FAAN, the Jessie M. Scott Endowed Term Chair in Nursing and Health Policy, Associate Professor of Nursing, Associate Professor of Sociology, and the Associate Director of the Center for Health Outcomes and Policy Research, has been named Editor-in-Chief of the journal Research in Nursing & Health (RINAH).

“My vision is to elevate RINAH internationally, and with it, nursing science,” said Lake. “By enhancing the journal’s reputation, its impact will increase, attracting the attention of practitioners and policymakers who read it. Increased readership will speed the translation of research evidence into practice and policy.”

E-Health Innovator

On January 1, George Demiris PhD, a leader in new technologies for e-health and home-based health care, became the 22nd Penn Integrates Knowledge University Professor. He holds joint faculty appointments in the Department of Biobehavioral Health Sciences at Penn Nursing and in the Department of Biostatistics, Epidemiology and Informatics of the Perelman School of Medicine.

“Biomedical informatics brings together big data, precision technology, behavioral science, and medical care,” said Penn President Amy Gutmann. “This booming field has enormous potential for saving and improving lives. Standing at the forefront of this field is the brilliant and internationally renowned researcher and teacher George Demiris. His innovative work has significantly advanced our understanding and application of biomedical informatics, from e-health to home-based patient-centered technologies, and his prolific and influential publication track record bridges several important fields.”

A Fellow of the Gerontological Society of America and the American College of Medical Informatics, he is the author of more than 200 peer-reviewed journal articles and 20 book chapters, as well as a co-editor of three major books about e-health and smart homes. His work has been widely funded by the National Institutes of Health, the National Science Foundation and others, including most recently an NIH R01 grant to conduct a randomized clinical trial of a technology-based intervention for hospice caregivers.

Demiris came to Penn from the University of Washington, where he was the Alumni Endowed Professor in Nursing, director of the Biomedical and Health Informatics Graduate Program, and director of the Clinical Informatics and Patient Centered Technologies Program. A native of Greece, he earned a PhD in health informatics from the University of Minnesota following undergraduate and graduate degrees in medical informatics from the Heidelberg University.

Community News

HYPE summit

Last fall, Terri Lipman PhD CRNP FAAN and a group of Penn Nursing students joined The Food Trust HYPE Youth Summit to support and encourage Philadelphia high school youth to become leaders for positive health change in their schools and communities. Healthy You Positive Energy (HYPE), a campaign organized by The Food Trust, supports youth ambassadors from 70 middle schools and high schools across Philadelphia in their efforts to improve access to healthy foods, decrease availability of unhealthy foods, and increase opportunities for physical activity.

Hurricane Irma

Following graduation last spring, Penn Nursing alumnus and 2017 President’s Engagement Prize (PEP) winner Ian McCurry RN volunteered with the Red Cross as a Registered Nurse. After witnessing multiple hurricanes batter the southern states, and with more on the way, McCurry deployed to Florida to assist with those in need of care.

He was assigned to a shelter in Miami, the largest in Florida, with 20 other RNs and paramedics responsible for 1,200 patients with multiple medical needs. As one of three night-shift nurses, he worked from 7 p.m. to 7 a.m. for a week straight, evaluating patients to determine those most in need and providing them with critical treatment. He credits his Penn Nursing education and his clinical time in the emergency department at the Hospital of the University of Pennsylvania for preparing him to treat blood loss, heart attacks, and other unexpected health issues. He also credits the work he...
and his PEP partner, Marcus Henderson RN, performed as part of their project, Homeless Health and Nursing. “The work of listening to each patient’s unique narrative was incredibly similar to the effort that went into creating our project,” he said. “The skills we developed serving Philadelphia’s homeless shelters easily transferred to the residents of the hurricane shelter. I was prepared and excited to provide the care they required.”

Order of the Bell

Wendy Grube PhD CRNP FAAN, Practice Associate Professor of Nursing and Interim Director of the Center for Global Women’s Health, was honored with the inaugural Order of the Bell award from Mountains of Hope, West Virginia’s statewide cancer coalition, for her longstanding work in rural West Virginia.

When Grube began traveling with a group of students to the area over a decade ago to provide free cancer screenings to women, the state had one of the highest mortality rates for cancer in the nation, despite efforts by the CDC to reduce the rates by increasing the number of free screening clinics. “To the CDC, it was unclear why rural West Virginia, with a small, wide-spread population, had such a high mortality rate,” said Grube. “They thought it was related to a lack of access in these very rural regions due to geographic distance or no insurance coverage.” Working on this theory, the CDC added a number of free clinics around the state to increase access. What happened next surprised everyone. “The rate of women being screened actually began to drop,” she said. “At that point, everyone knew there was something else going on, but no one knew what it was.”

Grube spent four months embedded with women and families in the Southern West Virginia Coal Fields region of the state to better understand WV communities, cancer screening beliefs, and behaviors. She joined them in their daily routines, and soon discovered that the problem was more complex than access. “The decline in screenings among women was mostly due to misinformation about cancer, some religious beliefs, and a general mistrust of medical professionals in the region,” she said. “We needed to empower the women with the correct information so they could be advocates in their own health.”

Armed with these findings, Grube recruited eight Penn Nursing students to assist her with a health fair in neighboring Webster County. Following the fair, the women said they would agree to the screenings, but only if Grube and her team of students returned to conduct them. They returned twice that year and for several years after, conducting screenings until the ACA allowed the state to expand Medicaid coverage and provide insurance coverage. This meant they were no longer eligible for the free screenings provided by Grube and her team.

Still, the women in the community were now invested. They asked Grube if she and her team would hold a full-day conference to inform them about major health care issues so that they could direct their own care. And that’s what they’ve been doing for the past three years. Community members determine the topics covered, ranging from insomnia and urinary incontinence to common cancers. Grube’s students develop and deliver the presentations.

“Women in the community are continuing to build their awareness of common health issues,” said Grube, “and as a result are becoming more confident in directing their own health care through education and evidence-based recommendations for seeking care.”

Penn Nursing BSN students outside Kensington Health Sciences Academy.

Opioid Overdose Simulation

Penn Nursing’s state-of-the-art Helene Fuld Pavilion for Innovative Learning and Simulation—known by current students and recent alumni alike as the SimLab—recently hosted a training event in conjunction with Penn’s Center for Public Health Initiatives’ effort to increase community education around the opioid epidemic.

Jennifer Pinto-Martin

PhD MPH, Viola Mclinnes/
Independence Professor of Nursing and Executive Director of the Center for Public Health Initiatives, and Ann Hoyt Brennan MSN RN, Simulation Education Specialist, organized the February event so attendees could experience the scenario of a heroin or fentanyl overdose by a standardized patient or actor, and learn the best way to respond. Utilizing the lab’s high-fidelity simulators and task trainers, participants were able to practice administering Narcan, an opioid antagonist.

“We are combining the actor with the simulator to give you a full picture of what this looks like, and what you can do about it,” says Pinto-Martin. “With Philadelphia and its increased amount of deaths from opioid use, it’s just so important we reach out to the community and give back,” says Brennan. “[Simulations like] this are one way we can educate and disseminate knowledge.”

Pinto-Martin agrees. “That’s what public health is all about—identifying problems that are in our community that we can do something about.”

Movement Breaks

Kensington Health Sciences Academy in Philadelphia, located in one of the country’s most underserved neighborhoods, is the site of The Penn Futures Project’s developing model for interprofessional clinical and field learning for nursing interns, student teachers, and counselors and social workers in training.

This year, nursing students, mentored by Catherine McDonald PhD RN and Terri Lipman PhD CRNP FAAN, are piloting a new program at KHSA called Movement Breaks. The initiative, run in collaboration with the Division of Chronic Disease Prevention, Get Healthy Philly, and the Philadelphia Department of Public Health, gets students up and moving during class as a form of exercise, which research shows can contribute to increased energy and improved cognition.

Terri Lipman

PhD CRNP FAAN
Global News

This spring a group of Penn Nursing students are traveling to Trinidad for a new independent study program at the University of West Indies. The new program examines how the historical and sociocultural influences of gender on sexual culture and sexual abuse in the Caribbean can lead to risky sexual behaviors that contribute to HIV infection and other health conditions in the region.

Students are placed in direct-service health care organizations focused on preventing and responding to gender-based violence and gendered health disparities to give them a greater understanding of gender and the relationship between sexual abuse and gendered behaviors and attitudes.

More Nurses, Please

United Kingdom

Patient satisfaction is closely linked to the number of nurses on wards, according to a study led by Linda Aiken PhD FAAN FRCN, recently published in the journal *BMJ Open*. "Patients value nurses so much that when nurses are in short supply, patients' overall ratings of their hospitals decline sharply," she said.

The study, which surveyed patients and inpatient nurses at National Health Service trusts in England, showed that 57 percent of patients reporting there were usually enough nurses rated their care as excellent, while 86 percent of patients reporting there were never or rarely enough nurses on the hospital ward gave the care they received a lower rating.

Global Seminar

Santiago, Chile

Penn Nursing Associate Professor Eileen Lake PhD FAAN continued to expand the presence of Penn’s global seminars with the design of a new course, NURS 535. International pre-doctoral student Marta Simonetti, a native of Chile, assisted in the seminar’s development. A multidisciplinary team of students from Nursing, Wharton, and Arts & Sciences traveled with Dr. Lake to Santiago to dynamically and holistically examine health and the health care system using Chile as a case study, and reflect back comparatively to health and the health care system here in the U.S.

Study Abroad

Trinidad

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35
Alumni who graduated with a Global Health minor in the last two years

14
Countries of origin for international students currently enrolled at Nursing

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33
Students currently engaged in study abroad programs
Fulbright Research Scholar
Genoa, Italy

Gianluca Catania PhD RN, a research fellow at the Department of Health Sciences, School of Medicine and Pharmaceutical Sciences, University of Genoa, has joined Penn Nursing as a Fulbright Visiting Research Scholar and is working with the Center for Health Outcomes and Policy Research (CHOPR) to prepare for his new study in Italy. Catania, who is a participant in the RN4CAST-European Union study led by CHOPR, will examine the impact that nursing care has on the safety and quality of overall care in freestanding Children’s Hospitals in Italy, as well as in pediatric units in the Italian Association of Pediatric Hospitals.

Mental Health
Chennai, India

Alison Ercole MSN BA PMHNP-BC CRNP CCRN, a Global Nursing Fellow with Penn Nursing’s Center for Global Women’s Health, recently traveled to Chennai, India, where she is embedded with The Banyan Academy of Leadership in Mental Health to strengthen the curriculum for Community Mental Health training in the region. The project, led by Ercole, serves as a prototype for scaling up on a national level. Her mentor, Lakeetra Josey PhD CRNP PMHNP-BC, Associate Director of Penn Nursing’s Psychiatric-Mental Health program, joined her in Chennai. Wendy Grube PhD CRNP FAAN, Director of the Center for Global Women’s Health, launched the new fellowship in the fall of 2017.

Patients value nurses so much that when nurses are in short supply, patients’ overall ratings of their hospitals decline sharply. —Linda Aiken PhD FAAN FRCN

Study abroad options, including semesters abroad, short-term opportunities, and community clinical hours

International students currently enrolled at Penn Nursing

27

International students currently enrolled at Penn Nursing

16
Can Behavioral Insights Increase Vaccination Rates?

The answer lies in a virtual 50-state experiment.

VACCINATING KIDS SAVES a lot of lives and a lot of dollars. High rates of vaccine coverage assure community protection (“herd immunity”), and in the United States we achieve this by requiring children to be fully vaccinated by the time they start school. We’ve mandated school-entry immunization for so long that it may seem like a given, but many other countries don’t have similar mandates. They suffer from lower vaccine coverage and more disease.

But what happens when parents in the U.S. don’t want their children to be vaccinated? All 50 states have legalized medical exemptions: Some kids, due to medical contraindications like immunosuppression or severe allergy, cannot safely be vaccinated. Most states also make some provision for nonmedical exemptions: These might be religious, philosophical, or “personal belief” objections to the required immunization schedule.

School-entry mandates and exemptions from those mandates are determined by states, so we essentially have a 50-state laboratory for studying the effects of exemption laws on parent responses, vaccine coverage, and disease outbreaks. In recent years, parents have been increasingly hesitant to vaccinate their children, and outbreaks of vaccine-preventable diseases have risen. (Remember the Disneyland measles outbreak?) In response, many states are rethinking when and how they allow vaccine exemptions.

In 2017, 17 states considered more than 40 changes to their state’s exemption regime. As a behavioral scientist, I was eager to assess these proposed changes through the lens of behavioral economics, which pays close attention to the cognitive biases and heuristics that shape our decisions and sometimes lead to irrational behaviors. Did I find behavioral insights deployed in some of the proposed bills? Sure. Could there have been more? You bet. Vaccine exemption law is fertile ground in which to apply behavioral science to public policy. Below are four behavioral principles relevant to exemption legislation, along with some examples of current and proposed exemption laws that leverage these insights.

#1 Add hassle factors.
Many proposed revisions invoke the idea of making it easier to adhere to immunization schedules (opting in) than to get an exemption (opting out). This makes sense. We know from prior studies that states with tougher exemption requirements (for instance, needing a health care provider to sign the exemption form versus the parent just signing the form themselves) have lower exemption rates. In the 2017 legislative session, Iowa proposed that religious exemption seekers provide an affidavit signed by the applicant’s religious leader confirming that immunization conflicts with specific religious tenets. This should prevent people from abusing the religious exemption to circumvent vaccine mandates.

Minnesota proposed several additional requirements for exemption. These include a statement from the child’s physician confirming the applicant and guardian have received information about the health risks of failing to vaccinate and an acknowledgment that the student may be prohibited from attending school in the case of an outbreak. This last requirement is particularly good at making the benefits of vaccination salient—it helps the parent visualize a future exclusion from school.

If some hassle is good, is more hassle better? Idaho currently requires parents to write a short statement explaining or justifying their exemption request. My research team hypothesized that while this might add some hassle factor, the act of writing the statement might equally serve to reinforce anti-vaccine beliefs (and we’re testing that in an online experiment; stay tuned for the results). How about the ultimate hassle: No nonmedical exemptions at all? This was proposed in the Arizona legislature, and was actually passed and implemented in California following the Disneyland outbreak. This might not work, due to increased reactance to this issue when the nonmedical exemption option is withdrawn altogether.

#2 Design incentives for maximum impact.
Much of the recent work on behavioral economics and health has focused on optimally designed incentives (financial and non-financial) for healthy behaviors. Could this work in exemption laws? One of several proposed bills in the New York state legislature would eliminate the dependent tax deductions for taxpayers who fail to comply with immunization requirements for their dependents (with the savings going to the Department of Health for vaccine education).
The problem here is a licensing effect. Once parents can effectively “pay to not play,” exemption becomes more of a consumer choice than a moral obligation. And are parents the right place to apply incentives (whether carrots or sticks)? Insurance companies already reward physician practices (through quality bonuses) for vaccine coverage rates in their patient panels. Exemption laws could build in similar rewards for school districts that reduce exemption rates or maintain low or zero exemption rates over time.

#3

Make vaccine education count.

Educating parents about the benefits of vaccination and the harms of not vaccinating has long been promoted as a key strategy to promote vaccine acceptance—with little evidence to support its effectiveness. Optimism about vaccine education is evident in a proposed bill in Connecticut, requiring parents who seek an exemption to provide evidence of participation in a “science-based” education module. (Washington state already requires this.) A required education module can serve as an effective hassle factor, but in order to actually persuade a vaccine-hesitant parent to get their kid vaccinated and not require an exemption, the educational content needs to be behavioral science-based. How? One strategy is to increase the salience of the real risks of contracting vaccine-preventable diseases. This can help counter risk compensation (parents don’t think their kid will contract a vaccine-preventable disease) and ambiguity aversion (parents prefer known risks of not vaccinating to unknown risks of vaccinating). However, increasing the salience of the potential harm (versus risk) of vaccine-preventable diseases may backfire with vaccine-hesitant parents. A lot more research is needed on when the backfire effect kicks in and how to avoid or circumvent it.

#4

Leverage social norms and peer pressure.

Fortunately, the vast majority of parents fully vaccinate their kids. Exemption rates are low in many schools, districts, counties, and states. Exemption laws can leverage this strong social norm by making exemption data publicly available and by mandating school-level reporting. A proposed law in Texas requires school districts to report data on requested, granted, and denied exemptions to the state’s Department of Health, which will make the data public on the department website. Schools also must notify parents and guardians upon request if any student in the school is exempted. New York proposed a similar reporting requirement. In addition to confirming the social norm for complete vaccination, these publicly available data also permit the identification of exemption outliers or “hotspots.” As with educational interventions and incentives, some caveats about licensing and backlash are warranted.

Our 50-state laboratory will gear up again in the next legislative sessions—that’s good news for public health and policy researchers interested in conducting observational studies of changes in state exemption laws. But there’s also an opportunity to be more proactive: Legislative staff can deploy evidence from behavioral science when drafting new exemption laws. My research team and I are busy drafting evidence-based model legislation templates so that legislators don’t have to start from scratch when designing new exemption laws. We hope to push the field from outdated, ineffective, or politically-motivated approaches to crisp, simple legislative strategies that use behavioral insights to keep kids healthy.

Alison M. Buttenheim PhD MBA is associate professor of Nursing and Health Policy and associate director of Penn’s Center for Health Incentives and Behavioral Economics. Focusing her research on the use of behavioral economics to increase the uptake of evidence-based health care, Dr. Buttenheim has studied California’s immunization mandates and vaccine-exemption laws. She works with an interdisciplinary team analyzing vaccination exemption laws in several states. She joined the Penn Nursing faculty in 2011.

A version of this article originally appeared in the Behavioral Scientist.

How to Deal with a Vax-Resistant Parent

Dr. Buttenheim offers advice.

Make a vaccination plan early. Even before birth, talk about a vaccination schedule and encourage parents to commit. This is much less stressful than trying to talk to a parent while she’s holding a wriggling infant.

Frame vaccination as the standard of care. Vaccination is the norm among health care providers. Make this clear.

Frame vaccination as the default. There’s good evidence that introducing vaccination as just the next step in the visit can lead to higher acceptance. “And next up are three vaccines for the baby. The nurse will be right in with those.”

Make the risk of not being vaccinated real. Vaccination has been so successful in the U.S. that parents don’t see the diseases that inoculation prevents. As a result, some parents focus on a more immediate risk, however slight—such as the shots’ potential side effects. Make the risk of disease more salient. “Pertussis is a real threat in our community—we had a very sick baby in the hospital last week.” Note, however, that this can be a risky strategy. Some studies show a “backlash” effect to scare tactics that may reinforce negative attitudes.

Model the behavior. If you have children, say, “I vaccinate my own kids. I wouldn’t want to provide any lower standard of care for your kids.”

If parents continue to refuse, defer the conversation to another time. Say, “OK, but just know that I’m going to want to discuss this at every visit—it’s that important to me.”
Meaningful Business

Kisimbi Thomas Nu’02 W’02, graduate of the first class of the Penn Nursing and Health Care Management Program (NHCM) and a health care innovator in Kenya, describes how care can be brought to underserved patients in Africa, and not just as a charity.

KISIMBI THOMAS SPENT 

a decade with the Clinton Foundation’s Health Access Initiative, helping governments develop, implement, and large-scale, high impact strategies for health programs. He has raised more than $750 million in grants and support for governments and organizations with which he has collaborated or worked. Now funded by the Aspen Institute, he continues to bring change to African health care. Mr. Thomas also serves on the board of Jacaranda Health, which aims to make pregnancy and childbirth safer for women and newborns by transforming maternity care in Africa.

He spoke with the magazine in January. Among other things, we asked him why his Skype handle reads “President of Kenya 2017.” -The Editors

Inspiration to manage health care

From a very young age, I realized that our health system was broken. When I was ten years old and living in Mombasa, my grandmother suddenly became ill. My sister and I were alone in the house; my mother was away. We ran to our neighbor and together we rushed her to a government hospital. The scene remains seared in my mind. It took nearly an hour to get her admitted to a general ward, a single room lined with rows of beds. The staff didn’t seem to care whether she lived or not. My grandmother shared a bed with a man who was moaning in pain and being ignored. I realize now he probably had bone cancer. A single night nurse was on duty. We didn’t even have paracetamol available. It was horrible.

Lucky for us, my mother came home and, finding we weren’t home, received the news from the neighbors. She got my grandmother transferred to a private hospital. My mother had insurance through her employer; we were lucky. The quality of care was night and day. I felt that this was extremely unfair, that our family had access to this care and millions of others didn’t.

I decided on three ways I could help. First, I wanted a career in medical care. Second, I realized that what I saw was a management and leadership problem, having to do with things like supply chain, organizational challenges, remuneration, and staff motivation. Third, I needed to look into the fiscal and political environment behind our broken hospitals. This addressed what I could do myself, how hospitals and health providers could change, and how I could change systems for the better.

His education

In elementary school in Mombasa, I had a keen interest in politics. In high school, I attended one of the best boarding schools in Kenya called Alliance High School that brings together the top students from each district in the country. Here they develop your body, mind, and character through sports, a great academic foundation, and community volunteering opportunities. There, I came across a brochure for the Penn NHCM program. It was just what I was looking for. It clicked for me. I didn’t apply to any other colleges.

Coming to Philadelphia was definitely tough, but I settled into a good community with Africans. Penn was a culture shock all its own. It was just one of those things where I had to soldier on. I was taking 6.5 CU’s, and only realized later what a daunting task I took on. I was lucky for the foundation I had in high school, but even luckier for support I received from faculty at Penn, especially those at Penn Nursing. It was amazing.

Current work

My paycheck comes from the Aspen Institute through the Aspen Management Partnership for Health (AMP Health). We’re all about leadership and management and systems change. We’re like McKinsey, only embedded within governments. My office is within the Ministry of Health. Right now, the Kenyan government is looking to launch universal health care and scale up a community health package—a number of effective health promotion and prevention services that can be delivered in households, eliminating the need to seek higher cost hospital care. We’re now working through the gritty of how to reach tens of millions of Kenyans with insurance and these high-quality services. Besides Kenya, AMP Health works in Malawi and Sierra Leone, and looking to expand into Zambia, Ghana, and other African countries. We address bottlenecks in institutions and build the management and leadership capacity to drive evidence-based public health decisions. In short, we help governments do their work better. This is a foundational principle. The systems we work in are complex,
and sometimes they don’t produce predictable results; sometimes they are even stubbornly resistant to change. But we know that change happens most effectively if we’re able to engage and work closely with the government so that the change we are driving is sustained.

Jacaranda Health & Maternity

Across Africa, pregnancy and childbirth are significant risk factors for women. Childhood is no cakewalk, either! With members from the U.S. and Kenya, Jacaranda is a leading social enterprise, moving the needle to provide high quality, respectful maternal care for low-income women to make pregnancy and childbirth safer for women and newborns. Its model is driven primarily by excellent nursing care.

The enterprise got its start four years ago and has shown that it’s possible to be profitable without relying exclusively on donor funding. We’re within nine months of breaking even. We’re separating out the Kenyan and U.S. entities; the Kenyan organization is in the process right now of hiring a CEO on the ground. This is the for-profit entity—a social enterprise providing safe maternity and newborn care. Then there’s a non-profit 501(c)3 registered in the U.S., which takes the best practices we’ve gleaned from clinics and approaches donors and partners to support governments to scale them up. We can’t keep the good stuff to ourselves when they save lives.

At the moment we have a site in a low-income suburb of Nairobi where there’s a long history of poor care. In the public hospitals there, nine out of the last 12 months in 2017 saw strikes by doctors, nurses, clinical officers, and public health officers. The worse alternatives have been for mothers to give birth at home or to go to pop-up clinics where unqualified people provide substandard care, or to get expensive, sometimes low-quality private care. Jacaranda offers family-centered care, helping mothers through their pregnancies and working with their partners on family planning, HIV prevention, and through the entire continuum of care. A C-section in a private hospital in Kenya will cost about $1,000 to $1,500, and about $500 for a normal delivery. At Jacaranda, the charges are $300 for a C-section and $100 for a normal delivery. We consistently hear from mothers who lost the baby in their first pregnancy and then came to Jacaranda in their second pregnancy that they received respectful care, they felt safe, and that we were not terrible for their budget.

In Kenya, we do have private health insurance accessible through most employers. But we don’t have exchanges like the ones in America. Jacaranda helps fill that gap in a sustainable way where out-of-pocket payments are the norm and can be what drive a family even further into poverty. Hopefully, with the current push for universal health care, we will get more people on government-sponsored insurance in a population where nearly 50 percent subsist on less than $2 a day. The government already took steps to fund free maternity care in government hospitals, but more still needs to be done to address the supply chain as well as staffing and financing challenges in these public hospitals.

His future

In the end, I’d like to be a great public servant. It’s a story that began when I was ten. It’s still bubbling in me, still alive. Sometimes I don’t have the stomach for what it takes to be a politician—all the fundraising and special interests that pull you here and there. But I want to impact large-scale change in the public health sphere. Your geography, where you’re born, should not impact your life outcomes. That’s what I believe. In Kenya, you have as equal a chance at survival as you do in the rest of the world. It will take time. I’m cognizant of the implications of what that requires. But it’s a goal I’ve wanted to pursue for a very long time because I have come to understand that we face windows of opportunity to make a huge impact on the lives of poor and sick people in many countries; when we delay, people die needlessly. I can’t give up. In 2022 there won’t be an incumbent President of Kenya. This provides an opportunity for change. Let’s see what’s in the cards. ✨
Why Precision Medicine Is Good for Nursing

The federal Precision Medicine Initiative is providing a guide to evidence-based clinical practice.

**Precision Medicine**, the science community’s movement to address differences in individual treatment responses, has been defined as the development of prevention and treatment strategies that take into account individual variability. It entails using large-scale biological databases, powerful methods of categorizing individual data, including, but not limited to, proteomics, metabolomics, genomics, and diverse cellular assays and mobile health technology. In addition, computational tools are required for analyzing these large data sets. No one discipline can support all these required scientific methods. The movement is designed to ultimately use precision medicine to build the evidence-base needed to guide clinical practice and will require significant resources from nursing, medicine, and the biological sciences.

President Obama committed more than $215 million to the Precision Medicine Initiative. He described this initiative as a new model of patient-powered research that promises to accelerate biomedical discoveries and provide clinicians with new tools, knowledge, and therapies to select which treatments work best for a given individual. There are two components. The first is a near-term focus specifically on cancer, and the second, a more long-term goal, is to focus on generating knowledge that is applicable to the whole range of health and disease. The potential benefits include:

- New approaches for protecting research participants, particularly patient privacy and confidentiality of their data
- New tools for building, analyzing, and sharing large sets of data
- Improved FDA oversight of tests, drugs, and other technologies to support innovation while ensuring these products are safe and effective
- New partnerships of scientists in a wide range of specialties, as well as people from the patient advocacy community, universities, pharmaceutical companies, and others
- Opportunities for a million people to contribute to the advancement of scientific research.

Nursing science fits well with the initiative. Nursing has always focused on human responses to health and illness, which is well within the realm of precision medicine. The National Institute of Nursing Research (NINR) is supporting this Precision Medicine Initiative with a focus on symptom science. They also support interprofessional research that integrates the biological and behavioral sciences with patient outcomes rather than specific disease outcomes. Through an emphasis on symptom science, NINR supports nursing scientists with interprofessional teams who are contributing research findings that can predict individuals most at-risk for adverse symptoms and conditions, monitor treatment efficacy, and guide interventions to improve health and symptom outcomes.

Nurse experts in ethics, informatics, bench research, big data, and clinical research all fit within the opportunities and challenges of the new Precision Medicine...
Penn Nursing is developing and applying precision science approaches to advance patient care, and educate the next generation of nurses about these innovative approaches. Our scholars are generating new knowledge to move from a one-size-fits-all approach for illness prevention and treatment to tailored, personalized strategies. We have scientists at the bench, the bedside, and beyond who are addressing some of the most complex health care problems using precision science. This interdisciplinary research ranges from treating obesity to managing symptoms related to chemotherapy and care of people with dementia.

—Ariana M. Chao, PhD, CRNP Assistant Professor of Nursing

Initiative. The synergy created by interprofessional research teams is ingrained in nursing research and NINR. Nursing research has a large role to play in the Precision Medicine Initiative. For example, NINR’s intramural research program developed the National Institute of Health (NIH) symptom science model.

The NIH NINR intramural research program developed the National Institutes of Health Symptom Science Model to guide research. Nurse researchers can use this model to steer biobehavioral research to address complex symptoms and develop targeted interventions. This model is also used as a training framework and career development for enhancing patient outcomes including health-related quality of life. This model guides scientists through the process of identifying symptoms clusters, standardizing how syndromes are measured across groups or conditions, identifying biomarkers associated with symptoms and symptoms experiences, and finally, developing treatments and interventions that prevent or reduce symptoms. This aligns well with precision medicine and should be integrated into nursing research proposals as appropriate.

Nursing science can greatly benefit from the initiative by identifying their strengths and partnering with interprofessional colleagues to build a research team that can take full advantage of the emerging human data sets available that will include extensive characterization of biological specimens and behavioral data, all linked to their electronic health records.

Pamela Z. Cacchione PhD CRNP BC FGSA FAAN is Penn Nursing’s Ralston House Endowed Term Chair in Gerontological Nursing and associate professor of Geropsychiatric Nursing. Her work includes developing evidence-based nursing interventions for older adults to improve vision, hearing, functional status, and mental health. She is also a Nurse Scientist at Penn Presbyterian Medical Center. A past president of the Gerontological Advanced Practice Nurses Association, Dr. Cacchione developed a proficiency statement for the top tier of advanced practice nurses caring for older adults. A version of this article originally appeared in Clinical Nursing Research. Published with permission of SAGE Publications, Inc. Please see the original article for all citations.
WHEN ARMIES PREPARED to go into battle, among the most critical weapons in their armament were maps. These visual representations of geographic information gave soldiers more than a sense of their location, it helped them command the field.

What do these maps have to do with the visual representation of health care data? One only has to look at the work of Florence Nightingale to see the parallel. Nurses are not new to this field. In fact, Nightingale pioneered it.

The year was 1854. The British nurse manager arrived at a British army camp in Crimea, now Turkey, leading 38 volunteer nurses she had personally trained. They found a chaotic scene of wounded and ill British soldiers; ten times as many were dying of illnesses—typhus, diphtheria, cholera, dysentery—as from battle wounds. “Beggars in the streets of London were at that time leading the lives of princes, compared to the life of our soldiers in the Crimea,” she wrote. The British government seemed indifferent to their plight. And so Florence Nightingale began collecting data to prove to Parliament and the Cabinet that the death rate was far higher than it had to be. Nightingale had a mystical sense of data. “To understand God’s thoughts, she said, “one must study
statistics, for these are the measure of His purpose.”

But she did more than collect data. She mapped it, helping to pioneer statistical graphics. During the Crimean War and after, she worked with pie charts— misdemeanour earlier by an Englishman named William Playfair. The pie chart was a marvelous invention, but it failed to show her data in all its glory. So she developed what she called a “coxcomb” and others called the Nightingale rose diagram—an exploded pie chart, that eventually became the modern histogram.

These complex and vividly clear diagrams charting the causes of death in the Crimean War functioned as both analytical tools and persuasive posters. They did more than allow civil servants and members of Parliament to understand health care realities; Nightingale’s charts were convincing.

Nurses have greater access to more complex data than ever before. As you’ll learn in the following pages, faculty and students at Penn Nursing are leading the way in developing and interpreting ever more data. Graphic representations of this data allow clinical nurses to view the statistical terrain. Even more importantly, they allow the profession one of the most powerful tools in health care: evidence-based persuasion.
PUTTING HEALTH

Big data, geomapping, and other technologies are letting nurses understand
DATA ON THE MAP

the fullness and complexity of their patients’ lives. By Ann de Forest
As a trauma surgical ICU nurse, Sara Jacoby MPH MSN PhD often wondered what happened to her patients after they left the hospital. An instance of violence—a gunshot or car crash—brought patient and nurse together in the intensity of an unexpected health crisis. In a city trauma center, she knew that many of her patients might be returning to home environments and neighborhoods that could harm their recovery, continued health, and well-being. Working with trauma patients in an urban hospital, she also observed the close link between physical and psychological trauma. “What’s it like to live and recover in parts of the city where community violence exposure is high and resources for health care and wellbeing are low?” she often wondered. “Research emerges from our clinical practice,” says J. Margo Brooks Carthon PhD RN FAAN, Associate Professor of Nursing and Senior Fellow, Leonard Davis Institute of Health Economics. “Our questions generally emerge from something in our practice that makes us say, ‘Hmm, I wonder.’”

Jacoby’s drive to answer her questions led her to a doctoral degree in nursing at Penn, where she is now an assistant professor and active investigator in the interdisciplinary Penn Injury Center. “My interest has always been in the individual experience contextualized by where people live and recover, especially after trauma and violence,” Dr. Jacoby says.
Big data and sophisticated mapping tools that use GIS (geographical information systems) data and GPS tracking now make it possible for nurse researchers like Drs. Jacoby and Brocks Carthon to understand their patients’ lives more fully than ever before. They collect electronic data from hospital records, city health departments, crime statistics, even marketing research. They sift, sort, and analyze that data to identify large patterns and trends, and then zoom in to focus intently on specific populations, say, the medically frail, socially at risk, or elderly or young African American males at risk for cardiovascular disease.

They also use software to create detailed maps that connect people and their particular health challenges to the larger context of where and how they live. And because people’s lives are not static, researchers like Therese S. Richmond PhD FAAN CRNP, Andrea B. Laporte Professor of Nursing, and Assistant Professor Bridgette M. Brawner PhD APRN, are also making creative use of technology available on any cell phone. While maps let nurses visualize where people live, work, or play, GPS lets them see the routes that connect all these places and what people encounter along the way. Tracking study subjects through their daily interactions and experiences, researchers can record, in real time, how often children see cigarette ads, “exposures” that can have a significant impact on health.

“Activity spaces” of housing-unstable urban youth of single parent families were the concern of a study led by Dr. Therese S. Richmond. Working with an interdisciplinary team from the Penn Injury Science Center, the team investigated the impact of environment on children’s sense of safety. Using an innovative mapping technology developed by Dr. Douglas Wiebe, Associate Professor of Epidemiology at the Center for Clinical Epidemiology and Biostatistics in the Perelman School of Medicine and a co-investigator on this study, the researchers interviewed single parents—90 percent of them African-American women—and randomly selected a child from each parent. The team then separately asked the child and the parent—who were in separate rooms—to recall their activities over the 24-hour period. Using a laptop computer with GIS mapping software, the interviewer plotted the child’s path on a special street-level map of the neighborhood. At each point, the children were asked how safe they felt from crime or violence from a scale of 0 to 10. Most of the 14 parents, and half of the 14 children, said that they felt at least a little unsafe during the day, reporting incidents such as the sound of gunshots.

Access to big data does not mean that nurse researchers have tossed out their traditional and most valued of research tools. “We’re working on understanding the complexity of the lived experiences of our patients,” says Dr. Jacoby. And to

Data in and of itself means nothing. It needs to placed in an interpretative context.”
Patricia D’Antonio PhD RN FAAN
do that, nurse researchers navigate deftly from high-tech to hands-on. “The important thing,” she says, “is to use the method that answers the question you want to answer. And often that requires using big data and qualitative studies.”

So Penn’s nurse researchers mix methodologies as necessary, from sifting through data on a computer to listening to stories in a community health center, from graphing incidences of HIV in a particular census tract to taking snapshots of the houses where people live, the stores where they shop, the parks and playgrounds where they play. The interplay of big data with qualitative research becomes synergistic. Tales, images, and opinions collected through door-to-door surveys, face-to-face interviews, and community meetings infuse the dotted maps and tables of numbers and formulas with human life and vibrancy.

“Health is not flat,” says Dr. Brawner, who integrated statistical and data analysis, community ethnography, Google Street Views, and GIS mapping to “disentangle” the knotty factors contributing to HIV infection in Philadelphia. “Nothing operates in isolation. You have all these branches and offshoots: What was my family upbringing? What was my cultural context? Where do I live? What is my neighborhood like? Visual data and GIS really get you into a 3-D model of health.”

It’s one way to think about broader approaches to the concept of precision medicine or precision health.”

In medical terminology, precision medicine probes ever inward to understand the mechanism of a specific disease at the genetic or molecular level. For nurses, precision medicine expands ever outward, in a continued widening of peripheral vision. Precision medicine nursing style is more like HDTV: the greater and more refined the information, the clearer the health care landscape becomes.

With their new tools, Penn’s nurse researchers inform practice and shape policy. The maps and visual charts their studies generate expose health disparities and inequities based on income, race, age, and gender. They show, for example, how daily exposure to violence leads to increased risk for trauma in children, how lack of access to healthy and affordable food sources affects health in low-income neighborhoods,

Percentage of patients in hospitals where nursing care is frequently missed, by race and care task

Based on a study of over 28,000 nurses in 253 hospitals a study by researchers in CHOPR found that among patients hospitalized for Acute Myocardial Infarction in three states (NJ, AL, PA), older black patients were more often cared for in settings where nursing care was more often left undone. (From Dr. Brooks Carthon’s Defining Nursing’s Role in Improving Health Outcomes among Older Minority Hospitalized Patients)

Supported by a grant from the Robert Wood Johnson Foundation Nurse Faculty Scholars Program (71249, J.M.B.-C., principal investigator) and National Institute of Nursing Research (R01-NR04513, T32-NR0714, L. Aiken, principal investigator).
how historically segregated neighborhoods have the highest incidences of gun violence today, and they reveal connections and correlations among environment, lifestyle, and institutional structures and health that suggest new forms of intervention.

**THE NURSING MINDSET**
The tools may be new, but the practice of gathering data in order to understand patients in the context of their environments is nearly as old as the nursing profession itself. In her book, *Nursing with a Message*, Patricia D’Antonio PhD RN FAAN, Carol E. Ware Professor in Mental Health Nursing, chronicles an earlier era when nurses staffed newly established community health centers in East Harlem and Bellevue-Yorkville. Part of the nurses’ job in the New York City of the 1920s and ’30s was to go door-to-door asking questions, making observations, and recording information about the families who lived in tenement housing, their living conditions, and their health. That data provided a fuller picture of the population the community health centers aimed to treat, as well as a historical record of the demographic changes in those neighborhoods over time. The trust the nurses generated going door to door helped support broader public health campaigns, such as promoting vaccinations to combat diphtheria.

While nurses working 90 years ago undoubtedly noticed the complexities of their patients’ lived experiences; “scientific thinking,” Dr. D’Antonio says, was that era’s trend. Excitement over new drugs and quantifiable medical metrics shifted nursing’s focus. Social determinants of health fell out of favor. Focus shifted as well to individual patients rather than their environments. Personal habits, hygiene, and behavior were thought to affect health much more than overcrowded housing or lack of running water. “Nurses focused on tuberculosis or infant mortality, but the question would be what can we do to help this particular mom,” says Dr. D’Antonio.

Today, the trend has shifted again. “What we’re seeing is a real rise in attention to and interest in social determinants,” says Dr. D’Antonio. She cites Dr. Jacoby’s work on violence, Dr. Brawner’s HIV studies, and research on food deserts by Karen Glanz PhD MPH, George A. Weiss University Professor. These Penn colleagues focus “not on only the individual mom,” says Dr. D’Antonio. “It’s also the conditions in which she lives—the food she has to eat, the access to health care, the access to education. It’s not a single factor anymore. It’s multi-factorial. Which makes it more complicated, but also makes it more interesting.”

The new research tools support this multi-factorial approach. “It’s very exciting,” says Dr. D’Antonio. “These mapping technologies, which are so much more advanced, are going to be so crucial. You can see at a structural and community level what the influences are on health and disease.”

**THE DATA POINT WITH THE BIGGEST DIFFERENCE**

“The core of nursing is care and healing of sick people,” says Linda Aiken PhD FAAN FRCN, Claire M. Fagin Leadership Professor in Nursing. “Nurses have a unique and essential role in illness care. Nothing in health care services would work if we didn’t have nurses organizing and caring for the sickest among us.”

Her own research shows that death rates for patients with complications vary dramatically from hospital to hospital. Mortality and infection rates can be twice as high from one hospital to another. What makes the difference: The number of patients per nurse. “And that number varies a lot,” she says. Education counts as well. A study led by Dr. Aiken found that for every ten percent increase in nurses with bachelor’s degrees (BSN nurses), mortality drops by seven percent. “Nurses are driving the good outcomes,” Dr. Aiken says.

Based on this research, she says, “employers have been preferentially hiring BSNs.”

The federal Medicare program has developed consumer websites, such as Hospital Compare, Nursing Home Compare, and Home Care Compare, making quality measurements available to the consumer. Yet data on nurse staffing is not included. A few states have passed legislation requiring public reporting of nurse staffing, including New Jersey, and California mandated minimum nurse/patient ratios in all hospitals. “But in most states, including Pennsylvania, you’d be hard pressed to find out about standard of nursing care in any given institution.”

HOT SPOTS, NOT PEOPLE
So what revelations about health and community are researchers like Drs. Jacoby, Brawner, and Brooks Carthon discovering by employing tools like Big Data and geomapping? And what impact will their revelations have on transforming practice and shaping policy?

Researchers who integrate geographic
data into their work begin with the assumption that place matters. “For example, rather than focus only on people when we think about violence, we can investigate the built and social environment in places where violence is endemic, sometimes referred to as hot spots,” says Dr. Jacoby. What characterizes those particular areas? Are there aspects in those environments that encourage violence? Her colleagues at the Penn Injury Science Center have found that interventions as simple as greening vacant lots and framing them with a low wooden fence, fixing shattered windows in abandoned buildings, or amplifying street lighting may significantly reduce assaults and shootings.

Not all her studies suggest such practical solutions. Some seek to understand the history that paved the development of hot spots themselves. The historical legacy of racism, she has found, may play a significant role in “criminogenic” neighborhoods. As a postdoctoral fellow, Dr. Jacoby and a team of interdisciplinary researchers used geospatial analysis to conduct what she calls a “thought experiment,” using two maps. One, from the 1930s, indicated which Philadelphia neighborhoods were targeted for redlining—the practice of denying government backed mortgages to residents of certain areas of the city based on race or ethnicity.

The other, a contemporary map, recorded the distribution of gun violence in Philadelphia. The researchers found that places deemed unworthy of investment by virtue of the race, ethnicities, and poverty of their residents from nearly a century ago have greater incidence of violence today.

The hot spots that concerned Dr. Brawner were areas with high incidence of HIV. She and her research team immersed themselves in four different environments to unravel the intertwined factors contributing to HIV/AIDS infection in Philadelphia. Two of the chosen census tracts were predominantly white, two predominantly back; two had high prevalence of HIV, the other two low.

To compare and contrast conditions in these four different places, Dr. Brawner’s team began their research on the ground, conducting community ethnographies and taking pictures of the streets, houses, and shops. They found that the two communities with low incidence of HIV shared much in common, even though their demographics

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Each one patient increase in hospital nurses’ workloads is associated with increased risk of patient complications after discharge requiring readmission within 30 days. (From Dr. Aiken’s Impact of Nurses on Patient and Cost Outcomes)

When nurse staffing in hospitals falls below safe staffing levels patients experience more complications, including some not apparent until after discharge. Also nurses with more patients each do not have enough time to properly prepare patients for discharge which may adversely affect their recovery. A significant association between patient to nurse ratios and risk of readmission has been documented for many types of patients. Each one patient increase in patient to nurse ratios increases the chance of readmissions by 11% for hospitalized children, 9% for patients with heart failure, pneumonia, and heart attacks, 8% for patients with hip and knee replacements, and 3% for patients having general surgery.

Funded by the National Institute of Nursing, National Institutes of Health.
were very different. “They had higher social cohesion,” says Dr. Brawner. Photographs and Google Street View images illustrate what a socially cohesive community looks like: tended lawns, no trash on the street, public parks, posters announcing block meetings. The two communities with higher HIV incidence were riddled with vacant lots and blocks of boarded-up houses. Researchers identified localized hot spots within the neighborhoods where HIV is prevalent. The corner house that sits at an intersection between a major traffic street and a smaller residential block becomes a convenient nexus for drug use and sexual activity. Transactions take place on the main drag, while the steps or alleys of the corner house provide shelter and secrecy.

Only after immersing themselves in the particularities of each place did Dr. Brawner’s team analyze the health department data of diagnosed cases of HIV in each community, including the mode of transmission. What those data revealed, charted on the map, was startling. In each community, the dominant mode of HIV transmission differed. Injection drug use accounted for the majority of cases in the white neighborhood; the black tracts, on the other hand, had the highest reports of heterosexual contact, exceeding the national norm.

“These data actually show that we have micro-epidemics in Philadelphia,” says Dr. Brawner.

In other words, not all HIV cases are alike. In a big city, health risks and needs can change dramatically from neighborhood to neighborhood. Rather than follow a “blanketed model,” she says, public health campaigns promoting AIDS awareness and HIV testing must take those distinctions and variations into account and target their messages appropriately.

MAPPING MOTION

Big data and geomapping are, in the end, only as sophisticated and subtle as the researchers designing the experiment. Dr. Glanz, whose research and policy work focuses on improving the health of communities and creating environments that help people make healthy decisions, was frustrated with previous studies using GIS to expose “food deserts”—the lack of healthy food sources in underserved neighborhoods. Most studies charting access to healthy food in low-income neighborhoods measured the distance and concentration of food outlets relative to where residents live. They didn’t consider how people live—on the go, moving from kids’ school to errands to work to socializing in the course of a single day. Proximity, Dr. Glanz discovered in her study, is only one factor people consider when choosing where to shop. She reframed the issue of food access and equity, asking not “what is nearby?” but “where do people shop, and why?”

To answer these questions, Dr. Glanz turned to models from other fields, specifically transportation studies and marketing models, outside the traditional parameters of health care research. Her maps chart “activity spaces,” the wider arena where people live their lives; encompassing not just home but work, school, social meeting places from parks to diners to bars, dry cleaners, doctors’ offices, and, of course, food markets. Teasing out why people chose to shop at a certain store—a combination of price, accessibility, and food quality—Glanz and her team developed a more complex...
picture of food shopping choices. As with Dr. Brawner’s HIV study, this nuanced portrait of shopping patterns has implications for public health campaigns promoting healthy eating.

Dr. Brawner’s latest study also takes advantage of GPS tracking technology to improve health outcomes for young African American males. She wondered: Why do black men have a higher risk for cardiovascular disease? What role does the environment play? The resulting study looks at the habits and lifestyles of young African American men ages 18–30, long before they present any signs of heart trouble. GPS will track them through their daily activity spaces, flagging and tallying their exposures to three key environmental factors. Two of these factors, tobacco and fast food, have a potentially negative impact. The other—walkability—has a potentially positive impact. Health assessments and interviews complement the GPS data. By taking an early look at lifestyle and environment, Brawner hopes to develop interventions and programs that will significantly improve these men’s chances for avoiding cardiovascular disease.

COMMUNITY VOICES
Informing all these studies are the voices, opinions, and lived experiences of people in the communities. “The community voices,” says Dr. Brooks Carthon, “corroborate the data.” Rather than making assumptions based on what maps revealed about access to healthy food options, Dr. Glanz sent her team door to door to ask people directly about their shopping habits. For Dr. Brawner’s HIV research team, having intimate, on-the-ground experience in the communities they studied in Phase One of their study led to more nuanced interpretations in Phase Two, when they plotted Health Department statistics on the Philadelphia map.

“It’s a matter of perspective, of vantage point,” Dr. Brooks Carthon says of the interplay between big data and personal stories. She and her interdisciplinary team at the Center of Health Outcomes and Policy Research prefer to begin a study by collecting and sorting all the data available. For a recent study, “Defining Nursing’s Role in Determining Health Outcomes among Older Minority Hospitalized Patients,” her team processed national data about

![Hospital Patient/Nurse Ratio](image)

Average number of patients each hospital nurse (RN) cares for, by country. (From Dr. Aiken’s Impact of Nurses on Patient and Cost Outcomes)

Nurse workloads vary by country and across hospitals within the same country. Variation in nurse workloads is associated with adverse patient outcomes including mortality, infection rates, and hospital readmissions within 30 days of a hospital discharge. The Center for Health Outcomes and Policy Research has conducted research on nurse staffing in 30 countries. This research, funded by the National Institute of Nursing Research, National Institutes of Health, and the European Commission, has resulted in policies in multiple countries to establish safe nurse staffing standards to improve patient outcomes.
studies had interviewed nurses and other caregivers but few asked discharged older Black patients—a population at high risk for readmissions—for their perspectives. She went out into the West Philadelphia community and talked with 19 elderly African Americans who were recently hospitalized to hear about their experiences during their recent hospitalization. These “community voices” explained what the patterns and percentages could not. The problem was not just that the nurses were busy performing administrative tasks, but that elderly patients perceived that nurses were busy. That perception made some study participants more reluctant to speak up, even when they didn’t fully understand their discharge instructions. “They worried about troubling the nurses,” says Dr. Brooks Carthon. “This is not a generation that easily complains hence, they may not always speak up.”

In the end, the intersection of data and community conversations led Dr. Brooks Carthon to determine that if nurses are given more time to talk to patients, explain discharge instructions, listen to their concerns, and understand what kinds of environments they are being discharged to—home or neighborhood—then repeat visits to the hospital might decrease.

As Dr. Brooks Carthon and her team embark on an implementation phase, the data drawn from nurses and the testimony from patients will inform any intervention.

And big data, geomapping, and other technologies are letting nurses understand the fullness and complexity of their patients’ lives, “long after the gaze of the hospital-based care has dissipated,” as Dr. Jacoby puts it.

“With mapping technology, we can see [people’s lives] in a way that’s more understandable,” says Dr. D’Antonio. “We can see them in a way that makes sense, and in a way that people can see where to intervene. Data in and of itself means nothing. It has to be placed in an interpretive context. That’s what the new mapping technology does, put data in an interpretive context that resonates with how we think in the 21st century.”

Writer Ann de Forest is a contributing writer for Hidden City Philadelphia and author of Healing on the Homefront, a book that explores the bonds between home health care providers and their patients.
Applications developed at Penn Nursing allow nurses and patients instant access to resources.

With smartphone use becoming almost universal among patients, nurses and nurse researchers have new ways of connecting with patients and even helping them change their behaviors for the better. The web-based interventions developed by Penn Nursing faculty and colleagues help them innovate health care in several ways: some allow nurses instant access to data from wearable devices; they can offer patients personalized advice, as well as recommendations for health agencies and other resources; they provide feedback to patients on their own behavior; they can motivate patients through reminders, stories, and other prompts; and they can send a stream of data to researchers, accelerating research. Here’s a sampling of these applications.

1. Jose Bauermeister
   **Get Connected**

   Gay, bisexual, men who have sex with men, and transgender populations account for most new HIV/STI infections in the United States. Yet, **Dr. Bauermeister PhD MPH**, Presidential Associate Professor of Nursing and director, HIV Disparities Scientific Working Group, Center for AIDS Research, says “we don't think how the quality of places we send people to serves them.” His smartphone app provides motivational counseling to men aged 15 to 24 who have sex with men to get tested; and it sends them to local services that are best for each individual.

   “Someone hesitant to recognize his sexuality might be tested in an agency with HIV components,” Dr. Bauermeister says. “Or, if he can’t afford to pay the full fee, the app sends him to an agency that offers a sliding scale.”
2. Sara Jacoby

Way to Health

Sara Jacoby MPH MSN PhD, assistant professor of Nursing, is testing the feasibility of using technology for remote monitoring of long-term symptoms and recovery after traumatic injuries. The recipient of a $50,000 Hillman Emergent Innovation Program Grant, she is conducting this work with a web-based platform called Way to Health, developed at the University of Pennsylvania School of Medicine for behavioral economic research and clinical applications. This will permit integration of internet-based surveys delivered through cellphones or personal computers, and wearable monitors like fitness trackers to help nurses to assess physical activity, sleep, and other indicators of recovery.

3. Anne Teitelman

Now I Know

How to motivate women aged 18 to 26 to receive the HPV vaccines? “That group is lagging behind” in receiving them, says Teitelman PhD RN FNP-BC FAANP FAAN, the Patricia Bleznak Silverstein and Howard A. Silverstein Endowed Term Chair in Global Women’s Health and associate professor of Nursing.

A client who downloads the app receives two stories a week for six months about cervical cancer prevention. The app also comprises links to information and resources, as well as a discussion board and expert advice. More personally, the user can opt in to get reminders for when they’re due for the next vaccine.

4. Catherine McDonald

Let’s Choose Ourselves

Adolescent drivers distracted by cellphones and peers contribute to more than a fifth of teen motor vehicle accidents. Dr. McDonald PhD RN FAAN, assistant professor of Nursing, is developing a web-based intervention with colleagues at CHOP and Penn Nursing in an attempt to reduce crash risk.

After listening to teens tell them about their experiences with driver inattention and asking their advice on ways to reduce it, the researchers concluded: Teens know they shouldn’t use phones while driving, but do it anyway. They find passengers both helpful (handling the phone for them) and harmful (showing the driver a picture, for instance). Teens believe it’s possible to improve behavior.

The team showed the resulting intervention, “Let’s Choose Ourselves,” to another group of adolescents and are continuing to modify the intervention.
“Health care paradigms are shifting. This is a good time to focus on nontraditional providers, particularly in primary care. Our health systems are moving away from acute care to chronic disease management.” — Grant Martsolf PhD MPH RN FAAN, p. 37

Leadership

When I went to nursing school, I had an interest in cancer and wanted to specialize in cancer nursing; but many people recommended at graduation not specializing so early. So I first became a surgical critical care nurse in New York City. A job was available in a hospital directly across the street from where I lived, so I went to work there as a matter of convenience. It turned out to be a great beginning. I was exposed to patients undergoing complex surgical procedures and had the opportunity to really learn a lot. After a couple of years, I was promoted to senior staff nurse, a wonderful opportunity for a young nurse; in those days there were no formal career ladders.

Still, I yearned to specialize. Being in New York City, I went up the street to Memorial Sloan Kettering. That was the place to go if you wanted to be a cancer nurse. I started out working in medical oncology, and it was a transformative experience. When you get into this field, you either love it or you leave; it’s a very intensive kind of nursing. I loved it.

At Sloan Kettering, I became interested in the organization of nursing service, the way it was delivered, and how these factors affected outcomes. This in turn got me thinking about how nursing drove outcomes—an important revelation for me. This led me to another fork in the road. Should I focus on clinical work for graduate school, or on administration?

Careers move by opportunity, the same way science does. No road map exists that you can follow through your career. Every nurse should anticipate forks in the road. My own career serves as an example: I would never have predicted its trajectory. But I took opportunities as they came up; and I still don’t know exactly where I’ll land.

I come from a health care–oriented family. My mother and aunt were nurses, and my grandfather was a physician. But it was my grandmother’s illness that first sparked my curiosity about why people get sick. When I was growing up, she became ill with Hodgkin’s disease. I remember her going for cancer treatments...in those days, the options were quite limited. I remember her being so sick from the chemotherapy and cobalt treatments, and spending most of her time in bed. She died several months after being diagnosed.

A Leader’s Notes

The first nurse to serve as CEO of HUP lists the skills every nurse should have to lead in health care.

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Illustration by Joel Kimmel

Apply It

Learn what it takes to be a health care leader at the Nurses on Boards Coalition, nursesonboardscoalition.org. In addition, Best on Board (bestonboard.org) offers courses on leading health care organizations.
Because of the experience I had at Sloan Kettering, I decided to go the administrative route and chose to do my graduate work at New York University. After that I followed a fairly traditional administrative trajectory. I went into a nurse manager role, becoming a clinical director and then chief nursing officer. My first CNO role was in a small free-standing cancer center. It was a new program, and I was its first CNO. I had an opportunity to learn about how cancer centers work and how they are funded. I learned about the cancer research enterprise and the role that plays in a cancer center. While there, I decided to pursue a doctorate. After looking carefully for a faculty match, I found one at the University of Pennsylvania School of Nursing. Dr. Ruth McCorkle, an internationally renowned cancer researcher, became my mentor. My dissertation was a secondary analysis evaluating the effect of advanced practice nurses on clinical outcomes in patients undergoing radical prostatectomy—a common procedure in those days, prior to robotics. Dr. Terry Richmond served as my dissertation chair; she was another important mentor.

When I finished my doctoral work I was recruited back to Mt. Sinai, taking a leadership role in the cancer center where I worked on developing a number of aspects of the cancer program. It entailed aspects of cancer nursing, cancer operations, cancer research, and cancer financing. I liked this broadening of responsibilities beyond nursing, and I was very satisfied professionally in that role.

A few years later, I received a call from Phil Okala at Penn’s Abramson Cancer Center. He had an interest in developing a nursing leadership role there and I was ultimately recruited into that position. It was another fork in the road. I hadn’t anticipated it at all. Leaving New York City, my home for a long time, was a big change. I don’t regret it.

After I had served a couple of years in the Cancer Center, Dr. Victoria Rich, HUP’s chief nurse, announced her retirement. I applied and was selected for the position, moving from an all-cancer world into a much broader context, with many specialties that I hadn’t had experience with. Here was another big fork in the road, and that first year brought a very steep learning curve.

I moved from there to become the system-wide chief nursing executive. This gave me a chance to work with other chief nurses across the Penn Medicine System, and to collaborate on identifying ways we could help position nursing to drive value for the system. Finally, last April I became CEO of HUP. Another fork in the road: it wasn’t something I was necessarily working toward. It was an opportunity that presented itself. I thought long and hard about it, with some guidance and direction from people who had been mentors for me. And that is how I got to where I am today.

While I hadn’t planned for any of these forks in the road, I had picked up leadership skills along the way. They gave me the preparation and confidence to meet the challenges as they came. I’ll share some of the skills that I think have been important along the way.

**Constantly hone your professional knowledge.**

Health care is moving from a fee for service model to a VBP—value based purchasing—model. Quality matters in this new world. It’s not just how much volume you do; it’s about how well you do it. You need to have an understanding of what drives quality. What are the factors and outcomes you need to understand that are meaningful to patients? I typically define “value” as outcomes that matter to patients, over the cost of delivering those outcomes. Clinical knowledge is a major advantage in this world. Therefore, it’s important to stay abreast of knowledge development in your areas of interest. At the same time, we need to read broadly, not just in the health care space. Many factors influence the contexts you work in and it’s important to have an understanding of what’s going on in the world.

Besides reading, take opportunities to gain experiential knowledge. Stretch assignments will frequently come up in your work, with new opportunities. Raise your hand. Take a risk. We learn a lot through experiences. And validate your understanding through experts in your field. All of these factors will help you develop as a thought leader—one others will want to follow.

**Take time to think (and talk about what you’re thinking).**

As leaders we need to ensure that we are taking time to think and are articulating how we are thinking about things. When Einstein was asked what was the most important factor in his thinking about relativity, he said it was figuring out how to think about the problem. We’re often faced with increasing complexity at work, especially in academic medical center environments. We need to get our heads around the challenges in the clinical work environment today.

When Regina Cunningham became Chief Executive Officer at the Hospital of the University of Pennsylvania, she brought extensive experience in the organization and delivery of nursing service across the care continuum. Before her promotion to CEO, she served as Chief Nurse Executive, where she developed professional practice standards and strengthened the integration of scholarship within clinical nursing practice. Dr. Cunningham also serves as assistant dean for Clinical Practice at Penn Nursing, and as principal investigator on a $1.7 million award from the National Cancer Institute, developing strategies to improve accrual to clinical trials.

She has a bachelor’s in nursing from the College of Mount St. Vincent, a master’s in the delivery of nursing service from New York University, and a PhD from the University of Pennsylvania. After completing a post-doc at Yale University, she was selected as a Robert Wood Johnson Executive Nurse Fellow in 2006. She was inducted as a Fellow of the American Academy of Nursing in 2014.

This article is an adaptation of a webinar she conducted in 2017, “Developing U—Leadership Skills for Nurses.”
Leadership

Nurses are incredible doers. We love to do things. As a result, we don’t step back and look at our practice and think about how things are working often enough. We have opportunities to do this more systematically.

We should share how we are thinking about things with others. Not only can you help shape the thinking of other people, you can all come to a higher understanding.

Develop clarity. What is clarity? It’s an ability to see through messes and contradictions to a future that others cannot yet see. This entails being clear and precise about the direction your team or practice needs to go. Finally, clarity means putting matters into context. When you do this, people will look to you as a leader. They want to know what things mean, why it’s important to them, and how they can contribute.

Change the status quo. Warren Bennis, a pioneering leadership scholar, said: “The manager accepts the status quo. The leader challenges it.” When is the last time you asked, “Why do we do it this way?” Don’t let yourself be complacent with current thought. Come at things with a beginner’s mind. Be bold. This can be daunting, particularly at an institution steeped in tradition, where people have done things the same way for 100 or 150 years. It takes courage to drive toward the future.

Cultivate your learning agility. Learning-agile people can process new information and situations faster than others. They can adjust on the fly to changing situations. Some of the literature points to the ability of learning-agile people applying what they know to situations that are different. This becomes especially important when you think about the unstable context of our world today. The military describes it with an acronym, VUCA. It stands for Volatility, Uncertainty, Complexity, and Ambiguity. That’s the world we live in. It requires the ability to be flexible and nimble, to turn on a dime. Flexibility in turn demands openness to information, and the ability to apply insights, even from a misstep. These are the traits of people who succeed in a VUCA world. They are comfortable learning from their mistakes, dissecting them, and changing their behavior. You see the most successful athletes doing this. They also take risks. Michael Jordan says you miss 100% of the shots you don’t take. So think, what do you have to lose?

With agility comes innovation. In any situation, ask yourself, “How could I approach this differently?” You might come naturally to a solution. But we do best when we look for alternative strategies. And when things don’t go so well, avoid getting defensive. Work is not your personal reality show. You should not take things personally. Step away and take the opportunity for feedback.

Some of the best feedback will come from your own thinking. Become more reflective. Constantly ask yourself, “What could I have done better?”

Use data as a strategic asset. Data serves as a key driver in understanding and decision making. You can use it as a power tool of leadership. It becomes significantly easier to justify a course of action when you have compelling data. I use it every single day, and I ask others for data to justify their recommendations.

To use data effectively, become knowledgeable about the sources at your institution, such as financial and administrative data. In addition, EMR (electronic medical records) are huge repositories of data. While they can be difficult to access in meaningful ways, understanding what they contain is important. You need to know what particular metrics you should understand and measure over time. If you’re doing a project, be sure to acquire data relevant to that particular project. Partner with other resources such as IT, data science, analytics, and nurse researchers. Benchmark using national data; or benchmark against yourself over time. It’s critical for tracking return on investment.

To use data as a strategic asset, though, you must put it in context. Tell a story with it. No one can tell stories about data the way nurses and clinical teams can. The work nurses do is so compelling, when you combine the stories nurses tell with data, it has a very powerful impact.

Capitalize on the power of collaboration. The volume and complexity of health care knowledge today is substantial and the locus of control for critical aspects of management is spread across a broad number of decision makers. Collaboration is essential to getting things accomplished and driving outcomes. Know who the key stakeholders are, not just the obvious ones.

Build collaborative skills, particularly your ability to foster relationships. They lie at the heart of collaboration. Build trust in those relationships by keeping your promises.

With any team you’ll find different perspectives that can lead to disagreement, but these can also be a source of strength. Be the leader who finds common ground; connect your priorities to those of others. In other words, represent their interests, not just your own.

Illustration by Joel Kimmel
Understand the importance of intangibles.
People often refer to intangibles as “soft” skills. I believe that when you acquire and use them correctly, they turn out to be quite powerful, and not so soft.

In particular, emotional intelligence is a sine qua non for any leader. I wouldn’t leave home without it. Ensure that you are self-aware and have control of your emotions. Listen to them, and get feedback from others. No effort comes without error. Allow yourself to be wrong, failing and moving on.

Communicate, communicate, communicate.
You can never over-communicate. It helps you advance your work faster and increase its impact. Yet, communication is complicated. We may think we’re communicating with people even while they fail to hear what we say to them. One solution is to speak in a language they will understand. Tailor your messages to your audiences—not just in terms of their professions or specialties but in terms of their working styles. Communicate systematically by developing a formal communications plan. At the same time, capitalize on every opportunity to communicate. At every change or crisis or misstep, bring people back to the center. Remind them of the priorities your group must focus on.

All this takes courage.
The word comes from the Latin cor, meaning “heart.” We have no clear roadmaps for the future of health care. Having the ability to make mistakes and change your course in the face of uncertainty takes heart. This courage, more than anything, lets you lead the way.

– Regina Cunningham

Judy Rich RN MSN
President and CEO, Tucson Medical Center

While Judy Rich, a Penn Nursing alumna, holds one of the most powerful positions in health care, she knows what it’s like to work nights and weekends in clinical practice. She spent eight years as a nurse in intensive care units in Philadelphia and New York. Today, she runs a 607-bed nonprofit hospital, along with TMC Healthcare, a system covering southern Arizona.

Most recently, she has joined a host of health care luminaries on the board of United States of Care, a nonpartisan organization seeking changes in health policy at the state and federal levels. Other board members include entrepreneur Mark Cuban, actors Bradley Whitford and Andy Richter, surgeon/writer Atul Gawande, as well as former senators and governors from both major political parties. Their plan is to test ideas in individual states for potential expansion, much the way the Massachusetts health care experiment under Governor Mitt Romney inspired the Affordable Care Act.

Rich’s work as a national leader in health care got its start in the most personal of ways, when her father died of Hodgkin’s disease. She wore her cap and gown from high school graduation to the hospital so her father could see her; he died three days later. “Losing my father made me really positive I wanted to become a caregiver,” she told the Arizona Daily Star.

Following her work as a staff nurse, Rich held management positions at St. Mary’s Hospital in Palm Beach, Florida, for 15 years. She served as the COO and CNO at Wellmont Health System in Kingsport, Tennessee, before moving to Arizona to become COO of the Tucson Medical Center in 2003. Leaving in the midst of financial struggles at the Center, she worked as a consultant for large academic medical centers.

She returned to TMC in June 2007, in the midst of the Great Recession, when the hospital was almost $11 million in the red. Under Rich’s leadership, the system underwent a $300 million transformation of its facility and infrastructure, launched two innovative accountable care organizations, and implemented lean management principles throughout the organization.

This combination of nursing expertise and proven leadership make her an ideal problem-solver in health care.
Policy and Practice Impact

“A patient is not just plugged into an IV; she’s plugged into a family and a community, a social and political and physical infrastructure that goes way beyond us providers. As nurses, we know that seeing this broad perspective is essential to get the best health out of the health care system.”

Julie Sochalski, PhD, FAAN, RN
Associate Professor of Nursing
Associate Dean for Academic Programs
Class of 1965 25th Reunion Term Chair

Support Penn Nursing’s Innovating for Life and Living Campaign.
Your gift today enables us to accelerate applications of new research to improve care, and continue changing the way you, your family, and your community heals and is cared for. Please use the enclosed envelope or visit us online at www.nursing.upenn.edu/campaign.
Many people think of the RAND Corporation as a military think tank. But Grant Martsolf, who works as a researcher at RAND and as a professor at Pitt, points out that the research think tank does a variety work in social welfare, including health care.

Dr. Martsolf’s education suits him for a career combining nursing and economics. He’s one of the first graduates from the NHCM program, resulting in dual degrees from Penn Nursing and Wharton. A nursing health services researcher and public policy expert, he focuses especially on primary care payment and innovation as well as educational, organizational, and regulatory issues related to nurse practitioner practice. He has received funding from a variety of federal, state, and foundation funders and has published more than three dozen refereed articles.

He also has extensive clinical expertise, having worked in a variety of clinical settings including pediatric critical care, psychiatry and adult medical-surgical.

But his own description of his policy research shows him to be a true RAND thinker. “I have methodological expertise in econometrics and mixed-method research but have also regularly employed latent variable modeling, qualitative content analysis, and participatory organizational research,” he says.

On how he got into his research:
I fell into the work in front of me. Health care paradigms are shifting quickly. This is a good time to focus on nontraditional providers, particularly in primary care. Our health systems are moving away from acute care to chronic disease management.

Why he went for the NHCM program:
When I was 18, I decided I wanted to go to Penn. My mother is a nursing professor and my father’s a primary care physician. I wasn’t sold on med school, and I had this sense I wasn’t going to be a bedside nurse. I thought I might do something else. So I went to the NHCM program. There I could get solid health care training, while Wharton would offer other career opportunities. I was in the program’s second cohort. It was a strange experience. That program is so demanding—it was a hard five years. I loved being there; it was a great opportunity, but it required a lot of hours. Going from clinical to finance class was a paradigm shift. I had no opportunity to take any electives, except for one Russian film class in my senior year. I do wish I’d had more liberal arts education.

On entering the policy field:
After graduation, I picked up projects working for nursing foundations. With my colleagues who are more focused on finance and economics, I’m able to bridge those two communities.

On RAND:
My intellectual home is at RAND. All my colleagues are there. People think of the RAND Corporation as a purely military affair, with all Pentagon contracts. About half of RAND’s work is in social welfare.

At RAND, I co-led an overview of a variety of issues related to doctoral education for advanced practice registered nurses. Organization, finance, and policy are all part of it. We developed a strategic framework for the American Association of Colleges and nursing’s goal of full transition to the DNP for APRN education.

After that, I led RAND’s analysis of the Veterans’ Administration workforce and human resources capabilities, which was a part of an enormous assessment of the VA system. Sections of the report helped lead to full scope of practice for APRNs in the VA. I went on to do a study estimating the costs that primary care practice incur delivering comprehensive primary care. APRNs are essential to this.

On returning to Pitt:
I do come back, whenever I can, to watch basketball at the Palestra. Sometimes I will also give talks and meet with NHCM students.
Alumni Notes

We want to hear about you! Send us a personal or professional update at NursingAlumni@nursing.upenn.edu or call us at 215.746.8812. Notes may be edited for space and style. Photos are encouraged.

1950s

Norma Jean Rohrbaugh Shue, HUP’54, shared that, at age 84, she completed 30 hours of CE and continues her active RN-PA license. She volunteers her nursing skills with the Area Agency on Aging for Matter of Balance Program and elsewhere when needed.

Beverly A. Brogan, HUP’59, shared that she and her husband, Dr. John Brogan, C’57, M’61, were married five days after graduation and are celebrating their 59th anniversary this year. Beverly writes, “I spent my married life raising thousands of dollars for various charities and raised both a son and a daughter.”

1960s

Kayann Shaw Laughlin, Nu’65, GNu’68, is a clinical professor of Nursing at Drexel University.

Rebecca Bowers-Lanier, Nu’66, GNu’72, is an advocacy consultant with B2L Consulting in Virginia.

Bernice Balzer Allen, Nu’69, is currently working as a consultant.

Patricia Ferguson Donehower, Nu’69, is a lecturer at the University of Vermont, College of Nursing and Health Sciences.

Rose O’Driscoll, GNu’69, shared that she retired from Villanova University where she was the assistant dean of Administration.

Arlethia Wright, Nu’69, is president of consultants for PsySoc Care and a consultant for The Links.

1970s

Jane Barnsteiner, Nu’70, GNu’73, published Quality and Safety in Nursing: A Competency Approach to Improving Outcomes which won a Book of the Year Award from the American Journal of Nursing.

Kathleen C. Gaffney, Nu’71, GNu’91, shared that she is now retired from her role as program consultant and instructor at the University of Tennessee.

Jane Barnsteiner, Nu’70, GNu’73, published Quality and Safety in Nursing: A Competency Approach to Improving Outcomes which won a Book of the Year Award from the American Journal of Nursing.

The 2017 American Academy of Nursing Fellows were announced. Mary K. Walton, Nu’74, GNu’81, GR’10, GR’12, was named as a 2017 American Academy of Nursing Fellow. Mary is the director of Patient & Family Centered Care and nurse ethicist at the Hospital of the University of Pennsylvania.

Kathleen R. Silage, Nu’73, GED’86, is a professor at Delaware County Community College in Media, PA.

Marci Aileen Turer, HUP’73, works as a pediatric nurse practitioner at Dr. Netanel Schwob’s practice in Maryland.

Leslie Noordyk Cenci, GNu’74, is a nurse practitioner with Americares.

Anna Martin Dapice, Nu’74, GR’80, is the director of T.K. Wolf, Inc. in Oklahoma.

Gloria Mahalage, Nu’74, GNu’80, is an RN at NYU Medical Center.

Rosemary C. Polomano, HUP’74, Nu’76, was named president-elect of the Academy in October 2019. In this role, she will also be the board liaison to the Fellow Selection Committee and the Expert Panels on Military & Veterans Health, Building Health Care System Excellence, and Violence. Academy President Karen Cox states, “She is a powerful voice for Raise the Voice Edge Runners which is a signature program of the Academy, recognizing nurse innovators for their nurse-designed models of care. I am privileged to be working with her.”

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Gerri J. George, Nu’75, GNu’77, is the literary editor for Wild River Review.

Mary Ninos, Nu’75, is working at Attac Consulting Group as the director.

Pamela Frances Cipriano, HUP’76, was elected to the International Council of Nurses Executive Board in 2017. She is currently serving as the 35th president of the American Nurses Association.

Valerie Murphy, HUP’76, is a registered nurse at Fairfax Surgery Center in Virginia.

Nancy Rapoport, HUP’76, is currently working as a legal nurse consultant in the advocacy field.
services with the genius of a nurse’s perspective and skill. I hope you consider new or expanded opportunities to share your valuable talent with new and existing networks, specifically with Penn Nursing.

Your continued relationship with Penn Nursing advances our collective influence on innovative solutions to advance health. Amidst abundant change in health policy and patient care needs, Penn Nursing loves hearing about what YOU are doing to provide high quality care to all individuals. What is going on in your neck of the woods? Please send your updates to NursingAlumni@nursing.upenn.edu.

Engagement with Penn Nursing takes many shapes to fit your individual preferences. Participation in webinars, Penn Club regional groups, the Penn Alumni Interview Program, membership on the Penn Nursing Alumni Board, and financial giving can be done from any location. We invite you to campus to participate in reunions, Alumni Weekend on May 11–13, 2018, and as local preceptors. If you would like further information, please reach out to NursingAlumni@nursing.upenn.edu.

The collective excellence and dedication of Penn nurses are of paramount importance to the communities we serve. Continue to speak up and show up, wearing proudly your Penn Nursing pride. Very Best,

Ashley Z. Ritter Nu’07 GNu’10 MSN CRNP
President, Penn Nursing Alumni Board
Robert Wood Johnson Foundation Future of Nursing Scholar

FROM THE PENN NURSING ALUMNI BOARD PRESIDENT
Dear Penn Nursing Alumni,

Through your daily practice, you advance the health of countless individuals in communities nationally and internationally. I challenge you to elevate your impact in 2018 by sharing your time and talent generously. Opportunities abound to advance the delivery of health

Kathleen Shaver, HUP’76, recently had her paintings on view in the galleries of Reading Art Works and are available for purchase in the ArtShop at Moore College of Art & Design. Along with Philadelphia painter Tim McFarlane, she also spoke about her work at an Artist Talk at Park Towne Place in Philadelphia. Kathleen’s paintings are influenced by Abstract Expressionism and Neo-expressionism.

Kathleen Tuppeny Williams, Nu’76, GNu’84, is currently at Charleston Southern University as an assistant professor of nursing. She teaches at the undergraduate and graduate levels with professional expertise on community/public health.

Cathy Mills Speace, Nu’77, GNu’11, is an assistant professor at Misericordia University in Dallas, PA.

Ginette Gosselin Ferszt, GNu’78, was named as a 2017 American Academy of Nursing Fellow. She is a professor at The University of Rhode Island, College of Nursing and coordinator of the Graduate Psychiatric Mental Health Clinical Nurse Specialist Program.

Claudia J. Gamel, Nu’79, shared that she is retired from her role as senior lecturer-researcher from Zuyd University of Applied Sciences in The Netherlands.

Gloria J. Gordon, Nu’79, is the owner of Women’s Health Concepts.

Linda Blikle Hurd, GNu’79, is at Children’s Hospital of Philadelphia in a pediatric nurse practitioner role.

Constance M. Phillips Jones, Nu’79, is the director of clinical programs at Orange Care Group.

1980s

Elizabeth A. Scannell-Desch, GNu’80, was named as a 2017 American Academy of Nursing Fellow. She is associate dean of Baccalaureate Programs at Rutgers University.

Eileen O’Connor Thornberry, Nu’80, is the clinical analyst for the IT Department at Samaritan Hospital, St. Peter’s Health Partners.

Linda Abramovitz, GNu’81, was named as a 2017 American Academy of Nursing Fellow. She is a practice nurse at the University of California, San Francisco.

Joan Bloch, GNu’81, GR’01, GR’04, was selected to serve as the Chair of the Institutional Review Board at the Public Health Management Corporation and is the first nurse to serve in this position. She also

Student-Alumni Mentoring
Sign up to be part of our Mentoring Network and help answer student questions about choosing a specialty, finding a job, shadowing opportunities, what neighborhood they should consider when relocating to your area, and more. Alumni of all degree levels and locations are needed to connect by phone, email, or in person. Find out more at www.nursing.upenn.edu/alumni/networking-connections/

Honoring a Star: Alumni Awards
Do you know an exceptional Penn Nurse? Alumni of all degree levels are eligible for six annual alumni awards recognizing clinical excellence, innovation in inter-professional practice, preservation and/or scholarship of nursing history, alumni and student spirit and connections, and the Outstanding Award that recognizes a leader with an outstanding career that has advanced the profession. See our website for more information: www.nursing.upenn.edu/alumni/events-programs/penn-nursing-alumni-awards/

Find Your Online Community
Did you know that Penn Nursing hosts seven groups for alumni and students on LinkedIn? Connect with each other, search job posts, and find your community. Join our main page, Penn Nursing Alumni, then join one of our specialty pages:

- Penn Nursing Pediatric Acute Care Program
- Penn Nursing Women’s Health and Midwifery
- Penn Nursing Administration & Health Leadership Graduate Program
- Penn Nursing / Wharton Dual Degree
- Penn Nursing Primary Care Programs
- Penn Nursing Psych Mental Health MSN Programs

Get Involved
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- Penn Nursing Pediatric Acute Care Program
- Penn Nursing / Wharton Dual Degree
Kelly Miskill Nu’10, GNu’12
PSYCHIATRIC MENTAL HEALTH NP

I was previously working in New York on an NIH-funded grant for preventative care in chronically mentally ill patients. Part of the care I provided was a head-to-toe physical during the initial psychiatric exam to evaluate for concurrent medical illnesses. During one of these physicals, a patient’s bloodwork came back very abnormal and I pulled them out of their therapy appointment immediately so that I could talk to them. I stressed to the person that they needed to go to the emergency room right away and be evaluated as it could be a medical emergency.

I didn’t see that person again until six months later when they came in to personally thank me for saving their life. They stated that when they had left my office they had gone to their primary care physician instead of the ER; their primary care physician had told them that I was “just a nurse” and didn’t know what I was talking about, said the bloodwork was a fluke, and sent them home.

Later that night they started to feel worse and they remembered me telling them to go to the hospital. They called 911 and by the time the ambulance got to them they were delirious and had passed out on the floor. They then spent the next six months in the hospital recovering from sepsis, liver failure, and something similar to HELLP syndrome. It got so bad the physicians at the hospital thought they were going to have to do a quad amputation due to necrotic skin loss, but eventually the patient managed to recover fully and the first week they were out of the hospital they came back to the clinic to thank me.

That moment personally changed my life as well as my practice as a Nurse Practitioner. It taught me never to doubt myself or what I'm telling my patients, and to encourage my patient’s to trust themselves and their own health instincts as much as they trust their providers.

Share your proudest moment! Send an e-mail to NursingAlumni@nursing.upenn.edu.
Barbara Savinetti Rose, GNu’85, currently works at Gianna Philadelphia as a nurse practitioner.

Eileen Caviston Ryan, GNu’85, GNC’98, is at Children’s Hospital of Philadelphia as a pediatric nurse practitioner.

Frances S. Wasserman, GNu’85, is employed at the Department of Veteran Affairs - Central Texas as a nurse practitioner.

Craigann Mehrmann Biggs, GNu’86, shared that she retired from her role as a nurse practitioner on July 1, 2017, and is currently living in Florida.

Judy T. Verger, GNu’86, GR’95, won the award of Faculty Advisor of the Year during the SNAP PA State Convention. She also shared that she gave testimony regarding research and the impact on lactating women at the Congressional Task Force on Research Specific to Pregnant and Lactating Women on November 6 and 7, 2017. She is pictured here during an event with Melissa Yore Gorman, Nu’02, GNu’05.

Women

17

1990s

Anne M. Gibeau, GNu’91, is currently at Jacobi Medical Center, Physician Affiliate Group of New York as the director of Midwifery.

Maribeth Schreder LeBreton, GNu’91, GNu’95, received a Lancaster Catholic High School Alumni Citation Award for Outstanding Professional Achievement for her years of dedication in nursing with a focus on understanding each individual patient’s health literacy.

Therese S. Richmond, GR’95, GNC’97, was elected for membership to the National Academy of Medicine (NAM) this past fall. Established in 1970, NAM addresses critical issues in health, science, medicine, and policy.

Carla Clements, GNu’96, is currently a doctoral student in the Doctor of Philosophy in Nursing program at Penn Nursing.

Michele C. Balas, GNu’97, GR’05, was named as a 2017 American Academy of Nursing Fellow. She is an associate professor at Ohio State University, College of Nursing.

Barbara Alice, GNu’98, traveled to Haiti to perform physicals and refill medications among many other services with CI Haiti, a community health program.

Therese D. Narzlikul, GNu’91, is the VP of Jefferson Health.

Robert Atkins, Nu’94, is the director at New Jersey Health Initiatives and associate professor at Rutgers University.

Janice F. Biddle, Nu’94, GNu’97, is at the Clinical Practices of the University of Pennsylvania (CPUP) in the role of nurse practitioner.

Jane M. Carrington, GNu’94, was named as a 2017 American Academy of Nursing Fellow. She is an assistant professor at the University of Arizona, School of Nursing.

Kathleen S. Davis, Nu’94, works a Chestnut Hill College as a registered nurse.

Jenny H. Auerr, Nu’99, is an instructor at Burlington County Institute of Technology.

Sarah Aloise, GNu’98, traveled to Haiti to perform physicals and refill medications among many other services with CI Haiti, a community health program.

Teresa L. Calendrillo, Nu’98, is the administrative director of Nursing and Pharmacy Services at The Charlotte Hungerford Hospital.

Eileen F. Campbell, GNu’98, is the assistant vice president of Advanced Practice Providers and Patient Care Services at Cooper University Healthcare. This past fall, Eileen traveled to Haiti with CI Haiti, a community health program.

Jenny H. Auerr, Nu’99, is currently working at Benjamin Franklin Classical Charter Public School as the school nurse.

Melissa A. Doebley, GNu’99, works at Saint Christopher’s as a pediatric nurse practitioner.

Audrey Heinel Rubano, Nu’99, GNu’02, is a nurse practitioner at Arthritis and Osteoporosis Center of Northern Virginia.
nursing training to work by performing annual physicals on school children, teaching health care volunteers, refilling medication, and more.

Jennifer A. Ormsby, Nu’01, is currently the infection preventionist at Boston Children’s Hospital.

Leann M. Cacovean, Nu’02, recently became director of the Cardiovascular Outcomes Group at UC San Diago Health.

Anna Song Beeber, GNu’00, GR’05, was named as a 2017 American Academy of Nursing Fellow. She is an associate professor at the University of North Carolina at Chapel Hill, School of Nursing.

Stacy Fielding Brenner, Nu’00, GNu’01, owns and runs Broadturn Farm, an organic farm, CSA, and a wedding venue, with her husband in Scarborough, ME. In addition, Stacy volunteers at the Portland Free Clinic, providing gynecologic care.

Janice Palaganas, Nu’00, GNu’01, was named as a 2017 American Academy of Nursing Fellow. She is the director of Educational Innovation & Development for the Center for Medical Simulation, a lecturer for Harvard Medical School, and an associate professor at the MGH Institute of Health Professions.

Deborah Marrington Gunning, GNu’01, is the founder of CI Haiti, a community health program committed to disease prevention and health education. This past fall, Deborah and CI Haiti traveled to Haiti where they put their

Barbara Prior, GNu’03, is working at Clinical Practices of the University of Pennsylvania (CPUP) as associate executive director.

Angela Frederick Amar, GR’03, was named dean and professor of Nursing at the University of Nevada Las Vegas School of Nursing. Her term began on January 1, 2018.

Hilaire Thompson, GR’03, shared that she was recently appointed as graduate program director at the University of Washington, School of Nursing. Hilaire is also the Joanne Montgomery Endowed Professor of Nursing at UW.

Kathleen A. Brummer, Nu’04, GNu’08, is a midwife in the MFM Antenatal Testing Unit at Penn Medicine-Pennsylvania Hospital MFM.

Hilary Barnes, Nu’05, GNu’08, is an assistant professor at the University of Delaware.

Christina J. Calamaro, GR’05, GR’07, is the senior nurse scientist and director of research and evidence-based practice for nursing at Children’s Healthcare of Atlanta.

Patricia E. Banaszek, GNu’07, is a women’s health NP in the Air Force.

Nancy Erickson, GNu’07, shared that since retiring three years ago, she has spent her time volunteering for two non-profits. She has been volunteering with Healthy NewsWorks since 2006 and serves on their advisory board. Healthy NewsWorks empowers elementary and middle school student journalists in producing health publications and media for their communities.

Elsa Waldman, Nu’07, GNu’09, who works at Drexel Medicine, was nine months pregnant and driving home from her baby shower on November 1, 2017 when she saw a mother in labor on North Broad Street in Philadelphia, PA. Without hesitation, Elsa threw her car in park and ran to the van where the mother was in labor. With latex gloves borrowed from the security guard outside of Hahnemann University Hospital, she delivered the baby quickly and successfully. Eleven minutes passed from the time Elsa got out of her car to help the mother to the time she got back in. Elsa’s story of this delivery was the subject of a Philly News article in November.

Kelly M. Convery, Nu’08, recently became the director of project management for Keriton.

Nancy Gerhard Hesse, GNu’08, is the president and CEO of the Cancer Treatment Centers of America and won the Philadelphia Business Journal’s 2017 Women of Distinction Award.

Komal Patel Murali, Nu’08, GNu’11, is currently enrolled as a full-time 2nd year PhD student at Rory Meyers College of Nursing at New York University with a focus on palliative care and geriatrics.

Sarah (Wittig) Riley, Nu’08, shared that she is currently a CRNP for Magee-Women’s Hospital of UPMC, and her husband, Craig Riley, C’08, is a pulmonary/critical care fellow at UPMC.

Regan Trappler, Nu’08, GNu’11, works at Children’s National Health System as the infection control practitioner.

Abigail Twerdok, Nu’09, GNu’15, is a certified nurse midwife at The Women’s Center OB/GYN.

Jonathan Ariano, Nu’09, GNu’14, is working as an adult gerontology acute care nurse practitioner at Penn Medicine, University of Pennsylvania Health System.

Yana Sigal Banarjee, Nu’09, GNu’12, works as a CRNP at Penn Sleep Medicine.

Jade A. Burns, GNu’09, is a research fellow at the University of Michigan.

Vanessa Cheng, Nu’09, is at Namely in the role of product manager.
**FOM THE HUP NURSING ALUMNI ASSOCIATION PRESIDENT**

**Dear Fellow Alumni:**

Since the last edition of *Penn Nursing*, the HUP Alumni Nurse’s Association had our Fall Luncheon on Saturday, October 7, 2017, on Penn’s campus. The HUP Class of 1967 celebrated their 50th Reunion at the same time. Nancy Long HUP’67, organized the entire weekend for her class and did an outstanding job. I was pleased to welcome all to the luncheon and gave a special recognition to the class of 1967. If you are interested in planning a reunion for your class, please let us know. The HUP Alumni Association, together with the staff at Penn Nursing, will be happy to help you.

Penn Nursing continues to be a partner in our work. Dean Villarruel is very supported of the HUP Alumni Association and is very interested in what OUR organization is doing and is most willing to assist OUR alumni if there is ever a need. Over the past eighteen years the HUP Nurse’s Alumni Association and the Penn Nursing Alumni have had a very nice working relationship.

If you are not a member of the HUP Alumni, I strongly urge you to think about joining. Barbara Callazzo is our Membership Chairperson. She would be happy to answer your questions or update you on your membership status. Her email address is bobettec@verizon.net.

Once again, I want to particularly urge recipients of a HUP Alumni Scholarship over the past 25 years to consider running on the ballot for a Board position. Open positions include the role of President Elect and three Directors. The Nomination Chairperson is Susan McKelvey. You must be a member to run on the ballot. I encourage graduates of the 1960s and 1970s to get involved.

The HUP Spring Luncheon will be on Saturday, April 28, 2018, at Concordville Inn. I hope to see you there.

Elaine A. Dreisbaugh HUP’61  
MSN RN CPN  
President of the HUP Nursing Alumni Association

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**GET INVOLVED**

**Serve as a HUP Alumni Board Member**

Consider volunteering for a two-year term on the HUP Alumni Nursing Association Board for the Spring 2018 ballot. We strongly encourage graduates from the 1960s and 1970s, as well as HUP Alumni Scholarship recipients.

Most HUP Alumni Board Meetings are held in Philadelphia on a Monday evening during the academic year. We offer conference call options for our meetings, so you can call in from anywhere in the United States.

Susan McKelvey is the Nomination Chairperson. Find out more by emailing the HUP Board at hupalum@nursing.upenn.edu.

**Become a HUP Alumni Association Member**

If you are not a HUP Alumni member, we urge you to join the HUP Alumni Association. The Association depends on your support.

To join, contact us at hupalum@nursing.upenn.edu. Lifetime membership is $150; annual dues are $20. Members receive the semiannual newsletter by mail.

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**2010s**

Melissa M. Duva, Nu’10, GNu’14, is the program coordinator of Cardiac Neurodevelopmental Outcomes at the Children’s National Health System.

Stacy Livingstone Steinberg, Nu’10, graduated from the University of Miami Nurse Anesthesia Program in 2014 with an MSN and currently works as a certified registered nurse anesthetist at the University of Miami Hospital.

Catherine McDonald, GR’10, was named as a 2017 American Academy of Nursing Fellow. She is the assistant professor of Nursing, Family and Community Health, at Penn Nursing and assistant professor in Nursing in Pediatrics at the School of Medicine.

Kathryn Yucha, Nu’10, GNu’14, works at Children’s Hospital of Philadelphia as a clinical research program manager.

Melissa Zarych, GNu’10, is a certified nurse midwife at Midwifery Care Associates.

Lori Plummer, Nu’11, GNu’13, recently joined Georgia Breast Care as the women’s health nurse practitioner, advanced genetics nurse, and patient navigator.

Moshe Reiss, GNu’11, is at NYU Langone Health as a clinical research nurse.

Robin Acker, Nu’12, GNu’15, is a CRNP at Penn Presbyterian Medical Center.

Arzu Adiguzel, GNu’12, GNu’14, is employed as a critical care education specialist at SBH Health System.

Catherine J. Bertels, Nu’12, is a registered nurse at Children’s Medical Center of Dallas.

Kiahana L. Brooks, Nu’12, GNu’15, GR’16, works as a presidential management fellow at the U.S. Department of Health and Human Services.

Annie Veronica Chapman, GNu’12, is a CRNP at UPHS, Penn Center for Primary Care.

Melissa O’Connor, GR’12, became assistant professor at Villanova University.

Lauren A. Reifsnider, Nu’12, GNu’16, is a travel nurse with AMN Healthcare.

Keri Zug, Nu’12, GNu’16, is employed at La Clínica de La Raza as the women’s health nurse practitioner.

Alexis Brianna Aaronson, GNu’13, works as a CRNP at Pulmonary & Critical Care Medicine Associates.

Amanda (Leigh) Berger, GNu’13, and Rebecca Popiolek, GNu’13, are nurse practitioners at Delaware Valley Institute of Fertility & Genetics.

They were featured on the cover of the “Best of Family” issue of *Medford Family* in 2017 alongside founder and director, Dr. George S. Taliadouros and profiled in an article titled “New Hope: Dr. George Taliadouros and the Delaware Valley Institute of Fertility & Genetics are providing personalized fertility care to couples.”
Komal Patel Murali, Nu’08, Gnu’11, shared that she gave birth to a baby girl named Sophia in August.

Sarah (Wittig) Riley, Nu’08, and her husband Craig Riley, C’08, welcomed Elodie Claire Riley on October 9, 2017, at 8lbs 9oz and 21 inches long. She joins her older sister, Calla (3).

Ashley Rowley O’Connor, Nu’09, Gnu’12, gave birth to baby John Michael O’Connor III on November 14, 2017, at 12:36 a.m. 7lbs 13oz. Ashley writes, “Big sister Catherine is excited!”

Meredith Boehm Palusci, C’09, Nu’10, Gnu’14, and John Palusci, C’09, WG’15, welcomed their son Jasper Harris Palusci, born on August 8, 2017. Meredith shared, “Jasper was born at the Hospital of the University of Pennsylvania, mere steps from where his parents met as freshmen. All are happy and healthy.”

Stacy Livingstone Steinberg, Nu’10, shared that baby Tristan Harris was born on April 20, 2017. He weighed 8lbs 4oz and was 20 inches long.

Jennifer E. Rosen, Nu’12, Gnu’13, welcomed Miriam Yael Clary on August 30, 2017, 6lbs 15oz. Jennifer writes, “I am just loving my time with her. Time is definitely flying!”

Do you have a new baby? We want to celebrate with you! Send a birth announcement and a picture to NursingAlumni@nursing.upenn.edu or call us at 215.746.8812. We’ll send you a Penn Nursing onesie (6 month size). Photos are encouraged!

Penn Nursing Babies

Hilary O’Neil-Johnson, Nu’13, Gnu’15, is a part of Family Medicine at Penn Medicine as a CRNP.

Corbett Dransfield Brown, GR’14, is assistant professor at University of Utah, College of Nursing.

Jessica Divanno, Nu’14, Gnu’16, co-founded Statum Health, a startup to help patients arrange for a nurse practitioner to treat them in their homes. Statum Health assists in providing on-demand health care including physical assessments, testing for pregnancies, immunizations, and more. In an interview with the Daily Pennsylvanian, Jessica shared, “What I really like about this startup is that we have the ability to go back to the way health care originally was. We’re bringing providers to people.”

Felicia Ramharrack, Nu’14, is the staff nurse in the Pediatric Department of Advantage Care Physician.

Thomas Joseph Speranger, Nu’14, Gnu’17, recently joined Tohickon Internal Medicine as a nurse practitioner.

Jessica Thai, Gnu’14, is an adjunct professor at the University of Southern California.

Andrea Valocvin, Nu’14, works at The University of Vermont Medical Center as a registered nurse.

Jasmine Chen, Nu’15, is a registered nurse at New York Presbyterian.

Mary T. Downey-Freiman, Gnu’15, is working at Novartis as the medical science liaison.

Carly Fraser, Gnu’15, shared that she is currently working at Brightton Pediatrics in Atlantic City, NJ, in a primary care role.

Jodi Feinberg, Nu’15, recently published “A Mixed Methods Evaluation of the Feasibility and Acceptability of an Adapted Cardiac Rehabilitation Program for Home Care Patients” in geriatric nursing, a peer-reviewed journal providing clinical information for the care of older adults, co-authored with Dr. Terri Lipman, Gnu’83, GRN’91. Jodi also presented her abstract “Home-Based Cardiac Rehab in a Home Care Agency: Outcomes and Implications” with Ana Mola at the American Association of Cardiovascular and Pulmonary Rehabilitation Annual Conference in October. The conference hosts over 1,100 attendees and is a national forum for leaders in cardiac and pulmonary rehabilitation.

Paule Valery Joseph, GR’15, began her role as the assistant clinical investigator at National Institute of Health in the Intramural Research Program in October and was inducted to the Transcultural Nursing Scholars Society.

Emily S. Sadri, Gnu’15, is a certified nurse midwife at Neighborhood Family Practice in Cleveland, OH.
In Memoriam

1940s

Mary Bluxome, HUP’42, of Meadville, PA, on September 26, 2017. After her time as a student at HUP, Mary went on to earn her Bachelor of Science degree from Villa Maria College and her master’s degree from Edinboro College. Mary entered the U.S. Navy Nurse Corps in 1943 and served as an Ensign during World War II.

Katherine Chapman, HUP’47, of Cape Cod, MA, on September 18, 2017. Kathy was born Norristown, PA, where she met and married her husband, Arthur Lewis Chapman. She lived in Collegeville, PA, and Springfield, VA, before settling down in Cape Cod after building their home, “Chapman’s Windrush,” in Eastham, MA. She was a member of the Nurse Cadet Corps during her nurse’s training and worked as a registered nurse at VA hospitals on the East Coast. Kathy loved dogs, feeding and watching birds, and collecting glass bottles, pewter, and copper. She is survived by her stepdaughter, Theda Chapman Bordner, and her husband, Glenn, two step-nieces, four step-grandchildren, and four step-great-grandchildren.

1950s

Virginia Gowdy, HUP’45, on September 29, 2014. Virginia was born in 1924 in Blakeslee, PA. She was a school nurse teacher at the Phoenix Nursing School System and the School System of Solvay, NY. She also taught at Syracuse University as a nursing instructor. She is survived by her husband, Les, two children, eight grandchildren, and eight great-grandchildren.

Nancy Houston O’Hara, HUP’47, of Lititz, PA, on December 13, 2017. Nancy was a long-time Lititz resident and served as the executive director for the Moravian Manor from 1980 to 1995. She was a needlepoint artist, a published writer, and a watercolorist in addition to serving various community charities. She is survived by her children, Patricia, Daniel, Sally, and Darcy and nine grandchildren.

We want to hear about you! Send us a personal or professional update to NursingAlumni@nursing.upenn.edu or call us at 215.746.8812. Notes may be edited for space and style. Photos are encouraged.
to her flower garden. Clara is survived by her companion, Earl Miller, the extended Miller family, and several nieces, nephews, and cousins.

Elizabeth Horn Rockafellow, Nu’52, GNu’65, on October 13, 2017. Betty was a member of the Nurse Cadet Corps while a nursing student at Lankenau Hospital in Philadelphia and went on to receive her Bachelor of Science degree in Public Health Nursing and a master’s degree in Nursing Administration and Rehabilitation Nursing from University of Pennsylvania. She continued at Penn as an instructor, teaching at both the undergraduate and graduate levels. Betty spent time as a staff nurse at Pennsylvania Hospital and Institute of the Pennsylvania Hospital. After receiving her degree in Public Health Nursing, she helped to form the then new Bucks County Department of Health and joined the department as a senior public health nurse, later becoming a supervisor.

Betty also worked as a field representative for the Pennsylvania Department of Welfare, a project director for National Institute of Mental Health, and the director of Nursing at All Saints Rehabilitation Hospital (now Chestnut Hill Rehabilitation Hospital). She was an avid painter and artist, working primarily in oil and with an artistic focus on painting rural and urban subjects. She is survived by her nephews and their mother.

Patricia (Black) McCreary, HUP’52, of Beaver, PA, on October 20, 2017. Pat was born in Bordentown, NJ, and later moved to Beaver, PA, where she was committed to community involvement and volunteered at the Beaver Library. She also participated in the New Brighton Croatian Kolo Dance Ensemble and was a Beaver High School Football Mother. She is survived by her six children, fifteen grandchildren, three great-grandchildren, and seventeen nieces and nephews.

Mary Ann Jameson, HUP’57, of Cumming, GA, on August 23, 2017. Mary Ann was born in Cortland, NY, and was a practicing nurse in the Pennsylvania and New York regions, specializing in pediatric nursing. She and her husband, Brad, acquired a senior living facility in Dalton, MA, where Mary Ann served as nursing director. Upon retiring, Mary Ann and Brad spent several years in Florida before settling in Georgia. Mary Ann enjoyed volunteering, catering, and participating in activities in her church. She is survived by her husband Brad, their son Stephen and his wife Rachel, her granddaughter Kylie, and many other relatives.

Ellen Louise Michelmore, Nu’57, of Lafayette Hill, PA, on February 8, 2016.

As a nurse, Dorothy traveled throughout the United States. She lived in California and Philadelphia and returned to Mifflinburg in 1985. After more than 40 years as a nurse, Dorothy volunteered with the Red Cross. She loved the outdoors and took an active interest in local history and the Mifflinburg Buggy Museum. Dorothy is survived by her daughter, Anne, and her spouse, grandchildren, a great-granddaughter, and her brother.

Barbara Jane McGlinn, Nu’59, of Rock Hall, MD, on October 12, 2017. Barbara specialized as a private duty nurse and worked at Reading Hospital School of Nursing as a nursing instructor. She also worked at the Kent County Health Department in Kent County, MD, as the director of nursing and the director of home health and hospice. In 1982, Barbara began the Hospice Foundation of Kent County where she served as director of hospice from 1982 to 1992. She is survived by her husband of 49 years, Thomas, two children, a sister, a granddaughter, and two nephews.

1960s

Clarina Rabe Chu, Nu’61, of San Diego, CA, on September 2, 2016.

Phyllis G. (Frankfenfield) Hazard, Nu’62, of Trevose, PA, on August 4, 2017. Phyllis is survived by her husband of 52 years, daughter Gail and her husband Michael, and her grandsons, Sean and Zachary.

Mary Ann Hoffman Brod, Nu’58, of Oneida, NY, on October 9, 2017. Mary Ann was born and raised in Harrisburg, PA. She met her husband, James, while they were both in medical training in Philadelphia. They later worked together as Mary Ann was a part of James’s orthopedic practice as an operating room nurse and office nurse. Mary Ann was a Latin scholar and loved reading, cooking, and gardening in addition to her civic activities at Oneida Medical Auxiliary and St. John’s Episcopal Church. Mary Ann is survived by her four children and their spouses as well as 12 grandchildren.

Carmel Nancy Gerhart, Nu’59, of Hatboro, PA, on June 18, 2017. Nancy was born in Revere, PA. She served in the United States Navy from 1943 to 1953 and was stationed in California; Philadelphia; Charleston, SC; Rhode Island; and Hawaii. After taking time off from nursing to raise her family, Nancy re-entered nursing to serve as a school nurse for the Philadelphia School District. She loved reading, gardening, and collecting antiques. Nancy was a member of the Jenkintown American Legion and the Bux-Mont Women Veterans Association in addition to serving as both president and vice president of the local PTA in the mid-1970s. She is survived by her two sons and a large extended family.

Betty Fritz Bankes, GNu’66, of Muhlenberg Township on October 14, 2017. Betty was a member of the U.S. Army Cadet Nurse Corps during WWII. She was director of the Berks Visiting Nurse Association and conducted research for Capital Blue Cross which ultimately led to the inclusion of Home Health Services in health insurance policies. She was a professor at Villanova University and worked as a nurse practitioner at Brandywine Hospital in Chester County.

Betty and her sister, Dorothy Schoellkpf, were members of Fred Moll’s bands including Six Shooter Band, the Frisco Rodeo Band, and the Keystone Novelty Band. They performed all along the East Coast and were known as the “Fritz Sisters.”

Nelle V. (Cowder) Kears, Nu’66, of Mullica Hill, NJ, on October 15, 2017. Nelle was born in Clearfield, PA. During her time at the University of Pennsylvania, she was a member of the Alpha Xi Delta sorority and an officer in
women's government. She went on to continue her education by receiving her master's from Western Connecticut State University. Nelle served in the U.S. Air Force from 1967 to 1972, where she earned the rank of Captain. She was stationed in Texas, Japan, England, and Idaho, where she met her husband, Tom. Nelle and Tom made their home in Wilkinsburg, PA, and Nelle worked as a registered nurse and LPN instructor at Henry Abbot Vocational School until she retired in 2006. She was an active member of her local United Methodist Churches in Bethel, CT, and Mullica Hill, NJ. Nelle is survived by her husband of 47 years, Thomas, children, David and Elizabeth, a granddaughter, her brother, and her nieces.

1970s

Larysa (Odezynsky) Kilpatrick, Nu'70, of Rockledge, PA, on June 17, 2017. Larysa was born in Munich, Germany, and immigrated with her family to the United States to live in Philadelphia. She attended a Ukrainian school and was an active member of the Annunciation B.V.M. Ukrainian Catholic Church. Larysa received her nursing degree from St. Joseph's School of Nursing and her BA from the University of Pennsylvania, School of Nursing. She later earned her master's degree in nursing from Beaver (now Arcadia) College where she worked as an emergency nurse. She also spent time in her nursing career as a school nurse at Overlook Elementary, Abington Junior, St. Basil's, and St. Hilary's. Larysa enjoyed nature and gardening and shared her love for the outdoors with her children, grandchildren, and friends.

She is survived by her children Christina, Peter, and Mira, four grandchildren, three sisters, and many nieces and nephews.

June S. Tartala, GNu’73, of Peters burg, NJ, on August 30, 2016. June attended Chestnut Hill School of Nursing for her nursing degree and earned her BSN at Case Western Reserve University in Cleveland, Ohio. She then attended University of Pennsylvania for her master’s degree. June was a visiting nurse at Bucks County Department of Health. She worked nights at the Philadelphia Health Institute and taught nursing at Villanova University. June loved the outdoors, walks on the beach, and traveling. She was an avid reader and enjoyed knitting.

June is survived by her husband James, son John, daughters Mary, Sharon, and Kate, and her brother George. June and Jim have 14 grandchildren.

1980s

Mary-Katherine Rellahan Heffern, GNu’87, of Lawrenceville, NJ, on October 3, 2017. Mary-Katherine began her nursing education at the School of Public Health at the University of North Carolina at Chapel Hill where she received her degree in public nursing. She then continued her education and training at St. Luke’s Hospital in New York City and went on to receive advanced degrees and certificates from the University of Pennsylvania, Rider University, and Brigham Young University. She was a part of the McCosh Infirmary of Princeton University as a night nurse and continued to care for patients in retirement, working at the Curtis W. McGraw Infirmary of the Lawrenceville School well into her 70s. Mary-Katherine was a founding member of the NJ College Health Nurses Association. She is survived by her husband of 63 years, Adrian, her five children, and nine grandchildren.

Lisa Marie (Peters) Jurgenson, GNu’98, of Lancaster, PA, on September 22, 2017. Lisa was born in Reading, PA, and attended the Reading Hospital School of Nursing where she received her license as a registered nurse. She continued her nursing education at Kutztown University where she earned a bachelor’s and at the University of Pennsylvania where she earned a master’s degree and a Nurse Midwife’s Certificate. Lisa was a part of Wellspan Ephrata Hospital and a midwife at Birth Care and Family Health Services for several years, before becoming a homemaker and homeschooling her three children for seven years. She was a member of Community Fellowship Church and loved traveling and the outdoors. She was also a student of karate and earned a black belt at Bradley Karate Studio, where she ultimately became an instructor. Lisa is survived by her husband of twenty years, Marcus, her three children, Matthew, Evan, and Maija, her parents, Leo and Patricia, and many extended family members.

1990s

Clara Montgomery Coan, Nu’79, of New Hope, PA, on June 14, 2015. Clara was born in China and came to Philadelphia in 1949. After attending University of Pennsylvania, she worked as a school nurse at Friends Select and a director of the Health Center at George School. Clara married James Coan in 1964, and they grew produce on their Solebury farm for area restaurants. Clara was famous for her festive Chinese dinners and preparation of charity dinners. She is survived by her husband Jim, daughters Louisa, Margaret, and Anya, six grandchildren, her sister Margaret, seven nieces and nephews, and many dear friends.
Born in Philadelphia to Holocaust survivors from Poland, where her father lost his entire family. Loves math and science, obsessed with social justice.

Reestablishes ob/gyn services at Presbyterian Hospital because infant mortality rates in the Mantua area are so high.

Returns to Penn for a PhD. in nursing. Trains in maternal health outcomes research.

Attends a lecture by Viktor Frankl about finding meaning and purpose in life. Determined to pursue purpose through helping others in need.

At Drexel, conducts perinatal health disparities research and prepares the next generation of nurses.

Reads about careers and decides to become a nurse, even though she’s never met one. Graduates from Jefferson, works as a HUP labor/delivery nurse where she observes the miracle of birth.

Earns a master’s degree at Penn.

Addressing infant mortality in Philadelphia, leads an access-to-care group through the Philadelphia Department of Public Health’s Community Action Network. Chairs the IRB of the Public Health Management Corporation.
Research and Discovery Solutions

“Every product and process that touches a patient goes through a nurse.”

Therese S. Richmond, PhD, FAAN, CRNP
Andrea B. Laporte Professor of Nursing
Associate Dean for Research & Innovation
Professor of Nursing in Surgery
Perelman School of Medicine

Support Penn Nursing’s Innovating for Life and Living Campaign.
Together we can ensure that our faculty and students continue pioneering solutions to some of society’s most vexing issues and seizing some of its greatest opportunities. Please use the enclosed envelope or visit us online at www.nursing.upenn.edu/campaign.
# Events

Please join us on and off campus.

## APRIL

18-19 **Penn Quaker Days**
A university-wide event for admitted high school seniors and their families
Philadelphia, PA

28 **HUP Alumni Association Spring Reunion**
Concordville Inn, PA

### 11-13 **Alumni Weekend at Penn**, featuring:
- **Friday, 11**
  - Celebrating Excellence: Student, Alumni, and Faculty Awards
  - **4:00 – 5:30 p.m.**
  - **Claire M. Fagin Hall**
- **Saturday, 12**
  - Penn Nursing Legacy Breakfast
  - **8:30 – 9:30 a.m.**
  - **Claire M. Fagin Hall**
- **Sunday, 13**
  - **Dean’s Lecture**
  - **10:00 – 11:15 a.m.**
  - **Claire M. Fagin Hall**

### 13 **University of Pennsylvania School of Nursing Graduation Ceremony**
- **4:00 p.m.**
- **Verizon Hall, Kimmel Center for the Performing Arts**

## MAY

2-3 **Values Conference**
"Improving Life in an Aging Society: The Critical Role of Nurses" by Regina Herzlinger & Jackie Judd
Penn Campus – Houston Hall

**Opening presentation**
- **9:00 – 10:00 a.m.**

**Penn Campus – Houston Hall**

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## JUNE-JULY

26-1 **Penn Nursing Gathering during the AANP 2018 National Conference**
Denver, CO

## NOVEMBER

2 **Gerontology Primary Care Alumni Reunion**
Claire M. Fagin Hall
Philadelphia, PA

9-11 **Homecoming Weekend, Penn Campus**
Featuring our annual Nurse Networking event on Saturday, November 10, during QuakerFest
College Green

## TO BE ANNOUNCED

**PhD Alumni Reunion**
Philadelphia, PA

For more information, please visit our events calendar at [nursing.upenn.edu](http://nursing.upenn.edu) or call the Nursing Alumni Relations team, **215.746.8812.**