As the largest group of clinical practitioners in the U.S. health care workforce, nurses are uniquely positioned to make important contributions to improving health and quality of life. Unlike their counterparts in other fields of the health sciences, nurse scientists focus more closely on person-centered prevention, treatment and coping interventions, rather than developing pharmacological treatments for specific diseases.

— Patricia Grady, Ph.D., R.N., F.A.A.N.
Director of the National Institutes of Health's National Institute of Nursing Research in the Richmond Times-Dispatch
A MESSAGE FROM THE DEAN

No one is closer to patients than those involved in their care. As a result, we are uniquely positioned to understand what is working in health care and what needs to be fixed.

Here at the University of Utah College of Nursing, nurse scientists working in collaborative, interdisciplinary teams are tackling the big questions facing patients and health care administrators alike—from making informed, end-of-life decisions to allowing patients to participate in their own diagnosis and treatment.

Here, we highlight several ideas that we believe will change American health care.

—Dean Patricia Gonce Morton, Ph.D., R.N., ACNP-BC, F.A.A.N.
POINTS of PRIDE

HARTFORD CENTER OF GERIATRIC NURSING EXCELLENCE | 1 OF 9 CENTERS IN THE COUNTRY

**★ ★ ★ ★ ★ ★ ★ ★ ★**

MIDWIFERY PROGRAM
**RANKED #10***

INFORMATICS PROGRAM
**RANKED #7***

THE GERIATRIC EDUCATION CENTER RECEIVED A
**$2.6 MILLION**
FEDERAL GRANT THAT WILL IMPROVE
GERIATRIC CARE ACROSS UTAH

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THE BIRTHCARE HEALTHCARE
PROGRAM PROVIDES WOMEN’S
HEALTH AND MIDWIFERY SERVICES
DELIVERING MORE THAN
400+ BABIES A YEAR AT
UNIVERSITY OF UTAH HOSPITAL

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RANKED

#2

IN NATIONAL INSTITUTES OF HEALTH
GRANT FUNDING FOR COLLEGES
OF NURSING

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RANKED

#26*

NURSING SCHOOL IN THE NATION

*by U.S. News & World Report in 2015
WE’RE #2!

IN 2015, MORE THAN $7 MILLION IN GRANTS FROM THE NATIONAL INSTITUTES OF HEALTH EARNED US A RANKING OF NO. 2 IN THE COUNTRY FOR RESEARCH FUNDING.

The University of Utah has a proud tradition as the flagship research institution of the Mountain West, and the College of Nursing plays a critical role in that mission. Nurse scientists, clinical psychologists, gerontologists, and recreational therapists teach and study here in the foothills above Salt Lake City.

Our researchers are taking on some of the most difficult questions facing health care practice and nursing science today—from how to manage changes to the Common Rule for biospecimens to the tangled web of factors causing childhood asthma to providing flexibility for distance learning.
CROWD-SOURCING THE DATA

KATHY SWARD
Ph.D., R.N.
Associate Professor,
College of Nursing
Academic research can be a solitary pursuit, cloistered in clinics and labs physically—and intellectually—distant from patients.

But what if the patients themselves worked the science? What if they helped test the equipment and troubleshoot the computer interface? What if they broke things and helped fix them?

That’s the methodology behind new “patient-powered” research led by University of Utah College of Nursing biomedical informatics Associate Professor Kathy Sward. In essence, Dr. Sward is crowdsourcing—letting a “crowd” collect the data.

Using a $5.5 million grant from the National Institutes of Health, university scientists will collaborate with families to develop a biomedical informatics platform that will make it possible to crowdsource and link air quality data with personal health monitoring—and, eventually, pinpoint the cause of a child’s wheezing.

While pollution from cars and industry is known to trigger asthma in some children, other lesser-known catalysts can also increase their risk—everything from viral infections to stress to playing soccer all day.

The grant, a component of the Pediatric Research using Integrated Sensor Monitoring Systems (or PRISMS) program from the NIH’s National Institute of Biomedical Imaging and Bioengineering, will run for four years. Over that time, the team and a core group of families will test a growing variety of personal environmental monitors—some wearable, some home-based—and create Web-based interfaces that could form the foundation of future pediatric asthma research.

Kids with asthma, their parents, physicians, nurses and researchers will be able to feed real-time information into a comprehensive database.

“We see parents and kids and researchers as a really core group of our team,” says Sward, co-principal investigator on the grant. “We want people who are really willing to think about this from a process standpoint, people who are willing to play with the ‘toys’ and beat the daylights out of this software.

“You want it in the hands of people who are going to do every crazy thing they can imagine with it...and push every button.”
BETTER TRAINING FOR END-OF-LIFE CARE

GINNY PEPPER
Ph.D., R.N., F.A.A.N., F.G.S.A.
Associate Dean for Research and Ph.D. Program, College of Nursing
America is aging—quickly. More than 1.4 million residents currently live in nursing homes and many baby boomers will spend some part of their lives residing in nursing homes. There they will receive the health care that will determine not only the quantity of their years but, more importantly, the quality of those years.

And yet, current advanced education does not prepare health professionals for nursing home practice.

In an effort to help health care providers make the transition, University of Utah College of Nursing Associate Dean for Research Ginette Pepper is developing an interdisciplinary training and certification program to prepare nursing home staff—from social workers to administrators—in the increasingly complex field of geriatric care.

“We need to make sure that our education for all kinds of health care providers is preparing them for the complexity of chronic care of older adults—to give them meaningful experiences in long-term care,” Pepper says. “We need the whole team, including the doctor, patient, families and the community. And the education that we have in most health professions is not sufficient.”

Through a $2.6 million cooperative agreement with the Health Resources and Services Administration, Pepper’s team is launching the Utah Geriatric Education Center (UGEC) this year. Using distance learning and two-way contact with 21 urban and rural nursing care facilities, the certification program will start with its first class of nurse practitioner students in the fall of 2016.

The need for such training is particularly acute in Utah, which ranks lowest in the country for long-term care support services, says Dr. Mark Supiano, UGEC Co-Director for Physician Programs. “Improved education for geriatric care providers is a huge need,” says Supiano.

Eventually, the certification could be offered in disciplines from physical therapy to health care administration.

“We’re integrating primary care into geriatrics and geriatrics into primary care,” Pepper says. “People in nursing homes have traditionally received something sort of in between.

“Many are not just passing through. And the rest need smooth transitions back to their primary care in the community. But this is now their place of residence. They are there long term.”
ENDING THE
GAME OF
TELEPHONE

MOLLIE CUMMINS
Ph.D., R.N., F.A.A.N.
Associate Professor,
College of Nursing
It’s like a game of telephone. Most areas of health care have moved beyond the scrawled note and phone call era of communication. But not when treating a poisoning.

Right now, communication between America’s poison control centers and hospital emergency room doctors and nurses looks like something from the pre-computer age, with harried doctors and nurses scribbling notes on paper and poison control pharmacists struggling to get lab tests and patients’ status.

It all depends almost exclusively on haphazard telephone conversations. “Whoever heard about it, knows about it—whatever they remember or scribbled down,” says Mollie Cummins, biomedical informatics associate professor at the University of Utah’s College of Nursing.

Dr. Cummins, a former emergency room nurse who has studied the vulnerabilities and inefficiencies of such telephone-based communication for more than 10 years, has received a $1.25 million grant from the U.S. Agency for Healthcare Research & Quality and another $294,000 from the Utah Health Information Network to develop software to help poison control centers and emergency departments share patient diagnosis and treatment information.

In a report published in *Clinical Toxicology* in 2013, Cummins and her team found repeated examples of ambiguous communication among the millions of poisonings in the U.S. each year—in nearly one-fourth of cases. In 12 percent of cases, the poison control specialist was unable to get requested information from the emergency room. And more than half of poisoned patients, 55 percent, were discharged prior to a final synchronized signoff between the emergency room doctor and a poison control center pharmacist.

So Cummins and her partners plan to build a computer platform for shared recordkeeping in poisoning cases.

Under the new program, a poison control specialist will start the record with the patient’s phone call. The emergency room doctor or nurse will be able to log into the record when the patient arrives at the hospital.

Dr. Barbara Crouch, director of the Utah Poison Control Center welcomes the new system. “When resources are tight, it allows us to use our health experts and their time wisely,” she says. “We’re not bothering the nurse in the emergency department, and our specialists are not spending 20 minutes on hold.”
USING TECHNOLOGY TO INFORM PARENTS

ERIN ROTHWELL
Ph.D.
Associate Professor,
College of Nursing
For most new parents, the first hours after a baby is born are a haze of exhaustion, joy—and stress. It’s not the ideal time to review an informed consent document.

But that’s exactly the moment newborn bloodspot screening—a battery of tests for between 36 and 50 conditions, including Phenylketonuria or PKU—routinely is done. Traditionally, parental permission hasn’t been required for research using such biospecimens, but national standards are changing rapidly.

University of Utah College of Nursing Associate Professor Erin Rothwell hopes to ease the rude awakening with a smartphone app that can walk parents through the process of contemplating genetic testing and other research.

Rothwell and her partners want parental consent to be given much earlier in the process, at a prenatal visit, and using easily accessible technology.

With a $2 million federal grant from the National Institutes of Health’s Eunice Kennedy Shriver National Institute of Child Health and Human Development, Dr. Rothwell is developing a tool to educate parents about the leftover bloodspots and their potential use in future research.

Her Video Informed Consent Information (VICI) project comes at a time when researchers across the country are trying to prepare for scheduled changes to the so-called “Common Rule” for the Protection of Human Subjects. The rule could impact research using specimens ranging from blood left over from cholesterol tests to tissue from cancer biopsies to remnants of surgical procedures.

“This is going to change the whole paradigm of biospecimen research,” says Rothwell, co-principal investigator. “People don’t understand paper-based consent. It’s lengthy. They don’t want to read it in the hospital. So how do you get consent? And how do you get consent that’s meaningful?”

The team of University of Utah scientists will develop a series of progressive questions that walk parents through the implications of the decision they’re making. For example: How long will this blood be stored? Will my child’s genetic information become public? Can I opt out at a future point?
CARING FOR CAREGIVERS

MIKE CASERTA
Ph.D., Professor, College of Nursing

LEE ELLINGTON
Ph.D., Associate Professor, College of Nursing

KATHI MOONEY
Ph.D., R.N., F.A.A.N., Professor, College of Nursing
From the point of a terminal cancer diagnosis, all medical care focuses largely on the patient—managing their pain, helping them sleep, giving them comfort in their final days.

But what about their caregiver?

A team of University of Utah College of Nursing researchers is focused on answering that question.

“In hospice, the family is the unit of care,” says Dr. Lee Ellington. “But that care is primarily directed at the patient, with the predominant focus being on patient symptom management.”

Instead, the Utah scientists have flipped that construction on its head. With a P01 research program grant from the National Institutes of Health, they are documenting and analyzing patient and caregiver symptoms, communication between health care providers and family members and, ultimately, the process of bereavement after the person with cancer dies.

“In life-limiting cancer, the family caregiver provides a lot of the caregiving with very little support,” says Dr. Kathi Mooney. “Nobody really says to the family members, ‘How are you doing?’

“We can tell from this research that it does take a toll.”

Through background research, the team has developed and enhanced an interactive voice response (IRV) system for patient and caregiver symptom management and automated coaching over the telephone. At the same time, they are tailoring both technology-based and person-to-person interventions between hospice workers, family caregivers and patients.

In the end, they hope to improve both patient and caregiver outcomes. Initial review has documented profound reductions in caregivers’ feelings of anxiety and depression, better sleep and less fatigue when they get a little physical and psychological support from the Symptom Care at Home (SCH) system.

“It’s about empowering them, as opposed to doing for them, because we’re not going to be there all the time,” says Dr. Mike Caserta. “But it is also important to give them the support they need to get to that point.

“Their life is forever changed. It isn’t that it goes back to what is was, but it’s a matter of how they adapt to the change.”
TRAINING FUTURE NURSE SCIENTISTS

SUSAN BECK
Ph.D., A.P.R.N., F.A.A.N., A.O.C.N.
Professor, College of Nursing

GINNY PEPPER
Ph.D., R.N., F.A.A.N., F.G.S.A.
Associate Dean for Research and Ph.D. Program, College of Nursing
By necessity, advanced nursing education is shifting to reflect the realities of nurses’ lives.

With family obligations and commitments in home communities—including rural towns where advanced training is not available—nurse scientists need flexibility and creative thinking to achieve their educational goals.

The University of Utah is leading the change, using technology to tailor an advanced program for research trainees who live in various locations around the country. Led by Co-Principal Investigators Dr. Susan Beck and Dr. Ginny Pepper, this National Institute of Nursing Research-funded T32 Institutional Training Program provides interdisciplinary mentoring in cancer, aging and end-of-life care research that prepares nurses for independent academic careers.

The project provides guidance—through a combination of on-campus seminars and regular remote sessions using state-of-the-art video conferencing—in crafting a program of research.

“Trainees have an opportunity to work with a research mentor to get real-life experience in research,” says Beck. “They get guidance in helping advance their own program of research. And they have a lot of opportunity to learn from one another.”

Much of the grant funding pays for trainee stipends and tuition costs. Trainees are able to conduct much of the work in their home states, but they return to campus every few months to work with their mentors. All pre-doctoral and post-doctoral trainees also gather together for an intensive week of work each summer on the University of Utah campus.

Jenny Alderden, a sixth-year Ph.D. student from Idaho, says the adaptability of the program helps her juggle two young sons, a job as a critical care nurse specialist and her research assessing pressure ulcer risk among older adult critical care patients.

Besides financial support and mentoring, “our journal club has helped me develop skills in critically appraising research, while our seminar has helped me grow professionally by allowing me to learn from leaders in nursing research,” Alderden says.
College of Nursing faculty have the opportunity to pursue global health initiatives, collaborate with scientists of every discipline and conduct research across the country.

SUSANNA COHEN  
D.N.P., R.N., M.S., C.N.M.  
Associate Professor  

$200,000  
Gates Foundation and University of California San Francisco  

Partners with CARE India and PRONTO International to develop and monitor integrated simulation and team-training curricula for nurse and physician mentor teams to improve intervention at 56 district hospitals and 320 primary health clinics in Bihar, India.

KATHERINE SUPIANO  
Ph.D., L.C.S.W., F.T.  
Associate Professor  

$220,000  
Alzheimer’s Association, Fahs-Beck Foundation, Foundation to Advance Mental Health  

Evaluates the use of Complicated Grief Group Therapy (CGGT) for suicide survivors and bereaved dementia caregivers—an intervention in persistent and unrelenting grief adapted from Dr. Katherine Shear’s Complicated Grief Therapy.
GAIL TOWSLEY
Ph.D., N.H.A.
Associate Professor

$150,000
National Palliative Care Research Center

“Me and My Wishes” uses technology to better document the wishes of nursing home residents to improve their day-to-day care as well as prepare for end-of-life decision making.

LAURI LINDER
Ph.D., A.P.R.N., C.P.O.N.
Assistant Professor

$265,000
National Institutes of Health and Oncology Nursing Society

Uses technology to help children, adolescents and young adults with cancer better manage their symptoms and improve the care they receive.

DEANNA KEPKA
Ph.D., M.P.H.
Assistant Professor

$163,000
National Institutes of Health National Cancer Institute

Studies how regional demographic characteristics, geographic location and access to health care services influence rates of HPV vaccination among eligible girls and boys using National Immunization Survey-Teen data.