THE IMPACT OF NURSING: ACROSS WASHINGTON STATE AND BEYOND
REALIZING OUR POTENTIAL

Washington is a national leader in supporting quality whole-person health for all of our residents. We recognize that social factors such as housing, education and employment impact our health, and we are working to build social determinants of health into our overall health system. We are integrating physical and behavioral health to treat the whole person. We have ensured that 95% of Washingtonians have health insurance.

In the Pacific Northwest, we have a critical mass of leading global health and technology problem-solvers. Nurses add to this momentum and the potential for rapid advancement with critical skills and perspectives. Time and again, nurses provide leadership grounded in evidence-based research and real-world practice. With that solid base comes an understanding of the questions we need to be asking and the hurdles standing in the way of health equity.

The UW School of Nursing, clinical partners and government agencies are seeding future successes by collaborating closely on educational opportunities, internships, research and clinical work.

In the pages that follow, you’ll see the many ways nurses intersect with and inform the advances happening all around us: evidence-based models of infant mental health, new technologies that support healthy aging, mobile health and telemedicine in rural parts of our state.

By capitalizing on nursing expertise, we have what it takes to meet the future of health care.

Jay Inslee, Governor
State of Washington

Azita Emami, Executive Dean
UW School of Nursing
Washington’s strong legacy of leadership continues to transform nursing education across the state. From the beginning of the 20th century to the present, innovative, visionary approaches and programs have anticipated the care needs of the future. Whether founding a school or raising standards, increasing the number of nurses in rural areas or furthering nurse research, these efforts shape and broaden the preparation nurses receive. They offer guidance for organizing, anticipating and adapting to a changing landscape, in service to the ultimate goal: expanded and improved health and well-being in this state and beyond.
When she was a young woman, it was as if Elizabeth Soule could see into the future. Throughout her life, her vision and leadership advanced and accelerated nursing education in Washington state. Her legacy — of determination, innovation and responsiveness — continues to prepare the nurses of today for the challenges of tomorrow.

At the dawn of the 20th century, 16-year-old Soule tried to enter nursing school in Boston. The daughter of a physician, she saw how the average person suffered, and she wanted to improve public health. But the school wouldn’t accept students under the age of 21, so she was turned away.

Soule was an innovator who saw nurses as the key to a strong health-care system.

Soule’s family thought nursing too difficult a life; a friend set her up at a hospital doing “dirty work” to discourage her. But the experience only made her more determined. At 18 she applied again and was accepted, graduating in 1907.

Five years later, Soule came to Washington as the only field-trained nurse in the state. She was an innovator who saw nurses as the key to a strong health-care system. She set to work organizing the Washington branch of the National League of Nursing Education. Two years later, to help address outbreaks of typhoid and tuberculosis, she organized the Washington State Public Health Nursing Association.

Before long, the 1918 flu pandemic swept the globe, infecting a third of the population. The world needed more nurses. The University of Washington was asked to help, and it hired Soule to set up public health courses for registered nurses. These became the first nursing classes in the Northwest to incorporate fieldwork.

After serving as the first state supervisor of public health nursing in the new state health department, Soule returned to the UW in 1920. At the request of President Henry Suzzallo, she started the Department of Nursing. It became the first in the nation to be accredited by the National Organization of Public Health Nurses. By 1923, students in the program could earn a Bachelor of Science in Nursing degree.

Soule’s proudest achievement set the national standard for nursing education: an integrated four-year nursing major that included fieldwork at Harborview Hospital. In 1945, the Department of Nursing became the University of Washington School of Nursing. Over the 40-plus years of her career, Soule used education to deepen the impact nurses could make as health-care pioneers.

Elizabeth Soule, founding dean of the University of Washington School of Nursing
NURSES DRIVE INSTITUTIONAL CHANGE

For the past century, visionary nurse-leaders have advanced and standardized nursing education. Their legacy continues today. In addition to increasing the number of highly trained nurses and the quality of care, these ongoing efforts help the profession respond to increasingly complex patient and community needs.

RAISING STANDARDS

In the 1950s, Betty Anderson and Betty Harrington offered crucial nursing leadership in Eastern Washington. Through their collaborative and expansive work, they increased nursing capacity while raising educational standards.

Earning a Bachelor of Science in Nursing from the UW and then a Master of Education from Whitworth College in Spokane, Anderson benefited from educators on both sides of the state. As she began her career in Spokane, she saw the regional need for more highly trained nurses. She began to formulate a vision.

Meanwhile, Betty Harrington — originally from Montana, with a degree from St. James School of Nursing and experience in the U.S. Army Nurse Corps — earned her Bachelor of Science in Nursing and Master of Education from Spokane’s Gonzaga University. She quickly stood out as a progressive, selfless leader and organizer.

Anderson and Harrington worked together to create the first intercollegiate center for nursing education in 1968. This achievement included galvanizing national nursing leaders, administrators and educators and bringing together Washington State University, Eastern Washington University, Whitworth College and Fort Wright College of the Holy Names for a joint program that would be administered at WSU. Ultimately the consortium would become the WSU College of Nursing.

Anderson and Harrington’s longstanding influence in the field of nursing, and their collaborative and visionary approach to educating its workforce, continue to shape the professional prospects and standards of nursing. Their accomplishments increased opportunities for the education of rural nurses across Eastern Washington and led to higher quality care for the region’s communities.

CREATING MODEL PROGRAMS

While nursing shortages can happen anywhere, in Washington’s rural communities the need is especially great. As the 21st century approached, Helen Kuebel understood that to change the equation, education needed to change. And she employed a modern solution.

During her 20 years at Lower Columbia College in Longview, Washington, Kuebel increased the number of nurses caring for rural patients and families. Funded by grants, the online program she developed continues to allow students to take courses from remote locations while completing clinical work at nearby partner facilities.

In addition to providing more nurses, the Rural Outreach Nursing Education program marked an expansion in distance education. The governor at the time recognized it as a best practice. Since then, it’s served as a model for others around the country.

On the other side of the state and nearly a decade after Kuebel’s retirement, WSU Associate Professor Janet Purath continues to address the care needs of rural Washington. Funded by grants that Purath leads, a partnership between the Washington State University College of Nursing and the Community Health Association of Spokane (CHAS) trains nurses in rural clinics and then connects them to jobs in the same areas.

Challenges faced by the providers at CHAS become learning opportunities for the students.

The program’s specialized components offer simulations with patients to help nurses address acute and chronic pain and substance abuse disorder, as well as a module that focuses on medication-assisted therapies for opioid-use disorder.

The program also enhances the curriculum at the WSU College of Nursing through a Nurse Practitioner Faculty in Residence. Challenges faced by the providers at CHAS become learning opportunities for the students. And the legacy of care between nursing schools and communities in need continues to grow.

PUTTING RESEARCH FIRST

In 1956, Katherine Hoffman became the first nurse in Washington state to earn a doctorate. She didn’t stop there. In addition to positioning herself as a nursing scholar, she began to position the profession to be more effective.

That same year, Marjorie Batey joined the University of Washington School of Nursing as a nursing instructor (after earning a nursing diploma in Spokane, a Bachelor of Science in Nursing from the UW and a Master of Science and Doctor of Philosophy from the University of Colorado). Before coming to the School of Nursing she had also held nursing roles in California, Washington and Colorado, including serving as the project director of nursing research programs for the Western Interstate Commission for Higher Education.

Hoffman and Batey both understood the need for research to influence practice and improve patient care. Hoffman became a member of the American Nurses Association Committee for Nursing Studies. In 1958, under her leadership, the organization’s House of Delegates declared research the top priority for the profession.
The following year, as assistant dean at the UW School of Nursing, Hoffman worked with Dean Mary Tschudin to get one of the first federal faculty research development grants. Six years later she supported nurses working toward doctorates, in her role as director of one of the first nurse-scientist grants. Hoffman and Batey elevated and expanded nursing science in Washington, across the nation and around the world.

Together with distinguished nursing leader Jo Eleanor Elliott, Hoffman and Batey founded the Western Society for Research in Nursing. Through its conferences and publications, the regional consortium of universities in 13 states created a framework for furthering research that would improve patient care and advance the profession.

As scholars, higher-education advocates and champions of research, Hoffman and Batey elevated and expanded nursing science in Washington, across the nation and around the world.

The nation and around the world.

LEADING CHANGE

Dolores Little understood the power of nurses to impact patient satisfaction and outcomes. Her experience as a head nurse and supervisor informed her work as a professor in the Department of Community Health Care Systems at the UW. The required leadership course she taught in the 1960s inspired nursing undergraduates about their potential to make change.

Influencing and mentoring hundreds of students, Little had an engaging style and used every medium imaginable to amplify her impact. She pioneered the idea that clearly defined and enhanced nursing roles offered a path to leadership and better care. Through hundreds of papers, conferences, conventions and workshops, and by speaking on television, over the radio and on film, she changed nursing practice worldwide.

Watched by over two million health-care providers in the U.S. and internationally, her case study film “Mrs. Reynolds Needs a Nurse” won awards for its portrayal of the complexities of the health-care system. It demonstrated how nurses can collaborate, effectively troubleshoot, adapt and serve as patient advocates to get dramatically improved results.

Dolores Little inspired nurses to speak up as patient advocates. And she fought for nurses’ rights, promoting equal pay for equal work, legal protections for nurses and health-care reform.

The Primex concept that Little helped develop was the precursor to today’s primary-care practitioner. She inspired nurses to speak up as patient advocates. And she fought for nurses’ rights, promoting equal pay for equal work, legal protections for nurses and health-care reform.

Today, more than 50 years after she began teaching at the UW, Little would likely appreciate the formalized leadership program for nurse-administrators offered at Washington State University. The Certificate in Nursing Leadership program focuses on organizational leadership, quality care management, professional practice environments, organizational systems management, communications and collaboration.

RAISING THE BAR

Between 1975 and 1986, under the leadership of Rheba de Tornyay, the University of Washington School of Nursing grew. With de Tornyay’s determination, decisiveness and collaborative approach, she launched the school into a new realm of excellence.

As de Tornyay saw it, the University’s advancing reputation as a premier research institution was an opportunity for the School of Nursing to keep pace with the rigors of other disciplines. She promoted a higher standard of doctoral preparation and research productivity for faculty. In addition, during a state financial crisis when there was a lack of funding, she spearheaded one of the first doctorate degree programs in nursing science.

De Tornyay’s work drew attention. In 1984, the UW School of Nursing became the top-rated nursing school in the country, a designation it has held ever since.

De Tornyay’s book “Strategies for Teaching Nursing,” updated three times over 30 years and used nationally and internationally, offered a more modern way of teaching, with a focus on collaboration and reflection rather than treating students as passive receptacles.

By deepening educational rigor, cultivating a more collaborative educational approach and increasing the number of highly qualified nurses, educators, researchers and leaders, de Tornyay’s foundational leadership dramatically improved the nursing profession’s ability to meet the future.

ONGOING EVOLUTION

The establishment of Medicare and Medicaid in 1965 meant that many more people had health benefits and could seek care. Physicians had trouble keeping up with demand. In response, universities began training nurse practitioners. The UW created one of the first family nurse-practitioner programs in 1971.

The program’s first graduate was Ruth Fine. She had previously conducted a literature study to see how many research articles had been written collaboratively by doctors and nurses between 1952 and 1967 — and she found that they were nearly nonexistent.

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An emphasis on populations and systems empowers nurses to take the profession to a new level, improving health care both locally and globally.

EDUCATING FOR THE FUTURE

In addition to addressing a shortage of primary-care doctors, the new degree offered a pathway toward increased nurse autonomy and the collaboration within the medical field that Fine had found to be lacking.

In 2007, as the health-care system grew increasingly complex, requiring more extensive preparation from nurses, the UW established the first Doctor of Nursing Practice degree program on the West Coast. The increased training set a precedent for others, and it allowed nurses to diagnose, treat and prescribe medicines to patients and follow them over time without supervision.

More recently, the UW’s addition of a combined Doctor of Nursing Practice in Population Health Nursing and Master of Public Health in Global Health offers an exciting new model of multidisciplinary expertise. Its emphasis on populations and systems empowers nurses to take the profession to a new level, preparing them to improve health care both locally and globally.

RESPONSIVE INNOVATION

With advancing technology comes opportunity. The UW’s plan for a new Health Sciences Education Building includes an evolving simulation center and virtual reality studio, offering a new level of skill building in realistic settings. Over time, this multiphase project will become increasingly central to the nursing-student experience. Promoting collaboration across all the health sciences, confidence and mastery in clinical skills, critical thinking, and state-of-the-art technology, the space will offer an adaptable training ground for the future.

For distance learning, Washington State University meets its land grant mission and vision by providing accessible education across the state with distance-learning tools. Its information-management and learning tech resources include the latest technologies for remote collaboration and learning, as well as a combination of live and online courses, supplemented with face-to-face interaction.

To meet the needs of increasingly common mass-casualty events like shootings, WSU holds an annual training event on campus. In a collaborative effort that includes students from WSU’s nursing, medicine and pharmacy colleges and the UW’s physician assistant program, the multidisciplinary group learns basic trauma skills in the classroom and then applies them in a mock emergency setting where volunteers pretend to be injured or act as upset friends or relatives.

An emphasis on populations and systems empowers nurses to take the profession to a new level, improving health care locally and globally.

In another interdisciplinary training effort that focuses on complex health challenges, WSU Health Sciences hosts an annual simulation developed by the University of British Columbia. Participants include students representing more than 10 health-care disciplines from Eastern Washington University and the UW. Over two weeks, interdisciplinary teams create a collaborative, patient-centered care plan for their simulated patient. The training culminates in a presentation to other students, faculty and community practitioners.

To further prepare students to collaborate, the WSU College of Nursing offers several courses with guest teachers from other disciplines, such as pharmacy and physical therapy. Some courses also involve students from other disciplines, allowing the groups to share information about their education and profession. They exchange consultations about patients, learning how they might someday collaborate in a real health-care setting.
The very young and the very old have much to teach about life. And nurses are turning that learning into action. Regionally, nationally and internationally, nurse-led institutions — including the UW’s de Tornyay Center for Healthy Aging and the Barnard Center for Infant Mental Health and Development — are guiding the health-care system to better care for these two special groups. They move the field forward by identifying and addressing access issues, applying practical human and technological solutions, and researching and raising awareness to set the agenda for the future.
Kathryn Barnard championed infant health. Like nursing legend Elizabeth Soule, Barnard started young. After getting her first nursing job in 1954 at age 16, she earned her Bachelor of Science in Nursing from the University of Nebraska and her master's degree from Boston University. In the 1970s, armed with a doctorate from the University of Washington in the ecology of early childhood development, she began demonstrating the significant connection between early care and a baby's potential. In 2001, she founded the Center on Infant Mental Health and Development, later renamed the Barnard Center.

Barnard contributed to the well-being of individual babies with the invention of a rocking bed with a tape-recorded heartbeat, used by hospital nurseries and neonatal intensive-care units. Her evidence-based models of infant mental health shaped the field of early child development. Over time, the Barnard Center became self-sustaining, with a focus on research, often in the setting of home visits. The center also became a place where people in the child-development workforce could further their knowledge and skills.

In a similar way, Rheba de Tornyay increasingly became a voice for healthy aging. After the UW School of Nursing grew to be the top-rated school in the country under her leadership as dean, de Tornyay became a member of the national advisory council of San Francisco’s Institute on Aging and wrote the book “choices: Making a Good Move to a Retirement Community.” In 1998, she and her husband, Rudy de Tornyay, secured the future of the UW’s Center for Healthy Aging with an endowment. The center would later be renamed in their honor.

The de Tornyay Center for Healthy Aging helps health-care providers and the health-care system support older adults. It’s a center for research on body, mind and community, and it focuses on collecting and analyzing data to spot patterns and trends. Along with offering extensive learning opportunities for nursing students, the center also hosts events and partners with community organizations to advance conversations in the field.

In both cases, nurse leaders dropped a metaphorical stone into society’s waters and then watched as the circles expanded outward to meet the future. Thanks to Barnard’s and de Tornyay’s work, nurses gained additional opportunities for education, research and care delivery — and the profession expanded its impact. The health-care sector became better positioned to address the growing number of people over age 65. And the potential of children, elders and communities increased as they received better and more specialized care.
NURSES RESPOND

By 2030, nearly 20% of the U.S. population will be over age 65 — and the country’s population is currently 23% children. By anticipating the needs of these two large groups, nurses create a stronger health-care future.

SHEDDING LIGHT

Wei Chao Yuwen understands that things aren’t always as they seem. With a Bachelor of Science in Nursing and a UW doctorate in philosophy and nursing science with a concentration in statistics, she’s found that patients benefit when nurses look a little closer, ask questions and then enlist the help of science and technology.

In her work evaluating sleep health in children with arthritis, Yuwen found that parents initially reported few sleep problems — for themselves or their children. Using observation as well as technology similar to the health-tracking devices on the market but much more sensitive, Yuwen put parents’ assertions to the test.

After analyzing the data for patterns, she found that parents had overestimated the quantity and quality of their own and their children’s sleep. By comparing this information to that of families whose children didn’t have a chronic condition, she then assessed the impact of arthritis on a family’s sleep.

No longer in the dark, health-care teams could now see that a problem existed. Since sleep is a central pillar of health and development, identifying the problem paved the way for more holistic and comprehensive solutions. The next step? Developing supports and interventions to better help these families.

TECHNOLOGY SERVES SENIORS

The University of Washington HEALTH-E research group, led by Alumni Endowed Professor in Nursing George Demiris, helps test and design new technologies that assist with healthy aging. The center works on a range of solutions, from fall-detection devices to robotic pets to smart-home sensors like the one that helped study participant Mary Ruiz discover that her allergies weren’t seasonal but the result of dry air in her home. She fixed the problem by purchasing a humidifier.

At Washington State University, Assistant Professor Shelly Fritz leads a team focused on smart-home research to develop sensors that map daily living and behavior patterns. The goal is to gather data that then gets analyzed by an intelligent machine looking for unusual patterns that warrant a medical alert to a care team.

Both groups use a collaborative approach. At the HEALTH-E lab, the Schools of Nursing and Medicine work together and partner with retirement communities and Microsoft Research. At WSU, with over $2 million in grants from the National Institutes of Nursing Research and the National Institutes of Health, researchers in nursing, computer science and psychology test and work through processes as a multidisciplinary team.

Both efforts have broad applications and keep people, not technology, at the center. The HEALTH-E research team selects technologies that are often simple and readily available; they aim for solutions that are easy for a senior or a family caregiver to understand and use, with the support of a health-care provider.

The WSU effort recognizes the need for diversity among its participants. That’s why its work includes a partnership with Asian Health and Service Center in Oregon and WSU’s College of Nursing in Vancouver, Washington, testing smart homes with older Asian immigrants.

Both groups work on their research with the support of a health-care provider.

NONTRADITIONAL OUTREACH

In health care, the external factors and context are often just as significant as a population’s internal markers of wellness or illness.

Homeless seniors needed support outside of the typical health-care setting.

For example, consider the socioeconomic issue of housing. As increasingly expensive homes replace affordable ones, and as the price to own or rent a home continues to outpace incomes, the number of homeless people continues to rise in Seattle and other cities. Who specifically becomes homeless as a result of these trends? Lots of people, including seniors trying to pay for costly health care and unable to afford housing as a result.

It also works the other way: After seniors become homeless, they suffer more acutely from exposure-related ailments, like bronchitis or skin infections. In addition, an older adult living on the streets faces a greater risk of being the victim of a crime.

Community health nurse Nikela Harris wanted to address these issues. She knew that this population needed support outside of the typical health-care setting. So, while completing her master’s degree at the UW School of Nursing, she focused her scholarly project on the Pike Market Senior Center.

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While the senior center gave older adults a place to eat and socialize, it didn’t address the biggest hurdles that half of its members struggled with: homelessness and its related health issues.

Harris established ongoing relationships between the center and area housing agencies. In doing so, she created pathways for homeless seniors to improve their health by securing permanent places to live.

When she completed her project, Harris worked with her mentor to pass the baton to another community health nursing student. That ensured there would be another advocate and leader who could address care in a broader context and support this important population.

ADDRESSING INEQUITIES
Verna Hill knew firsthand the importance of addressing inequities and bias. The first African American to complete the University of Washington’s pre-nursing and nursing programs, she almost didn’t enroll because she didn’t think her pre-college education had been adequate. After entering the profession, she faced the fact that some of her patients did not want care from a nurse of color.

Hill’s perseverance set a precedent for others, and the disparities she experienced shaped her approach to care. In 1979, after earning her master’s degree at the UW, she worked as the maternal child health coordinator with Public Health – Seattle & King County. In that role, she began collecting and reviewing data that linked high-quality prenatal care to better outcomes for babies.

Hill noted that African American babies had disproportionately low birth weights and high mortality. She also realized that pregnant women who engaged in high-risk behavior were less likely to seek care. Through education and public health nursing, she sought to remove barriers that kept people from getting the care they needed.

In the same way, Hill realized that the needs of a diverse public would be better served by more representative leadership. So she worked to increase the number of nurses of color holding leadership positions at the Washington State Nurses Association (WSNA).

The first African American to complete the UW nursing program, Verna Hill’s perseverance set a precedent for others.

Throughout her career, Hill spearheaded many incremental improvements. In 2010, the same year Hill was inducted into the nursing hall of fame, Washington state began soliciting input from African Americans on state board nursing-exam questions, something Hill had requested 25 years earlier as the WSNA chairperson of the Minority Affairs Committee.

STRENGTHENING COMMUNITIES
Acting on knowledge about individual and community health can be overwhelming. But nurses increasingly have the knowledge, connections and platforms to cut through the noise and lead change.

After a career in nursing diagnosis and management, 97-year-old blogger Doris Carnevali now focuses on healthy aging. Her motto is “If we’re green, we’re growing,” and she brings that perspective, knowledge and gentle humility to her work. Sharing insights into both caregiving and receiving care, she meets her engaged readers wherever they are and helps them get where they need to go.

Meanwhile, UW Alumni Endowed Professor in Nursing Teresa Ward’s years of sleep research told her that tired teens might not reach a ripe old age. Risks of insufficient sleep included diabetes, weight gain and higher cholesterol, plus lower functioning, less motivation, a lack of problem-solving skills, and an inability to control impulses. With modern teenagers getting less and less sleep, the problem added up to a major public-health issue.

As part of a task force that would help the City of Seattle make policy changes to address the issue, Ward and others suggested starting high school later in the morning, giving these developing students the opportunity to get more sleep. Area schools ran with the solution, implementing the change in 2016.

Both Carnevali’s blog and Ward’s advocacy broke new ground, identifying issues and offering solutions. From teenagers to seniors, people benefited from their work, and their efforts offered a path forward for stronger and more resilient individuals and communities.
SUPPORTING YOUNG AND OLD

People learn by sharing information. In health care, international collaboration has the power to dramatically accelerate the quality and pace of progress.

UW Associate Professor Tatiana Sadak witnessed this effect firsthand when she participated in Dementia Forum X, a global forum in Sweden, to discuss and co-author a white paper that would help inform policy decisions about dementia care, support and infrastructure. While there, she presented research to nurse clinicians and researchers from Sweden and Denmark about innovative nurse-run dementia caregiver interventions.

On a professional trip to China, UW Assistant Professor Weichao Yuwen presented about her pediatric sleep research and toured hospital facilities. It was there that she noticed that babies in intensive-care units got only five minutes per day with their families. Yuwen, who’s originally from China, knew that this was at odds with China’s family-centered culture, and so she dug a little deeper. She found that there was worry about infection and that the ratio of health-care providers to infants was 1-to-8, compared with the 1-to-1 ratio in the United States, where Yuwen had been trained. This finding led to a collaboration with a nurse in China, focused on low-cost interventions to promote culturally tailored family-centered care there.

In Seattle, the UW School of Nursing and the Northwest Center for Public Health Practice are using an award of $400,000 from Seattle and King County’s Best Starts for Kids initiative to increase the effectiveness and capacity of home-based programs for young children. To do this, the partners engage staff members, use feedback loops and look at how the programs build on the existing knowledge of the local communities. In addition, they are using the Consolidated Framework for Implementation Research to assess interventions and the World Health Organization’s PROGRESS equity lens as a way to apply global standards to improve local outcomes.

From China to Sweden to Seattle, this type of global knowledge sharing creates connections, expands options and improves care.

MEASURING SUCCESS

In partnership with researchers at the University of California, Davis, Monica Oxford, director of the Barnard Center for Infant Mental Health and Development, led a home-visiting study focused on safe and sensitive caregiving.

The study looked at the effectiveness of a home-visiting program called Promoting First Relationships®. In addition to showing that families receiving the intervention had fewer foster-care placements and increased sensitivity by caregivers to the needs of the families’ young children, the study also showed a positive impact on the children’s physiological responses.

Families receiving the intervention had fewer foster-care placements, increased sensitivity by caregivers and a positive impact on the children’s physiological responses.

By measuring a child’s heart rate as he or she did a challenging or slightly stressful activity, like completing a puzzle or petting a toy that suddenly jumped, they found that the children who’d participated in the program had milder reactions. The findings offer a groundbreaking example of how to directly correlate a brief family-support intervention with a physical response.

The results also have implications for long-term health, since effectively improving caregiver relationship skills could lead to less maltreatment of children, who then would be at a lower risk for depression and other mental-health issues as adults. In addition, the children’s subdued physical responses to stressors suggest the development of better coping skills.
All of Washington state’s 7 million residents deserve equal access to high-quality holistic health care. To make that access a reality, leading nurses spend considerable time visioning, advocating and collaborating to inform and transform the health-care system. Together with government agencies and community partners, their bold, coordinated work builds a foundation for a healthier future for all. Every day, through research, education, policy, programs and practice, their efforts improve the way health care works for everyone.
ELIMINATING BARRIERS

Nancy Woods’ mother taught her that she could do anything. Both her parents valued education. While in college, Woods found her calling when she discovered the nursing profession. After completing her doctorate at the University of North Carolina while teaching at Duke University, she joined the faculty at the University of Washington.

Influenced by the women’s movement in the 1970s, Woods recognized a giant gap in women’s health-care research: There were no scientific studies of menstrual-cycle symptoms for healthy women. Health-care providers had to generalize based on studies of those who were severely physically or mentally ill.

In the 1990s, Woods became dean of the UW School of Nursing. During a decade in that role, she expanded the school’s reputation and funding levels. She also continued to promote a better health-care future for everyone. She redoubled efforts to make the school more inclusive, equitable and diverse, and she publicly apologized for the school’s past failures to encourage, support and admit African American and other underrepresented students.

In 2017, just before retiring, Woods served as the interim associate dean for diversity, equity and inclusion and professor in the Department of Biobehavioral Nursing and Health Informatics. During her 50-year career she witnessed and oversaw dramatic changes in the nursing profession and the health-care field. Finishing her career in these very forward-looking positions was yet another way to meet the future.

MAKING HISTORY

Her studies helped to amplify women’s voices, empowering them in their own care.

Woods wondered: How could practitioners offer adequate and evidence-based care to half the population based on such limited information? She decided they couldn’t. So, early in her career, she spearheaded the first of hundreds of studies and publications to inform women’s health.

In addition to providing important information about how to better care for women, her studies helped to amplify women’s voices, empowering them in their own care. Her work expanded the field of nursing science related to women’s reproductive health across the lifespan, including menopause. The Seattle Midlife Women’s Health Study, for example, tracked participants for two decades.

Nancy Woods, Ph.D., R.N., F.A.A.N., former dean of the UW School of Nursing and nurse leader in promoting women’s health
NURSES INFLUENCE

EXPANDING CARE

Boldly enacting health-care policy initiatives requires immense knowledge and expertise. Nursing leaders all over the state with strong advocacy backgrounds accelerate the process — leaders like Sofia Aragon, executive director of the Washington Center for Nursing, and Patty Hayes, director of Public Health – Seattle & King County.

The result? More people covered by insurance. Currently more than 94% of residents now have health-care coverage, thanks to expanding Medicaid and the state’s health benefit exchange. In January 2020, at least 150,000 education employees and their families will have access to affordable health-care benefits through the School Employees Benefits Board Program. And starting in 2021, Washington state will offer the nation’s first public health-care coverage option to help stabilize costs and cap premiums.

Nurses also support policies that honor and empower the whole person. Managed care that integrates physical and behavioral health for the state’s 1.6 million Apple Health (Medicaid) clients offers transitional mental-health services in community settings closer to friends and families. The Long-Term Care Trust Act, going into effect in 2025, provides dollars for long-term daily care needs. To ensure the quality of patient decision aids that help people better advocate for what they need, Washington state laws now require certification of these tools.

Population health is another key area in which nurses can inform policy to improve lives. For example: Legislation going into effect in 2020 increases the legal age for tobacco use to 21. A strategy focused on eliminating hepatitis C in Washington state by 2030 involves education, outreach and improving access to medication. And addressing the opioid crisis means more education, more access to medication-assisted treatment and updating prescribing policies.

A recent $550,000 grant to the UW School of Nursing supports outreach and services for pregnant and parenting women with opioid-use disorder. This research-based work aims for better mother-child relationships and improved social and psychological outcomes for children.

ONGOING ADVOCACY

In 2018, Gov. Jay Inslee appointed executive nurse Sue Birch as director of the Washington State Health Care Authority. In her role, she focuses on transforming health-care delivery through policy and finance.

Another executive nurse on her team, MaryAnne Lindeblad, the state Medicaid director and a UW School of Nursing alumna, works to make care more accessible for more than 1.8 million Washington residents.

One of the ways the organization works toward transformation is by encouraging accountable, coordinated, integrated care. This care includes the innovative approach of paying for the value received rather than the service performed.

Through data-driven measurement, efforts to keep costs in check, and policy reforms that ensure that more people have coverage, these leaders help to realize a healthier Washington.

DEDICATED PERSISTENCE

Seattle nurse Eileen Cody has been a constant champion for affordable, quality health care since 1994, when she was first appointed to the Washington State House of Representatives.

She played an instrumental role in the implementation of the federal Affordable Care Act, increasing coverage for more Washingtonians and ensuring that the state’s online marketplace, Washington Healthplanfinder, became a model for other states.

A unified vision and voice can break down barriers and create change.

As the chair of the House Health Care & Wellness Committee, Cody advocates for patient safety, public health services, legislation that ensures that mental health is covered as fully as physical health, and legislation supporting increased vaccination rates.

A neuro-rehab nurse, Cody recently retired from Kaiser Permanente (formerly Group Health Cooperative) after 40 years. In addition to her legislative leadership on behalf of patients, she is also a founding member of District 1199NW SEIU Hospital and Health Care Employees Union.

A UNITED VOICE

Diane Sosne knows that having more well-trained nurses will help Washington meet its current and future health-care needs. As the president of the SEIU Healthcare 1199NW union, she represents 42,000 registered nurses and other health-care employees in Washington.

With her background as a psychiatric nurse, Sosne has witnessed individual transformation. In multiple leadership roles locally, nationally and internationally, she’s also seen the power of large groups and understands the way a unified vision and voice can break down barriers and create change.

In Sosne’s role with the union, she helped found the SEIU Healthcare 1199NW Multi-Employer Training Fund in 2008, in collaboration with a medical center and four other employers. The program continues to grow and bring more people to the profession through outreach, education funding, future-focused apprenticeships and training programs.

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In 1879, Mary Mahoney became the first African American to graduate from a nursing school in the United States. Some 70 years later, when Frances Terry became the first African American to receive her Bachelor of Science degree from Seattle University’s nursing program and the second in the state to graduate from such a program, most hospitals still wouldn’t hire nurses of color, and some patients would refuse their care.

Terry wanted future nurses to have more access and opportunities than she had. So did Ann Foy Baker, also an African American nurse, who inspired Terry by joining with other nurses to form the Mary Mahoney Professional Nurses Organization. Over her 50-year career, in addition to other leadership positions in the profession, Terry contributed to the organization, helping to give scholarships and mentor up-and-coming professionals.

Today, nursing schools in Washington recognize the need to do more. The fact is, many potential nurses may never find the profession in the first place. And a more diverse workforce will better serve the health-care needs of a diverse public.

To support that vision, every year the University of Washington, Seattle Children’s Hospital and Washington State University host low-cost summer camps for teens to introduce them to the nursing profession.

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East of the mountains, the WSU Na-ha-shnee Summer Institute invites Native American and Alaska Native high school students to Spokane to learn more about working in the field of health science. On the west side, camp outreach efforts focus on teens with diverse backgrounds, including low-income and minority students, who may be unaware of nursing as a career option.
Statewide, these programs make a personal and professional difference: They result in enthusiastic new recruits, excited to have found their vocation and to pave the way for others.

**SOCIAL CHANGE**

At a time when breast cancer has become more treatable and curable, black women are 40% more likely to die of the disease than white women. That adds up to five black women a day dying from breast cancer. University of Washington Associate Professor Kerryn Reding’s research focuses on how to eliminate that gap and improve those odds as quickly as possible.

Professor Betty Bekemeier’s work complements and supports Reding’s efforts by focusing on increasing health equity in communities. A UW faculty member at the School of Nursing, lead at the Center for Studies in Demography and Ecology and director of the Northwest Center for Public Health Practice, her evidence-based work helps public health leaders change outcomes. This progress includes interventions that reduce barriers to care for people with cancer and cardiovascular disease and adults with diabetes.

The Health Care for the Homeless Network offers interdisciplinary teams sensitive to the effects of trauma, discrimination and stigma.

Denise Drevdahl, a graduate program coordinator and professor at the UW Tacoma School of Nursing & Healthcare Leadership, seeks to make similar strides in changing education so that the profession fosters more equitable outcomes. Recognizing that educating nurses on cultural competency has not addressed disparities, Drevdahl focuses on the bigger picture. Looking at emerging research on societal structures that contribute to disparities in health care, she’s helping to bring this broader lens to nursing programs and classrooms, to better care for everyone.

**SUPPORT SYSTEMS**

U.S. veterans have unique health-care needs. For example, 20% of veterans who served in Iraq or Afghanistan have experienced either a traumatic brain injury or PTSD. Retired Army Lt. Col. Frankie Manning has spent much of her career focused on expanding access to medical care for veterans, including women. Working at the U.S. Department of Veterans Affairs, she’s helped set up outreach, clinics, screenings and mobile medical units around the state.

Individuals and families experiencing homelessness also have unique care needs. The Health Care for the Homeless Network, led by public health nurse and UW graduate Jody Rauch, addresses those needs. Supporting everyone’s right to health care, the network focuses on meeting people where they are with interdisciplinary teams sensitive to the effects of trauma, discrimination and stigma. The team works to provide coordinated medical, dental and mental health care and community and housing support.

To address the needs of homeless youth, three UW Doctor of Nursing Practice students implemented a nurse-run clinic. With a permanent service-learning placement at Peace for the Streets by Kids from the Streets, an organization based in Seattle’s Capitol Hill neighborhood, an ongoing set of volunteers, including UW School of Nursing Associate Dean Anne Hirsch, ensure that struggling young people know about the available health resources and how to access them.

As costs rise in the Puget Sound region, housing and food insecurity also impact college students. UW Tacoma Associate Professor of Nursing & Healthcare Leadership Christine Stevens recognized that students needed help and designed a survey to get more information. The survey highlighted the fact that students in Tacoma struggle more than those on other campuses and need more support. To address a 10% rate of food insecurity, the UW Tacoma Office of Equity & Inclusion created a food pantry that now provides ongoing support to students.

 Volunteers, including UW School of Nursing Associate Dean Anne Hirsch, ensure that struggling young people know about the available health resources and how to access them.
More than ever, nurses have the power and potential to improve global and local health care. From HIV treatment in Mozambique to justice for immigrants’ children with asthma in the Seattle area, informed and connected health-care providers improve lives and communities. By harnessing knowledge of population health, global and local networks, technology, and cross-disciplinary data and research, future-focused nurses chart the path toward better health for all.
LEADING GLOBALLY

The nursing profession moves forward thanks to global-minded leaders like Azita Emami. After emigrating from Iran, she went on to study nursing at the Karolinska Institute in Sweden. Emami holds a master's degree in international health from the Red Cross College of Nursing and a doctorate in medical sciences. She’s an academic leader in both Sweden and the U.S., and she collaborates on research projects with colleagues around the world. As dean of the University of Washington School of Nursing, Emami uses her position to further the critical role of nurses in improving global health care.

A commitment to population health, spearheaded by 18 higher-education leaders (including Emami) from nursing schools throughout Washington state, involves embedding population health into the nursing curriculum in every class and at every level — from preventive health care to chronic disease management, from collaborative practice to policy development.

The UW’s Center for Global Health Nursing, launched in 2016 and co-directed by Drs. Sarah Gimbel and Pamela Kohler, increases the current and future capacity of nurses through global and local research, practice, scholarship and advocacy. A $3.37 million grant from the National Institutes of Health, awarded to Gimbel, supports work that builds on existing HIV-treatment infrastructure in Mozambique to also treat for hypertension, a condition affecting 40% of the adult population. Kohler leads work in Kenya focused on the treatment and prevention of STD/HIV in adolescents. And the UW’s Population Health Initiative has worked with international researchers and practitioners to help launch the Pacific Rim Clinical Emergency Preparedness Research Network, supporting health systems and communities in better preparing for and responding to unexpected events.

A new Population Health building at the UW reflects these joint commitments and a new era of integrated leadership. To be completed in 2020, the space will house the Institute for Health Metrics and Evaluation, the UW Department of Global Health and the UW School of Public Health. Built with $15 million in funding from the Legislature and a $210 million gift from the Bill & Melinda Gates Foundation, the building is designed to cultivate collaboration, innovation and collective understanding about the many influences on health, locally and globally. Though the School of Nursing will not be located in the new building, nursing faculty and students will be collaborating on many of the projects and research efforts happening there.

In 2018, the University of Washington began offering a new concurrent nursing graduate degree program in population health and global health. The Doctor of Nursing Practice in Population Health and Master of Public Health in Global Health provides a base in advanced nursing leadership and evidence-based decision-making models, and it prepares nurses to be leaders in social-justice and equity frameworks. This cross-disciplinary program encourages partnerships and increases knowledge about health conditions that affect people across borders. The two degrees together offer the skills and training for finding solutions that address social, economic and political barriers.

As nurses are increasingly at the forefront of global and local health care, the world needs to see and understand their potential. The UW School of Nursing has partnered with the University of North Carolina Chapel Hill School of Nursing, the American Nurses Association, and the U.S. Public Health Service to lead Nursing Now USA — the national arm of Nursing Now, a worldwide initiative to advance the nursing profession by raising awareness about the tremendous resource that nurses represent and the urgent task of preparing them well.
The Pacific Northwest has long been an epicenter of global health advancement. So it’s fitting that a large and connected group of nurses — educators, researchers, students and practitioners — continually challenge the status quo here to increase health-care equity and access. By design, this work informs health care both locally and internationally, creating continuous feedback loops for improvement.

INFORMING CHANGE

Making informed decisions about population health requires a special set of skills. David Reyes, a UW Tacoma assistant professor of nursing and health care leadership, focuses on developing this core competency. His community-based participatory needs assessments give voice to communities. It’s an approach centered around careful listening that works.

Uba Backonja, an assistant professor at UW Tacoma and the UW School of Medicine, brings her expertise in identifying, gathering and visualizing data to inform leaders and address care needs. Her work as an investigator on Solutions in Health Equity, a five-year project, harnesses the power of data to improve care in traditionally underserved communities. Advanced by an interdisciplinary team and supported by the U.S. Department of Health and Human Services’ Office of Minority Health, this work focuses on the Northwest, with an emphasis on Alaska Native, Native American and Latino groups to better understand disparities in outcomes.

Leaders like Reyes and Backonja understand how this kind of collaborative work can increase the quality of care for everyone. Instead of relying on assumptions or guesses, these approaches create a more complete picture of the health-care realities facing communities.

With more nurses trained in these collaborative, people-focused, data-centered skill sets, individual and community care priorities become evident. This progress lays the groundwork for systems change and a future with more equitable and effective care.

Backonja’s work harnesses the power of data to improve care in traditionally underserved communities.

WHAT’S POSSIBLE?

In 2019, the Washington Global Health Alliance announced the winners of its annual Pioneers of Global Health awards. The collaborative efforts of these groundbreaking professionals illustrate the kind of magic that happens when equity is a top priority.

UW Assistant Professor Jillian Pintye knew from her epidemiologic research that time was of the essence for young women at higher risk for contracting HIV during pregnancy. Plus, her research proved that the HIV prevention drug PrEP was safe to use while pregnant. So she partnered with a team in Kenya and helped build a program that used existing health-care foundations and networks and screened more than 20,000 women.

Pintye’s work required asking the important questions, crossing disciplines, identifying barriers and braving challenging political environments. As a result of her perseverance, more than 4,000 women began using PrEP.

GLOBAL HEALTH IN U.S. CITIES

Typhus and tuberculosis, typically associated with developing countries or places with unsanitary living conditions, increasingly sicken people in the state of Washington and large cities across the U.S. Why? It’s a prime example of health disparities in resource-rich regions.

This work addresses disparities in care, offers hope and health to individuals, and reduces infectious disease risks for the larger community.

Seattle area population-health nurses have stepped up to address this growing public-health crisis by promoting more accessible care to those who most struggle to afford care: families, immigrants, refugees, the elderly, people suffering mental illness or the effects of trauma and anyone who desperately needs care but may have difficulty getting it. In addition to addressing disparities in care and offering hope and health to individuals, this important work also reduces infectious disease risks for the larger community.

By placing students in clinics all over King County as part of their senior practicum, UW Professor Butch de Castro exposes them to the power and reach of population-health nursing to address these kinds of issues. From Pike Place Market to White Center, Renton City Jail to Summit K–12 School, the experiences of the students — some themselves immigrants — help shape them into a new generation of leaders.

Many established health-care services in Washington exemplify what happens when people, resources and policies come together to promote equitable care. For example, Seattle’s Downtown Emergency Services Center started in 1979 as a homeless shelter and has since expanded to offer mental health, housing, nursing and medical services. Kline Galland Home provides long-term, memory and short-term care and rehabilitation with an emphasis on Jewish traditions and customs. International Community Health Services offers health care for Asian and Pacific Islanders, particularly those who are immigrants and refugees. And the Downtown Public Health Center offers care and support in downtown Seattle, regardless of income.

(continued)
The grant will help strengthen bonds for children, families and communities today, while policy works to reduce the number of people who begin using opioids in the first place.
SCHOoled in context

What path led Robin Evans-Agnew, a faculty member at UW Tacoma, from being a school nurse to becoming a health leader in environmental justice? Paying attention to the context of care.

It started with a lot of kids who had asthma. At first, Evans-Agnew didn’t understand all the factors at play for families managing the disease. But after one parent schooled him, he began to ask larger questions—which spurred him to a master’s degree and then a doctorate in nursing. Ultimately, by asking the right questions, he found the education he needed to support and empower people. His work included giving parents and children the tools to study and change things in their own environments. From removing toxins in the home to addressing proper ventilation, these were challenges that people with more privilege, money and power were not experiencing; his efforts sought to empower families in improving their health.

Students worked in real-world contexts and learned to apply their education to realistic solutions.

University of Washington nursing students visiting rural New Mexico, along with New Mexico State University students, had a similar wake-up call when they participated in the Health Disparities Field Experience. The program included shadowing service providers out in the community, traveling the rough roads and seeing firsthand what life was like for local families. Along the U.S./Mexico border region and in remote parts of the Navajo Nation reservation, students worked in real-world contexts and learned to apply their education to realistic solutions.

Addressing Injustice

According to the American Psychological Association, Asian American college students have higher rates of suicidal thoughts and more attempted suicides than white American students. This is one example of a health disparity that needs further study so that the health-care system can provide adequate support. UW School of Nursing Associate Professor Eunjung Kim has spent much of her career understanding the experiences of immigrant families and providing support tools.

Meanwhile, a study conducted by UW Assistant Professor Molly Altman interviewed women of color about their health-care experience during pregnancy. Many of the women described disempowering experiences, exposing inequalities that providers can work to address.

Other examples of health disparities among Americans include higher rates of heart disease among African Americans, Vietnamese American women with higher rates of cervical cancer, and additional disparities based on income, sexual orientation, ability and more.

The disparities between rural and urban Americans is also dramatic; rural residents are 13% more likely to die of heart disease and 33% more likely to die from personal harm. In Washington, the five-year Share-NW project, led by UW School of Nursing Professor Betty Bekemeier (who holds a joint appointment as director of the UW School of Public Health’s Northwest Center for Public Health Practice), is working to address that disparity. Now in its third year, the project results show that increased training in accessing and using data could help better address some of these gaps in outcomes.

Nurses know that poor health and inadequate living conditions interfere with the ability to get an education—and that education is a strong indicator of better health outcomes.

INTERSECTION OF INTERESTS

Why is Peru’s Academia Familiar del Amazonas loosely based on a similar program in South Seattle, the Graduates of Early Learning and Education Academy? Because UW nursing students participating in an interdisciplinary project in an indigenous community on the edge of the Amazon recognized that one program could inform the other.

The project in Peru focuses on improving health and living conditions for a community that floats six months of the year and struggles with contaminated food and water. From landscape architects to engineers, microbiome experts to doctors and dentists, a multidisciplinary UW team works together to create sustainable solutions.

Within this group, UW nurses form a crucial care link—partnering with local nurses and caregivers, applying solutions from other settings, and helping with the needs that families have identified as priorities, like diarrhea management and education for their children.

Nurses there know that poor health and inadequate living conditions interfere with the ability to get an education—and that education, in turn, is a strong indicator of better health outcomes. Having a holistic view of health, nurses recognize the importance of both treating acute conditions and profoundly improving quality of life.

UW School of Nursing students arrive in Peru to provide healthcare access to a remote floating community.
Leading nurses are key to advancing health-care technology. By using feedback loops, prioritizing individual care alongside broader outcomes and making adjustments based on culture, nurses are collaborating, studying, observing and inventing their way forward. In the private sector, Washington state nurses have a seat at the table with large multinational technology companies. For example, Kristi Henderson, who holds a Doctorate of Nursing Practice, serves as Amazon’s industry operations specialist. Molly McCarthy is Microsoft’s chief nursing officer for its U.S. Health and Life Sciences sector. In their positions, they provide leadership on health-care trends and the latest technologies. They exemplify how nurses can inform the broader technological context for the benefit of patients and practitioners.
LEADING WITH TECHNOLOGY

As they prepare for the future, nurses continue to lead in the quest for balance between people and technology: identifying the best in both and combining them in ways that simplify and improve care. This work includes improving how health-care professionals coordinate to provide personalized, streamlined and seamless service.

Brenda Zierler leads the way on behalf of the UW School of Nursing; she’s the co-director for the University of Washington’s Center for Health Sciences Interprofessional Education, Research and Practice and the director of research, training and faculty development for the UW Institute for Simulation and Interprofessional Studies. In research and practice, Zierler seeks improvements that lead to better outcomes for individuals, multidisciplinary teams and the health-care system.

Equally important is providing a future-ready learning environment, such as the UW’s Health Sciences Education Building, to be completed in 2022. Currently in the design phase, this building will support active and team-based learning to better prepare future health-care professionals. Its design prioritizes collaboration, flexibility, adaptability and accommodation of evolving technologies.

From the use of virtual and augmented reality to simulation, technologies continue to advance for engaging experts and creating realistic, standardized learning environments — enriching health-care education at the University of Washington and across the state.

At Washington State University, the College of Nursing simulation lab collaborates with the Washington Army National Guard and the Washington Air National Guard in training medics. The simulations (developed by retired Air Force Lt. Col. Kevin Stevens, director of the WSU Center for Clinical Performance and Simulation) help participants practice skills like starting IVs and giving injections.

ADVANCING SIMPLICITY

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Meanwhile, nurses like Katie Haerling — who earned her Bachelor of Science in Nursing from WSU and now works at the UW Tacoma School of Nursing & Healthcare Leadership — conduct research into which technologies can best prepare the next generation of health-care providers.

Nurses in Washington and beyond are aiming toward a stronger health-care future, combining the best of science with the best of humans caring for one another.

Already, telemedicine offers many ways to increase quality while reducing costs and barriers — solutions like audio-video consults, mobile apps, remote monitoring and increasing communication between academic centers, specialists and care teams. Leaders like Joelle Fathi, who draws on her experience with telehealth clinics, help Washington state move forward in providing timely and effective care.

Others lead in the private sector, like BreEllen Loughlin, a UW School of Nursing graduate with a master’s in biobehavioral nursing and health informatics. In her role at a health-care software company, she focuses on using technology to enhance practice. Her current project takes advantage of technologies like voice recognition and processing to provide nurses with a virtual no-touch experience so they can focus on the patient and not the keyboard. She and so many other nurses in Washington and beyond are aiming toward a stronger health-care future, one that combines the best of science with the best of humans caring for one another.
**NURSES INNOVATE**

How can we improve care and outcomes? That quest for constant progress drives the technology-centered innovations spearheaded by nurses in Washington state and around the world. Their efforts continue to gain momentum, extending their impact and reach to increase what’s possible for better care.

**LISTENING TO PATIENTS**

Doctors diagnose around 175,000 men in the U.S. with prostate cancer each year. For low-risk localized cases, many treatment options exist — which can lead to decision-making paralysis for a large number of patients.

To address that problem, UW School of Nursing Professor of Biobehavioral Nursing and Health Informatics Donna Berry led a team of researchers to compare two different approaches to educating these patients. One focused on traditional methods. The other involved an interactive web-based platform. The results showed that the interactive tool was the first intervention to significantly reduce uncertainty.

Teresa Ward, co-director of the UW Center for Innovation in Sleep Self-Management, also uses patient feedback, research and technology to transform care — both individually and systematically.

Lack of sleep is a public-health concern. For children with chronic illness, it’s an undertreated problem that contributes to poor outcomes. But by employing a technology-based intervention that uses direct input from both parents and children, Ward is assessing the technology’s effectiveness in improving care for these young patients and their families.

**MOBILE EMPOWERMENT**

Science suggests that the strains of tuberculosis humans are living with today have been with us for the past 15,000 years. Even when a cure was discovered in the 20th century, the disease continued to thrive. Today it’s one of the top 10 global killers. Why? If people can’t get treatment, they won’t be cured — and if they don’t complete treatment, the disease becomes resistant.

Enter digital solutions. With mobile phones in nearly every community worldwide, there is now a new tool to address an age-old problem.

Working with patients, UW Assistant Professor of Nursing Sarah Iribarren is developing an app that focuses on educating, monitoring, supporting, evaluating and increasing a person’s involvement in their own care.

In partnership with mentors and collaborators at home and abroad, she and the team recognize the need for additional research to make these interventions more effective and increase their use and adoption rates.

The potential result? Cured patients, empowered to help solve some of the world’s most persistent health problems.

**LIFESAVING PATTERNS**

In Mozambique, nearly 30% of HIV-infected women transmit HIV to their babies. In the United States, a half-million people a year suffer from post-surgery infections. In both cases, technology powered by data can change those numbers and improve health and life expectancy.

Specifically, UW Associate Professor Sarah Gimbel’s pioneering work allows health-care workers in Mozambique to enter data in an app as they care for women with HIV, including information on when women miss crucial steps that would help protect their babies. Managers can then use the information to improve the process and outcomes.

In the United States, the app mPOWER helps with post-discharge feedback loops between patients and their care providers. In addition to helping monitor individual patients for infection after surgery, this work, pioneered by the director of the UW School of Nursing Clinical Informatics Research Group, William Lober, and now co-led by Lober and Hilaire Thompson, the school’s JoAnne Montgomery Endowed Professor, provides bigger picture longitudinal information that can be used to make systems-level improvements.

**INVENTING NEW SOLUTIONS**

When a patient has a hole between their intestinal tract and a wound, even with treatment, their chances of survival go down to 60%. That’s why Nancy Unger, a nurse practitioner at the University of Washington Medical Center, and JoAnne Whitney, associate dean for research and a professor in the UW School of Nursing, worked with a team to develop an enterotraumatospheric fistula isolation device. An alternative to current time-consuming and ineffective methods of treatment, the technology uses silicone microbeads that don’t irritate the wound and allow fluids to leave the body.

A smartphone app offers an effective and inexpensive diagnostic solution.

Beyond the hospital setting, traumatic brain injuries impact an estimated 1.5 million people every year. They are traditionally hard to diagnose, and many go untreated. To solve that problem, a smartphone pupil-scan app developed by a team including UW School of Nursing students’ Khankaew Wongchareon and Ana Carolina Sauer Liberato uses machine learning to monitor changes in how a person’s eyes react to light, offering an effective and inexpensive diagnostic solution.

**TEAM TROUBLE-SHOOTING**

Motivating patients to change their behavior can be challenging with any population, but particularly with children. For instance, children with asthma experience a much higher rate of sleep disturbance than other children — and it’s challenging to address the problem when the patients and their families are not engaged in the solution.

UW School of Nursing Assistant Professor Jennifer Sonney and her team worked to create an approach that helps parents and children work together to solve the problem, by incorporating an accessible and scalable web-based platform, Sleep Intervention for Kids and Parents (SKIP). The technology offers families a framework for making changes to the children’s sleep management. Through the intervention, children are regaining high daytime functioning, quality school performance and improved health outcomes.

For elderly patients, skin disorders can become a challenge both physically and psychologically. Sarah Matthews, a lead in the UW Family Nurse Practitioner track, is researching new ways to safely and effectively treat skin conditions using phototherapy in the clinic and home settings.
LEADING WITH TECHNOLOGY

PERSONALIZING CARE
How can technology improve quality of life for older adults? The UW School of Nursing’s Oleg Zaslavsky is advancing promising new approaches. From nutrition to movement to social interaction, technology-enhanced care is surprisingly personal.

For people with arthritis who suffer from depression, movement has been shown to help with sleep quality. A successful pilot study by Assistant Professor Zaslavsky and his team involved a device that participants wore to measure their activity level and send them text messages encouraging them to move.

Zaslavsky wondered if facilitated weekly exchanges among peers over 80 might give them a greater sense of control over their health issues. So he designed a research project using a closed Facebook discussion group. The discussion, problem-solving and social interaction through the group did in fact result in small but significant improvements in participants’ knowledge and the feeling that they could do something about their health issues.

To help seniors make better choices about nutrition, Zaslavsky is beginning work on an app. It’s another way to use technology that can reach a lot of people and make a meaningful difference.

BEING MINDFUL
Increasingly, scientists are studying the brain and body connections between mindfulness and stress reduction. Technology offers a way to support mindful practice while also studying its impact.

Assistant Professor Jennifer Sonney is contributing to the field by studying a virtual-reality experience co-designed by and for teens to decrease stress. The immersive experience uses nature, soothing music and visualizations to dispose of stressful thoughts.

A ROLE FOR ROBOTS
Robots can do an ever-increasing array of health-care tasks for older Americans; research and development are growing in this area. But how much do we know about what older generations understand and want from this technology?

UW School of Nursing Professor Hilaire Thompson helped lead several studies with different interdisciplinary groups, focused on answering this important question.

In the case of robotic pets, for example, older adults generally saw them as more useful for those who were frailer and more isolated than themselves. In reality, the study group represented a diversity of interests and preferences that, if taken into account, could make designs more relevant to them.

And while one study found younger generations more open to the use of robots to help with life and health-care tasks, other research showed few differences among age groups in their attitudes and comfort with robots — dispelling the myth that older adults are more technology-averse than younger people.

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UW assistant professor and nurse-midwife Ira Kantrowitz-Gordon’s research focuses on pregnant women with insomnia. One online intervention centers on education and another on guided meditation. Both seek to reduce stress and improve the health of mother and baby during pregnancy.
A VISION FOR THE FUTURE

As the providers who spend the most time with patients, nurses represent a powerhouse of skills and knowledge at the ready to advance equitable health care for all.

Since the 1920s, the Pacific Northwest has been responding to global and local health quality and access issues with nurses at the center, including legendary leaders like UW School of Nursing founder Elizabeth Soule, early influencer Dolores Little and trailblazer Frances Terry.

Continuing today with leaders like legislator Eileen Cody and Microsoft’s chief nursing officer Molly McCarthy, nurses continue to spearhead solutions. Their innovative work includes maximizing technology to both simplify and improve care.

Through evidence-based research, data and technology, and by expanding the effectiveness of cross-disciplinary and holistic care, nurses transform systems and lives — across the public and private sectors, locally and around the world.