Every day, thousands of University of Washington students, faculty, and staff across our three campuses work to improve the lives of individuals locally and around the world. This work occurs in every single one of our schools and colleges, with each finding different and unique ways to improve human health and well-being.

While it would be easy to label every one of these efforts simply by the discipline in which it lives, at the UW we see this work as part of a larger, collaborative moral imperative: population health.

Through our collective efforts, we work not only toward elimination of diseases and afflictions, but also to address the intersecting and overlapping factors that influence health in a broader context. In the pages that follow, you will see a range of efforts currently under way to better address population health in three major themes: social and economic equity, environmental resiliency and human health.

To strengthen our combined efforts under these three themes, President Ana Mari Cauce has brought together the UW community and others to embark on a groundbreaking new Population Health Initiative. This initiative commits the UW to a 25-year vision of becoming the preeminent institution of higher learning for addressing population health, directed by our public mission of service to all.

The UW is one of the few institutions in the world positioned to tackle these issues so effectively, and the potential for us to work together to address the factors that contribute to human health and well-being is nearly limitless.

Over this next quarter century, we see five areas for focused interdisciplinary development, collaboration and achievement in population health. You will read about them in this report along with information about areas in which you can immediately participate in the work of this initiative.

Thank you for your collective dedication to improving the health of people and our planet. We look forward to working with you, and shaping together the work of this exciting and critically important initiative in the months and years ahead.
SOCIAL & ECONOMIC EQUITY

Social and economic inequity has lasting effects on societies and the health of populations. UW scholars from a wide range of disciplines are addressing equity in innovative ways. Solutions range from addressing income inequality to education quality, poverty to criminal justice reform, and many other equity issues that directly and indirectly affect human health and well-being.

Minimum Wage Study examines the impact of Seattle’s $15 minimum wage | Evans School of Public Policy & Governance and Social Work

Since Seattle passed legislation providing for an increase in the minimum wage to $15 an hour, the nation has been watching and waiting to see the effects on the local economy and quality of life. Tracking these effects and more is the Minimum Wage Study, a five-year research effort led by investigators from the Evans School of Public Policy & Governance with the School of Social Work.

The team seeks to answer such questions as, does a higher minimum wage improve quality of life measures, including health, nutrition, and family daily life? As more cities anticipate hikes in their minimum wage, this research will inform future decisions about the effects on workers, their families, employers, and the community.

Learn More >

Innovative, low cost NIFTY™ Cup seeks to save millions of lives | Dentistry

Each year, there are millions of babies in developing countries born prematurely or with oral clefts who struggle to breastfeed. These babies are often at high risk for malnourishment, infection, and often death. Thanks to Christy McKinney, a clinical assistant professor of oral health sciences, a new feeding aid is now readying for widespread distribution across Africa. In partnership with PATH and Seattle Children's, McKinney developed the NIFTY™ cup (Neonatal Intuitive Feeding Technology™), a low-cost silicone cup with a small reservoir and spout that allows mothers to easily and safely feed these vulnerable newborns. This innovative intervention has the potential to solve a major global challenge, which could save millions of lives.

Learn More >

“States with punitive justice systems have higher rates of foster care, study finds | Sociology

Why do some states place more kids into foster care than others? A new study connects the hidden dots between a state’s approaches to social problems and their rate of foster care. Author Frank Edwards is a UW doctoral student in sociology who found that states with more punitive criminal justice systems remove children from their homes far more frequently than states with more generous welfare programs. This means that two states with similar rates of child abuse and neglect could have very different rates of foster care entry, significantly impacting the futures of already vulnerable children.

Learn More >
Skies Over Seattle: Theater piece drawn from student experiences volunteering for U District social service entities | Drama

What does it mean to be homeless in the U-District? Drama students created “Skies Over Seattle,” original theater pieces inspired by the intersection of volunteerism and artistic creation in pursuit of understanding that question. Graduate students in acting, design and directing, as well as several undergraduates, volunteered for three community organizations that serve the homeless around the UW’s Seattle campus. Over the course of a year, their lessons learned and questions asked inspired the students to write, design and perform original pieces that challenge assumptions about the communities that share the space beneath one sky.

Learn More >

New UW program aims to foster better education for Native learners | Education

Education is known to correlate to lifelong health, yet the underrepresentation of Native American teachers across the United States often negatively impacts young Native students. The new Native Education Certificate seeks to address that challenge by providing a knowledge base for non-Native teachers to create a culturally relevant curriculum for Native students. Mixing online learning and community projects, the 10-unit program is designed to reduce the disconnect between non-Native teachers and Native children, making public schools more inclusive.

Learn More >

UW Nurse Camp inspires underrepresented high school students to become the next generation of nurses | Nursing

Less than 20 percent of the U.S. nursing workforce are from low income or underrepresented backgrounds — yet the patients those future nurses will serve are increasingly likely to be minorities. The UW School of Nursing is widening the pathway to nursing for minority students through the UW Nurse Camp. Each summer, high school students get hands-on experience in the world of nursing. Not only do they gain insight into medical career options, many begin to see earning a degree as a real option for the first time, something many low-income or underrepresented students may struggle to visualize.

Learn More >

Map-a-thon collaboration helps sidewalks be accessible | TCAT and DSSG

Inadequate sidewalks and navigational infrastructure can be a nuisance to anyone, but for people with mobility limitations or low vision, these conditions can not only feel insurmountable, but become hazardous. The Taskar Center for Accessible Technology and the OpenSidewalks team from the UW eScience Institute’s Data Science for Social Good program held a Map-a-thon to address these issues. Data collected by Seattle community members will be integrated with the OpenStreetMap open source platform to offer more robust sidewalk information and navigational assistance for those with limited mobility.

Learn More >
ENVIRONMENTAL RESILIENCY

There is no question that our environment and its resources impact human health and well-being. The exact extent of the impact, however, is not always clear. From energy production to pollution, from natural disasters to overfishing, the Population Health Initiative encourages connections across disciplines to seek a better understanding of environmental sustainability.

Connecting to nature is key for healthy urban living | Psychology and Environmental and Forest Services

UW researcher Peter Kahn says that city dwellers are unaware of how their minimal connection to nature is putting our health and the survival of wildlife and wild areas at great risk. Kahn coauthored a new book exploring how “environmental generational amnesia” is partly due to multiple generations shifting away from meaningful interactions with the great outdoors. But nature can be incorporated within cities, the authors say. “Cities designed well, with nature in mind and at hand, can be understood as natural, supportive of both ecosystem integrity and public health.”

Learn More >

A groundbreaking concept for a fusion reactor could reduce our carbon footprint and change the energy game | Aeronautics and Astronautics

The cost of producing fusion power has traditionally not penciled out in comparison to current energy sources, placing this zero-emission power source out of reach for wide-scale development. UW researchers believe they have now designed a concept for fusion power built on existing technology that will render that traditional cost structure obsolete. With a successful prototype in hand, they are now turning to further development and expansion of the device to create the needed power output to be a viable replacement for the fossil fuels that endanger our planet’s health.

Learn More >

“I hope that the Population Health Initiative encourages and supports collaboration across disciplines and across sectors towards this common goal and further, that having a deliberate and sustained focus on population health will amplify our impact.”

Emiko A. Tajima, Associate Professor and Associate Dean for Academic Affairs, School of Social Work

UW develops earthquake early warning tools | Earth and Space Science

As populations continue to grow on the West Coast, earthquakes remain a top threat. At the White House Earthquake Resilience Summit in February 2016, the UW received new funding for early warning systems. The UW-based Pacific Northwest Seismic Network is helping develop ShakeAlert, an alert system that could save lives by triggering automated and human actions just before an earthquake hits. And in a partnership with the U.S. Geological Survey, UW researchers will examine how a network of sensors on the ocean floor can provide early warnings from the volatile Cascadia subduction zone.

Learn More >
Smoke from open indoor cooking fires and cookstoves in developing countries is believed to cause millions of illnesses and premature deaths each year. Long journeys to gather all that fuel often expose adults and children to further dangers. To overcome these challenges, UW engineers partnered with the nonprofit BURN Design Lab to develop a much cleaner-burning and more efficient cookstove, known as the Kuniokoa. This innovative stove will be manufactured by local workers in Nairobi, Kenya, and its designers believe the Kuniokoa will successfully reduce harmful particulate pollution by as much as 67 percent.

Learn More >

When overfishing, polluted waters and shoreline changes led to the extinction of the Olympia oyster from Puget Sound, it changed the nature of our local ecosystem. UW Tacoma associate professor Bonnie Becker is leading undergraduate researchers in a collaborative effort to reintroduce the native oyster to its original environment. Her teams monitor microscopic larvae to identify sites where Olympia oysters can naturally seed the area and be self-sustaining. Reintroducing native oysters can improve the habitat for other plants and animals, including salmon prey, and help restore the natural balance of the sound for the health of our region.

Learn More >

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Learn More >

Researchers have long understood that lengthy exposure to air pollution is directly linked to an increased risk of heart disease. Thanks to the result of a 10-year study led by Professor Joel Kaufman, we now have a greater understanding of the biological responses to pollution that lead to heart disease, and that air pollution at levels — even below regulatory standards — can accelerate the hardening of human arteries. The study’s results are being used to push for new action in controlling pollution levels worldwide.

Learn More >
HUMAN HEALTH

Over the last 25 years, we have seen some of the greatest advances in medicine in the history of humankind. In the next 25 years, the greatest transformations will come as a result of interdisciplinary collaborations in the areas of clinical care, public health interventions, public policy, technology and more.

Community engagement leads to new vision screening law | UW Bothell

The routine distance-vision eye test has long been a staple of public school education in the state of Washington. Yet near-vision problems have not traditionally received the same scrutiny. This will soon change thanks to a new law signed by Gov. Jay Inslee earlier this year. The law grew out of a vision and learning symposium organized in 2014 by Associate Professor Bill Erdly, who helped bring together the experts, advocates and legislators needed to collaboratively develop a solution to the shortcomings of the routine test.

Learn More >

“I hope that my work advances interdisciplinary connections in support of legal and policy reforms that improve community health as broadly conceived, enhance the patient experience of care, and provide better value for our health care dollars.”

Sallie Thieme Sanford
Associate Professor
UW School of Law

Reconnecting veterans to life through farming | Social Work

Christopher Brown, a three-time Marine combat veteran and master of social work graduate, created a sustainable local farming organization for veterans in the name of holistic mental health. Growing Veterans, a thriving nonprofit, seeks to transform the lives of veterans through satisfying work and an opportunity to reconnect with one another and their communities to help reduce feelings of isolation and prevent suicide.

Learn More >

Developing a long-acting antiretroviral treatment for HIV | Pharmacy and Medicine

Current oral drug therapies for HIV can greatly reduce the presence of the virus in the blood stream. However, limitations prevent these therapies from reducing the presence of HIV in the tissues of a body, and to work in the blood stream, patients must strictly adhere to daily dosing regimens for the rest of their lives. To address these shortcomings, Professor Rodney J. Y. Ho, pharmacy, and Professor Ann Collier, medicine, have partnered to develop a new, seven-day long-lasting HIV therapy that seeks to overcome drug insufficiency in tissues while also improving patient adherence.

Learn More >

“I hope the initiative will increase awareness of disparities in health, healthcare, and health-care access among different populations, and causes underlying these disparities.”

Ceci Giachelli, W. Hunter and Dorothy Simpson Endowed Chair and Professor Bioengineering
People suffering from lung diseases in developing worlds often do not have a good way to track lung functioning without visiting the doctor. Through the work of UW researchers, many may soon be able to measure their lung function simply by blowing into any type of phone due to SpiroCall, a new health sensing tool, which was found to meet the medical community's standard for accuracy. With this proof of concept in hand, the research team can now plan for additional data collection and determine how to best communicate results to patients.

Learn More >

Researchers at the UW's Center for Sensorimotor Neural Engineering are developing groundbreaking new medical devices intended to help restore function and mobility in individuals stricken by spinal cord injury or stroke. Through interdisciplinary collaboration, these researchers have developed implantable devices that can detect brain signals and transmit that information to other parts of the body's nervous system. The center’s goal is to develop a successful demonstration of this concept in humans in the next five years, which will then allow regulatory approval to occur for wider dissemination.

Learn More >

The brain has evolved over thousands of years to allow humans to communicate through language. Reading is a relatively new skill for the brain, however, which leads Assistant Professor Jason Yeatman to wonder if dyslexia is a byproduct of visual systems being wired slightly differently in some humans. With the aid of non-invasive brain imaging technology, Yeatman and his team are studying developing brains to identify the changes that occur as reading skills are required. Through this research, they hope to expand treatment options for dyslexia.

Learn More >

“"I am particularly enthusiastic about the opportunity to learn more about potential collaborations between the health sciences and the broader University community [through the Population Health Initiative].”

F. Bruder Stapleton
Professor and Chair of Pediatrics

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Creating a mobile app that tests lung capacity | CoMotion, Computer Science, Electrical Engineering

People suffering from lung diseases in developing worlds often do not have a good way to track lung functioning without visiting the doctor. Through the work of UW researchers, many may soon be able to measure their lung function simply by blowing into any type of phone due to SpiroCall, a new health sensing tool, which was found to meet the medical community's standard for accuracy. With this proof of concept in hand, the research team can now plan for additional data collection and determine how to best communicate results to patients.

Learn More >
THE NEXT 25 YEARS: FOCUS AREAS FOR GROWTH

On May 3, 2016, President Ana Mari Cauce launched a groundbreaking Population Health Initiative by inviting the University community and partners to join in developing a 25-year vision to advance the health and well-being of people around the world. By working across disciplines, we can strengthen our combined efforts to improve population health in the areas of social and economic equity, human health, and environmental resiliency.

We have identified five areas for focused interdisciplinary development and optimal achievement in population health over the next quarter century. These focus areas build on projects like those highlighted in this report, and will expand our ability to turn our understanding of health determinants into actionable policies, reforms, interventions and innovations. Together, we can ensure that every individual — whether in the Pacific Northwest or in the poorest countries of the world — has the chance for a truly boundless future.

What is Population Health?

Population health is a broad concept encompassing not only the elimination of diseases and afflictions, but also the intersecting and overlapping factors that influence health. These influencing factors include climate change, poverty, racism, transportation, health-care access, urban planning, governance and many more. Together, these issues revolve around three major pillars—social and economic equity, environmental resiliency and human health—and affect the lives of billions of people around the world.

EDUCATION AND CAPACITY BUILDING

The UW will foster the next generation of leaders, thinkers and doers by developing collaborative and innovative education opportunities that address the complexities of population health. By engaging broadly across campuses, we will strengthen the impact of a UW education by recruiting and supporting the world’s best teachers. We will educate students for the increasingly interdisciplinary workforce in health, spur innovation and offer more diverse experiences in local, national, and global research. Finally, even for those students who do not choose a career in population health, their experience will inspire them to improve lives in new ways.

DIAGNOSTICS AND CRITICAL ASSESSMENT

To improve our understanding of the world’s most pressing health needs and the determinants shaping health outcomes, we will expand and strengthen our ability to extract knowledge from data by drawing on data science and field research. As home to the world’s preeminent health measurement institution, the Institute for Health Metrics and Evaluation, we are committed to creating a world where using the best evidence is the basis for informed decision making and the guide to productive innovations and practices in public health and beyond. Through these efforts, we will strengthen the democratization, dissemination and use of data; reveal the complex intersections between human health and its social determinants; and create the most complete picture possible of the keys to increasing social equity and environmental resiliency.
DEVELOPING AND TESTING INNOVATION
Innovation is at the heart of our university. We hope to bring together the remarkable talents of our faculty and students in problem-focused research to respond to the challenges of population health. We are already well-positioned to develop, field and assess new interventions, processes and organizational mechanisms. We can bring to bear our experience and scale to deliver innovative preventive measures and care.

IMPLEMENTATION SCIENCE
In the United States, it takes 17 years on average — almost a generation — to turn original research into widespread practice and large-scale policies that benefit population health, such as through community interventions and/or changes in health care programs. And typically, only 15 percent of research evolves into practice and policy. In many low- or middle-income countries, research translation takes much longer. The UW is a global leader in implementation science, with our cutting-edge education and training programs being complemented by collaborative research activities in a range of programs. We will leverage our expertise in this rapidly changing research paradigm to ask and answer questions about how to deliver effective interventions to people who need them with greater speed, efficiency and quality. Implementation science is a rapidly changing research paradigm that provides a scientific approach to ask and answer questions about how to deliver effective interventions to people who need them with greater speed, efficiency, and quality.

STRATEGY AND PLANNING
The 21st century has dawned with new patterns of immigration, greater workforce mobility and increased influence from private philanthropy. Through research and engagement, we are poised to empower governments, industry and donors with evidence, tools and the decision-making support they need to make the choices that benefit the most people, most efficiently. This scale of impact requires timely and well-informed strategy and planning. The UW has a unique expertise in strategy and planning, through the Evans School, the Jackson School, Economics, Computer Science & Engineering, Environmental Studies, the Foster School of Business, big data analysis and more. We are committed to inclusive, comprehensive long-range and data-driven planning to ensure the greatest influence and impact over the next 25 years.

Get Involved: The Population Health Initiative offers resources to support students, faculty and staff across our three campuses as they work across these areas of focus. To learn more about this groundbreaking initiative and how you can participate, please visit the initiative website at www.uw.edu/populationhealth.
CONTINUING THE CONVERSATION

The goal of the Provost’s Leading Change in Public Higher Education report series is to broaden and connect conversations on the UW’s three campuses, share best practices, highlight areas of priority for the UW, and provide common reference points to inform our plans for the future. To join the conversation or learn more, visit the Population Health Initiative website at www.uw.edu/populationhealth.

EXECUTIVE COUNCIL

Over the course of the UW’s 25-year vision for the Population Health Initiative, the president and provost recognize the need to stay nimble with respect to the leadership of, and the individuals involved with, this effort. The current Executive Council represents all three UW campuses as well as the undergraduate and graduate student populations. Its members are:

Ana Mari Cauce, president; chair
Gerald J. Baldasty, provost and executive vice president
Ali Mokdad, professor of Global Health, Epidemiology, and Health Services (IHME); vice chair
Thaisa Way, associate professor of landscape architecture; Faculty Senate liaison
David Anderson, executive director, Health Sciences administration
Kendra Canton, undergraduate student representative
Alison Cullen, professor, Evans School of Public Policy & Governance, and adjunct professor, School of Public Health and College of the Environment
Sara Curran, professor, Henry M. Jackson School of International Studies, and director, Center for Studies in Demography and Ecology
David L. Eaton, dean and vice provost, Graduate School
James Fogarty, associate professor, Computer Science and Engineering
Ceci Giachelli, professor and W. Hunter and Dorothy Simpson Endowed Chair, Department of Bioengineering
Eric King, graduate/professional student representative
Vicky Lawson, professor of geography; director of University Honors
Hedwig Lee, associate professor of sociology
Joe Lott, associate professor of educational leadership and policy studies
India Ornelas, assistant professor of health services, School of Public Health
David Reyes, assistant professor of nursing & healthcare leadership, UW Tacoma
Sallie Sanford, associate professor of law and adjunct associate professor of health services
Jane Simoni, professor of psychology and adjunct professor of global health
Clarence Spigner, professor of health services, School of Public Health
Bruder Stapleton, professor and chair, Department of Pediatrics, Seattle Children’s Hospital and UW Medicine
Emiko Tajima, associate dean for academic affairs and associate professor, School of Social Work
LuAnne Thompson, professor of oceanography
Wadiya Udell, associate professor, Interdisciplinary Arts and Sciences, UW Bothell
Jurgen Unutzer, professor and chair, Department of Psychiatry and Behavioral Sciences
Judy Wasserheit, professor and William H. Foege Endowed Chair, Department of Global Health
Lee Heck, associate vice president of individual giving programs, University Advancement; ex officio
Mary Gresch, chief marketing and communications officer, University Marketing & Communications; ex officio
Derek Fulwiler, director of project strategy and communications, Office of the President and Provost; project director

“By identifying and addressing the causes and impacts of a broad swath of health indicators for populations of people – from neighborhoods to countries – we have an opportunity to truly impact health and well-being in profound ways, here and worldwide.”

Ana Mari Cauce
President
Professor of Psychology
Chair, Population Health Initiative
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Chelsea Yates, College of Engineering

“I strongly believe that President Cauce has challenged us all to rise together to collaboratively deliver on this 25-year vision. I am amazed at the energy and engagement I have seen so far from all over the University, and I look forward to a vigorous exchange of ideas and innovative approaches as we move together to tackle the population health challenges faced by the world today.”

Ali Mokdad
Vice Chair, Population Health Initiative Executive Council

“No longer limited by disciplines, colleges, or professions, we are coming together to have collective impact here and around the world. This is the university of the future; one that tackles the biggest challenges by bringing together brilliant, creative, and caring people.”

Thaisa Way
Faculty Senate Liaison, Population Health Initiative Executive Council

SERIES EDITORS
Gerald J. Baldasty, Provost and Executive Vice President
Marisa Nickle, Sr. Director of Strategy and Academic Initiatives, Office of the Provost

PRODUCTION
Editorial Director and Writer: Derek Fulwiler, Director, Project Strategy and Communications, Population Health
Writer and Designer: Jill Reddish, Graduate Student Assistant, Office of the Provost
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