UNIVERSITY of WASHINGTON

Public Health

THE **MAGAZINE** OF THE SCHOOL OF PUBLIC HEALTH

Ideas to Impact

The journey to health equity starts in our communities

I *champion health equity* because *everyone deserves their best health.*

We solve our world's greatest public health challenges when everyone has a fair and just opportunity to achieve their best health. That's why 2024 Miss Washington and UW School of Public Health alum Hermona Girmay advocates for health equity.

You can help create a world of healthy people. Apply today: sph.washington.edu/admissions

Read more about Hermona's story: https://tinyurl.com/yc4jyrx9

For public health. For a world of healthy people.
BE BOUNDLESS.

UNIVERSITY of WASHINGTON
Public Health
THE MAGAZINE OF THE SCHOOL OF PUBLIC HEALTH

Contents

Front Cover illustration by Joe Anderson.

THE SCHOOL AT A GLANCE

A WORLD OF HEALTHY PEOPLE

Our mission is to solve our greatest public health challenges and co-create health equity with communities in the region and the world.

Enrolled Students

1883

931 in graduate programs
952 in undergraduate programs
61% WA state residents
21% minorities
14% international

833 degrees awarded in 2024

461 undergraduate degrees
324 masters degrees
48 doctoral degrees

893

partnerships and active projects with non-academic organizations

Local and Global Partnerships

501 in Washington state
684 across the U.S.
203 internationally

189 faculty members supporting partnerships

30+ Centers and Institutes

Continued growth in our research activities

#7 NIH grant funding
#6 NIH grants awarded
Top 5 in total funding amongst public health schools

#7

Best Graduate Schools for Public Health

U.S. News & World Report

955

Total Faculty

Alumni

+11,000

74% of 2023 graduates employed

14% of 2023 graduates continuing education

5 Departments

- Biostatistics
- Epidemiology
- Global Health
- Health Systems and Population Health
- Environmental & Occupational Health Sciences

4 Interdisciplinary Programs

- Food Systems, Nutrition, and Health
- Health Management and Informatics
- Public Health Genetics
- Public Health-Global Health

IMPACT STARTS WITH COMMUNITIES

The stories in this magazine demonstrate that health equity begins with co-creating questions and solutions with the communities we serve. By partnering early and continuing those partnerships at every stage of our work, we ensure the methods we apply, research we conduct, and practices we implement support the health of people locally and globally. This community-based approach — from ideas to impact — is a lasting tradition of our School that we're proud to continue and expand.

At a time when we are surrounded by uncertainty and conflict, I continue to find joy and hope in these stories of how our faculty, staff, students, alumni and partners are working collaboratively to make the world a healthier place. I hope that these stories will inspire you to continue your own good work and inspire others to invest in, vote for, support and sustain public health initiatives.

Hilary Godwin
Dean, UW School of Public Health

Ideas to Impact

WRITTEN BY **KATE STRINGER**
ILLUSTRATION BY **JOE ANDERSON**
PHOTOS BY **ELIZAR MERCADO**

To improve health equity, research can't be confined to the pages of an academic journal. It also has to be put into practice. To do this, UW School of Public Health researchers partner with communities from the beginning of a research project. Together, they develop an idea, figure out the best method to conduct the research (and rethink that method if it's not working) and then put those findings into action so that their collaborative work has meaningful impact. This process is known as the methods to research to practice continuum. The stories on pages 5-10 show how faculty have been navigating this process alongside communities, from Yup'ik families in rural Alaska who wanted to improve their children's oral health to app-based rideshare drivers in Seattle who needed personal protective equipment during the pandemic. While the research projects are all different, they have one thing in common: **the journey to health equity starts in our communities.**

The questions that fought an epidemic

Kenneth Mugwanya's first job as a young physician in Uganda was working with HIV-infected children. This was around the height of the HIV epidemic, when there was no medicine available for children, and the medicine available for adults was very expensive.

That meant there was little Mugwanya could do to help the children under his care, who had all been infected with the virus before they were born. After a frustrating first year on the job, he felt burned out, and wondered if there was a more meaningful way he could contribute to the cause. What was needed to reduce the number of people getting infected with HIV in the first place?

This was the first in a series of questions that would guide Mugwanya from his beginnings as a Ugandan clinician treating children with HIV in the early 2000s to becoming a physician-epidemiologist at the University of Washington School of Public Health, where he's made great contributions to fighting the global HIV epidemic. Mugwanya's questions have led him from researching which drugs can prevent HIV, to determining their safety, to understanding how to deliver them to the people who need them the most.

"We have made significant progress in developing effective tools that have helped reduce substantial numbers of HIV infections over the last two decades compared to what it was," Mugwanya said. "But there is still a lot to be done. More prevention options and diverse delivery platforms are still needed to improve and expand access. Having highly effective interventions is not enough unless the people who need them have access to them, which is how my work has evolved."

HOW DO WE PREVENT HIV INFECTION?

Mugwanya's first question — how to prevent people from getting infected with HIV — led him to leave his first job and join the Infectious Diseases Institute at Makerere University in Uganda as a research study physician, where he began working with UW researchers who were also asking this question.

There, he learned research methods and how to ask more complicated questions. During this time, antiretroviral medications were being developed, which inhibit a retrovirus like HIV from replicating in the body. After his training, Mugwanya began working with his mentors studying how antiretrovirals, specifically pre-exposure prophylaxis (PrEP), could help prevent HIV from being spread between couples in Uganda and Kenya. Their research found that using that medication substantially reduced the risk of a partner with HIV passing HIV to the uninfected partner.

The results of that study were published in 2011, just as Mugwanya was coming to the UW to begin his doctoral studies, and the findings were hugely impactful. Delivery of the antiretroviral medication PrEP is now being scaled up to reduce the transmission of HIV around the world. When taken as prescribed, PrEP reduces the risk of getting HIV from sex by about 99%, according to the Centers for Disease Control and Prevention.

IS PREP SAFE FOR EVERYONE?

Now that Mugwanya knew that PrEP was effective in preventing the transmission of HIV, he had another question: Was it safe for everyone to use? Mugwanya focused on answering how PrEP affects the kidney, which is an important organ for removing toxins from the body, and whether PrEP was safe for people who were breastfeeding and their babies. Using data from these past studies, Mugwanya developed a new study which found that very little drug passed through the breastmilk to the baby, making PrEP safe to use when breastfeeding.

Through these years of asking questions, Mugwanya and many research teams around the world had found a prevention for HIV and learned that it was safe for different populations to use. Mugwanya's next question was how to best get that drug to the people who needed it most. That's why his work now as an assistant professor of global health and epidemiology includes both research and implementation science, or using methods and strategies that help practitioners and policymakers make use of research.

HOW DO WE GET PREP TO COMMUNITIES?

Mugwanya asks questions like how to best deliver PrEP to women who are disproportionately affected by HIV in Sub-Saharan Africa, and reach them for HIV prevention. He is also trying to understand what is an effective and

reasonable level of adherence for women taking oral PrEP medication, as taking daily medications for purely preventive reasons can be challenging. He wants to know if the medication isn't taken daily, does it still provide sufficient protection against HIV for women? This is a very important question for the field, and the work Mugwanya is currently leading will help provide useful information.

"When I was training, I thought, 'You do a clinical trial, prove something works, and the next day it should be on pharmacy shelves with someone picking it up,'" Mugwanya said. "It's not as simple as that. I vividly remember the image and voice of my mentor, Jared Baeten, presenting the results of the Partners PrEP Study in Rome. There, I thought we had hit a walk-off home run to end the epidemic, but not so fast! More than 10 years down the road, we are still struggling to make PrEP and other prevention tools easily accessible to persons who need them where and how they want it."

Mugwanya said that a lot has to be done from the study inception to engage key stakeholders like regulators, policymakers, implementors, potential users and communities on how a product actually works. It's also necessary to understand expectations and plan for regulatory approvals and development of guidelines for how to use the product.

"Projecting what access, resource mobilization and supply chains will look like as well as user-centered delivery systems are all central to moving a product from clinical demonstration to real world delivery," Mugwanya said.

HOW DO WE LEARN FROM COMMUNITIES GLOBALLY?

As Mugwanya continues to ask questions, he says two things are critical. First, is being able to learn from communities what their problems are before designing a research question. Second, is working with teams of diverse people, whether that's researchers around the world, students looking for mentorship and learning opportunities, and communities most affected by the work.

"I have worked my way through the ranks by beginning my experience first in Africa, so I come from a unique place where I know what collaborating groups on the U.S. side experience and I also have a better understanding of the experiences and expectations of international partners," Mugwanya said. "Moving forward, I want to be of help to my colleagues to work towards creating opportunities and partnerships which are diverse, respectful, and truly meaningful to people on either side."

It's been nearly two decades since Mugwanya asked that first question as a Ugandan physician, and while much has changed for the better in the HIV epidemic, the need for great questions around implementation science remains. Exciting HIV prevention options are on the way, but Mugwanya said we must expand diversified and user-friendly approaches for the delivery of these tools to truly maximize their full public health benefits.

"When I was training, I thought, 'You do a clinical trial, prove something works, and the next day it should be on pharmacy shelves with someone picking it up.' It's not as simple as that."

KENNETH MUGWANYA
Associate Professor of Global Health and Epidemiology

Indigenous partnerships strengthen heart health

Diabetes was so common in Mandy Fretts' community she thought it was just a part of life.

Fretts, a member of Eel Ground First Nation (Mi'kmaq), an American Indian community in New Brunswick, Canada, grew up watching her grandmother and father work hard to control their blood sugar by eating healthy and exercising. But working extra hours to stay financially afloat, and physical ailments like swollen feet disrupted exercise routines. At doctor visits, Fretts witnessed physicians blame her father for not eating healthy and exercising enough.

In college, Fretts learned that ethnic and racial health disparities were affecting Indigenous communities like her own; American Indians are twice as likely to develop diabetes and 50% more likely to have heart disease than the general population. Yet 70 years ago, heart disease in tribal communities was unheard of. That's why Fretts' research focuses on diseases affecting American Indian communities, guiding her work from a master's student to an associate professor of epidemiology at the University of Washington School of Public Health.

"Most of these conditions are largely preventable," Fretts said. "I wanted to focus my work on developing effective and sustainable interventions to promote optimal health in American Indian communities."

Fretts has done this as one of the leaders of the Strong Heart Study, which looks at risk factors for heart disease in 12 tribal communities across the United States. As Principal Investigator of the Dakotas Field Center, Fretts works in partnership with tribes to collect observational data on risk factors for heart disease and diabetes and develop interventions that address community needs.

One of these needs is having the capacity to cook healthy meals. Community members shared with researchers that they face barriers to buying healthy foods such as limited budgets and lack of fresh food in rural areas.

After learning about these challenges, Fretts and her team work with the community to develop interventions, and test whether they are helpful to the communities. They also share study findings with community members, tribal leaders, and practitioners at local health clinics. Research findings from the Strong Heart Study have provided tribes with data to advocate for programmatic funding and the allocation of federal dollars for tribal programs, including the Special Diabetes Program for Indians.

The Strong Heart Study team also provides opportunities and funding for community members to lead their own research projects based on community interests and needs.

Fretts attributes the success of the Strong Heart Study to both the scientific rigor of the research and to the close collaboration between researchers and tribal communities over the past 30 years. When knowledge is shared between them, Fretts said, they can more effectively put interventions into practice that are likely to succeed.

"Community members know how to solve the problems affecting their community," Fretts said. "They know what's going to work and what's not going to work, so it's really important to listen to people and come up with ideas in partnership so that their needs and interests are addressed."

TO READ THE FULL STORY, SCAN THE QR CODE OR VISIT:
BIT.LY/4FLOZL6

Protecting workers from psychosocial exposure

When Marissa Baker introduces the field of occupational health to her undergraduate students, she asks them to think of a job they or someone they know has had, and what they didn't like about the job.

The answers are rarely about the physical safety of a job. Rather, the things they didn't like are almost always about working long hours, being unfairly compensated, or being underappreciated.

This kind of workplace exposure, or what Baker calls psychosocial exposure, is something Baker studies as an assistant professor of environmental and occupational health sciences at the University of Washington School of Public Health. Even though she works with people who are exposed to hazards like chemicals or machinery on the job, many workers' biggest concerns have to do with their mental health, stress and well-being. While federal laws exist to protect workers from physical and chemical hazards, protecting against psychosocial hazards in the workplace can be more challenging to identify and address.

"How we are treated at work can really impact how we feel about ourselves, our job, and our mental health and well-being," Baker said.

That's why it's important to Baker that her research makes an immediate impact on the well-being of the communities she collaborates with. Her research process involves listening closely to communities, updating her methodology to support their needs, and working with them on the research findings so solutions can be easily understood and implemented.

Baker works with a wide range of communities, from female construction workers facing gender bias to maritime workers struggling with stigma around mental health. Whoever she's working with, Baker begins her research process by listening to their needs. To get this information, she conducts surveys and interviews and assembles an advisory group from that community to fine-tune her methods.

It's important that the research methods work well for the communities she partners with. If a survey is too long, workers may not have time or interest in completing it. If English is not the primary language of people taking a survey, the wording of questions may be unclear. For example, when Baker was conducting a survey with app-based rideshare drivers, she asked them to respond to questions with the multiple choice options "always," "often," "sometimes," "almost never" and "never." But some of the drivers for whom English was not a primary language were unsure of the difference between "almost never" and "never." So Baker condensed the options to "always," "sometimes" and "never."

"Methodologists may look at that and say, 'You're not able to capture variability because of that scale,' but we were able to capture people who wouldn't have otherwise participated," Baker said.

Using the responses from this survey, Baker learned that app-based rideshare drivers during the pandemic were not receiving adequate compensation for personal protective equipment (PPE) and cleaning supplies. Baker shared these findings with the Seattle City Council, which had already been working on a plan to improve these drivers' wages. The council passed a bill with funding for PPE and cleaning supplies for drivers which Baker had raised in her testimony and found important from her research. The Washington State Legislature passed a similar bill informed by the Seattle City Council's actions, amplifying the reach of Baker's research.

TO READ THE FULL STORY, SCAN THE QR CODE OR VISIT: **bit.ly/3NR7eVf**

Improving oral health with Yup'ik communities

Dental care has historically not been considered essential health care in the American medical system. But anyone who has experienced limited access to dental care knows the connection between teeth and public health.

"Ask an individual who has had to deal with a child having a toothache and is not able to find a dentist. Does that parent know about the connections between dental care, public health and the broader health care system? Absolutely," said Donald Chi. "Privilege affords you the opportunity to buy your way out of problems that individuals from underserved communities deal with every single day."

Chi is a professor in the Schools of Public Health and Dentistry at the University of Washington (UW), where he studies children's oral health inequalities. After 10 years of working with Yup'ik Indigenous communities in Alaska, he's learned about the impact of oral health on public health, especially among rural communities.

Chi has been making multi-weeklong trips a year to the Yukon–Kuskokwim (YK) Delta region of southwestern Alaska, providing dental care, getting to know families, and learning about the benefits and challenges of living in rural areas. This close partnership with communities has evolved into a years-long research project to understand and change the impacts of sugary fruit drinks on Yup'ik children's health.

"Those provider-patient relationships were the foundation on which I was able to build the research program," Chi said.

The clinical trial Chi and his UW team have been conducting is funded by the National Institutes of Health (NIH). This is the first time this type of research has been done with Alaska Native communities, Chi said. Through years of conversations with Yup'ik communities, families wanted help in reducing the amount of sugary fruit drinks their children are consuming.

Sugary fruit drinks are a problem across the U.S., and a primary source of increased sugar in children's and adolescents' diets, which can lead to problems like cavities, childhood obesity, and cardiovascular disease.

"We want to make communities as healthy as possible and position families to be able to make the best beverage-related decisions that they can," he said.

The research uses Indigenous community health workers as an intervention method to educate parents about the harms of sugary fruit drinks and provide tools for implementing behavior change. Community members are instrumental in every step of the research process and provide feedback. For example, researchers had asked families to share everything that their child ate in one day. For families with one child, this is a difficult task, Chi said, but for families with four, five, six children enrolled in the study, this was nearly impossible.

Luckily, Chi was able to take this feedback to the NIH and data safety advisory board and change the method. This kind of adaptability is not always possible in research processes but is important for working in partnership and building trust with Indigenous communities, which have had a history of being exploited by scientific researchers, Chi said.

"With community-based research, if your intervention has no saliency to the local population or if it's not feasible or sustainable, then your methods don't matter," Chi said.

TO READ THE FULL STORY, SCAN THE QR CODE OR VISIT: **bit.ly/4hlG1rn**

Using HIV research to develop COVID vaccines

In the early 1990s, Peter Gilbert was a University of Washington (UW) undergraduate, wondering what to do with his math degree. The HIV/AIDS epidemic was reaching its peak in mortality rates, and effective treatments for HIV were not yet available. Meanwhile, people with AIDS were stigmatized for being infected. Gilbert wanted to do something to change this.

"I felt a calling to try to be compassionate through what I knew, which was math, and work toward making a difference for persons living with HIV," Gilbert said.

Gilbert has been making that difference, both in HIV, and most recently, COVID-19. Gilbert is now a biostatistician and professor at UW, in the School of Public Health and Fred Hutch Cancer Center, where he designs and analyzes clinical trials of candidate vaccines for HIV, COVID-19, and other infectious diseases.

He pioneered a field of biostatistics named "sieve analysis," which helps researchers create vaccines more efficiently by comparing the acquired pathogen strains between vaccinated and unvaccinated individuals. He also worked on statistical methods for identifying "immune correlates of protection," which are antibody biomarkers that can predict the level of vaccine protection. This work can drastically speed up vaccine development, especially for vulnerable populations, like children.

While an effective HIV vaccine remains elusive, the methods developed during the years of HIV research paved the way for rapidly developing a COVID-19 vaccine. In early 2020, Gilbert's team was funded by the federal government as part of "Operation Warp Speed" to work on the COVID-19 vaccine.

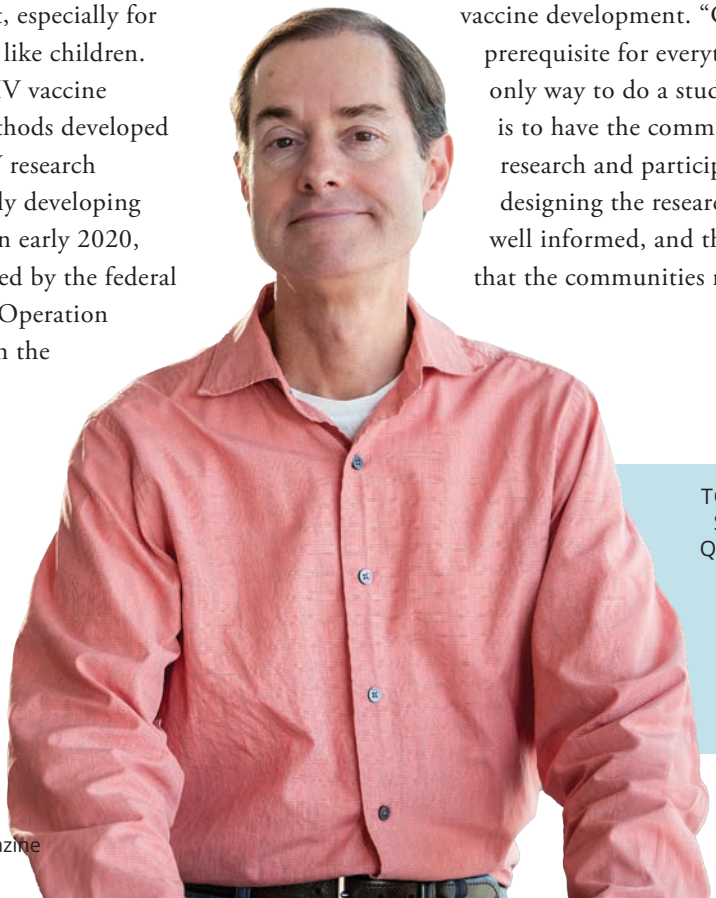
"It was good timing, because our team had done so much work in HIV vaccine research, in building methods, tools, paradigms and study designs, so that when COVID-19 came along, we could apply what we had learned," Gilbert said.

The central puzzle Gilbert faced was trying to find an antibody biomarker that could predict a COVID-19 vaccine's effectiveness. Traditional approvals required two costly, time-consuming large-scale trials, but finding a faster way to determine vaccine efficacy was critical to saving lives.

Gilbert's team developed innovative statistical analysis plans to analyze the antibodies produced by the immune system in response to COVID-19 vaccines. By linking these antibodies to how well the vaccines protected against COVID-19 in the trials, they could determine whether new boosters would provide similar levels of protection, enabling faster authorization.

While studying antibody markers to determine vaccine efficacy had been done for decades, the statistical methods that Gilbert and his fellow scientists used for the COVID-19 vaccines were new. This collaboration involved teams of statisticians at the UW including Ph.D. students who made extensive contributions, Fred Hutch, and partners at the National Institute for Allergies and Infectious Diseases.

Communities also played a large role in shaping vaccine development. "Communities are the prerequisite for everything," Gilbert said. "The only way to do a study legitimately and ethically is to have the communities understand the research and participate in the process of designing the research, make sure people are well informed, and that we're posing questions that the communities really care about."



TO READ THE FULL STORY, SCAN THE QR CODE OR VISIT: **bit.ly/3C4t1GA**

Creating Public Health Ecosystems

Alumni of Impact Award recipient Biraj Karmacharya leads innovative change in his Nepali community

WRITTEN BY **KATE STRINGER**

Biraj Karmacharya has remained an optimist throughout his public health career because he believes in the power of people.

"The world is not short of good people," he said. "If the vision is clear and the purity of the mission is there, it draws good people and good thoughts around it."

Karmacharya has been creating ecosystems for motivated people to transform public health, especially in Nepal where he has led innovative work alongside his community. He helped expand hospital programs to serve rural populations. He created the country's first-ever doctoral programs in public health to train future professionals. He researches diseases amongst low-income communities and works with governments to inform health policy.

"I always believed that to excel in one's professional life, it is not enough just to be good by oneself," he said. "We have to create a whole ecosystem to unleash our full potential."

This ecosystem Karmacharya works in is interconnected and aimed at supporting public health in Nepal. But it also has global reach and impact. Karmacharya's close ties to the international community, including the University of Washington (UW) where he was once a Fulbright student in the School of Public Health, have led to cross-country learning and funding opportunities for students and researchers.

For his work, Karmacharya received the School of Public Health's 2024 Alumni of Impact Award, the highest honor the School gives to alumni for distinguished service and achievement across public health. He also addressed the School of Public Health Class of 2024 at their Graduation Celebration.

Biraj Karmacharya sits with the first batch of MSc public health students attending Kathmandu University School of Medical Sciences, a first-of-its kind program in Nepal that will provide public health training to students. Photo courtesy of Biraj Karmacharya.

"Nothing enhances my belief or optimism more than engaging with people and finding heroes in the community."

Biraj Karmacharya

"Biraj has made an incredible impact on the public health of Nepal," said Steve Gloyd, professor in the School of Public Health. "His work creating the outreach centers and the Dhulikhel Hospital community programs has been outstanding. He has been a real inspiration to his fellow students at the UW and to his students at Kathmandu University. He is really a public health hero."

THE ROAD TO PUBLIC HEALTH

As a new medical doctor in Nepal, Biraj Karmacharya joined the team at Dhulikhel Hospital, a community-based hospital focused on serving underprivileged populations in rural Nepal.

Having grown up in the large city of Kathmandu, Karmacharya wasn't familiar with rural areas. But Karmacharya found himself drawn to the Dhulikhel Hospital's work with rural communities. As a medical officer, he began visiting the hospital's outreach centers and other rural communities. He'd drive a small truck through muddy roads, often getting stuck and needing the help of the community to pull him out.

In one village, Karmacharya had a meeting with the community to discuss how they could better access health services at the nearby Dhulikhel Hospital. Karmacharya recalls all the lofty ideas he and his team pitched at this meeting, until one villager stood up and told Karmacharya that many small villages weren't able to access any of these services because there was no bridge connecting those towns with the main road to the hospital. An old bridge crossing a major river had recently fallen into disrepair.

This was an important lesson for Karmacharya, that community knowledge and wisdom is critical for solving public health challenges.

"The solutions to the problems are best found in the places where the problems lie," Karmacharya said.

Together, community members, the hospital, and local and global funding agencies supported the construction of a new bridge, which connected these more remote villages with hospital access.

Karmacharya created and has led the Department of Community Programs/Public Health at Dhulikhel Hospital since 2006, where he has been engaged in developing and setting up innovative community-based health and integrated health and development programs.

He learned that people's health must be linked to community and economic development, agricultural support and womens' empowerment. He helped lead the construction of water supply systems so communities would not need to haul water long distances. He supported communities in developing microfinancing programs, so that women could receive training in agriculture and health services.

This was the start of Karmacharya's journey from health care to public health.

A GLOBAL EDUCATION

As a medical doctor, Karmacharya felt he could only help so many patients. But through public health, he could have a far-reaching impact. That's why he applied for the Fulbright Science and Technology program, where he earned his doctorate in Epidemiology and master's in Global Health at the UW.

"I am grateful, proud and feel fortunate to have had this education at the UW," he said. "The rigor and the breadth of education in the School of Public Health has dramatically shaped the way I view things, how I learn and teach."

During the COVID-19 pandemic, Karmacharya was one of the Nepal government's official epidemiologists briefing the nation weekly alongside the government spokesperson. He was also one of the key team members of the highest-level national entity created to handle COVID, the COVID Crisis Management Center. He said his training in epidemiology at SPH was a major reason behind successful execution of this national responsibility.

Karmacharya also highlights the strength of his educational journey that included the diverse experiences of his classmates too, who came to SPH from all over the world, as well as his mentors, including UW faculty Annette Fitzpatrick, Steve Gloyd, Judith Wasserheit, Carey Farquhar, Nona Sotoodehnia, Noel Weiss and many more.

Karmacharya played an instrumental role in supporting

Biraj Karmacharya speaks with a group of international collaborators in rural Nepal. Photo courtesy of Biraj Karmacharya.

students across the UW in learning about Nepal. He is the founding co-director of the Nepal Studies Initiative at the UW, which encourages engagement and scholarly studies on Nepal. He has been instrumental in bringing hundreds of UW students, including public health students, to Nepal for study abroad programs, so they can learn from their international counterparts.

"Biraj is an amazing individual and an inspirational role model for public health, at the institutional level and community level," said Ahoua Koné, clinical associate professor at SPH and co-chair of the SPH EDI programs. "In Nepal, I witnessed how deeply he is connected to his communities and how he tirelessly works with others to achieve common goals. He is kind, respectful and always advocating for ways to elevate others around him, whether his peers, students, mentees or community partners."

LOCAL SOLUTIONS

Karmacharya is now the administrative director of Dhulikhel Hospital, where he was once a medical doctor. In this role, he oversees the hospital's approach to community-centered health care and is tasked with setting up new academic and training programs in Dhulikhel.

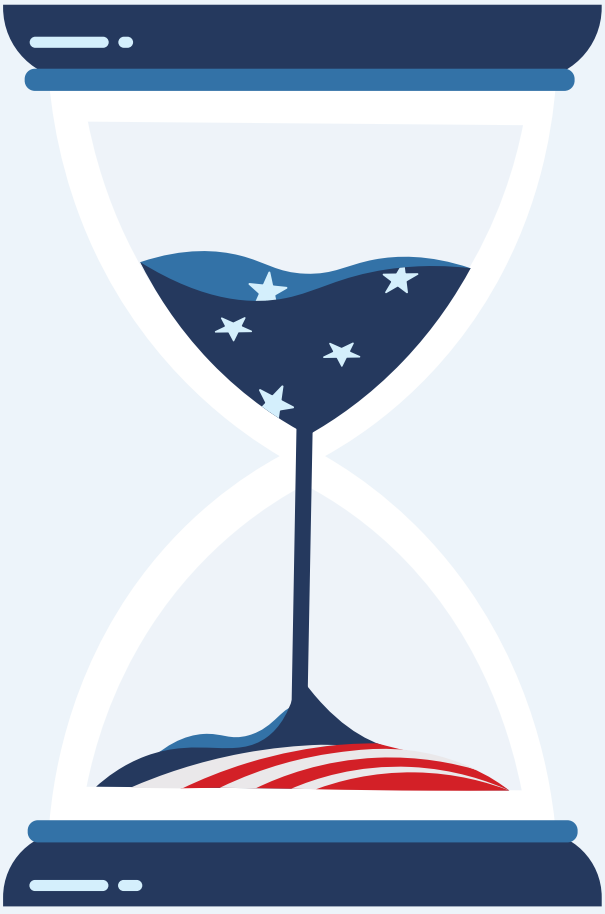
He created first-of-its-kind graduate programs in public health at Kathmandu University School of Medical Sciences. This way, students from Nepal will not need to travel abroad — a prohibitive cost to many — to be public health leaders. As an associate professor, he teaches students who go on to work in global health organizations, in academia, as researchers, epidemiologists, or in the government. Karmacharya works alongside them in this ecosystem and is inspired by how his students excel and lead in their work.

"The top universities for global health should be in the places where problems lie," Karmacharya said. "These are the places where we gain real perspective and education."

Karmacharya said that working in public health requires consistency, perseverance and patience. Changes cannot happen overnight and many initiatives he's been excited about haven't worked out. But he hasn't lost sight of his optimism because he's inspired by people.

"Nothing enhances my belief or optimism more than engaging with people and finding heroes in the community," he said.

TO READ THE FULL STORY, SCAN THE QR CODE OR VISIT: **bit.ly/4htvpab**



Dead first.

Social and economic inequalities are impacting American life expectancy

WRITTEN BY **KATE STRINGER**
ILLUSTRATION BY **LEA HIDAKA**

More than 40 countries sit ahead of the United States when it comes to their citizens' life expectancy, by United Nations counts. Americans will live an average of 7.5 years less than people in countries with the highest life expectancy, despite being one of the wealthiest nations in the world and spending more than other countries on health care.

This shorter life expectancy is true across age brackets, racial demographics and income levels in the United States.

"There is something about being born in the U.S. that gives you a life expectancy disadvantage," said Youssef Azami, a graduate student in public health and public policy at the University of Washington.

Yet Azami says the root causes of these poor health outcomes are not being acknowledged or addressed. While many people blame individual choices like diet and smoking, or limited access to affordable health care as the reason for poor health, research shows something different. University of Washington School of Public Health researchers Stephen Bezruchka and Azami point to upstream factors like income inequality, racism or social isolation as detrimental components to our health.

These social determinants of health have sweeping impacts on the entire population; even the wealthiest Americans can expect to live shorter lives than an average-income person in a peer country.

"There are many studies showing that even the healthiest among us are less healthy than ordinary people in other countries," said Bezruchka, associate teaching professor emeritus of health systems and population health.

Azami recently conducted qualitative research for his thesis on what other graduate students studying public health and public policy believe is the reason for Americans' poor health. From nearly a dozen interviews, students did not mention these social determinants of health as a primary role in life expectancy outcomes. Instead, students cited health care services as the biggest factor in determining health outcomes, followed by the influence of individual circumstances and personal behaviors on health. While some students mentioned the impact of poverty, it was always in relation to affording health care.

These findings are concerning, Azami said,

because graduate students studying policy and public health will likely be the ones holding positions of power in government and health departments. They'll be shaping policies — from the amount of taxes people pay to funding for early life — that will directly impact the health of populations.

"I would want graduate students to understand that these social and economic policies are the key factor in determining our population's health," Azami said. "So when we as professionals with graduate degrees are working in municipal, state and national governments, we are writing these tax policies, knowing how it's going to affect the health of the population."

While some schools of public health do emphasize these upstream social determinants of health in their curriculum, fighting core beliefs about agency over our health can be challenging. A 1997 study said that the ideas of social inequalities in health are not familiar topics to most lay people, who instead think individual factors play the most important role in their health. Bezruchka said it's worth asking why people believe what they believe. In America, a huge emphasis is placed on personal choices, such as exercising, eating healthy foods, or seeing a doctor when someone is sick, he said. Many people believe it is their individual choices that have impact, far more than the system they live in.

These individual choices like diet, physical activity, and alcohol and drug use do play a role in health outcomes, however, it is the social and economic factors that influence how people can make these healthy choices. For example, Azami said that living in a food desert can lead people to have unhealthy diets, or residing in an unsafe neighborhood can discourage going outside to get exercise.

WHAT CAUSES SHORTER LIFE EXPECTANCY?

Bezruchka himself once believed in the oversized impact of individual choices. He worked as an emergency room doctor for 30 years, and would make assumptions about how his patients' choices like smoking were the biggest impact on their poor health.

Yet when he started exploring the health of different countries' populations, he discovered that the country with the longest life expectancy — Japan — had two to three times more men smoking than the U.S.

Researchers studying health outcomes and life expectancy have surmised that there are many factors that could be at play when it comes to why U.S. life expectancy is so far below its peers. A pivotal report called "Shorter Lives, Poorer Health" looked into this very question. Published 10 years ago by the National Academy of Sciences and funded by the National Institutes of Health, researchers identified racial segregation, social isolation and child poverty, among other factors that led to poor health outcomes.

> "There are many studies showing that even the healthiest among us are less healthy than ordinary people in other countries."
>
> **Stephen Bezruchka**
> Associate Teaching Professor Emeritus, Health Systems and Population Health

Bezruchka, who wrote "Inequality Kills Us All," which shares research about how economic and social inequality leads to poorer health and higher mortality, found that research also points to factors like limited spending on early life, lack of social connections, and economic inequality as detrimental factors to the health of the entire U.S. population.

EARLY LIFE

The first 1,000 days of a child's life in particular have a huge impact on their health long term, Bezruchka said. Cells in a child's body are rapidly dividing at a rate never experienced again in human life. In the International Journal of Child, Youth & Family Studies, Bezruchka writes of some of the links between early life and adult health: Long-lasting negative health impacts can arise from as early as pregnancy. Stress during pregnancy has been linked to inflammatory markers in the offspring when they are in their 20s. Birth weight is linked to cognitive function in grade school, and weight at year one has been linked to coronary heart disease in adulthood. Family socioeconomic circumstances during childhood have impacts as those children enter adulthood.

TO READ THE FULL STORY, SCAN THE QR CODE OR VISIT: BIT.LY/3YZVW6D

Health Risks of Highway Air

UW research shows how breathing highway air increases blood pressure

WRITTEN BY **ALDEN WOODS**

For more than a century, American cities have been sliced and diced by high-traffic roadways. Interstate highways and wide arterials are now a defining feature of most metropolitan areas, their constant flow of cars spewing pollution into nearby neighborhoods.

Researchers have only just begun to understand the health risks posed by all that pollution. Long-term exposure to traffic-related air pollution — a complex mixture of exhaust from tailpipes, brake and tire wear, and road dust — has been linked to increased rates of cardiovascular disease, asthma, lung cancer and death.

Research from the University of Washington suggests those health risks are also seen in people traveling busy roads. A study published in the Annals of Internal Medicine found that unfiltered air from rush-hour traffic significantly increased passengers' blood pressure, both while in the car and up to 24 hours later.

"The body has a complex set of systems to try to keep blood pressure to your brain the same all the time. It's a very complex, tightly regulated system, and it appears that somewhere, in one of those mechanisms, traffic-related air pollution interferes with blood pressure," said Joel Kaufman, a UW physician and professor of environmental and occupational health sciences who led the study.

An earlier experiment by Kaufman's lab found that exposure to diesel exhaust fumes increased blood pressure in a controlled environment. The roadway traffic study was designed to test that finding in a real-world setting

by isolating the effects of traffic-related air pollution.

Researchers drove healthy participants between the ages of 22 and 45 through rush-hour Seattle traffic while monitoring their blood pressure. On two of the drives, unfiltered road air was allowed to enter the car, mirroring how many of us drive. On the third, the car was equipped with high-quality HEPA filters that blocked out 86% of particulate pollution. Participants did not know whether they were on a clean air drive or a roadway air drive.

Breathing unfiltered air resulted in net blood pressure increases of more than 4.50 mm Hg (millimeters of mercury) when compared to drives with filtered air. The increase occurred rapidly, peaking about an hour into the drive and holding steady for at least 24 hours. Researchers did not test past the 24-hour mark.

The size of the increase is comparable to the effect of a high-sodium diet.

"We know that modest increases in blood pressure like this, on a population level, are associated with a significant increase in cardiovascular disease," Kaufman said. "There is a growing understanding that air pollution contributes to heart problems. The idea that roadway air pollution at relatively low levels can affect blood pressure this much is an important piece of the puzzle we're trying to solve."

The findings also raise questions about ultrafine particles, an unregulated and little-understood pollutant that has become a source of growing concern among public health experts. Ultrafine particles are less than 100 nanometers in diameter, much too small to be seen. Traffic-related air pollution contains high concentrations of ultrafine particles. In the study, unfiltered air contained high levels of ultrafine particles, though the overall level of pollution as measured by fine particle concentration (PM 2.5) was relatively low, equivalent to an AQI of 36.

"Ultrafine particles are the pollutant that were most effectively filtered in our experiment – in other words, where the levels are most dramatically high on the road and low in the filtered environment," Kaufman said. "So, the hint is that ultrafines may be especially important [for blood pressure]. To actually prove that requires further research, but this study provides a very strong clue as to what's going on."

Traffic-related air pollution is the main cause of air quality variation from community to community in most U.S. metropolitan areas.

"This study is exciting because it takes the gold-standard design for laboratory studies and applies it in an on-roadway setting, answering an important question about the health effects of real-world exposures. Studies on this topic often have a challenging time separating the effects of pollution from other roadway exposures like stress and noise, but with our approach the only difference between drive days was air pollution concentration," said Michael Young, a former UW postdoctoral fellow in the Department of Environmental & Occupational Health Sciences and lead author of the new study. "The findings are valuable because they can reproduce situations that millions of people actually experience every day."

"The idea that roadway air pollution at relatively low levels can affect blood pressure this much is an important piece of the puzzle we're trying to solve."

Joel Kaufman

Professor, Environmental & Occupational Health Sciences

This research was funded by the U.S. Environmental Protection Agency and the National Institutes of Health.

Other authors are Karen Jansen, Kristen Cosselman, James Stewart, Timothy Larson, Coralynn Sack and Sverre Vedal of the UW Department of Environmental & Occupational Health Sciences; Timothy Gould of the UW Department of Civil and Environmental Engineering; and Adam Szpiro of the Department of Biostatistics.

Serving Health Equity in Seattle

Students improve access to culturally relevant and nutritious foods

WRITTEN BY **KATE STRINGER**
PHOTOS COURTESY OF **PRIYASHA MAHARJAN**

For several months, Priyasha Maharjan traveled with a translator to the homes of Seattle Afghan community members. She'd remove her shoes, greet the women who welcomed her into their homes, and then watch them cook dinner.

Maharjan ate with families, asked them about their recipes, and listened as they told stories about their search for traditional Afghan ingredients in the Pacific Northwest. She worked with fellow student Norma Garfias Avila and a translator to create a resource with their findings for local health providers in Seattle to help them understand the cultural dietary practices of their Afghan patients.

Understanding food accessibility, affordability, diet and cultural practices is important for supporting the health of communities. In Seattle and King County, food insecurity is increasing, as indicated by the number of people qualifying for federal food emergency assistance programs. In South King County and South Seattle, residents are twice as likely to experience food insecurity. Lack of access to affordable, healthy foods is one of the many contributing factors to heart disease, diabetes and obesity in the United States.

That's why several master's of public health (MPH) students at the University of Washington School of Public Health have been working with Seattle-based organizations through their practicums to address the

A Seattle Afghan family eats a meal together.

nutritional needs of people in the community, especially refugees, people of color, and people living in South King County. Through this collaboration, they've been learning ways to improve access to healthy food.

"Food is a basic human right and I think everyone deserves to have access to food," said Felicidad Smith, a graduate of the Health Systems and Population Health MPH program. "Something like that shouldn't be politicized or stigmatized."

BRIDGING CULTURAL NUTRITION KNOWLEDGE BETWEEN HEALTH PROVIDERS AND COMMUNITIES

Maharjan's practicum with the Afghan community in Seattle was conducted with EthnoMed, a website run by Harborview Medical Center that contains medical and cultural information about underserved populations, including immigrant and refugee groups. The EthnoMed team has been creating resources for local health providers to help them support the unique health needs of these communities in King County, including those from Afghanistan. Maharjan, a Fulbright scholar from Nepal and Global Health MPH graduate (now a UW doctoral student of global health leadership and practice), felt this was a great fit for her expertise and learning goals. She and MPH student Norma Garfias Avila (now UW nutritional sciences doctoral candidate) are co-authors of the project.

"Especially in Seattle, diabetes and hypertension are growing in these communities, and when they seek care at Seattle-based hospitals, the providers are unaware of dynamics in a household," Maharjan said. "So if the provider recommends an American diet to an Afghan family, it is less likely the family will adopt the recommendation and change their food behavior. But if the provider recommends a diet that is culturally appropriate, if the family can relate to the recommendations being made, they are more likely to accept those changes and adjust their lifestyle accordingly."

To go about creating these culturally appropriate recommendations for health care providers, Maharjan worked with a translator to visit the homes of Afghan families and learn from them about their culinary practices. During these visits, Maharjan interviewed and observed how important it was to the women cooking the meals to make their food healthy for their families, and how integral it was to eat together as a family. Those with younger children were more influenced by American diets than families without children.

Maharjan and EthnoMed's Web Information Specialist Nityia Przewlocki took pictures of the meals to include in a guide for health providers, so that they can understand typical foods served, portion sizes, and the balance of carbohydrates and proteins that their patients typically consume. Maharjan also made suggestions for local vegetables that could be added to meals like stews, such as leafy greens or carrots. The guide is under translation and will be available in English, Dari and Pashto languages.

The resource also provides culturally-appropriate guidance for health providers during times like Ramadan, where fasting of all food and drink occurs from dawn

until sunset. It gives suggestions like drinking plenty of water to support hydration after breaking fast, especially before consuming sugary treats. It also suggests eating fibrous foods during evening meals to help support individuals' energy during their month of fasting.

"I've learned more about how to communicate with communities about their practices," Maharjan said of her 6-month experience with EthnoMed. "When trying to make changes or suggesting something, it's important to practice cultural humility so people feel respected and heard and that we're not pushing our ideas, but listening to them and trying to effect change that is driven by a community's own interest."

INCREASING ACCESS TO FARMERS MARKETS

Many local farmers markets in Washington state offer a $1 for $1 match to people who receive food benefits through the Supplemental Nutrition Assistance Program (SNAP). Called the SNAP Market Match, the program increases access to locally-grown fruits and vegetables.

Yet few people are actually using these benefits due to lack of knowledge that the program exists or lack of access to their local markets. For example, in Auburn, Washington, 17,661 people had access to this match program in 2019, yet only 188 households used it.

"That was a shocking number, to say the least," said Felicidad Smith, MPH graduate of the UW School of Public Health. "Increasing access to farmers markets is really important because when you're looking at some of the top chronic diseases that a lot of people are dying from in this country, a lot can be related to nutrition."

During her MPH practicum experience, Smith worked with the Healthy Eating Active Living team at Public Health – Seattle & King County (PHSKC) to understand the barriers communities faced to knowing about and accessing benefits at farmers markets. Smith helped design a survey for residents of South King County, especially aimed at those who are refugees or immigrants. Community representatives then attended seven markets in South King County to distribute the survey.

"We know SNAP users are still food insecure, so the SNAP Market Match program is a way for them to increase their food budget," said Seth Schromen-Wawrin, a project manager at PHSKC. "However, it requires getting to a farmers market, feeling like a farmers market is a place you are able to go, and understanding how to use SNAP at a farmers market. All these knowledge, social, and physical barriers might prevent someone from being able to use this resource."

From the survey, Smith learned that barriers to access included lack of awareness, limited hours of operation, the difficulty of taking children to the markets, and lack of information in peoples' own languages that communicated these SNAP benefits. Yet she also discovered that farmers markets were one of the few gathering spaces for many communities that you could go to without necessarily having to spend money, especially people looking to form new communities after moving to the United States. Farmers markets aren't only about food, as they can also include musical performances, dancing, street drawings and activities for children.

"There's this common misconception that when you think of a farmers market, you think that everything is very expensive and overpriced and it's mostly for white people to shop with their dogs," Smith said. "But what we learned from the surveys is that it's actually a great place to foster community for people within their own demographic areas. Some people said that the primary driver for visiting farmers markets was to support farmers who looked like them."

Public Health – Seattle & King County received a three-year grant from the U.S. Department of Agriculture to improve access to farmers markets through promotion, so the data from Smith's research will help with this, Schromen-Wawrin said. This is especially important as farmers markets are often run by either a single person or a group of volunteers, so having PHSKC do the promotion and outreach helps small and time-strapped teams.

One of the ways PHSKC has been promoting the markets is by using a peer-to-peer outreach approach to assign trusted messengers within a community (such as community organizers or nonprofits leaders). Smith's data also helped work as an evaluation of how well this peer-to-peer outreach has been doing. Smith and Schromen-Wawrin eventually presented their findings at the Washington State Public Health Association conference in 2023.

"I'm hoping that the biggest impact of this work is seeing more folks coming to the farmers market to use their SNAP benefits there," Smith said. "While still acknowledging that fruits and vegetables can be very expensive, having more access can help tremendously with nutrition-related diseases."

BUILDING HOME

How a small team of students made powerful change for public health

WRITTEN BY **KATE STRINGER**
PHOTOS BY **ELIZAR MERCADO + ISSP**

(From left) Public health graduate students Hiwot Zewdie, Mohamed Albirair, Alison Wiyeh, Jacinta Ifunanya Azie and Patience Jaman created the International Student Success Program to support their peers. Photo by Elizar Mercado.

In September 2023, a group of public health graduate students drove to the Seattle-Tacoma International Airport. They were picking up a new graduate student, her husband, and their one-year-old child. Cynthia Aluoch, the student, had just traveled from her home in Kisumu County, Kenya, to begin a master's of public health degree at the University of Washington School of Public Health (UW SPH).

Weaving between the triple-parked cars in the arrivals area, they found their new classmate and took her luggage, loading it into the waiting car. Then they headed to Aluoch's new apartment, which fellow international students had prepared with donated furniture, kitchen supplies and bedding.

These students are part of the International Student Success Program (ISSP), a group created and run by public health graduate students at the UW. They moved from their home countries in Africa for graduate school because they wanted to create positive change in the health of their communities. But when they arrived in Seattle, they found that a lack of support for international students was impacting their ability to succeed in school.

ISSP now fills the gaps they encountered with free airport pickups, temporary accommodations, furniture, household items, and mentorship from fellow students. The core group of students (some who have graduated) who created and run it are Jacinta Ifunanya Azie, Patience Jaman, Alison Wiyeh, Hiwot Zewdie, Mariama Bah and Mohamed Albirair. Using their background as doctors and public health practitioners, and the public health and policy practices they are learning in school, they addressed the problem through community-oriented solutions.

"When ISSP started, we were thinking that this will just be something simple and ordinary," Azie said. "But then we realized we could combine our efforts and power to create change."

As of 2023, ISSP is part of the School's Student and Academic Services unit, but is still student-led. The School supports the program by providing UW cars for airport pickups, furniture storage, and a paid student position. Juanita Ricks, assistant dean for students at SPH, hopes the program will grow to reach even more international students.

"A program like ISSP is the antidote to institutional barriers in academia and public health," Ricks said. "It's so impressive that the students created this and that the School is able to come alongside them and support their leadership and the needs that they have identified."

More than a program, what ISSP students have been building is home. Home can be a building, a bed, a couch, a drinking glass, a bowl. But the students say it's also someone waiting for you outside an airport, to take your suitcase and welcome you to a new country. It's having people you can ask questions of without feeling stupid. It's a picnic at Green Lake Park that you show up to, and waiting for you on the table are new foods from this new place, but also foods from your hometown. They may not taste the same, but they remind you of home. You may start to think that maybe the people welcoming you into this place are worth staying for, and that your goal, to impact the health and well-being of people in your previous home, are worth creating a new home for.

Scan to watch the feature on YouTube

Wiyeh, an epidemiology doctoral student, says there's a philosophy that is common on African soil known as "Ubuntu." Translating to "I am because we all are," Ubuntu reflects a communal spirit. "Where I come from, we sincerely cherish people," Wiyeh says. "We cherish a visiting person." Wiyeh said that the students know they can't change the culture of the U.S., but they can forge a sanctuary from which they derive strength, enabling them to navigate their new world with resilience.

Home is... Someone you can ask questions of

Jacinta Ifunanya Azie has been working to improve health outcomes for women and girls in Nigeria for years, but noticed that a public health program's strength was dependent on grant funding. When the money left, everything went with it. In September

Jacinta Ifunanya Azie, Mohamed Albirair and Alison Wiyeh prepare food together before an ISSP group meeting. Photo by Elizar Mercado.

2021, she moved to Seattle to earn a master's of public health degree in global health so that she could learn how to keep these resources in her community.

Azie was in her first trimester of pregnancy when she moved. Waiting for her student funding to kick in, she slept on the floor of a fellow students' apartment and had to skip meals to get by. She sought fellow international graduate students who had started their studies while pregnant but couldn't find any, prompting her to wonder where she could find a supportive community with shared experiences.

Patience Jaman was an emergency physician in Ghana treating women with severe pregnancy complications when she decided to pursue a master's in public health degree in global health at the UW in 2021. She wanted to learn how social determinants of health influenced birth outcomes for women from underserved communities.

Without a credit score or U.S. social security number, Jaman couldn't secure housing. Days before she moved, she found a fellow student on Facebook and asked if they would be her guarantor on an apartment lease. When she landed in Seattle, exhausted and hungry after a day of traveling, she was locked out of the apartment. In that moment, she wondered, "Why did I come to the UW? Was it really worth it?"

Jaman and Azie met and bonded over their shared challenges as international students. Azie had been working on a support manual for international students through her student job. The two realized they could create something bigger than this manual; a support group. Alison Wiyeh, Mariama Bah, Hiwot Zewdie, and Mohamed Albirair had each been providing support to international students in the UW Black public health graduate student WhatsApp group through solo efforts. ISSP was born through the fusion of their collective efforts, with strong support from members of the UW Black public health graduate student WhatsApp group.

While thousands of international students come to the UW from countries like China and India, many African countries only have one, two, or three students. This makes finding communities of people with shared experiences challenging.

"Trying to find community and people, that has an impact on your academics and your ability to be present and remember the reason why you're at school," said Hiwot Zewdie, ISSP board member and epidemiology doctoral student. While Zewdie isn't an international student, her parents were immigrants from Ethiopia, and she'd heard stories of their challenges navigating higher education. Zewdie joined ISSP to use her experience to help others navigate the system.

Using their public health and public policy training, the ISSP board members conducted a needs assessment. Bah designed a survey that they sent to students in

the WhatsApp group to understand what they needed as international students, which they learned was furniture, housing, airport pickups and community.

They asked Assistant Teaching Professor Rabi Yunusa and Pat Sadate-Ngatchou to be faculty mentors of the group. Yunusa remembers hearing about the program and thinking, "this is public health work."

"We have a bunch of international students, and we want our graduate programs to be competitive and diverse. Graduate school is famously, very hard. So anything that students need to feel better and show up as their best, we should support," Yunusa said.

The first year of ISSP, the board members would collect furniture donations from community members, students and alumni by carrying them across Seattle to the homes of new international students, sometimes clocking over 20,000 steps a day. They joked that what they lacked in arm strength they made up for in passion.

They picked up students from the airport and brought them to their temporary housing, watching as they crashed on the couch after 20 hours of travel and thousands of miles from their usual time zone. They'd also cook food for the students, who may not have eaten in a day.

After piloting the program for one year, the students approached the School of Public Health leadership about supporting ISSP, and leaders were eager to permanently incorporate it into its student services and programming.

"We are committed to our students' success so that they can ultimately become the change agents that we hope for," Ricks said. "We need to establish, articulate and refine programs to support students and remove barriers so that they can focus on the life-changing work that they're here to pursue."

Home is... people welcoming you into a new place

In order for ISSP to succeed, the students needed support from the Seattle community to collect donations of home furnishings and money. One person in particular was instrumental in making that connection: LueRachelle Brim-Atkins.

ISSP students collect donations alongside Seattle community member with LueRachelle Brim-Atkins, who has supported the students' work and served as a "community parent." Photo courtesy of ISSP.

"It's so impressive that the students created this and that the School is able to come alongside them and support their leadership and the needs that they have identified."

Juanita Ricks
Assistant Dean for Students

Brim-Atkins is co-president of the Seattle-Limbe (Cameroon) Sister City Association. She has been building community across Seattle through her church, her work with the Sister City Association, and as a race and social justice consultant. She's even housed international students from the UW when they've needed a place to stay.

When the ISSP team contacted Brim-Atkins, she called her church and professional communities to collect donations from people who were moving or downsizing. She also served as an advisor to the ISSP graduate students, who refer to her and the other Seattleites who have supported them as "community parents." Some of the most important advice Brim-Atkins gave was to institutionalize ISSP at the UW, so that after the students graduated, ISSP could continue.

Brim-Atkins says the Seattle community's support of ISSP is important because it helps international students see Seattle, in addition to the UW, as home. "We don't want international students to see Seattle as only the university because Seattle is broader than that. We want them to get Seattle experiences as well."

Now, with the ISSP institutionalized within the School, prospective students and their families can feel safer taking a chance on international graduate school. Yunusa spoke with a newly admitted international student who was nervous about moving to a new country. Their parents had questions about their safety and education. Yunusa pointed to ISSP to show the School was prepared to support students. That student was able to work with ISSP to set up housing, arrange an airport pickup, and secure a SIM card all before arriving in the U.S.

"We are providing students the ability to settle down within the shortest possible time when they come to the U.S. and be able to start academics immediately," Jaman said. "I'm glad we have been able to lift the burden of all the problems we went through from their shoulders. I'm really hopeful about what ISSP will achieve in the future."

Pat Sadate-Ngatchou, who also served as a professional mentor for ISSP, is looking forward to the program expanding peer mentorship opportunities for incoming international students. Mentorship provides students with academic support, community, finding internships, applying for grants, and building professional connections.

"As a former international student, I deeply empathize with the scholars benefiting from this program," Sadate-Ngatchou said. "I understand firsthand the significance of a robust support network and mentorship while navigating and adapting to new culture and surroundings. This program plays a crucial role in minimizing the adjustment period, thereby maximizing the chances for incoming students to hit the ground running and successfully navigate uncertainties associated with a new beginning."

Yunusa pointed out the importance of having this program be led primarily by women from African countries, especially in building a community that students can identify with and trust:

"By and large, this is an immigrant Black women led program," Yunusa said. "That should be encouraged in public health, because we know about intersectionality, and how that plays into how things affect people differently based on ethnicities and other identities they embody."

Home is... a picnic at Green Lake

On a sunny October Saturday, dozens of students arrived at Green Lake Park in north Seattle. ISSP was holding a welcoming gathering for international graduate students to build community. Across picnic tables were foods, many of which represented dishes from their home countries, such as puff puff, jollof rice, and fried plantains, which are popular meals across many West and Central African countries.

While ISSP has supported over 50 students with airport pickups, housing, furniture and mentorship, Wiyeh says she most often hears how

International public health graduate students and their families gather in Green Lake Park for a welcome picnic at the start of the 2023-24 academic school year. Photo courtesy of ISSP.

gathering for meals helps students feel at home.

"It's funny, the power that African food has," Wiyeh said. "It's not so much about the food itself, rather, it's about the warm and nostalgic memories of home that accompany the food. We all come from different lived experiences, but food somehow reminds you of home."

When Wiyeh made her move to Seattle, she filled her suitcase with food given by her parents and aunties. "To me, that food reminded me of home, my identity as an African woman, and the people I had left behind at home, who were vouching for me, as I go ahead to succeed in the world and to bring back knowledge."

Cynthia Aluoch, who had arrived weeks earlier with her family for her global health studies, brought her nine-month-old son to the park. He eagerly gestured at another seven-month-old baby nearby who was being held by their mother. Aluoch brought him closer so they could play.

"ISSP is a great program, especially when you're new to the city of Seattle," Aluoch reflected. "The best way to support international students is linking them up to resources because knowledge is power."

It's not just new students who benefit from ISSP; board members have found the community provided support in the most challenging of times. Azie said after her mom died, dozens of students visited her home to bring flowers, money and pray with her.

"People could relate to having lost a parent while overseas and even having a baby. And that really helped me to go through that stage and come out of it," Azie said. "That's what family means to me."

As the day drew to an end, a student approached Yunusa to thank her for the food, saying, "How I find comfort will be in eating my mother's food. Seeing this food, although it doesn't taste the same, it just took me home and I felt at peace,'" Yunusa recalled. "I felt so proud of what these students are doing for each other."

Support ISSP

WANT TO SUPPORT THE WORK ISSP IS DOING? SCAN THE QR CODE TO FILL OUT THE SUPPORT INTAKE FORM OR CONTACT ISSP AT: ISSP@UW.EDU

Protecting Health in a Changing Climate

UW researchers partner with communities to save lives from extreme heat and climate-related disasters

WRITTEN BY **KATE STRINGER**
ILLUSTRATION BY **LEA HIDAKA**

The impacts of climate change on human health are severe: Extreme heat events put stress on the body, increasing the risk of heat stroke, hospitalization for heart disease, kidney failure, and poor mental health. In the U.S., deaths due to extreme heat have increased 117% from 1999 to 2023. Climate-related disasters like wildfires, drought, and flooding can lead to illness or injury, while increased temperatures can spread infectious diseases.

That's why researchers at the University of Washington School of Public Health are working with the communities most impacted by climate change to prepare for extreme heat events or climate-related disasters. This work is called climate change adaptation, and is critical to saving lives and building resilient communities.

Partnerships between faculty, local governments, and communities are innovating data-informed heat mapping tools, supporting communities to receive funding for climate-change related health impacts, and training the next generation of leaders to prepare for climate-related disasters. Collectively, their work will protect the health of people in Washington and globally.

"While we are making great progress in climate change mitigation, we still have unmanaged risk for population health driven by climate change and we are not investing adequately in preparing for that," said Jeremy Hess, professor and director of the Center for Health and the

Global Environment (CHanGE) in the UW School of Public Health, which leads important work on supporting communities for the health impacts of climate change. "We are looking forward to having a meaningful impact in that space regionally and globally. We are also eager to work collaboratively across the university and with partners locally and regionally, in practice, research, global health, and philanthropy. There's a lot of opportunity here."

A tool to innovate heat health risk mapping

When extreme heat events occur in Washington state, everyone can feel the impacts, but some feel them more acutely than others.

That's why Hess and fellow researchers at CHanGE have been mapping out how extreme heat impacts communities differently in Washington. They created the Climate Health and Risk Tool (CHaRT), a heat-health risk mapping and decision support tool. These maps show how temperatures vary across counties during extreme heat events and the vulnerability of people to heat impacts in these counties. CHaRT helps businesses, health departments, policymakers, and other organizations assess community risk to climate-related environmental events based on three factors: vulnerability, hazard and exposure, and then points them to interventions to consider.

Recently, Public Health – Seattle & King County and Puget Sound Energy have been using the tool to help support the communities they serve. These local partnerships will help CHanGE improve CHaRT so that it can expand its reach and impact from Washington state to across the country.

Public Health - Seattle & King County

Public Health – Seattle & King County (PHSKC) has been using CHaRT in a pilot project to help formulate community-driven solutions to climate change health impacts in Auburn, Washington. As an urban heat island, Auburn was one of the most negatively impacted communities in western Washington by the 2021 heat dome in the Pacific Northwest.

In partnership with Gates Ventures and Dr. Saria Hassan from Emory University, the pilot project is called the Climate and Health Adaptation Mapping Project for Community Determined Solutions (CHAMP-CDS). PHSKC has gathered a 15 community member workgroup from Auburn to learn about their experiences with extreme heat in the city, share information with them on heat health impacts, and collectively create a model for solutions to extreme heat that can be shared with decision makers.

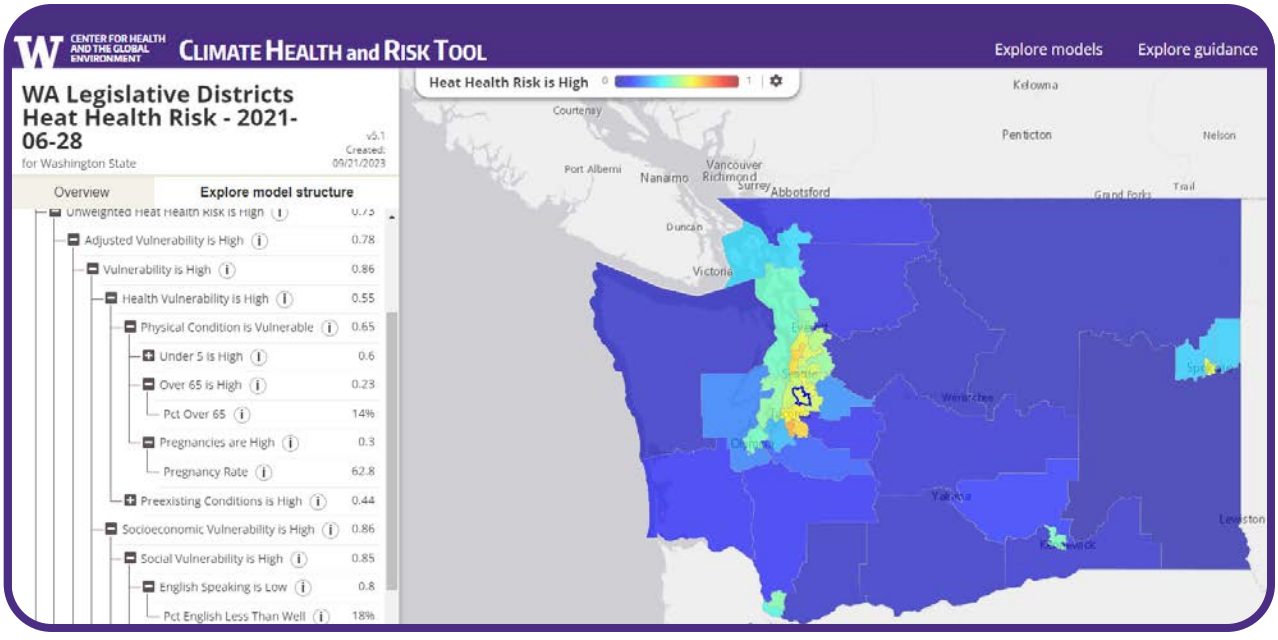
"Climate change is making heat events last longer, be more frequent, and be more intense," said Cat Hartwell, project manager for CHAMP-CDS at PHSKC. "Heat doesn't affect populations equally and it is locally specific, so a project like this is important because you get these hyperlocal community-determined solutions that people who are experiencing the heat are identifying themselves."

At one of these recent community workgroup gatherings in Auburn, Hess demonstrated how to use CHaRT to see vulnerability indicators for a region. These indicators include things like mobile homes, social isolation, outdoor workers, or extreme poverty. This can help decision makers see where interventions like cooling centers or air conditioning installations should be prioritized.

While CHaRT is able to represent data at the county level, Hess's partnership with PHSKC will also provide his team with more hyperlocal data, which can help improve CHaRT. The Auburn community

WELLCOME FUNDING AIDS PREPARATION FOR CLIMATE CHANGE HEALTH IMPACTS

CHanGE was awarded a grant from the Wellcome Trust to understand how socioeconomic factors will influence climate change's health impacts over the next century. Led by UW SPH Professors Kristie Ebi and Jeremy Hess, the project will update the Shared Socioeconomic Pathways, or scenarios defined by the United Nations to project ways global society might evolve in areas like population growth, income inequality and technological advances. Accurate projections will help countries prepare for future health burdens caused by climate change, so that they can protect population health for decades to come.



The Climate Health and Risk Tool (CHaRT) characterizes heat health risk for Washington Legislative Districts during the heat dome event on June 28, 2021. Created by: Tim Sheehan, Alyssa Miller, Jeremy Hess.

group will share feedback with Hess on how the tool is helpful or could be improved. This multi-way sharing of information will be useful to both researchers and communities in scaling up CHaRT nationally.

"CHaRT is the most advanced and local tool on heat available for us and it is very specific to Washington state," said Bradley Kramer, who leads the Climate and Health Equity Initiative at PHSKC. "As we are able to get down to a more local level, we will be able to build out the tool for the health departments to get more specific on who and where and why folks are most impacted by heat."

Puget Sound Energy

Washington's Clean Energy Transformation Act of 2019 required utility companies to create plans to convert to an electricity supply free of greenhouse gas emissions by 2045. To fulfill this goal, Puget Sound Energy (PSE), Washington's largest utility, created its Clean Energy Implementation Plan, with a focus on how to transition to clean energy in a way that does not burden vulnerable populations.

PSE is using CHaRT to identify vulnerable populations who are most energy-burdened in the state so it can support these groups. CHaRT can show how geographic regions experiencing the highest temperatures might also have large populations of low-income households that would be financially burdened by the energy costs of cooling their homes. Demonstrating this need can help organizations like PSE solicit funding to help communities, such as grants for clean energy like solar panels.

"This innovative tool has enabled us to tackle a range of critical questions, including identifying areas of our service territory with customers most at risk, and understanding how these high-risk areas intersect with our electrical infrastructure," said Michael Wehling, PSE program manager for energy equity. "The valuable insights and data sets generated by CHaRT will inform numerous decisions that will shape PSE's immediate future, ultimately helping us achieve our goals around clean energy and equity."

UW students Cordy Plymale and Payton Curley interned with CHanGE this summer to help gather information on how organizations like PSE have been using CHaRT to help their customers and what improvements could be made to better serve communities.

"What's cool about CHaRT is the focus on vulnerability, because a lot of tools or work being done around climate and health risk do not focus as much on this aspect," said Plymale, a public health-global health major. "It highlights the fact that different socioeconomic factors like English literacy, racial and ethnic status, social isolation, or education levels impact how people experience climate hazards and risks. It helps you think about how those harms are not evenly distributed because of different injustices and systemic oppression."

CENTER FOR DISASTER RESILIENT COMMUNITIES

The Center for Disaster Resilient Communities (CDRC) coordinates research, education, training and technical assistance efforts to expand the University of Washington's ability to contribute to advances in the field of disaster science. Led by Nicole Errett, associate professor of environmental and occupational health sciences, the center has recently been leading work to train the next generation of climate scientists. CDRC operates the training program Increasing Diversity in and Equitable Access to Applied Learning in Disaster Research Response (IDEAAL DR2). This gathers a cohort of advanced graduate students and early career hazards and disaster researchers from across the country to support their projects surrounding adapting communities to climate change. The scholars participating in the program have lived experiences as members of communities severely impacted by climate change. Some of their projects include supporting communities most impacted by sea level rise, how humans interact with infrastructure amidst disaster, and evaluating community's emergency disaster preparedness responses.

CENTER FOR ENVIRONMENTAL HEALTH EQUITY

The Center for Environmental Health Equity (CEHE) supports tribal and BIPOC organizations in accessing environmental and energy justice funding. Led by Edmund Seto, professor of environmental and occupational health sciences, CEHE helps communities apply for grants that support their work adapting to climate change impacts. Indigenous, BIPOC, and low-income communities often face the worst impacts of climate change, which underscores the importance of facilitating access to funding. CEHE serves communities in Alaska, Idaho, Oregon and Washington state as one of 16 Thriving Communities Technical Assistance Centers funded by the Environmental Protection Agency. CEHE specializes in skill sharing, where researchers can provide best practices for grant applications and communities can share their knowledge about what is needed to adapt to extreme heat, natural disasters, and other climate impacts. Unique to CEHE's organization is a goal to provide 40% of its funding back to communities through subgrants. This goal aligns with environmental justice practices set by the Biden administration through its Justice40 Initiative, to prioritize energy and environmental funding for communities most impacted by climate change.

COLLABORATIVE ON EXTREME HEAT EVENTS

The Collaborative on Extreme Heat Events provides a forum for public health agencies serving the metropolitan areas of Seattle, Portland and Vancouver, BC, to share their experiences and innovations in responding to extreme heat. The 2021 heat dome in Washington state that killed 126 people showed a critical need to create a network of support and solutions for adapting communities to climate change events. Led by Resham Patel, assistant teaching professor of environmental and occupational health sciences, the collaborative is co-developing an action and research agenda to facilitate partnerships and continued learning about climate and health interventions. They will develop this research agenda through an 18-month process that includes a peer-sharing webinar series and a participatory workshop.

Research briefs

New center to prepare communities for public health emergencies

A new regional Northwest Center for Evidence-Based Public Health Emergency Preparedness and Response has been established at the University of Washington (UW) with $978,000 from the Centers for Disease Control and Prevention (CDC) for its first year. Led by the UW Center for Disaster Resilient Communities (CDRC) in partnership with the Northwest Center for Public Health Practice, the new center aims to enhance public health preparedness in Alaska, Idaho, Oregon and Washington. Nicole Errett, associate professor of environmental and occupational health sciences, serves as the center's director.

This center is part of a national network of ten regional centers created by the CDC's Office of Readiness and Response to support communities in preparing for public health emergencies. By working with local health departments, hospitals and community organizations, these centers will help implement evidence-based strategies to address public health threats. The UW center will also collaborate with tribes in developing culturally relevant strategies to strengthen the resilience of tribal public health systems.

Launched in 2023, the CDRC brings together more than 100 UW faculty experts from various fields, including public health, environmental science, and medicine, to provide resources and technical support for disaster preparedness. It is supported by the UW Population Health Initiative. Last year, under a CDC contract, the CDRC developed a workplan focused on improving disaster preparedness in the northwest, particularly for tribal communities.

The center's activities will focus on three main areas, which stem from the CDRC's workplan: assessing and addressing current capabilities and future risks, communications, and building workforce capacity and leadership.

Key UW School of Public Health faculty involved in the center include Betty Bekemeier, Resham Patel, Tania Busch Isaksen and Jamie Donatuto, each leading projects in training, collaboration, implementation and health equity.

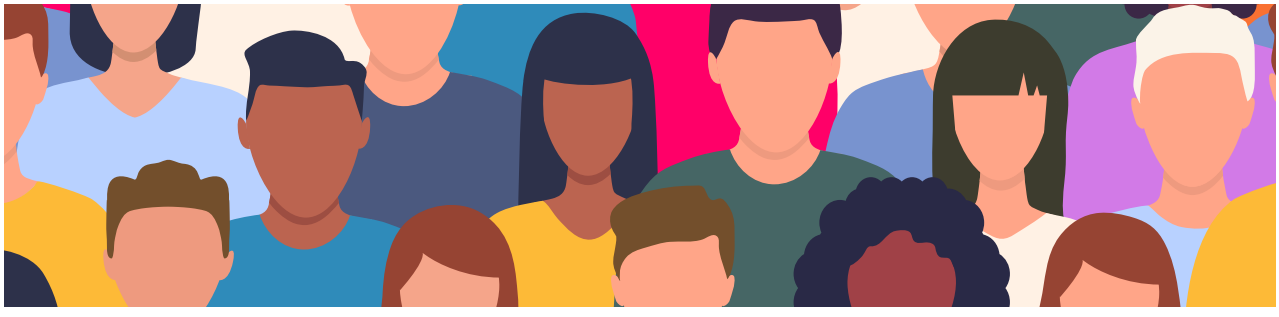
Improving TB care in rural Zambia

In Mpulungu, a remote area in northern Zambia, tuberculosis (TB) testing often requires patients to travel by canoe to the nearest clinic. For many, health services are accessible only by boat, leading to delays in diagnosis and treatment, worsening patients' conditions. Zambia faces high mortality rates among TB patients, particularly in rural areas where three out of four people succumb within the first month of treatment.

Operational research (OR) has been an effective approach in addressing health care challenges in these areas. Unlike clinical research, OR focuses on problem-solving within health care systems, leveraging local knowledge. An article authored by Ramya Kumar, an alum of epidemiology, highlights the impact of OR in enhancing Zambia's TB care. Between 2017 and 2021, the Eradicate TB Project trained 36 district health workers, resulting in nine OR studies that informed interventions, improving TB diagnoses, lowering mortality, and streamlining lab processes.

Mpulungu in 2018 northern Zambia people walking along the shore of Lake Tanganyika

The program's success demonstrates the importance of multidisciplinary approaches in controlling infectious diseases, with OR providing locally relevant solutions that lead to better patient outcomes and stronger health systems.



BIPOC individuals experience greater post-COVID burdens

A study published in Frontiers in Public Health reveals that BIPOC individuals who contracted COVID-19 experienced significantly more negative long-term health and work-related impacts than white participants. Led by Kelli O'Laughlin, associate professor of global health and emergency medicine at the University of Washington Schools of Public Health and Medicine, researchers tracked 2,402 U.S. participants infected between 2020-2022. They found that BIPOC individuals reported worse health outcomes and greater work loss months after infection, despite experiencing similar initial symptoms.

Hispanic and "other/multiple race" participants, including American Indian and Pacific Islander groups, were nearly twice as likely to report fair or poor health and reduced activity levels at three months compared to non-Hispanic and white counterparts. Black and "other/multiple race" participants reported significantly higher work loss at six months. Researchers attribute these disparities to socioeconomic factors, inequitable health care access, and institutional racism.

The study, part of the CDC-funded INSPIRE project, aims to inform equitable health interventions for underserved populations still dealing with COVID-19's aftereffects.

Research briefs

Designing innovative hydroponic farming methods

The University of Washington School of Public Health's Food Systems, Nutrition, and Health program has partnered with iUrban Teen to explore innovative farming techniques at the Rainier Community Center's urban garden, located on a former landfill in southeast Seattle. While raised beds are a common solution to growing on contaminated soil, they are exploring hydroponics — a method of growing plants without soil.

Undergraduate students in the UW food systems major are supporting this work through their capstone projects. They designed blueprints for outdoor solar-powered and non-electric hydroponic systems, while also collecting nutrient data for plants that will thrive in these setups. iUrban Teen will use the students' blueprints to seek approval from Seattle Parks and Recreation and hope to implement them in the garden by early 2025.

This joint effort helps support iUrban Teen's goals of growing thousands of pounds of leafy greens and vegetables for their unhoused community neighbors and providing a space for high school-aged youth underrepresented in STEM careers to study environmental and agricultural science.

Undergraduate students in the UW food systems major visit the Rainier Community Center's urban garden in southeast Seattle as part of their spring capstone project. Photo courtesy of the food systems capstone team.

FLARE extracts complex genetic data

University of Washington researchers have developed FLARE (Fast Local Ancestry Estimation), a new method that advances genetic research in admixed populations. Admixed individuals, whose genomes are shaped by multiple ancestral groups, provide a unique opportunity to identify disease-causing genes through local ancestry analysis. Until now, no computational methods could robustly handle the massive data now available for such analyses.

Detailed in the American Journal of Human Genetics, FLARE overcomes this challenge by enabling precise local ancestry inference for whole genome sequences containing hundreds of millions of genetic variants. "Existing tools couldn't scale to the growing amounts of genetic data," says lead researcher Sharon Browning, professor of UW biostatistics. FLARE's innovative approach leverages techniques from previous large-scale studies but can analyze greater amounts of data with reduced computation time to more accurately map ancestry at each genomic location.

The team prioritizes accessibility, providing comprehensive documentation and ongoing support for researchers worldwide using this cutting-edge tool. Currently, FLARE is being used in the Hispanic Community Health Study to investigate genetic links to diseases like kidney disease, and in the Africa6K project to explore population histories.

Contraception access for youth in British Columbia

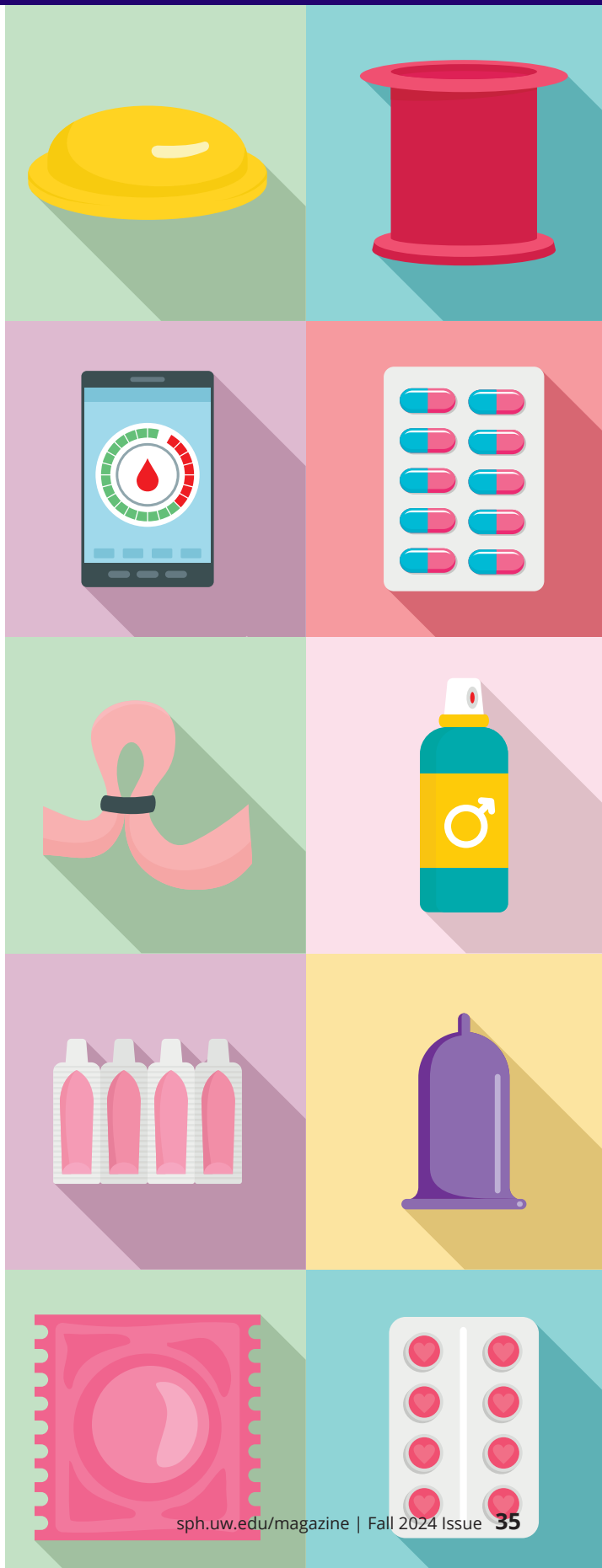
Sarah Munro, assistant professor at the University of Washington's Department of Health Systems and Population Health, is leading research to understand the impact of two recent policy changes in British Columbia aimed at increasing contraception access, particularly for youth. Munro, also the co-director of the Contraception & Abortion Research Team, has long focused on improving reproductive health care by removing barriers to contraception and abortion.

British Columbia's new policies mark significant strides in reproductive health equity. First, the province now offers all forms of contraception, including pills and intrauterine devices (IUDs), for free, even for those not yet enrolled in Canada's health care system. Second, pharmacists are now authorized to prescribe contraception, with accompanying training to ensure they are well-equipped to assist patients. These changes are expected to benefit youth, especially those in rural and remote areas who face challenges related to cost, stigma and access.

Munro's current study builds on her previous work, which included interviewing 79 Canadian youth and 27 health care providers. Her earlier research identified two major barriers for young people seeking contraception: the high cost and the stigma associated with accessing contraception, particularly in close-knit communities where privacy is a concern. Youth in rural areas may struggle with transportation, while those in close-knit urban areas may know their pharmacists personally, further exacerbating confidentiality concerns.

To address these challenges, Munro is investigating how the new policies can alleviate the barriers of cost, stigma and access. She plans to conduct interviews with pharmacists and youth in smaller British Columbia communities to assess the effectiveness of the policy changes. Additionally, Munro is exploring ways to improve pharmacist education on contraception, ensuring they are confident in their role as prescribers.

Munro's research, supported by a grant from the Ministry of Health and UBC Health, aims to generate insights that can inform broader efforts to improve contraception access both in Canada and the U.S.



New Faculty

TZU-HSIN KAREN CHEN
Assistant Professor, Environmental and Occupational Health Sciences and Urban Design and Planning

HELEN CHU
Professor, Epidemiology

JASON DANIEL-ULLOA
Associate Teaching Professor, Health Systems and Population Health and Global Health

TANYA KARWAKI
Assistant Teaching Professor, Health Systems and Population Health

HYUNJU KIM
Assistant Professor, Epidemiology

KARIMA LALANI
Assistant Teaching Professor, Health Systems and Population Health

KEVIN LIN
Assistant Professor, Biostatistics

SARAH MASYUKO
Assistant Professor, Global Health

ROBIN MEJIA
Assistant Teaching Professor, Biostatistics

KATARINA MUCHA
Assistant Teaching Professor, Global Health

STIPICA MUDRAZIJA
Assistant Professor, Health Systems and Population Health

DAVID MUKASA
Assistant Teaching Professor, Global Health

SARAH MUNRO
Assistant Professor, Health Systems and Population Health

JILLIAN PINTYE*
Associate Professor, Global Health

GUANGHAO QI
Assistant Professor, Biostatistics

MEGHA RAMASWAMY
Professor and Chair, Health Systems and Population Health

NEIL SEHGAL
Associate Professor, Health Systems and Population Health

ADRIENNE SHAPIRO
Assistant Professor, Global Health

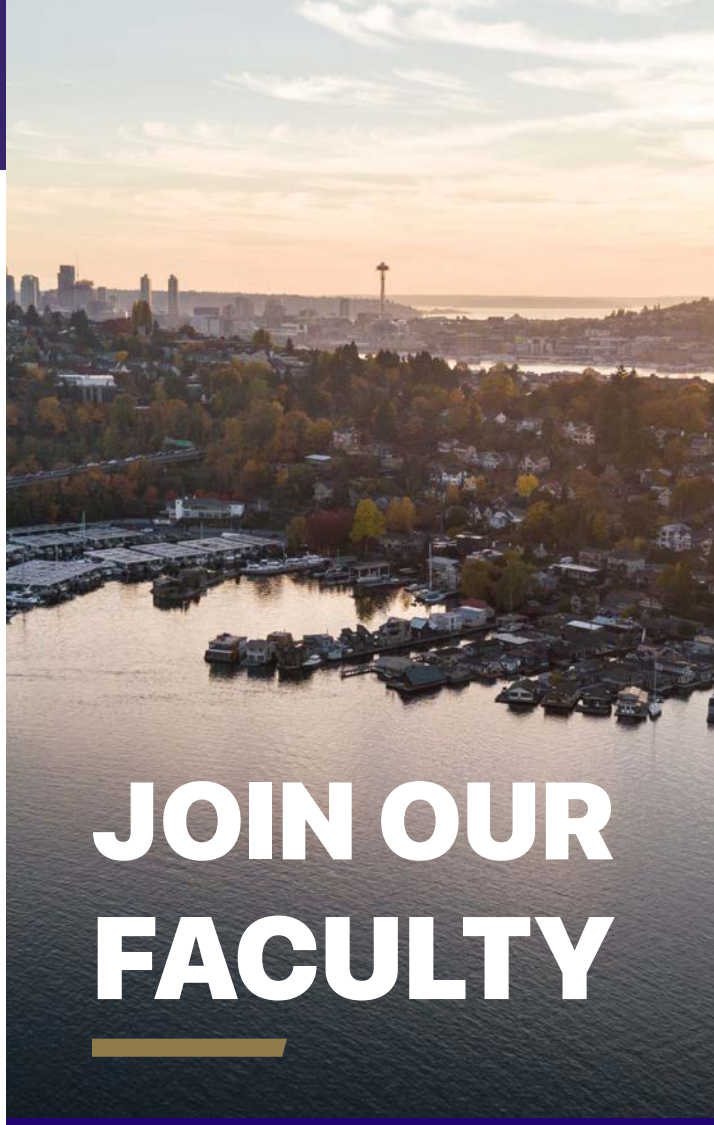
YANFENG SU
Assistant Professor, Global Health

KIRK TICKELL
Research Assistant Professor, Global Health

LOGAN TRENAMAN
Assistant Professor, Health Systems and Population Health

HEIDI VAN ROOYEN
Professor and Chair, Global Health

Listed are new faculty appointments since our last magazine publication. Faculty with an asterisk are pending University of Washington Board of Regents approval.



JOIN OUR FACULTY

The University of Washington School of Public Health will be conducting four searches for new faculty positions during the 2024-2025 academic year. Searches include:

- Professor and chair of biostatistics
- Professor and chair of environmental and occupational health sciences
- Tenure track assistant professor search in anti-racism and community health (in the department of health systems and population health)
- School-wide tenure track assistant professor search in the area of Indigenous health (home department to be determined based on final candidate's experience and interests)

To learn more about faculty career opportunities at the School, visit: sph.washington.edu/careers/faculty

Opening Doors

Usha and S. Rao Varanasi launch inaugural endowment to support undergraduate public health research

WRITTEN BY **KATE STRINGER**

Photo courtesy of Usha and S. Rao Varanasi.

For many people, the concept of research can be mystifying or evoke large, complex processes, but Usha Varanasi encourages thinking about research more simply:

"Research is anything that you search for more than once," she said. "Research is studying something in a little more detail than in the classroom; it does not have to be esoteric."

Usha and her husband S. Rao Varanasi have been researchers, scientists, administrators and mentors, spanning the fields of chemistry and engineering and careers in marine ecology and aerospace. Both alumni of the University of Washington (UW), the Varanasis have generously supported student scholars at the UW. Most recently, they have begun supporting the research of undergraduate students, which will now include students in public health.

This past year, they launched the inaugural S. Rao and Usha Varanasi Endowed Fund for Undergraduate Student Research in Public Health. The fund will provide broad-based support for highly academically qualified undergraduate students who are actively engaged in research — especially students who are the first-generation in their family to attend college or from underrepresented backgrounds in academia — as well as students who have a demonstrated commitment to diversity, equity and inclusion.

Supporting undergraduate student research is important to the Varanasis because they said it provides hands-on learning opportunities that inspire undergrads to explore unexpected questions or careers.

"We hope that the undergraduates will get their feet wet on real life problems that affect the health of our communities," Rao said. "The experience gained by the opportunity to embark on such research would keep them attuned to helping the community no matter what profession they land on."

The School provides opportunities for undergraduate students to engage in research through classes, internships and capstone projects. Every spring, undergraduate public health researchers showcase their work at the SPH Undergraduate Symposium, providing a forum for current students, prospective students, faculty and the community to discuss current topics in public health.

"Hands-on is a much more powerful way of learning because it stays with you much longer than reading books or taking tests," Usha said.

The Varanasis hope that emphasizing diversity, equity and inclusion in the undergraduate research fund will lead students to ask new and important research questions that can help solve global and local health equity challenges.

"Diversity brings a broader perspective to the table," Rao said. "If you have a totally homogenous group, it may be easier to get to a consensus solution but the solution from a diverse group is more beneficial to the communities even though it may be harder to reach a consensus."

"This country is so diverse, it needs to take more advantage of including populations from all different areas to make pursuit of research and knowledge stronger," Usha added.

The Varanasis have always valued education, having grown up in communities in India where education was celebrated and affordable. After moving to the U.S., Usha and Rao met at California Institute of Technology (Caltech) in 1961 where they were both pursuing graduate degrees: Rao, a master's in mechanical engineering, and Usha, a master's in chemistry. They were surprised at how costly higher education was in the U.S. and said they would not have been able to do it without the scholarships they received.

They married in Seattle in 1965 and both went on to study at the UW where Rao earned a doctorate in aeronautics and astronautics and Usha a doctorate in organic chemistry.

Rao worked for 45 years at The Boeing Company, focused on research and development in structural engineering, computational mechanics, analytical modeling of engineering systems, and management of military and commercial airplanes. He also served on working groups with the Federal Aviation Administration and the European Aviation Safety Agency and was a member of several executive review teams for the U.S. Air Force. He has been a speaker on safety rules for aircraft design and maintenance around the world.

Usha worked for 35 years at the National Oceanic and Atmospheric Administration's (NOAA) research facility in Seattle, where she applied chemistry to the study of biological systems. She became the first woman science director in NOAA fisheries. Her early research advanced our understanding of how marine mammals process sound and later demonstrated how marine organisms accumulate and process chemical pollutants. Her team was at the forefront of NOAA's seafood safety response after environmental catastrophes.

Inspired by their own family's core values of education, as well as their positive experiences at Caltech and UW, the Varanasi's began to give back to support students.

"When we built our careers, we decided we are in a position to pay back some of these opportunities in the hope that students at the UW would benefit from them," Rao said. "Young students undertaking research can inspire them to do greater things later in life."

Currently, Rao serves on the Visiting Committee for the UW Aeronautics and Astronautics Department where he is an affiliate professor. Usha is an affiliate professor in the UW's chemistry department and School of Aquatic and Fishery Sciences and serves on the steering committee for UW's Nature and Health program, alongside other UW and SPH faculty. She's interested in how contact with nature can positively affect mental, physical and emotional health and abate public health crises. Usha is also a member of the Washington State Academy of Sciences and American Association for the Advancement of Science fellow.

The Varanasis also hope that this endowment inspires other donors to give to undergraduate research opportunities.

"Undergraduate research is catching momentum," Usha said. "Young minds are ready to be opened."

If you are interested in supporting SPH students through your own personal philanthropy, please contact Katie Bunten, SPH director for philanthropy at bunten@uw.edu.

News and announcements

HILARY GODWIN REAPPOINTED AS DEAN

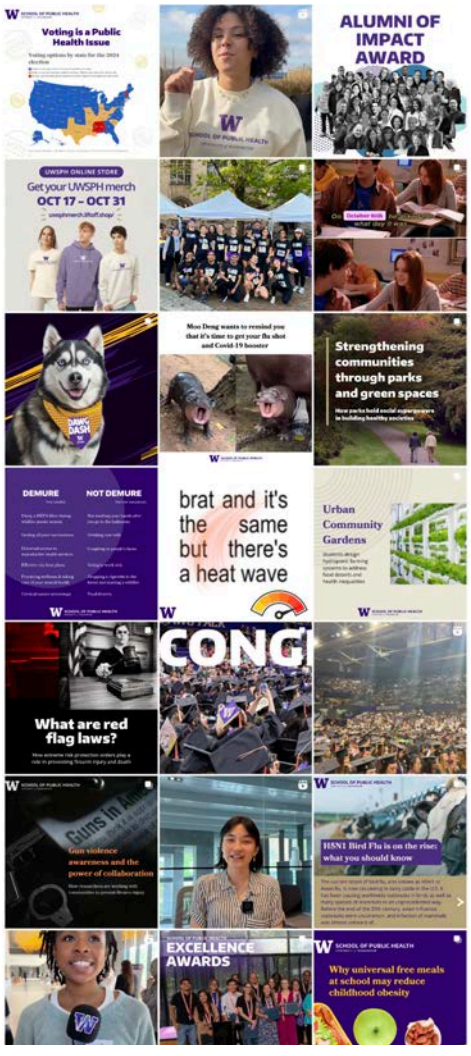
Dean Hilary Godwin will continue her work in the School of Public Health through a second term. University of Washington Provost Tricia Serio and an expansive committee conducted a five-year comprehensive review and greatly appreciated Hilary's commitment to the success of our students, faculty, academic personnel, and staff. Dean Godwin is "grateful to build upon our work together to serve and improve the health of communities and to continue making our School the best working and learning environment for all members of our community."

WELCOME NEW LEADERS

The UW School of Public Health welcomes new leadership in our departments and Office of the Dean. Our new leaders will support our shared work of solving the greatest public health challenges and co-creating health equity with communities in our region and the world. It is an exciting time as new chapters open for our School and departments. **To learn more about our new leaders, scan the QR code or visit: https://bit.ly/3UuEeqj**

THANK YOU MICHAEL YOST FOR 10 YEARS OF LEADERSHIP

After a decade of leadership, Michael Yost stepped down as chair of the University of Washington's Department of Environmental & Occupational Health Sciences. Throughout his tenure the department underwent significant, positive transformation. Yost's leadership brought on a new generation of faculty, modernized and consolidated labs to enhance capabilities and collaborations, and restructured undergraduate and graduate programs. He will continue as a professor and the director of the Pacific Northwest Agricultural Safety and Health Center.



Discover the stories that shape public health

We improve public health every day; don't miss a single story. Stay connected with the UW School of Public Health: sph.washington.edu/news-events/connect

Newsletter

Sign up for Mosaic, our e-newsletter that celebrates our collective impact locally and globally: sph.washington.edu/news-events/newsletter-subscription

UW SPH Blog

Explore stories about how SPH people, research and partnerships create a world of healthy people: sph.washington.edu/news-events/sph-blog

Social Media

Follow us to receive the latest UW public health news with a dash of memes.

UNIVERSITY of WASHINGTON
Public Health
THE MAGAZINE OF THE SCHOOL OF PUBLIC HEALTH

Magazine Staff

Dean
Hilary Godwin

Associate Dean for Advancement
Megan Ingram

Director for Marketing & Communications
Alex Whitman

Assistant Director for Marketing and Communications
Kate Stringer

Publications Manager
Laura Haas

Creative and Brand Manager
Elizar Mercado

Web Designer
Tim Knight

Contributing Writers
Kate Stringer (Lead), Alden Woods

Photography & Illustrations

Elizar Mercado, Lea Hidaka, Joe Anderson (Cover)

Contact Information
Email: sphmagazine@uw.edu

Hans Rosling Center for Population Health
3850 15th Avenue NE, Box 351616
Seattle, WA 98195

Never miss an issue. Subscribe to the University of Washington Public Health Magazine

SCHOOL OF PUBLIC HEALTH
UNIVERSITY of WASHINGTON

University of Washington School of Public Health
Box 351616
Seattle, WA 98195-1616

Nonprofit
U.S. Postage
PAID
Permit No. 62
Seattle, WA

A world of

HEALTHY PEOPLE

COLLABORATION | COMMUNITY | EQUITY, JUSTICE AND ANTI-RACISM | MEANINGFUL POSITIVE IMPACT | INNOVATION | SHARED LEARNING