SCHOOL OF PUBLIC HEALTH

Dehydration. Heat stroke. Asthma. Broken bones. Chronic pain. These are a few of the issues faced by Latino farmworkers in Washington state who risk their health—and occasionally their lives—to ensure our shelves are stocked with the fresh produce that keeps us healthy. Some farmworkers are especially vulnerable because they don’t speak English and don’t commonly know how to protect themselves in the workplace.

“If we don’t take care of our farmworkers, who’s going to do that work? How are we going to get fruits and vegetables?” says Elizabeth Torres, an educational outreach specialist in Granger, WA, who grew up in a family of farmworkers.

Torres works with a nonprofit agency and a local radio station that partner on research and health promotion campaigns with the Pacific Northwest Agricultural Safety and Health (PNASH) Center. The center is housed within the School of Public Health’s Department of Environmental and Occupational Health Sciences. She often hears about a wide range of injuries, including falls from ladders that result in broken legs, twisted ankles, and sore backs.

Protecting and improving the health of agricultural workers through research and outreach is a key mission of PNASH, which opened in 1996. It is one of 10 centers across the country focused on research, education, and prevention/intervention programs in agricultural industries. Funding...
comes largely through grants from the National Institute for Occupational Safety and Health (part of the US Centers for Disease Control and Prevention), US Environmental Protection Agency, and the Washington State Medical Aid and Accident Funds.

PNASH officials cite the need to support solutions—such as labor-saving technology, legal status, and worker training—that ensure a sustainable, year-round workforce for agriculture, a major industry in Washington state. “In occupational safety and health, we know that practical and sustainable solutions can only be developed at the workplace and with the active participation of workers, managers, and owners,” says Professor Richard Fenske, PNASH director. “Our success is largely due to efforts to work closely with all stakeholders.”

Here is a sampling of PNASH’s recent and ongoing work:

**Pesticides**

Certain pesticides have been linked to a wide range of human health hazards, including acute poisonings, eye and skin irritation, and longer-term neurological damage and cancer. Workers can bring home traces of chemicals on their clothing and shoes. “Many people weren’t aware that they had to take their clothes off before going into the house,” says Torres, who works with El Proyecto Bienestar (the Well-Being Project) and Northwest Communities’ Education Center, which runs KDNA-FM, a Spanish-language radio station. “You don’t see it, but you pick it up like dust and bring it home. That affects the health of our kids.”

Besides conducting numerous studies on pesticides over the last two decades, PNASH has developed a guide, “Practical Solutions for Pesticide Safety.” It’s available in English or Spanish and contains advice on everything from how to safely mix and apply pesticides to ways to separate work shoes from family space in cars and homes. The project partnered with pesticide handlers, orchard managers, and educators. “We really wanted the guide to speak to the people who use it,” said Kit Galvin, senior industrial hygienist for PNASH. “Part of the guide’s appeal is that it is filled with farm-based and tested solutions as well as featuring the farmers and their stories about how they came up with their solution.” The center also is developing a kit for educators who conduct hands-on training.

**Ladder Falls**

While pesticides are everywhere and their effects can be hard to detect over the long term, falls from ladders are the greatest risk to those who work in orchards, according to Peter Johnson, an associate professor of Environmental and Occupational Health Sciences who studies the ergonomics of apple production. Orchard workers can easily miss a step or lose their balance as they climb up or down, he says, and pickers have the additional burden of using ladders while wearing heavy bags of fruit. Fruit pickers frequently suffer from low back and shoulder pain.

Johnson, Galvin, and their colleagues also are studying a relatively new technology that allows workers to collect more fruit more efficiently. It’s a self-steering harvest assist machine where pickers stand on raised platforms adjusted to different heights. Modern orchard design enables these machines to move up and down tree rows easily while workers pick fruit from the “sweet spots.” Mobile platforms account for about 5 percent of all production in orchards, according to Johnson; the rest is still done by ladder.

So far, studies have found that heart rates during work periods were about 30 percent lower for platform pickers compared to those on ladders. This difference is likely because they no longer need to climb up and down ladders and carry heavy apple bags while walking to bins for...
unloading. Platform workers also self-reported lower levels of whole body, shoulder, and back fatigue. “On the whole, the platform appears to be more beneficial for the orchard workers,” Johnson says.

**Heat-Related Illnesses**

While orchard work occurs year-round (winter pruning, for instance), summer brings the added risk of heat-related illness. It’s not just the 90-plus-degree temperatures outside, but the exertion of the workers, who generate heat that their bodies cannot always cope with, explains June Spector, assistant professor of Environmental and Occupational Health Sciences. Spector recently completed a two-year pilot project on heat-related illnesses. Potential risks to agricultural workers include inadequate hydration and the type of clothing worn, such as dark, layered clothing.

Another potential risk is getting paid by the amount of fruit that’s picked, rather than by the hour. Under Spector’s guidance, Kristina Blank (MPH ’14) conducted research on this issue for her Master’s thesis. One hundred agricultural workers were surveyed about their work, hydration, and cooling practices. Blank and her colleagues found that workers paid a piece-rate wage reported exerting themselves more than hourly workers and were four times more likely to report symptoms of heat-related illnesses. Says Torres, who facilitated the surveys, “When people are working by piece, you tend to eat less, drink less. You don’t have time to take care of your personal health.”

**Sexual Harassment and Violence**

For women in the fields (and some men), there’s the added risk of sexual harassment. Victoria Breckwich Vásquez, director of community engagement and education for PNASH, says one-fourth of all agricultural workers in the US are women, and 75 percent or more have experienced sexual harassment at some point in their working lives. Vásquez says it’s often perpetuated by those in power, such as supervisors.

A one-year PNASH project, supported by the Washington Medical Aid and Accident Funds, produced resource wallet cards with information on protection and what to do in case of harassment. It also included an educational radio drama that aired 60 times on KDNA featuring the stories of women and a play that has been performed at large health fairs. A training video is in the works with the Washington Growers League, a group with more than 400 growers. “There’s nobody else doing this work in the entire Yakima Valley,” says Vásquez, who is advising Oxfam on developing a broad, national initiative to eliminate sexual harassment in agriculture. “It’s not just a legal issue, but a workers’ rights and health and safety issue.”

Some other new and ongoing PNASH projects:
- Assessing the effectiveness of high-efficiency particulate air (HEPA) filters in the homes of children with asthma who live near farms;
- Understanding injury risk factors for Filipino migrant workers in the Alaska fishing industry;
- Studying the health risks for migrant workers in the logging industry in Oregon and the Olympic Peninsula;
- Researching the links between heat exposure, traumatic injury risk, and productivity in agricultural workers.

Move information about these and other studies and the National Agricultural Center Programs can be found at:
- [http://www.cdc.gov/niosh/oep/agctrhom.html](http://www.cdc.gov/niosh/oep/agctrhom.html)

**Fresh Fruit, Broken Bodies**

This year’s Common Book for students at the six UW Health Sciences schools is “Fresh Fruit, Broken Bodies: Migrant Farmworkers in the United States.” Author Seth Holmes, a UW graduate, anthropologist, and physician, journeyed and lived with indigenous Mexican migrant farmworkers from Oaxaca state to Washington state. He chronicles how racism, market forces, and other factors undermine their health and quality of healthcare. The themes of the book will be woven into discussions and curriculum throughout the year to create a shared dialogue among all Health Sciences students.
WHAT ANIMALS CAN TEACH US ABOUT HUMAN HEALTH

Peter Rabinowitz, associate professor of Environmental and Occupational Health Sciences and Global Health, grew up loving wildlife and nature. Today, as director of the School’s new Center for One Health Research, he studies the health risks shared by animals and humans in an increasingly crowded world.

What is the One Health concept?
One Health is the idea that since human, animal, and environmental health are so interrelated, we need to break down the traditional siloes between animal health and human health. Human health has often taken an “us” versus “them” approach to animals—viewing them as carriers of diseases or allergens or as sources of bites and injuries—and taken steps to separate people from animals. But as the global environment changes rapidly, animals share many environmental risks with us, and we need to find ways to coexist. One Health is about what we can learn from those shared risks, and it’s about protecting the environment in order to optimize the health of the animals as well as humans.

What can we learn from animals?
They tend to have greater exposures to particular environments than humans and may be both more susceptible and, because of shorter lifespans, quicker to show the effects of exposure to a hazard. For example, a dog exposed to asbestos develops cancer 20–30 years sooner than a human. At the same time, humans can sometimes be sentinels for disease risk in animals—it works both ways. Human health professionals and veterinarians have a lot to learn from each other.

Are we seeing more outbreaks of disease between animals and humans?
About 70 percent of the emerging infectious diseases over the last few decades have come from animal sources. Ebola, SARS, bird flu, Nipah virus in Malaysia, and West Nile virus are examples. Certainly, diseases between animals and humans are not new. There were cattle plagues in the Bible, and at least ever since we became an agricultural society living closely with domestic animals, we’ve been sharing diseases with animals.

Why are these outbreaks increasing?
Because of changing ecology, changing climate, and changing ways we raise animals. Habitat destruction, for example, brings us into closer contact with animals hosting these viruses. Agricultural intensification is a major driver.

One of the projects at the Center for One Health Research, directed by Peter Rabinowitz (above), is trying to reduce the risk of infection in dairy production.

capita, we’re eating more meat as the global standard of living goes up. This has required raising food animals in more crowded environments, which amplifies the risk of certain infectious diseases such as influenza. The more than one billion people worldwide who work closely with animals, both in small farms and large farm settings, are on the front lines of the human-animal interface, yet public health efforts often neglect such workers.

What are the goals of the Center for One Health?
First, how are we going to raise animal protein to feed a growing world population in a way that is healthy for humans and animals and doesn’t trash the environment? Second, how are we going to interact with wildlife in a way that keeps diseases from moving back and forth between wildlife populations and domestic animals and humans? Third, what are healthy ways to cohabit with animals—both in households with companion animals such as dogs and cats as well as with other animals in the city, including urban chickens?

What are some of the projects you are working on?
We’re doing a study on backyard chickens and salmonella, one of several infections poultry can carry. Chicks may be especially risky, but eggs can also be affected. Many people are not aware of this risk, and we are sampling backyard poultry flocks in Seattle to get a better handle on the magnitude of the risk and how best to manage it. There’s also a question of how urban chickens can affect the urban rat population. We are also working with dairy farms in Washington state on how to reduce risks of infection in dairy production in order to keep both the workers and the cows healthy.
New Department Chairs Have Done Innovative Research in Their Fields

Professor Patrick Heagerty was named Chair of Biostatistics, effective Sept. 1. He succeeds Bruce Weir, who served as chair for nine years and remains on faculty as a professor. Heagerty has been a faculty member since 1995 and associate chair since 2011. He is an elected fellow of the American Statistical Association and has won numerous other awards for his research focusing on methods for the analysis of longitudinal data and on the evaluation of biomarkers.

Judith Wasserheit, professor of Global Health and adjunct professor of Epidemiology, was named Chair of the Department of Global Health, effective Sept. 1. She succeeds founding Chair King Holmes, who will remain on faculty. Wasserheit is a long-time leader in research on sexually transmitted diseases. She has research, program, and policy experience in Egypt, Indonesia, Kenya, Thailand, and Zambia, as well as the U.S. Since 2001 she has also been a professor in the School of Medicine.

Professor Michael Yost was named Chair of Environmental and Occupational Health Sciences, effective Aug. 18. A faculty member since 1993 and associate chair since 2012, Yost takes over from David Kalman, who remains on faculty after 16 years as chair. Yost’s research focuses on developing novel tools for environmental and occupational exposure assessment. He also has contributed to such areas as impacts of climate change and nanotechnology on human health.

A Sampling of Faculty and Student Accolades

Adam Drewnowski, professor of Epidemiology, was inducted as a Fellow of the American Society for Nutrition.

Christine Khosropour, PhD student in Epidemiology, is the SPH 2014–2015 Magnuson Scholar.

Sean Sullivan, professor of Health Services, was named new dean of the UW School of Pharmacy. He also won the Steven G. Avey Award for distinguished service from the Academy of Managed Care Pharmacy and AMCP Foundation.

Jonathan Childers, Master’s student in Environmental and Occupational Health, and Corrie Ortega (PhD, Pathobiology – Global Health ‘14) were honored with this year’s Gilbert S. Omenn Award for academic excellence.

Washington Governor Jay Inslee named Ron Sims, head of the SPH Dean’s Council, as chair of the board of the WA Health Benefit Exchange.

Sheela Sathyanarayana (MPH, Epidemiology ‘07), adjunct associate professor of Environmental and Occupational Health Sciences, was named full chair for the EPA’s Children’s Health Protection Advisory Committee.

Daniela Witten, associate professor of Biostatistics, made Forbes’ 30 Under 30 list of top young researchers in health and science for the third year in a row.

Andy Stergachis, professor of Epidemiology and Global Health and adjunct professor of Health Services, was named WA State Pharmacist of the Year in 2013.

Stephen Gloyd, professor of Global Health and Health Services and adjunct professor of Epidemiology, gave the 38th annual University Faculty Lecture, “Achieving Health for All.”

King Holmes, professor and founding chair of the Department of Global Health, received the Gairdner Foundation’s Canada 2013 Global Health Award.
Thanking the Country That Saved His Life

It is hard to know where life will take you, and this was especially true for Walter Remak. In 1936, as a young man from Berlin, Walter fled Nazi Germany for the safe haven of South Africa. After arriving, Walter returned to the fray, fighting against the Nazis in the South African Army. His experience with the South African people, including their warmth and willingness to accept him, gave him a lifelong gratitude toward the country.

Ten years later, Walter moved to the United States to reunite with his family. He had a passion for horse racing and for 30 years owned racehorses that competed at West Coast tracks, including Longacres and Emerald Downs. For his 80th birthday, Walter’s family offered to take him to the Kentucky Derby, but he declined. Instead, he asked them to help him set up a scholarship at the University of Washington that would enable students in the health professions to serve the people of South Africa. As a result, a fund was established at the School of Public Health to give back to the country that helped save his life.

The Walter Remak Scholarship Fund benefits students in the School of Public Health, undergraduate or graduate, who plan to work in South Africa, regardless of the student’s country of origin. The funds can be applied towards a variety of expenses that are related, implicitly or explicitly, to their work in South Africa. It is an inspiring example of a way to support diverse needs within the School and abroad.

After Walter passed away at age 91, his son Ben and daughter-in-law Nancy continued to honor Walter’s legacy by supporting the scholarship in his name. The fund, now in its 20th year, has assisted six students who are making an impact in South Africa and beyond. Said Nancy, “Whenever we support the fund, we think of Ben's dad and how much it meant to him. When we have the opportunity to meet the recipients and hear their stories, we realize how special his visits with the students were for him.”

If you are interested in supporting the Remak Scholarship or establishing a fund of your own in the School of Public Health, please contact Megan Ingram at 206-616-7197 or mkingram@uw.edu.

Vision for a New School of Public Health Building

Healthy people in sustainable communities—locally, nationally, and globally—that is the vision of the School. In order to best achieve it, the School needs spaces and facilities that are innovative, flexible, people-centered and, above all, that support collaboration and multi-disciplinary thinking. With architects Payette Associates in Boston working with the Miller Hull Partnership in Seattle, the School has just completed a Visioning and Planning study to help it realize those goals. The study involved surveying staff, faculty, and students about their needs and wishes in any new building; site visits to the almost 20 SPH locations in Seattle; an analysis of current space use and rapidly evolving education technologies; growth projections, and much more.

Among the themes that emerged were a desire for spaces that reflect healthy living and wellness; bring in light and air; create indoor and outdoor meeting places and opportunities to connect; allow students, faculty, and staff to come together around a symbolic center. The next step will be developing a plan to make the building a reality, including cost and financing options, site possibilities within the overall UW plan, and a fundraising strategy.

Dr. Robert Newman has had a distinguished career in global health, including leading efforts against malaria for the US Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO). He is a clinical associate professor in the Department of Global Health.

After his residency in pediatrics at UW and earning his MPH in epidemiology, Dr. Newman worked with Health Alliance International in Mozambique. That work was followed by nine years with the CDC, serving as chief of several units in its malaria branch. He then spent almost five years as director of WHO's global malaria program. He is now director of policy and performance at the GAVI Alliance, a global leader in providing vaccine access in poor countries. His advice to School of Public Health graduates: Take risks, think big, and be passionate.

The Distinguished Alumni Award recognizes an alumnus or alumna with a demonstrated record of distinguished service and achievement in any public health discipline or setting.

Alumni Updates

Kyle Davidson, MPH 2014, Health Services-COPHP, is now a clinic manager for Sea Mar Community Health Centers.

Robyn Nicole Fernando, BS 2014, Public Health Major, has been accepted as a Peace Corps volunteer and will leave for Malawi in March 2015.

Susan Glenn, BA 2014, Public Health Major, has been awarded a Bonderman Fellowship, beginning January 2015.

Jillian Pintye, MPH 2014, Epidemiology-Global Health, won one of the five Young Investigator Awards at the International AIDS Conference in Australia. She's now a PhD nursing student and continues to work as a research assistant in Global Health.

Arend (Arie) Voorman, PhD 2014, Biostatistics, accepted a position at the Bill & Melinda Gates Foundation, where he works as a statistician on the polio eradication team.

Rachel Wood, MS 2014, DEOHS, received a fellowship for the KUSKAYA program in Peru. It is an interdisciplinary training program for innovation in global health and is a joint program between the University of Washington and the Universidad Peruana Cayetano Heredia.

Jennifer Balkus, PhD 2012, Epidemiology, presented results from an ancillary study of the PVI Trial and won the award for Best Abstract from a Young Investigator at the annual meeting of the Infectious Diseases Society of Obstetrics and Gynecology.

Wendy Ellis, MPH 2011, Health Services, was named an inaugural Milken Scholar at George Washington University and is beginning studies towards a DrPH in health policy.

Heather Buesseler, MPH 2010, Health Services, had her Master's thesis published in the Journal of the International AIDS Society. “Breastfeeding: the hidden barrier in Cote d’Ivoire’s quest to eliminate mother-to-child transmission of HIV” was co-authored with Department of Health Services faculty (Kirsten Senturia) and Department of Global Health faculty/Health Alliance International staff (Julia Robinson, Ahoua Kone).

Tegan Callahan, MPH 2010, Health Services, wrote a letter touting the COPHP program’s problem-solving curriculum for the June 2014 issue of the American Journal of Public Health. She works with the CDC’s Division of Global HIV/AIDS, Maternal and Child Health Branch, in Atlanta.

Julia Robinson, MPh 2008, Global Health, gave a recent TEDx talk at UW titled, “Transcending Technology in Global Health.” She makes the case for more investment in health workers in countries such as Mozambique.

Dariush Mozaffarian, MPH 2003, Epidemiology, was appointed dean of the Friedman School of Nutrition Science and Policy at Tufts University.

Bin Nan, MS 1999, PhD 2001, Biostatistics, is a professor of Biostatistics at the University of Michigan and was named a fellow of the Institute of Mathematical Statistics.

Robert Duff, MS 1993, DEOHS, is a senior policy advisor for Natural Resources/Environment in the Governor’s Legislative Affairs and Policy Office for the State of Washington.

Tilahun Adera, MS 1983, Epidemiology, has been named provost and vice president for academic affairs for Evangel University.
Mystery Shopping for Health Insurance Information

You’ve heard of mystery shopping? Paula Blasi and Ross Howell, MPH students in the Community-Oriented Public Health Practice program, did some secret surveys in the name of health reform. The pair made more than 760 phone calls to learn if primary care providers in King County were accepting new Medicaid patients as advertised. It was part of their MPH practicum supervised by Eli Kern (MPH, Epidemiology ’13), a clinical instructor in Health Services and an epidemiologist with Public Health – Seattle & King County. Blasi and Howell were following up on a baseline survey conducted four months earlier. The students found that most of the listed phone numbers were inaccurate. They also learned that nearly half of the providers were accepting new patients and that the median wait time for an appointment was one week.

A Clinic for Low-Income Residents in North Seattle

Two MHA grads are helping plan a health clinic to meet the needs of low-income residents in north Seattle. Jenny Brackett (MHA/ MBA ’12) of Neighborcare Health will manage the medical and dental clinics at Meridian Center for Health, a 44,000-square-foot facility scheduled to open next fall, while Rebecca Fischer (MHA/MPA ’14) is project manager for the building’s opening. The center will offer primary medical care, dental care, mental health and pharmacy services, as well as Women Infant Children nutrition and maternity support services. It’s a partnership between Neighborcare Health, Public Health – Seattle & King County and Valley Cities, an agency providing mental health and counseling services. Brackett says about 48,000 residents in north Seattle don’t have access to a health center. Meridian, she says, should meet the needs of 14,000 of them.