

RESEARCH

Diversity Is Central to This Research Program. How Does Yours Compare?

By *Alexander C. Kafka* | MARCH 24, 2019 ✓ PREMIUM



Mark Abramson for The Chronicle

Elwin Wu and Nabila El-Bassel, professors of social work at Columbia, founded the HIV Intervention Science Training Program for Underrepresented New Investigators.

A graduate student entering an assistant professorship gets a career jump-start through his fieldwork in Latin America. A social-work scholar is inspired by methodology from engineering, reconceptualizing her research. A public-health expert transitions from theoretical understanding to practical intervention in her community work. All three are minorities who get a foothold in the world of major scientific research grants.

How? Through intense, hands-on, carefully mentored training that demonstrates what a diversity program can do.

Most minorities are significantly underrepresented in biomedical research. Of the nation's scientific research faculty in 2015 — the latest year for which data are available — only 4 percent were African-American, 4 percent Hispanic, 0.2 percent Native American, and 0.1 percent Hawaiian/Pacific Islander. Those are mere fractions of the percentages of those groups in the population as a whole. The percentage of underrepresented researchers who apply for major grants is even more discouraging. For instance, African-Americans make up about 13.4 percent of the population, but African-American scientists constitute only 1.5 percent of the applicant pool for major National Institutes of Health research grants.

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"The U.S. biomedical research work force does not currently mirror the nation's population," Hannah A. Valentine, NIH's chief officer for scientific work-force diversity, and Francis S. Collins, NIH's director, have written. "Beyond ensuring fairness in scientific work force

representation, recruiting and retaining a diverse set of minds and approaches is vital to harnessing the complete intellectual capital of the nation."

An HIV-research program funded by the National Institute of Mental Health and based at Columbia University suggests how that gap might be narrowed through intense mentoring, training, and peer support. The NIMH program officer who oversees the program and the researchers affiliated with it agree that it is a model for diversity not just in biomedical fields but in other disciplines, too.

The HIV Intervention Science Training Program for Underrepresented New Investigators, or HISTP, was started a dozen years ago by Nabila El-Bassel and Elwin Wu, professors of social work at Columbia. Through the training program, 24 early-career scholars have been awarded grants of up to \$20,000 each by the institute. From those pilot studies, HISTP says, they've collectively gone on to secure about \$57 million in major grants, mostly from NIMH and other NIH institutes, and have produced more than 350 scientific publications, including more than 170 first authorships. One affiliated scholar was Native American, says Wu, and the rest have been split more or less evenly between African-American and Hispanic, with two-thirds women, one-third men.

El-Bassel and Wu say that they have aimed for diversity not just in race and ethnicity but also in gender, sexual orientation, and socioeconomic background. Beyond that, they want participants to represent some institutions outside the dominant Carnegie Research I universities — not just Columbia and Johns Hopkins, in other words, but also historically black institutions like Howard, Morgan State, and Virginia State Universities, and urban public ones like the City University of New York's Lehman College. They also seek a range of disciplines and methodologies to complement traditional public-health and social-work approaches. Their current emphasis, for instance, is on recruiting technology experts who will introduce cutting-edge smart devices and apps to HIV intervention.

The goals of reducing academic inequities and improving HIV research are intertwined, Wu says, because HIV studies have been historically skewed toward samples of gay white men even though the virus disproportionately affects racial and ethnic minorities. Researchers from underrepresented groups, he and El-Bassel say, might have backgrounds and insights that could help them tackle the problem in particularly effective and more global ways.

New Perspectives

The directors themselves bring diverse perspectives. El-Bassel, a Palestinian-American, has worked to reduce HIV and other sexually transmitted diseases, drug use, and domestic violence. Her career has included projects not only in the United States but also in Central Asia and the Middle East, including work with female Syrian refugees in Jordan and Turkey. As a minority-group member and a woman, El-Bassel says that overcoming barriers to knowledge and opportunity for herself and for others has long been a priority.

Wu grew up in Binghamton, N.Y., the son of Taiwanese immigrants. He identifies as an Asian, queer, cis-man whose undergraduate years in the late 1980s "were strongly influenced by the HIV/AIDS epidemic, as HIV infection was essentially a death sentence

for gay men." He earned a doctorate in molecular and cellular biology but then switched from a biomedical to a social and behavioral approach, earning a master's in social work.

As he tells his students and community groups, HIV is just a molecule, with no sensory system, no brain, no eyes. It can't tell race or sexual orientation or whether someone has been in prison. So, he reasoned after earning his Ph.D., if he really wanted to have an impact in the field, he would need to focus on the social, structural, and psychological dynamics that lead to disproportionate infection rates and outcomes. His research involves the nexus of HIV, drug abuse, and violence among intimate partners, including those currently or recently behind bars.

El-Bassel, Wu, and other mentors among senior faculty members have encouraged the emerging scholars in HISTP to think outside the box in conducting research and submitting their NIMH grant applications.

For example, says Wu, when prisoners are released, the public discourse often focuses on their perceived threat to public safety. Healthy and constructive contacts and places may not be available to them because they've been incarcerated, so they do sometimes return to troubled circumstances simply to get food and shelter. Given that reality, one HISTP program explores whether there are ways to safeguard against HIV infection within those constraints, even if they're not optimal.

Or consider the rural South, which lags behind other regions in successful HIV prevention and treatment. HISTP fellows are trying to use digital technology, Wu says, to strengthen church-based interventions there.

David Stoff, the NIMH program officer who has overseen HISTP since it began, says that one of the institute's main thrusts has been to transfer knowledge from the lab to practical societal applications. "That's exactly what they're doing," he says of the Columbia program.

How One Program Is Giving Minority Researchers a Leg Up

Minorities are underrepresented in biological research. An HIV- research-training program based at Columbia University is trying to help close that gap. Started 12 years ago, the HIV Intervention Science Training Program for Underrepresented New Investigators, or HISTP, is supported by the National Institute of Mental Health. A quick overview:

- It has trained 24 minority researchers from 20 colleges and universities.
- Those have included not just top research universities but also historically black institutions and a public city college.
- The program immerses participants in mentoring, peer support, and networking, guiding them through projects in which they can develop and prove their research skills.
- The scholars, receiving about \$450,000 in NIMH pilot-study grants, have subsequently been awarded some \$57 million in federal and other support.
- HISTP scholars have produced more than 350 scientific publications, including more than 170 first authorships.

Career Builders

Wu says grant reviewers want to see emerging scholars gain experience as co-investigators before awarding larger grants to them as principal investigators. HISTP provides that kind of steppingstone to researchers like Roberto Orellana, who says the program's focus on mentorship and a wide network of scientists opened doors for him.

Orellana was a scholar in the program a decade ago as he went from graduate school at Columbia to an assistant professorship at Portland State University. His NIMH pilot grant was for HIV prevention and treatment among indigenous men in the Peruvian Amazon. This work was replicated on the Guatemala-Mexico border region with other NIH funding. That opportunity arose through HISTP connections, he says.

With the NIMH money and HISTP ties to senior scholars in the field like Peggy Dolcini and Joseph Anthony Catania, both now at Oregon State University, Orellana started up through the academic ranks and is now a professor and associate dean at Portland State's School of Social Work. Papers he wrote with Dolcini and Catania helped in that progress. The training program's mentorships and network were particularly important, he says, because when he arrived at Portland State, few senior scholars there were working on HIV.

Orellana is a native of Guatemala, and his ethnicity and nationality were assets in overcoming distrust and cultural misunderstanding during his Latin American fieldwork. In that sense, he says, diversity is not a programmatic luxury but crucial to the success of the research.

Orellana says his HISTP training paved the way for his current projects. With the Oregon Health Authority, he has worked to tackle the opioid epidemic. He is also a co-principal investigator for the greater Portland area's National HIV Behavioral Surveillance, a project of the CDC.

Liliane Cambraia Windsor, an associate professor in the School of Social Work at the University of Illinois at Urbana-Champaign, is a former HISTP fellow and now a member of its alumni advisory board. She works in predominantly black communities with previously incarcerated people who have substance-abuse and HIV concerns.

Windsor's involvement in the training program in 2014, she says, transformed her thinking about methodology in ways that later helped her win larger grants. Inspired by Linda Collins's work at Pennsylvania State University's Methodology Center, Windsor started with the randomized control trials common among behavioral scientists and added an engineering framework that emphasizes testing the components of intervention.

For instance, Windsor explains, her current interventions have four components: critical dialogue that helps groups understand HIV risk; individual goal-setting broken down into small steps measured on a weekly basis; capacity building, to change a community and not just individual people within it; and peer groups. What she learned as an HISTP fellow will help her figure out not only if the intervention as a whole works, but, if it doesn't, which aspects aren't successful. Then it can be refined appropriately.



Sandy Huffaker for The Chronicle

Jamila Stockman, an associate professor of infectious diseases and global public health at the U. of California at San Diego, is a former HISTP fellow. Her mentors and peers from the program, she says, helped her develop a practical understanding of the interplay between substance abuse and violence against women.

Born and raised in Brazil, Windsor says homogenous groups of researchers with similar training "get stale, and you don't move forward. You need to bring people with fresh ideas who have walked different paths from you."

She cites how she was influenced by the Brazilian scholar Paulo Freire, whose work helped her understand how power differentials, structural barriers, and racism could be factors in people's quality of health.

From Theory to Practice

Jamila Stockman is an associate professor of infectious diseases and global public health in the School of Medicine at the University of California at San Diego.

An HISTP fellow in 2012-14, she works with women who are in violent relationships, have substance-abuse problems, and are at risk of HIV infection. Her mentors and peers from the training program, she says, helped her evolve from a theoretical and descriptive understanding of that intersection to practical methods of intervention.

Specifically, she is trying to adapt, for women who use substances, a danger-assessment survey that is used by many law-enforcement and domestic-violence agencies throughout the country. The aim is nothing less than predicting the likelihood of someone's being killed or severely injured by a partner. It allows women to better understand the peril they're in, to withdraw from the relationship if possible, and to prepare for emergencies if not.

"It's really helpful to be close with a cohort that can relate on multiple levels."

Of African-American and Caribbean descent, Stockman grew up on Air Force bases in California, Germany, and Spain. She was a first-generation college student before getting a master's in public health and a doctorate in epidemiology. She says she became interested in domestic

violence and sexually transmitted diseases as a teenager working on an air base in Germany as a volunteer in legal and mental-health clinics. Already as a seventh grader, she observed women who had suffered sexual and domestic violence at the hands of their servicemen husbands. Stockman hopes to better understand the genetic/social interplay between substance abuse and violence against women, how each factor might modify physiological and immunological susceptibility to HIV, and how those correlations affect care and treatment outcomes.

She joins in videoconferences twice a year with her HISTP peers. For about an hour and a half, they discuss potential collaborations and opportunities, and update and counsel one another on research, career, and personal news. "It's really helpful," she says, "to be close with a cohort that can relate on multiple levels."

The NIH's Valentine and Collins write that more research needs to be done on the impact that the diversity of biomedical scholars has on their work. However, the two officials write, diversity studies in career development, the corporate world, economics, education, leadership, psychology, sociology, and other fields suggest that the effect is significant.

Stoff, the NIMH program officer who oversees the training program, calls it a model for the other dozen or so HIV-related programs he oversees. New scholars from underrepresented backgrounds are trained in HIV content areas like prevention, community-based research, neuroscience, aging, and women's mental health. The programs also range in career level, from undergraduate to postdoc to junior faculty.

They have in common, however, the emphasis on deep diversity. "People from diverse backgrounds," Stoff says, "will provide diverse perspectives and diverse insights."

The NIH has brought the same awareness of diversity to studies of the heart and lungs, cancer, and neurology, he says. And HISTP directors and alumni think it can bring powerful perspectives to efforts against opioid addiction, suicide, obesity, tuberculosis, homelessness, and many other challenges.

It's a gradual process, but, says San Diego's Stockman, programs like HISTP that make diversity fundamental to their mission, their methods, and their outlook "are really building the capacity for these faculty to then go back to their institutions to effectively mentor other people, as their postdocs, as their students."

"We can get a little closer," she says, "to bridging the gap."

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