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FOGARTY INTERNATIONAL CENTER • NATIONAL INSTITUTES OF HEALTH • DEPARTMENT OF HEALTH AND HUMAN SERVICES

Fogarty bolsters research equity with supplemental awards

Fogarty is providing more than \$1.7 million in additional funding to currently funded grants to promote diversity, equity, and inclusion (DEI) in its research training programs.

Grants that received additional funds include the “Women and HIV: Translation of Research into Practice: Promoting DEI in the Kenya Medical Research Institute/University of Washington HIV Research Training Program,” which is helmed by Dr. Carey Farquhar and aims to support first generation Kenyan college graduates and students from extreme poverty or rural backgrounds. A second Kenyan award goes to Dr. John Kinuthia’s project, “Promoting Diversity, Equity, and Inclusivity in Research Training to Optimize HIV Prevention and Treatment.” Funds will be used to train health providers from the semi-nomadic Turkana tribe in the country’s northwest region. A third grant in the East African nation is earmarked for Dr. Craig Cohen’s “Sustainable Development for HIV Health” training program.

Also on the continent, trainees in Dr. Scott Heysell’s project, “Developing research leaders at the intersection of malnutrition and tuberculosis in Tanzania,” will gain hands-on experience in and an understanding of global health engagement. Dr. Andrew Medina-Marino’s “Khulani Siphile Siphuhle Training Program in South Africa” received support to train LGBTQI+ individuals from Historically Disadvantaged Institutions (HDIs) in South Africa. Two other South African projects won DEI supplements to enhance resources for HDIs. These include Dr. Gail Wyatt’s “Sustainable Academic Capacity Building of Excellence through Research and Training Program Learning Collaborative” and Dr. Edward Murphy’s “Blood Research and Enhanced Training against HIV in South Africa.” Dr. Hani Mowafi’s “Middle East and North Africa Program



for Advanced Injury Research Training” won a supplemental grant earmarked for women working as junior faculty in trauma and injury research. In the same region, Dr. Wael Al-Delaimy’s project, “GeoHealth Hub for Climate Change and Health in the Middle East and North Africa,” will support trainees from rural and Syrian refugee communities in Jordan.

In South America, Dr. Gabriel De Erausquin’s project, “Multidisciplinary Training Program in Neuropsychiatry,” earned a Fogarty supplement to support Quechua-speaking neuroscientists. Dr. Brisa Sanchez’s Guatemala project, “Social determinants of cardiovascular disease risk over the life course,” and Dr. Nelson Steenland’s “Regional GEOHealth Hub,” in Peru also received awards to educate researchers from indigenous populations.

In Asia, Dr. Albert Ko’s project, “Research Mentoring and Building Capacity of underrepresented Minority Research Scientists in India,” received a supplement to assist junior and mid-career scientists from underrepresented Indian minorities who mentor scientists from similar backgrounds. The final DEI awardee is Dr. Virasakdi Chongsuvivatwong’s project, “Research training and Capacity Strengthening for LMICs in Southeast Asia,” which trains Muslim women from Indonesian ethnic minority groups.

“These 14 supplements may potentially reach hundreds of new underrepresented trainees that would not otherwise be exposed to research training,” said Dr. Flora Katz, director of Fogarty’s Division of International Training and Research. “An expected, additional benefit is that these training programs will engage new institutions—those located in the areas where these underrepresented trainees live.”

FOCUS



Researchers persevere in Ukraine

- Bringing evidence-based care to PTSD sufferers
- Finding a ‘win’ while war is waged
- Normalizing mental health care
- Probing the biology of pain during the Ukrainian crisis

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From capacity building to capacity transfer in Uganda

“If you wait for everything to be in place before you start your research, you’ll run out of time. Sometimes you just have to say, ‘let’s go with what we have.’”

Dr. Jerold Ellner’s decades-long career as an immunologist and HIV researcher taught him this valuable lesson. Today he shares this advice with the young global health and infectious disease researchers he trains as part of the Fogarty-funded Training of Ugandans in Basic and Translational Research on TB and Emerging Infectious Diseases program.

Building infrastructure

Ellner, an MD who studied immunology, got help from Dr. Brooks Jackson setting up a quality control clinical laboratory in Uganda in the late 1980s. “We had funding from the World AIDS Foundation and USAID to buy equipment. We established a first-rate laboratory, probably the best in sub-Saharan Africa at the time.” Over the years, both the lab and the research program evolved, offering unique opportunities to countless Ugandan scientists along the way. “At least a hundred individuals from Uganda have trained at Case Western and have since become leaders,” said Ellner. That list includes Dr. Harriet Mayanja-Kizza, former dean of medicine, and Dr. Moses Joloba, dean of biomedical science at Makerere University.

The partnership recently celebrated its 35th year. Case Western Reserve University remains involved as does Rutgers-New Jersey Medical School, where Ellner is currently a professor, and Johns Hopkins, where Jackson was Chair of the Department of Pathology before becoming Dean of the University of Minnesota School of Medicine.

Scientific contributions, past & future

Ellner contributed to the first AIDS vaccine trial in sub-Saharan Africa. “Pasteur Merieux provided the vaccine; NIH provided the funding,” he said. The experimental vaccine developed by the French pharmaceutical company didn’t produce an ideal level of immune response, so Pasteur Merieux abandoned the project. But, Ellner noted, the team did complete a proof-of-concept vaccine trial for HIV in Africa, a remarkable achievement.



Photo courtesy of Jerold Ellner

Jerold Ellner, MD, has worked in Uganda doing research on infectious diseases including HIV and TB since the late 1980s.

And the trial led to the development of a cytotoxic T-lymphocyte lab at the Joint Clinical Research Centre in Kampala.

“Our current Fogarty training grant brings Ugandans to the U.S. for intensive instruction and coursework in basic and translational technology. Then they return to Uganda and usually get a PhD from Makerere University.” The goal is to develop a cadre of scientists doing bench-based research. He recently introduced data science into this program.

Though many aspects of research are now done on-site, the final data is commonly analyzed in the U.S. “The country would benefit from building capacity to analyze its own clinical data, particularly since a lot of this research impacts public policy.” If everything were done in-country, then U.S. involvement could be refocused on capacity building and transferring the capacity for cutting edge research to Ugandans, Ellner added.

“Working in Uganda, I vacillated between thinking everything is possible and nothing is possible. That vacillation is a sign of enormous growth—if everything is easy, someone else can do it.”

“If everything were done in-country, then U.S. involvement could be refocused on transferring the capacity for cutting edge research to Ugandans.”

Ellner’s own career began in 1972 with a fellowship from the National Institute of Allergy and Infectious Diseases (NIAID). A few years later, he took a faculty position at Case Western Reserve University. He crossed paths there with Dr. Frederick Robbins, working then as a university professor. In the early days of the HIV epidemic, Robbins—who’d won the 1954 Nobel prize (with Drs. John Enders and Thomas Weller) for isolating and cultivating polio viruses in tissue cultures—believed a similar approach might be useful to study HIV in Africa. Robbins needed help to create a new program in Uganda and tapped Ellner as co-principal investigator on a grant from NIAID’s program, International Collaboration for AIDS Research (ICAR).

Catching up with the first cohort of APTI fellows

By Mariah Felipe

The African Postdoctoral Training Initiative (APTI), established in 2019, prepares future generations of African researchers with four-year fellowships, which include two years spent in an NIH lab and an additional two years at home institutions in Africa. A partnership between the African Academy of Sciences, NIH, and the Bill and Melinda Gates Foundation, the program supports 10 fellows each year. Past and current fellows have come from 14 countries and have been hosted by nine NIH Institutes and Centers. The first cohort is now in their final APTI year. Fogarty caught up with three fellows from that inaugural group to learn more about how the program has impacted their careers and research, and their goals for the future.

Photo courtesy of Thomas Hormenu



Dr. Thomas Hormenu studied cardiometabolic epidemiology at NIDDK as part of his APTI fellowship.

Dr. Thomas Hormenu

A senior lecturer from the University of Cape Coast, Ghana, Dr. Thomas Hormenu received cardiometabolic epidemiology training at the National Institutes of Diabetes and Digestive and Kidney Disease (NIDDK) as an APTI fellow. There he investigated behavioral and psychosocial factors that influence the prevalence of undiagnosed diabetes in Africans living in the U.S. and

explored social determinants of cardiometabolic health in African immigrants.

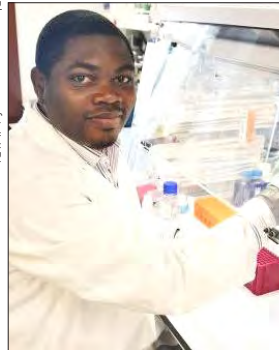
Through this training he was also able to develop a research protocol to screen for risk factors associated with undiagnosed diabetes and hypertension and to assess the effect of lifestyle interventions on diabetes remission.

Following his APTI training, Hormenu plans to continue researching the prevalence of and risk factors associated with diabetes and hypertension in Ghana and other sub-Saharan African countries. He aims to contribute to the development of culturally sensitive and appropriate interventions for diabetes prevention and remission, ultimately improving the quality of life in these regions.

Dr. Kolapo Oyebola

A senior researcher at the University of Lagos, Dr. Kolapo Oyebola, had the opportunity to work in the National Heart, Lung, and Blood Institute (NHLBI) sickle cell branch. There he studied a condition called clonal hematopoiesis and how it can impact transplantation

Photo courtesy of NHLBI



Dr. Kolapo Oyebola worked in the sickle cell branch at NHLBI as part of his APTI fellowship.

in sickle cell disease (SCD) patients. Clonal hematopoiesis is an age-related condition marked by the accumulation of genetically abnormal blood cells.

Now back in Nigeria for the last year of his APTI fellowship, Oyebola established the Centre for Genomic Research in Biomedicine at Mountain Top University, Nigeria. This center focuses on investigating sickle cell disease and other

noncommunicable diseases (NCDs) in populations of African descent.

Following his APTI training, Oyebola will continue his research in genomics and bioinformatics, particularly focusing on understanding the genetic factors underlying NCDs in African populations.

CH/ACH/Charlie Chang



Dr. Idowu Aimola of Nigeria (seated) spent the first two years of his APTI fellowship in the lab of Dr. Francis Collins (standing) at NHGRI.

Dr. Idowu Aimola

As an APTI fellow, Dr. Idowu Aimola, a professor in the Department of Biochemistry at Ahmadu Bello University in Zaria, Nigeria, received training in single-cell genomics techniques and computational approaches while working in the lab of former NIH director, Dr. Francis Collins, at the Center for Precision Health Research at the National Human Genome Research Institute (NHGRI).

“We're empowering young scientists and revolutionizing our understanding of diseases in Africa.”

– DR. IDOWU AIMOLA

Aimola has successfully established at his university a laboratory equipped for single-cell genomics research. His lab hosts multiple doctoral and master's students and maintains strong collaborations with Collins' laboratory while actively seeking to establish new regional and international partnerships to advance single-cell genomics research in Africa.

PROFILE

Measuring the prevalence of mental disorders in western Kenya

There is no such thing as a typical work week for Dr. Edith Kamaru Kwobah, a psychiatrist and head of mental health at Moi Teaching and Referral Hospital in Eldoret, Kenya. Her every day looks different; she is a clinician, teacher, and administrator, heads seven different departments, and in her “free time,” she works on her research and checks in on the small groups she helps manage.

“It is not an eight-to-five job with a clear structure,” said Kwobah. “Working on many different things at the same time requires strict time management skills.” Skills that her Fogarty fellowship helped her develop, she added. Kwobah connected with Fogarty through Duke University and the AMPATH consortium, which stands for Academic Model Providing Access to Healthcare. The partnership includes Moi University, Moi Teaching and Referral Hospital, the Kenyan government, and the AMPATH consortium of North American universities led by Indiana University. Initially, the consortium focused its research and training on HIV and other chronic diseases, such as diabetes and hypertension, while conducting scant research on mental health.

“When I joined the hospital in 2013, I realized that we did not even have baseline data on how common mental health problems are in our region. My goal was to find that baseline data so we could develop interventions for patients,” said Kwobah. With this in mind, for her Fogarty research project, which was part of her fellowship training, she decided to study the prevalence of common mental disorders across a sample population in western Kenya.

For her study, she and her team interviewed 420 adults from western Kenya. Researchers found that, just like in the rest of the world, the most common mental health disorders in the region were depression, anxiety, and substance use disorder. Their most interesting and concerning finding was that at least 45% of their study participants had symptoms of a mental health disorder at some point in their lifetime. This number is high, considering that the World Health Organization reports



Edith Kamaru Kwobah, MD, PhD

Fogarty Fellow:	2015-2016
U.S. institution:	Vanderbilt University
Foreign institution:	Moi Teaching Hospital, Kenya
Research topic:	Mental health delivery in LMICs
Current affiliation:	Head of the department of mental health at Moi Teaching Hospital

the worldwide average as roughly 25%. Another important finding: at least 16% of the people they interacted with had attempted suicide at least once in their lifetime. Again, this is significantly higher than the WHO average. Lastly, they found a significant treatment gap—more than 75% of participants had never sought care for mental illness.

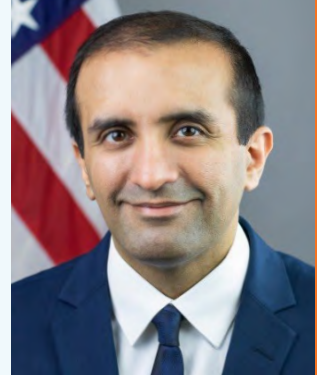
Her Fogarty project provided a baseline for a new mental health care delivery program at Moi University that integrates therapy into a system initially created to manage chronic diseases like HIV, hypertension, and diabetes. As a part of this program, Kwobah and her team train primary care workers at the hospital and community workers to screen for mental disorders and link community members to care. They also provide community education for village elders, chiefs, teachers, religious leaders, and police officers to increase mental health awareness and reduce the stigma around seeking treatment. Going forward, Kwobah hopes to continue this research using the data from her Fogarty year to evaluate how they can increase mental health interventions used in Kenyan health care settings.

Kwobah knew early on that serving those with mental illness would be her calling. “Of all the rotations after medical school, psychiatry was my favorite.” Because of her passion for this field, she continues her work even after she leaves the hospital.

Her advice to those pursuing the Fogarty program is to “identify an area that you are truly interested in and would like to be associated with 20 years from now.”

RAJ PANJABI, MD, MPH

Dr. Raj Panjabi served as special assistant to President Biden and senior director for Global Health Security and Biodefense at the White House National Security Council from 2022 to 2023. He also led the U.S. President's Malaria Initiative and advised the WHO's Independent Panel for Pandemic Preparedness and Response. He was an assistant professor at Harvard Medical School, an associate physician at Brigham and Women's Hospital, and a faculty member of Harvard Kennedy School of Government. In 2007, he co-founded Last Mile Health. Born in Liberia, Panjabi fled with his family from civil war when he was 9.



What are your takeaways from the U.S. President's Malaria Initiative?

When President Biden appointed me to lead the U.S. President's Malaria Initiative in February 2021, it didn't surprise me to see so many countries using a community-based approach to work towards reducing mortality and morbidity of malaria, and, in some cases, eliminating it. So, one of the first things I tried to do with the teams at USAID and CDC, which together implement the U.S. President's Malaria Initiative, was to reverse a 15-year-old policy that said U.S. government funds could not be used to pay community health workers. It's crucial to combine medicine with community-based efforts to distribute the fruits of modern science equitably.

Where did we succeed and where did we fall short in the global COVID-19 response?

The U.S.'s biggest successes are around demonstrating global leadership and mobilizing financing for the global response. Some \$34.5 billion is estimated to have been spent on the COVID response by the U.S. and other countries. The U.S. contributed almost \$20 billion of that, if you count \$16 billion through multilateral organizations and funds used to deliver vaccines to countries (plus testing, treatment, oxygen, and other items). Some 70% of the global adult population has been vaccinated with the primary vaccine series, including 80% of the over-60 age group and 82% of health care workers. And as the variants evolved—from the very first strain to omicron and its subvariants—our ability to keep focus on genomic sequencing has been vital. This is progress.

But more must be done. The gap has been in terms of speed and equity. Africa still lags behind other regions—less than 30%, on average, are fully vaccinated in sub-Saharan Africa—and, generally, low-income countries around the globe are behind in vaccination, testing and treatment. To date, over 687 million vaccines have been delivered to over 116 countries, but we've got to do more

to decentralize manufacturing so that countries and regions can make vaccines and medicines locally.

How do we keep preparedness alive barring a global crisis?

Muscles get stronger by using them, so we can build our preparedness muscles by using our existing response muscles that we use to tackle HIV/AIDS, malaria, tuberculosis, and other infectious diseases globally. Take the countries in Southeast Asia that receive research dollars for malaria and HIV. Vietnam did well early in the COVID-19 pandemic, partly because they'd been building their health systems to combat epidemics.

We've also got to do better at telling the story of how we are stopping infectious disease outbreaks faster. Uganda stopped its 2022 Ebola outbreak in less than 100 days, which was faster than had been done in the past. This kind of progress is important and helps people understand the value of advance planning and prevention.

How do we get out ahead of misinformation and disinformation?

There's no silver bullet. Investing in communities is an antidote to the plague of mistrust we face in public health. Whether it's a community health worker in Liberia or a church leader in the U.S., local actors have lived experience and expertise that we in government or the policy community often lack. They may not have medical or public health degrees, but they work in the marginalized communities that are at highest risk of suffering from misinformation and disinformation, so they are the ones who best understand how to convey health and science information.

Finally, we've got to put our words where the problem is and then put our money there, too. We need to say that pandemic policy is not just about investing in products, we need to invest in people—in a stronger public health workforce.

Bringing evidence-based PTSD care to Ukraine

By Susan Scutti

Up to a third of Ukrainians, both civilian and military, suffered from post-traumatic stress disorder (PTSD) during the country's 2014-21 conflict with Russia, as estimated by the UN. Since the Russian invasion in February 2022, millions more have been exposed to combat and war-related traumas. Yet, very few of the nation's mental health care professionals have trained in evidence-based treatment for these conditions. A Fogarty-funded project aims to change that.

"PTSD is one of the most common mental health disorders," says Dr. Israel Liberzon, Texas A&M University (TAMU). About 60-70% of PTSD patients benefit from treatment, yet the reason why a patient benefits from one treatment and not another remains unclear. "We have psychotherapy, we have pharmacotherapy, all of them effective, but not 100%. What we don't have is an ecological understanding (one that accounts for the interactions between an individual and his or her environment) of PTSD," says Liberzon.

"Wanting to understand the mechanism of disease—whether it is genetic, biological, or psychological—and to identify the components that contribute to the disorder's development and symptoms is why I run a lab," says Liberzon. His team scans patients' brains to examine changes within their neural circuitry and underlying disease mechanisms. "If we understand the mechanisms, we can develop new treatment strategies. We can treat and prevent deterioration. We can match the individual to the treatment."

Developing capacity

Liberzon's five-year Fogarty project builds research capacity to implement trauma care after mass violence and involves collaboration among faculty from several U.S. universities and the National University of "Kyiv-Mohyla Academy" in Ukraine. Courses offer instruction in evidence-based methods including pharmacotherapy, prolonged exposure

therapy, and behavioral activation—a type of therapy for treating depression and other psychological comorbidities.

Once a year, a team of U.S. professionals will visit Ukraine and conduct in-person instruction for the trainees (who are psychiatrists and psychologists), explains Dr. Tetiana Nickelsen, research scientist at TAMU and an investigator on the project. Five trainees will be invited to participate in a summer school program in the U.S.

Nickelsen was born in Ukraine and only moved to the U.S. to join Liberzon's lab six years ago. She started her career in 2004 as a Fogarty trainee who was selected to participate in summer school at the University of Alabama, Birmingham. "That experience changed my life dramatically," she says. After returning home, she dedicated her career to improving health care delivery and access in Ukraine, through both research and advocacy. She created her own NGO and served as principal investigator on multiple grants from various foundations.

"When Russia invaded Ukraine, I reached out to Dr. Liberzon, who was also born in Ukraine, and we decided we had to help," says Nickelsen.

Working in Ukraine

"We want to find people with the right motivation—people who want to teach and spread their knowledge and help Ukrainians build a better health care system," says Nickelsen. Following the 2014 revolution, Ukraine's psychiatric care system began to change for the better, with reforms continuing to this day. Still Nickelsen knows that Ukrainian psychologists and psychiatrists are inadequately trained and use historically relied-upon methods (as opposed to evidence-based methods to treat patients) and "sometimes those methods harm people."

"Another goal of the project is to develop a cadre of well-trained Ukrainian mental health providers and researchers, who will examine interventions plus the implementation, adoption and dissemination of interventions, to see which ones are efficient and effective in their regions," says Liberzon. Long-term, he and Nickelsen expect a professional society of Ukrainian mental health researchers will be established, one that will foster collaboration within the country and with scientists around the globe.

Dr. Tetiana Nickelsen teaches a class in a bunker in Lviv, Ukraine.



Finding a ‘win’ while war is waged in Ukraine

The initial shock of a Russian invasion in February 2022 spurred Dr. Kostyantyn Dumchev, scientific director at the Ukrainian Institute of Public Health Policy, to leave Kyiv for his hometown in southwestern Ukraine. “In the first weeks, we were trying to help the country, doing all we could to mobilize aid,” he says. Returning to the capital city within months, he and his colleagues promptly resumed their research. Dumchev is a primary investigator on two separate projects: one a training program with Dr. Jack DeHovitz, distinguished service professor, SUNY Downstate Medical Center; another a research study with Dr. Jill Owczarzak, associate professor, Johns Hopkins University

Despite difficulties, the Ukrainian health care system has shown resilience and is relatively high functioning since the invasion began, says Dumchev. Some facilities directly affected by military action no longer operate, but some partially destroyed clinics have begun renovations. “There’s a deficit in the health care workforce, especially in the most affected regions.”

The Soviet era as historical context

Some Ukrainian health care system problems can be traced to its roots; it was created during the period Ukraine existed as a republic within the Soviet Union (1922–1991). “The Soviet health care system was very specialized and siloed with limited connections between different services,” says Dumchev. For example, HIV care within Ukraine has operated separately, disconnected from primary care or even other infectious diseases.

Following the 2014 revolution, real change began, says Dumchev. “The role of the primary care doctor has grown, becoming the gateway for all other services, while all the clinics try to provide additional services relevant to their main offering—so HIV centers might treat TB, hepatitis or mental health.”

Before the start of the Russian invasion, only 60% of the estimated 210,000 PLWH were receiving antiretroviral therapy (ART). Among HIV-positive people who inject drugs (PWID), ART rates were even lower. “All former Soviet countries and many Eastern European countries have their HIV epidemics driven by injected drug use,” notes Dumchev.

DeHovitz explains that the collapse of the Soviet Union



Unexploded ordnance in farmland in Yahidne, Ukraine.

meant economic changes and political dislocation occurring alongside a dramatic increase in opiate trafficking, particularly from Afghanistan. “It was a perfect storm: at the same time that political and economic disruption occurred (with people losing their jobs and having no money), there was also increased availability of cheap drugs. Substance use really took off.” Ukraine also did not deploy some of the interventions that can reduce substance use, he adds, noting that substitution therapy—in the form of methadone and buprenorphine—goes against cultural norms embedded in post-Soviet society.

Owczarzak says that stigma has also contributed to high rates of HIV in Ukraine. Her research examining the lives of women living with HIV shows that many patients fear their health care providers will shame them for using drugs.

Using data to make a difference

To optimize HIV care, Dumchev’s project with Owczarzak focuses on unused information. Owczarzak explains: “We ask providers to collect a lot of information from their clients, but usually it’s just used for reports or it’s like, ‘Okay, you met your metrics; we’ll give you funding again.’” Ukraine’s nationwide medical information system is a rich source of unused data and the project seeks “to empower providers and case managers to use that information for improving the health outcomes of their clients,” says Owczarzak.

Dumchev says, “The goal is to enhance the instruments for data exchange between clinical personnel and case managers to improve HIV treatment outcomes. We also intend to help patients get case management services to prevent them from dropping out of care—or if they’ve dropped out, to quickly get back in.”

Training methodologies

Dumchev believes training researchers in the U.S. is a “crucial” aspect of his project with DeHovitz. He, himself, entered a Fogarty program after finishing his medical

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Finding a 'win' while war is waged in Ukraine

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degree at Vinnitsya National Medical University to earn an MPH from University of Alabama at Birmingham. "All the people who've trained in the U.S. in similar programs have become assets within the Ukrainian health care system."

Asked if he can meet his goals in the context of war, DeHovitz says, "I'm assuming the war will be over at some point during the five-year period of this grant... I have to assume that. I believe, once that happens, there will be increased resources for health care and the evolution of the public health system. And we'll be well-positioned to help." He's also been cultivating cross-national research and training



Dr. Kostyantyn Dumchev is a principal investigator in the Fogarty-funded Ukraine HIV Research Training Program.

with HIV Research Training Programs in Georgia and Kazakhstan. "Ultimately it might enhance collaborations among the various countries."

Owczarzak says it still humbles and impresses her that her Ukrainian colleagues continue to work, conduct research, and remain committed to providing care. "We don't know when this conflict is going to end—we don't know how it's going to end—but if we can provide another tool to improve HIV care engagement metrics, then that's a win."

Photo courtesy of Kostyantyn Dumchev

Normalizing mental health care in Ukraine

A third of all Ukrainians have at least one lifetime experience of mental disorder, scientists estimate. Many believe the Russian 2022 invasion has exacerbated mental health issues, including PTSD, depression, and anxiety, yet the Ukrainian health care system is stretched beyond capacity, says Dr. Alona Mazhanaia, senior lecturer at National University of "Kyiv-Mohyla Academy" (NaUKMA) and principal investigator on a Fogarty project that seeks to understand delivery of mental health care in Ukraine.

"Building the mental health care system has to move forward now. People already need services, and we cannot wait until some unknown time when everything is less tumultuous."

Local and international organizations have mobilized within Ukraine, providing mental health services and coordinating resources, she says. "There's also large-scale training of primary care providers to deliver mental health services using mhGAP to their patients." Developed by WHO, the Mental Health Gap Action Program (mhGAP) includes interventions

for prevention and management of priority conditions: depression, schizophrenia and other psychotic disorders, suicide, epilepsy, dementia, substance use disorders, and mental disorders in children.

"One other effort is what is called 'psychoeducation'—normalizing taking care of your mental health. Normalizing talking about it. Normalizing the concept of mental health service providers. Normalizing asking

others when you're worried that they're struggling." Under the Soviet regime, psychiatric services were often used to punish politically inconvenient citizens and oppress targets of the regime, comments Mazhanaia. "It was a very punitive system so obviously people did not have a habit of going to mental health service providers when they needed help." Other barriers to widespread use of such services included difficult-to-access siloed care delivery systems and a lack of evidence-based training for the providers themselves. Following independence, this began to change and, after the 2014 revolution, efforts intensified, says Mazhanaia.



The Yahidne School in Yahidne, Ukraine, where more than 360 people were forced to live for nearly a month in February and March 2022, is now being turned into a museum.

Photo courtesy of U.S. Department of State/Chuck Kennedy

The process of conceptualizing how mental health care might be delivered included formulating a new national strategy, "but that was happening at the usual slow speed of policy and regulatory framework development." When her Fogarty project began in 2021, Mazhanaia hoped to gather information that might contribute to "closing the mental health treatment gap in Ukraine."

All that changed in February 2022. "With full-scale invasion, this tremendous shock hit our society, so it all became very urgent," she says. She revised her study to understand the landscape of mental health service providers in Ukraine, including their knowledge, attitudes, practices, and capacity for scaling-up mental health treatment approaches. "To continue on is a form of resistance. Resilience is not something that is inherited—it is something that is earned by carrying on during a time when you simply must endure."

Probing the biology of pain during the Ukrainian crisis

About two decades ago, scientists shifted their focus from pain as a symptom of underlying illness to chronic pain as a disease in itself. This led to exploring new therapeutic approaches. Unfortunately, today's pain medications are neither precise nor side effect-free. "We need to better understand pain mechanisms—the biology of pain—to come up with better drugs," says Dr. Yuriy Usachev, a professor of neuroscience and pharmacology at University of Iowa who runs a collaborative project between the university and Ukrainian partners studying the role of the body's complement system in chronic pain. His five-year project, funded by the National Institute of Neurological Disorders and Stroke (NINDS) with support from Fogarty, began in June 2019.

His team aims to identify new drug targets by defining the role played by the complement system in the biology of chronic pain. The complement system, the immune system's frontline of defense, cleans up damaged cells, helps the body heal after an infection or injury, and assists in destroying microscopic infectious organisms. The system's name indicates its "complementary" nature in enhancing the work of infection-fighting cells.

“ Persistent pain affects 100 million Americans and 15 million Ukrainians. I can only imagine this [Russian invasion] resulted in more people harmed—so chronic pain will be a critical and major public health issue.”

Research findings

It's well known that the immune system is a contributor to inflammatory and neuropathic pain, which can be caused by various diseases or injuries. Growing evidence now indicates the complement system is "almost inevitably involved in most pain conditions," says Usachev. Using mouse models, Usachev's team has verified that the complement system is a critical modulator and regulator of neuropathic pain. They also discovered that the site of action for the complement system in neuropathic pain is the spinal cord. "The therapeutic implication is that any new drug will need to have good blood brain barrier permeability," says Usachev. "Another important finding is that, among the multiple cell types in the spinal cord, microglia is the key one." The project has also shown neurons to be involved, most likely indirectly. Going forward, Usachev's team will focus on understanding how connectivity from complement system to microglia to neurons works.



Ukrainian soldiers provide medical response in a simulated casualty situation in 2018.

A perilous period

A timeline of Usachev's project tells a tale of the worst possible circumstances to conduct research in Ukraine. On March 11, 2020, WHO declared COVID-19 a pandemic (that did not officially end until May 5, 2023). In February 2022, Russia invaded Ukraine and continues its offensive to this day.

Usachev believes studying chronic pain in Ukraine is crucial. Persistent pain affects 100 million Americans and 15 million Ukrainians. "I can only imagine this [Russian invasion] resulted in more people harmed—so chronic pain will be a critical and major public health issue," he says.

There's a very strong interrelationship between post-traumatic stress disorder (PTSD) and pain, notes Usachev. "Pain contributes to PTSD, but PTSD is also a risk factor for developing chronic pain." He adds that one aspect of pain "that is not emphasized enough is that it's not only physiological, but also psychological." Emotions can significantly amplify pain and convert it from transient to chronic, he says.

While the primary motivation for the project is to improve pain management and overall health of Ukrainians, contributing to the global body of knowledge about pain will be another key outcome.

DIRECTOR'S COLUMN

By Dr. Peter Kilmarx, Acting Director, Fogarty International Center

The collateral benefits of PEPFAR



The U.S. President's Emergency Plan for AIDS Relief (PEPFAR) has been an essential part of the global response to HIV/AIDS. Its numerous collateral benefits include building capacity to address other health threats.

I was the country director for the U.S. Centers for Disease Control and Prevention (CDC) in Botswana when President George W. Bush announced the PEPFAR program two decades ago. At that time, the prevalence of HIV-1 infection in pregnant women was 37%. Botswanan President Festus Mogae rightly stated that the country faced extinction. With support from PEPFAR and other funders, Botswana was able to rapidly ramp up HIV screening, antiretroviral treatment, and viral load testing. I attended patients in the public HIV clinic in Gaborone every Thursday morning and witnessed first-hand the "Lazarus effect" of people who'd been gravely ill with advanced HIV infection; once started on treatment, they'd gain back lost weight, get up from their sick beds, and return to their usual activities.

Meanwhile, PEPFAR also supported the development of a robust national HIV surveillance system in Botswana with routine genomic sequencing of HIV-1 isolates from around the country. When the COVID-19 pandemic reached Botswana, Dr. Sikhulile Moyo, a Fogarty trainee and grantee, leveraged that capacity for genomic surveillance of SARS-CoV-2 thereby becoming the first to sequence, identify, and alert the world about the emergence of the omicron variant in November 2021. This was just one of many examples worldwide of PEPFAR-supported public health capabilities being brought to bear in response to COVID-19.

I experienced another example of the broader public health benefits of PEPFAR in 2014 when I was the CDC country director implementing PEPFAR programs in Zimbabwe. In September, I was deployed to lead the CDC Ebola response in Sierra Leone, which, like neighboring countries Liberia and Guinea, had much lower HIV prevalence and did not have PEPFAR programs. None of the critical public health systems we'd established with

PEPFAR funding in Zimbabwe were present in Sierra Leone or its neighboring countries, which greatly hampered the Ebola response. Had PEPFAR programs been present in West Africa, many of the more than 11,000 deaths from Ebola could have been averted. A third example of an added benefit of PEPFAR has been the implementation of medical and health professional education programs in Africa funded by PEPFAR and implemented by Fogarty. Beginning in 2010, PEPFAR supported the Medical Education Partnership Initiative (MEPI), followed by the Health-Professional Education Partnership Initiative (HEPI) and the African Forum for Research and Education in Health (AFREhealth). The NIH Common Fund and other NIH Institutes and Offices provided additional funding for related research training and capacity building programs.

The primary goal of all these programs was to strengthen the education of health professionals in Africa to address the severe health workforce shortages on the continent, increasing the number of graduates, the quality of their education, and their retention, especially in underserved areas. Interventions included raising the number of medical school enrollees, revising curricula,

recruiting new faculty, enhancing faculty development, expanding the use of clinical skills in laboratories and community and rural training sites, strengthening computer and telecommunications capacity, and increasing e-learning.

As the world's largest program focused on a single disease—HIV/AIDS—PEPFAR has transformed the public health landscape in countries where it's been implemented. Rates of new HIV infection and deaths from HIV/AIDS have declined significantly.

Beyond this, there have been substantial collateral benefits in preparedness and response to other infectious disease threats, the capacity of public health programs generally, and a transformation in health education and research capabilities in academic institutions. We at Fogarty have been proud to partner with PEPFAR in these efforts.

Note: The current PEPFAR authorization ended on September 30, 2023



Dr. Peter Kilmarx (right) meets President Festus Mogae (left) at the 10th Anniversary of CDC Botswana (BOTUSA) in 2005.

Photo courtesy of Peter Kilmarx



Fogarty scientist receives Fulbright fellowship

Dr. Joshua Rosenthal, senior scientist at Fogarty, received a Fulbright-Kalam Climate Fellowship from the United States-India Educational Foundation. Rosenthal will collaborate with the Sri Ramachandra Institute of Higher Education and Research (SRIHER) to create a new master's in public health (MPH) curriculum focused on climate change and health.



ASTMH names new CEO

Jamie Bay Nishi, executive director of the Global Health Technologies Coalition (GHTC), has been selected as the new CEO of the American Society of Tropical Medicine and Hygiene (ASTMH). She succeeds current CEO Karen A. Goraleski, who is stepping down after 13 years. Executive Director of GHTC since 2017, Nishi was previously managing director at Devex.



Former grantee receives groundbreaking USAID grant

The South African Medical Research Council (SAMRC), led by its president and former Fogarty grantee, Dr. Glenda Gray, secured a \$45 million USAID grant for HIV vaccine research in Africa. The grant backs the BRILLIANT Consortium, consisting of eight African nations to advance the field toward a safe and globally effective HIV vaccine.



Happi elected to National Academy of Medicine

Fogarty grantee, Dr. Christian Happi of Redeemer's University and the African Center of Excellence for Genomics of Infectious Diseases (ACEGID), was elected to the U.S. National Academy of Medicine for his impact on infectious disease research in Africa. His achievements include sequencing the first full SARS-Cov-2 genome in Africa, which guided public health interventions.



Coley recognized for work in biodiversity

The Panamanian Association for the Advancement of Science (APANAC) recognized Dr. Phyllis "Lissy" Coley for her work studying biodiversity in the country and training local institutions and scientists in the study and use of the nation's natural resources. Coley established the Fogarty-supported International Cooperative Biodiversity Groups (ICBG) program in Panama.

NIH launches HIV vaccine trial

A trial of a preventive HIV vaccine candidate has begun enrollment in the U.S. and South Africa. The Phase 1 trial will evaluate a novel vaccine known for its safety and ability to induce an HIV-specific immune response in people. The National Institute of Allergy and Infectious Diseases (NIAID) is contributing funding for this study.

USAID spotlights health systems strengthening

USAID has published several briefs that describe health systems strengthening approaches that have been successfully applied in USAID-supported settings. Briefs cover a variety of topics—from financial services for health to incorporating digital technologies into social and behavior change programming—and include case studies.

WHO publishes TB control handbook

The handbook provides practical advice on how to implement WHO recommendations on tuberculosis (TB) infection prevention and control within the clinical and programmatic management of TB, using a public health approach. It is the first in a modular series of practical guides meant to aid in various aspects of the programmatic management of TB.

Global Fund to offer reduced HIV treatment

The Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund), together with its partners and generic pharmaceutical manufacturers, plan to offer tenofovir disoproxil fumarate, lamivudine and dolutegravir (TLD), a first-line HIV treatment, for under US\$45 per person, per year. This will allow governments in resource-limited settings to expand access to critical HIV services.

WHO releases hypertension impact report

The first-ever report from WHO provides statistics on the global burden of hypertension and recommendations and tools for nations to enhance hypertension prevention, control, and surveillance. The report also includes "hypertension profiles" for each member state outlining current burden and control measures for this disease.

Funding Opportunity Announcement	Deadline	Details
Emerging Global Leader K43 Clinical Trial Required (Non-AIDS) K43 Clinical Trial Not Allowed (Non-AIDS)	Nov 3, 2023	go.nih.gov/FogartyGlobalLeader
Global Brain Disorders Research R21 Clinical Trial Optional (Non-AIDS) R01 Clinical Trials Optional (Non-AIDS)	Nov 15, 2023	go.nih.gov/FogartyBrainResearch
HIV-associated Noncommunicable Diseases Research at LMIC Institutions R21 Clinical Trial Optional	Dec 8, 2023	go.nih.gov/HIV-NCDs
Global Brain Disorders Research R21 Clinical Trial Optional (AIDS) R01 Clinical Trials Optional (AIDS)	Dec 11, 2023	go.nih.gov/FogartyBrainResearch

For more information, visit www.fic.nih.gov/funding

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Fogarty International Center
National Institutes of Health
Department of Health and Human Services

Communications director: Andrey Kuzmichev
Andrey.Kuzmichev@nih.gov

Managing editor: Judy Coan-Stevens
Judith.Coan-Stevens@nih.gov

Writer/editor: Mariah Felipe
Mariah.Felipe@nih.gov

Writer/editor: Susan Scutti
Susan.Scutti@nih.gov



Digital analyst: Merrijoy Vicente
Merrijoy.Vicente@nih.gov

Designer: Carla Conway


In rare cases when a correction is needed after an issue's printed version has been finalized, the change will be made and explained in the online version of the article.

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SCAN AND READ THIS ISSUE ONLINE

NIH updates policy on foreign subawards



NIH recently revised its Foreign Subaward Agreement Policy; changes go into effect January 2, 2024.

Changes to the NIH Foreign Subaward Agreement Policy go into effect in January 2024.

The most notable revision to the policy requires that “subaward agreements must stipulate that foreign subrecipients will provide access to copies of all lab notebooks, all data, and all documentation that supports the research outcomes as described in the progress report, to the primary recipient with a frequency of no less than once per year, in alignment with the timing requirements for Research Performance Progress Report submission.”

It is also important to note that by “access to,” it is understood that such access may be entirely electronic.

These changes aim to ensure that NIH-funded projects maintain the highest standards of research integrity while fostering international scientific cooperation.

By enhancing transparency, accountability, and security in foreign collaborations, NIH hopes to foster continued global scientific cooperation while protecting American innovation and research excellence.

For more information on these policy changes and their implications for your research, please visit the NIH subaward webpage on grants.nih.gov.

Image courtesy of NIH Office of Extramural Research