

Within Reach: Eliminating HIV, Malaria and Tuberculosis

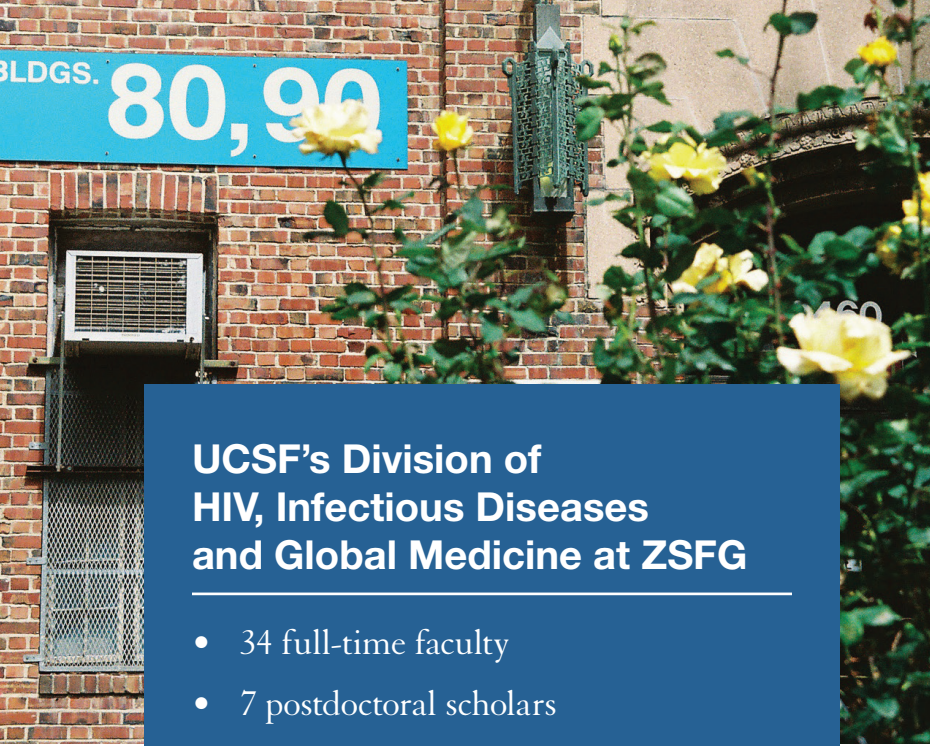
Division of HIV, Infectious Diseases and Global Medicine



“We are the generation that can bring HIV, malaria and tuberculosis close to elimination worldwide—improving the health and well-being of the most vulnerable along the way.”

Diane Havlir, MD, Division Chief and Professor of Medicine





UCSF's Division of HIV, Infectious Diseases and Global Medicine at ZSFG

- 34 full-time faculty
- 7 postdoctoral scholars
- 6 clinical fellows
- 100+ staff and non-faculty academics
- 100+ international research staff



Reaching Beyond Walls

“The culture of teamwork in San Francisco and internationally is incredible. Our team is passionate and devoted to solving the highest impact health problems.”

Vivek Jain, MD, Assistant Professor of Medicine

If these walls could talk, they'd tell a remarkable story. Of ambition, resilience and hope prevailing over loss, confusion and mourning.

They have survived earthquakes and epidemics, yet celebrated discoveries and development. Some walls are concrete, and have witnessed the real devastation by AIDS in San Francisco, followed by a resurgence of optimism. Others are mud, and contain a mix of joy, faith and disbelief as HIV, malaria and tuberculosis (TB) start to subside in rural Africa.

With 37 million people worldwide living with HIV, 214 million with malaria and 10 million with TB, the walls absorb a troubling past, yet project a hopeful future. In uncertain times, they harbor the sick and weary. They offer warmth and security. Though some walls divide and diminish, others engage and empower.

Continued progress toward disease elimination requires a reach beyond walls. The members of the University of California, San Francisco (UCSF) Division of HIV, Infectious Diseases (ID) and Global Medicine at Priscilla Chan and Mark Zuckerberg San Francisco General Hospital and Trauma Center (ZSFG) strive to reach beyond walls every day. Compassionate clinicians step out of the hospital to treat the sick. Aspiring researchers collaborate to tackle big questions to improve worldwide health. Thoughtful teachers spread enduring lessons to a new generation of providers.

Based in San Francisco, the reach of UCSF's Division of HIV, ID and Global Medicine is far, including North America, South America, Europe, Africa and Asia. Initially fueled by groundbreaking work to curb the AIDS epidemic, The Division's scope has grown to include all infectious diseases. With each effort, the team can see their target more clearly: an end to HIV, malaria, TB and more. The word of their progress is spreading. The goals are within reach.



“I’m totally inspired every minute of every day. This group is dedicated to a single cause: reducing the impact of infectious diseases worldwide, all through a lens of social justice.”

Monica Gandhi, MD, Associate Division Chief (Clinical Operations and Education) and Medical Director for Ward 86

Promoting Agents of Change

As the largest Division in UCSF’s Department of Medicine at ZSFG, the Division of HIV, ID and Global Medicine is a global leader in clinical care, research and education. Its mission is to tend to all patients affected by infectious diseases, especially the vulnerable. Division members believe that ending the epidemics of devastating infectious diseases—such as HIV, malaria and TB—is achievable. The gains will yield more than health, including wellness, prosperity and social connectedness.

To reach these ambitious goals—and to combat the constant threat of infectious diseases—the clinicians, researchers and

teachers of the Division of HIV, ID and Global Medicine strive to be powerful agents of change. They work locally to care for patients with HIV and other infectious diseases, and they work internationally to improve infectious disease prevention, care and community health. Beyond the clinics and laboratories, Division members train medical students, residents, fellows and other healthcare providers; collaborate with local, state and federal governments; and engage with community organizations, corporations and international policy-making agencies.

Offering More than Medicine

Thanks to recent advances in medical care, a diagnosis of HIV, malaria or TB is no longer a death sentence. Malaria and TB are preventable and curable, and HIV is highly treatable with antiretroviral therapy (ART). The challenges of care lie beyond the physical toll of disease and include lack of access to medical care or basic needs, like food, shelter or social support. The world-renowned HIV clinic (“Ward 86”) of UCSF’s Division of HIV, ID and Global Medicine offers flexible care to patients of limited means. Through a comprehensive medical model that involves more than primary and specialty care—including social services and case management—the providers treat not only the disease, but the person.

A sample of clinical services offered:

- **Golden Compass** offers comprehensive care to HIV patients over 50 years old, who comprise more than half of HIV-positive patients in San Francisco. This novel program is the first of its kind in the United States.
- **RAPID** starts patients on ART the same day they receive an HIV diagnosis, a process that used to take weeks. The program model has been adopted by cities worldwide.
- **Pre-Exposure Prophylaxis (PrEP) Clinic** provides a daily pill that can reduce risk of HIV infection for at-risk individuals by up to 95 percent.
- **The Women’s HIV Clinic** provides food, transportation, social support and specialty care to HIV-infected women, who make up 25 percent of Americans living with HIV.
- **HIV Chest/Pulmonology Clinic** offers care for HIV patients with respiratory illnesses such as allergies, asthma, emphysema and lung cancer. It’s one of the only HIV pulmonology specialty clinics in the world.
- **Infectious Disease Clinic** provides outpatient care for a variety of fungal, bacterial and viral infections, including Zika.



Vivek Jain, MD,
Assistant Professor of Medicine

Susa Coffey, MD,
Professor of Medicine

Hyman Scott, MD,
Assistant Professor of Medicine

Opening Gates to Discovery

The research efforts of UCSF's Division of HIV, ID and Global Medicine address both local and global needs. Their discoveries affect patients with infectious diseases from AIDS to Zika. In San Francisco, a seasoned researcher evokes images of a suffering patient to inspire his passionate search for a cure to HIV. Across the planet, a young doctor meets a sick child in Uganda under a repurposed wedding tent, where she draws blood and offers education on HIV, malaria and TB prevention. Each effort advances the control and treatment of infectious diseases, and each is a necessary step toward disease elimination.

Though some infectious diseases could be nearing their end, the threat of new illnesses is constant. Dangerous viruses, like Ebola, emerge over time and can wreak havoc on a population. Evolving pathogens, such as *Staphylococcus aureus*, continuously evade treatments and require constant attention. The adaptive nature of infectious pathogens demands researchers who embody the powerful traits of their subject. This is why UCSF's Division of HIV, ID and Global Medicine uses an expansive, innovative and multidisciplinary team approach to address threats from all infectious diseases, old and new.

Steven Deeks, MD, a world-renowned HIV researcher, is leading global efforts for an HIV cure.

Henry “Chip” Chambers, MD, is researching antimicrobial drug resistance and patient health outcomes from bacterial diseases. Due to his efforts, ZSFG was the first hospital in the U.S. to identify USA300, a dangerous strain of *Staphylococcus aureus*.

Gabriel Chamie, MD, is developing innovative ways to deliver HIV and TB testing, diagnosis and care (such as mobile community health fairs) in Africa, where many are untested or linked to care.

Katerina Christopoulos, MD, was one of the first investigators to identify the critical importance of treatment linkage and retention for HIV patients. Her work shows how psychosocial factors, such as stigma, poverty and substance abuse, affect a patient's engagement in care.

Grant Dorsey, MD, PhD, leads an NIH-funded International Center of Excellence for Malaria Research (ICEMR) to improve malaria surveillance, control and interventions. His research has informed new guidelines to antimalarial care throughout Africa, enabling thousands of children and pregnant women to live malaria-free.

Bryan Greenhouse, MD, is developing ways to track the malaria-causing parasite, *Plasmodium*, in order to improve public health. He is a member of the first class of Chan Zuckerberg Biohub Investigators, dedicated to advancing human potential and promoting equality.

Carina Marquez, MD, works to understand the hidden TB reservoir (present in a third of the world's population) in Africa and to develop interventions to prevent TB infection. She is one of few researchers nationally working to understand the gaps in TB care in children.

Elise Riley, PhD, is studying the influences of HIV, co-infections, and substance use in vulnerable populations, like the homeless. Her work shows that lack of basic living needs severely affects HIV treatment outcomes.

“We’re going to come up with a viable combination approach that could achieve a cure (for HIV). The stakes are high.”

Steven Deeks, MD



Top row, from left: **Steven Deeks, MD**, **Henry “Chip” Chambers, MD**, **Gabriel Chamie, MD**, **Katerina Christopoulos, MD**.

Bottom row, from left: **Grant Dorsey, MD**, **Bryan Greenhouse, MD**, **Carina Marquez, MD**, **Elise Riley, PhD**.

Making an Impact

Nearly half of the world’s population is at risk of malaria, but due to efforts of experts like Dr. Dorsey and others, malaria mortality rates have fallen globally by nearly 30 percent since 2010.

UCSF’s HIV, ID and Global Medicine Research Indicators (FY16)

- Federal Contracts and Grants *\$26.5 Million*
- NIH-Funded Grants *87*

Building Bridges

A key philosophy of UCSF's Division of HIV, ID and Global Medicine is that the best practices, ideas and approaches developed by this San Francisco-based team should be shared globally. Collaborations between science, community and policy have the power to break barriers, build understanding and save lives.

Led by Division Chief, **Diane Havlir**, MD, San Francisco aims to be the first city to "Get to Zero," meaning zero new HIV infections, zero HIV-related deaths, and zero stigma related to HIV. The Getting to Zero campaign is pioneering bold initiatives, which are characteristic of the Division's history. "We did that in the 1980s, when the HIV epidemic first appeared. We did that in 2010, when we were the first to recommend treatment for all persons living with HIV regardless of CD4 cell count. We're doing it now with Getting to Zero," says Dr. Havlir. The San Francisco-based Getting to Zero initiative is being modeled in cities worldwide.

As new infectious diseases emerge and others persist, a demand for serious attention is clear. In building productive collaborations and developing innovative ideas to address these needs, the dedicated faculty, trainees and staff of UCSF's Division of HIV, ID and Global Medicine are answering this call.

Ending the Spread

- Between 2010 and 2015, the number of people living with HIV on antiretroviral therapy (ART) globally increased from 7.5 million to 17 million, an increase of more than 125 percent. Still, of 37 million living with HIV worldwide, 20 million live without HIV treatment. The Division of HIV, ID and Global Medicine aims to close this gap to zero.
- 90-90-90 – An ambitious UNAIDS goal to have 90% of all HIV infections identified, treated and virally suppressed by 2020. Directed by Dr. Havlir, UCSF's SEARCH Study (Sustainable East Africa Research in Community Health) surpassed this target in rural East Africa in 2016, two years after its start.



SEARCH Health Fair in Uganda

Annie Luetkemeyer, MD, co-founded a collective impact initiative, “End Hep C SF”, which combines community-based testing, linkage to care, and preventative education to eliminate Hepatitis C infection, the leading cause of infectious disease related death in the U.S.

Eric Goosby, MD, is a Global Ambassador establishing a Center for Implementation Science in global health at UCSF. Under President Barack Obama, he led all U.S. Government international HIV/AIDS efforts as the US Global AIDS Coordinator.

Sheri Weiser, MD, investigates how food insecurity affects health and treatment outcomes of people living with HIV. Her research has shown that improving access to food improves physical health and treatment adherence, a finding that drove policy change in San Francisco and elsewhere.



Annie Luetkemeyer, MD,
Associate Professor of Medicine



Eric Goosby, MD, Professor of Medicine
(second from left) and team members



Sheri Weiser, MD,
Associate Professor of Medicine

Spreading Insights

UCSF's Division of HIV, ID and Global Medicine is proud to educate and train world-class researchers, clinicians and educators to lead the fight against infectious diseases in San Francisco and worldwide. In addressing the HIV, malaria and TB epidemics, the Division has grown not only in its care of patients, but also in its understanding of disease, research design, health policy, activism, and community partnerships—all efforts needed in combination to eradicate disease. As best practices and treatments of HIV, malaria and TB expand, Division members passionately apply these key lessons to other infectious diseases and share them with the next generation of leaders.

Laurence Huang, MD, a world-class pulmonologist, studies respiratory diseases affecting people with HIV. He leads the training of pulmonologists in Uganda, a country lacking lung specialists.

Paula Lum, MD, created an Addiction Medicine fellowship program, one of few in the world, to train future leaders in the intersection of addiction, substance use and HIV.

Philip Rosenthal, MD, a world expert in antimalarial drug discovery, is training the next generation of Ugandan scientists.

Lisa Winston, MD, recruits, trains and develops the best infectious disease experts in the world. She is recognized as a Master Clinician, awarded to the top physicians of UCSF.

Elvin Geng, MD, leads an international research team that studies and designs innovative approaches to HIV care delivery. His team was one of the first to consider the effects of socio-economic factors, like employment and education, at different stages of HIV infection.



Laurence Huang, MD,
Professor of Medicine

Phil Rosenthal, MD, Associate
Division Chief (Research and
Academic Affairs) and Professor
of Medicine

Lisa Winston, MD,
Professor of Medicine

Elvin Geng, MD,
Associate Professor of Medicine

How You Can Help

Now, more than ever, a world without HIV, malaria or TB is within reach. You are invited to join the UCSF Division of HIV, Infectious Disease and Global Medicine in tackling medicine's toughest and biggest problems with compassionate care, relentless research and generous guidance. Your contributions can make this happen.

The greatest obstacle to realizing the Division's vision is funding. Backing this powerful work exclusively through government funding is challenging. With your support, the committed faculty, trainees and staff will continue to develop and sustain programs to meet society's needs—in San Francisco and across the world.

Your generosity goes a long way. \$100 gives a hungry patient food vouchers for a month; \$1,000 provides a month of safe, indoor lodging; and \$10,000 sponsors a health fair for a community of 1,000 individuals in Uganda and Kenya.

Your funding also empowers the team in other key areas:

- Recruitment of top faculty, trainees, and staff
 - Creation of groundbreaking pilot projects for junior investigators
 - Development of education and training opportunities for future infectious disease experts
 - Scholarship support to ensure access for the most talented and diverse trainees
 - Technological advances in clinical and basic science initiatives
 - Development of laboratories for the next generation of discovery
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UCSF's Division of HIV, Infectious Diseases and Global Medicine is devoted to improving the lives of those with infectious diseases worldwide and ensuring that future generations are safe from their threat.

For more information on how you can help, please contact:

- **UCSF** at <http://makeagift.ucsf.edu/HIVIDGM>
- **SFGH Foundation** at <https://sfghf.org/>
Under gift designation, type "Within Our Reach."

Special thanks to Caroline Curran for additional photography

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“We must turn the tide. We must break down barriers to accessing care. And we must fund efforts that will make our goals achievable.”

Eric Goosby, MD, Professor of Medicine, former Global AIDS Ambassador/PEPFAR Director

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