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International Traineeships in AIDS Prevention Studies: 25 Years of AIDS Prevention Research

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The International Traineeships in AIDS Prevention Studies (ITAPS) program is commemorating its 25th year as the joint UCSF Global Health Sciences' and Center for AIDS Prevention Studies' premier training program for researchers from resource-limited settings. Since 1988, we have trained 248 early- and mid-career scientists from 46 countries, who have gone on to publish more than 1800 manuscripts in the peer-reviewed literature and present their research at national, regional, and international conferences. Each year, we select a new group of promising scientists from low- and middle-income countries (LMIC) to collaborate with UCSF faculty on AIDS prevention and care research projects.

Our program has historically offered three training tracks. In our research methods/protocol development track, incoming scholars develop new pilot research projects, either through an intensive summer workshop at UCSF or a blended-learning course involving face-to-face short courses combined with distance learning. Subsequently, these trainees field their projects in their home countries with continued technical assistance from UCSF. The second track is a scientific manuscript writing course for scholars who have already completed data collection, either as part of the ITAPS research methods track or through other means or partnerships. We provide guidance and mentoring as scholars conduct data analysis and prepare the results of their studies for publication. We also offer a grant writing track for select ITAPS alumni who are preparing to write NIH grant applications.

Mentoring is the cornerstone of the ITAPS educational approach. Each incoming scholar works closely with a UCSF faculty mentor throughout the didactic portions of the program as well as during data collection and analysis, manuscript writing and publishing. Many scholars work with more than one mentor—e.g., a primary mentor with topical expertise and a secondary mentor with methodological expertise. These mentoring relationships often last for years as the scholars and UCSF faculty continue to work together designing new studies or publishing additional papers. We are currently designing a mentor training program for

our most accomplished HIV prevention scientists from LMIC to prepare them to effectively support the professional goals of early-career investigators in their home countries and regions. These mentoring skills are often lacking among faculty in many academic institutions, and the absence of a mentoring culture is particularly pronounced in some of the LMIC in which we work.

ITAPS has by most metrics been a great success. Because the cost of international travel has increased dramatically in recent years, one could argue that it is now too expensive to bring scientists from LMIC for short-term study at UCSF. It is our experience, however, that providing these scientists with protected time away from competing professional responsibilities at home is the only way to guarantee that they will be able to focus on designing a research project or completing a scientific manuscript. Recently there has been intense interest in asynchronous training, made possible through evolving digital pedagogies, with hope that it can provide the same result as individual mentoring but without the expense. We have begun to experiment with these technologies, and our experience has been that there is simply no substitute for the personal touch that only individual mentoring can bring. We believe that without this style of mentoring, the long-term capacity building that is the main goal of our program will not happen. By the time the trainees complete their experience as ITAPS scholars, they will have designed pilot research protocols for which they are the principal investigators and they will have vetted their study through multiple institutional review boards (IRBs), usually including the UCSF IRB, a local IRB, and the IRB of the funding institution. Each trainee will have fielded his/her study with ongoing technical assistance from an ITAPS faculty mentor. Each will have conducted preliminary data analysis on his/her own then completed it under the guidance of a mentor. Most will have published their results in peer-reviewed journals, often using English rather than their native language(s). Most will have presented their results at national and international AIDS conferences or through other less formal means of dissemination, to stakeholders and colleagues. And importantly, many will go on to conduct subsequent studies with funding from their own governments or as principal investigator or co-investigator of an NIH grant.

In this special issue of *AIDS & Behavior*, we present 16 papers first authored by our ITAPS alumni. These scientists represent the regions from which we have drawn promising early-career investigators into our program since 1988. Four are from sub-Saharan Africa; four are from East, Southeast, and Central Asia; three are from Central and South America; and one is from Eastern Europe. While most of these scientists are recent ITAPS alumni, two of them participated in ITAPS as far back as 1989 and 1997.

Key Populations

Six papers in this special issue address prevention challenges in key populations at risk for HIV/AIDS.

Dr. Yan Hongjing et al. from the China Centers for Disease Control in Jiangsu province examined the rapidly rising HIV prevalence among men who have sex with men (MSM), a trend that is occurring across much of East and Southeast Asia. By measuring progression to

AIDS and mortality among MSM and comparing them with heterosexuals, injection drug users, and blood donors, they found MSM progressing to AIDS more rapidly. Mortality was lower among MSM, but they had more recent infections, indicating that their survival may lag behind other risk groups unless better supportive care services are offered to this stigmatized population.

MSM in the Middle East and North Africa (MENA) have received far less attention through research and/or prevention and care campaigns. In a study of MSM in Yemen, conducted by Dr. Ali Mirzazadeh and his research team, an HIV prevalence of nearly 6% was found along with compelling evidence that the epidemic may be expanding. This finding raises concerns across the MENA region, where similar cultural and legal proscriptions against homosexuality make it particularly challenging to reach MSM populations with effective prevention and care campaigns.

Dr. Mirzazadeh's research team also examined HIV prevalence and risk behaviors among female sex workers (FSW) in Iran. Using a novel method to correct for biases in reporting sensitive information for estimates of risk behaviors, they found a need for corrections of up to 30% regarding the most sensitive topics—e.g., an association with a venue to sell sex. The authors argue that such corrections need to be applied in other studies to achieve a true picture of emerging epidemics in the MENA region. Accurate estimates of the size of key populations are indeed critical for planning HIV/AIDS prevention, care, and treatment programs.

Dr. Jowhar Farhat et al. compared four distinct methods of estimating the number of FSW, MSM, and people who inject drugs in Zanzibar in East Africa. Although the authors concluded that no single method could be considered the gold standard for all populations, they argue that ranges produced by all four methods can be useful for HIV program planning and implementation.

Dr. Janet Ikeda, who began her association with ITAPS in 1997, has been working for decades among indigenous populations in Guatemala. Her study team examined the prevalence of self-reported sexually transmitted infections (STIs) among female partners of Guatemalan migrant workers. The team found higher rates of STI symptoms among these women, compared with women whose partners did not migrate. Certain ethno-linguistic groups in Guatemala appear to be at particularly high risk for STIs; this finding has implications for the distribution of limited resources that will, in turn, affect health care availability and outcomes.

Dr. Tin Aung and his team in Myanmar provide new data for a country that has been the focus of scant research even though it is experiencing one of the most severe HIV epidemics in Asia. Myanmar's epidemic is driven by FSW and people who inject drugs, and the reach of HIV services to these populations needs to be estimated. The researchers report that although consistent condom use was high, HIV testing and exposure to media campaigns varied widely among cities. Unexpectedly, the capital city, Yangon, had lower coverage of prevention programs than some smaller cities.

Accessible Populations

HIV prevention among more accessible populations is the focus of five papers in this special issue. Nuntawun Yuntadilok, former deputy director of the AIDS Division at the Ministry of Health in Thailand, examined the persistence of HIV preventive behaviors among military conscripts targeted by health education campaigns since the beginning of the epidemic in Thailand three decades ago. The country was widely touted as having turned the epidemic around through prevention measures such as a 100%-condom-use program. However, there are indications that the effect is waning. Low rates of condom use among male Thai military recruits indicate that there is riskier behavior than a decade ago, particularly between casual partners, and this demonstrates a need for ongoing HIV prevention efforts to avoid a reversal in Thailand's successes.

Using data from a national, probability-based, cross-sectional study of pregnant women in Espirito Santo, Brazil, Dr. Angelica Espinosa examined the HIV prevalence among young women in labor. Her team found a higher prevalence than expected, leading them to conclude that the epidemic persists among heterosexuals in Brazil and that prevention efforts need to continue being targeted to this population.

Dr. Tamaryn Crankshaw, et al., based in South Africa, conducted a qualitative study to explore contextual factors related to disclosure of HIV status among infected pregnant women. The authors found that HIV-positive status and unintended pregnancy—each a life-changing diagnosis—resulted in a “double-disclosure bind” that was not being taken into consideration during HIV counseling and testing, particularly during post-test counseling. The authors recommend that counseling for prevention of mother-to-child transmission be responsive to these factors, especially regarding HIV disclosure to partners and family.

A paper by Dr. Alfred Okiria, et al., studied the impact of HIV testing and counseling programs in Uganda, which continue to be the cornerstone of AIDS prevention campaigns in many other countries as well. His team evaluated a community home-based HIV counseling and testing program through two rounds of data collection and HIV testing in order to calculate HIV incidence. Among women, those who received post-test counseling as part of a couple were less likely to subsequently seroconvert.

Lusajo Kajula, a psychologist who leads a research team in Tanzania, conducted a qualitative study of the challenges and successes of parent-child communication regarding HIV prevention. She found a persistent cultural reluctance to discuss STIs and related sexual issues with adolescents, even in the face of a mature AIDS epidemic. Messages from adults to their adolescent children or students often relied on scare tactics and moral judgments rather than on effectively assisting with the adoption of preventive behaviors such as safer sex.

Treatment Issues among Persons Living with HIV/AIDS

The final five papers address treatment issues among people living with HIV/AIDS.

Dr. Marysabel Silveira, a scientist in Brazil, and her team examined novel methods of administering antiretroviral treatment (ART) to ensure that patients adhere to their medication regimens. Their paper reports on a randomized, controlled trial of a pharmaceutical care intervention. Both arms of the study, comparing usual care to the new pharmaceutical approach, showed high rates of adherence to ART, a finding that points to the success of the current standard of care.

In a brief report based on a secondary data analysis from the same randomized, controlled trial, Dr. Silveira, et al., showed that younger male patients benefited more from the pharmaceutical care intervention when they improved their attendance at clinical visits over a period of one year.

Dr. Tetiana Kiriazova, an associate professor at the Odessa Regional Institute of Teachers Retraining in the Ukraine, argues for the need to engage a broader spectrum of health care workers to tackle the epidemic in this resource-constrained setting. Her paper evaluated a training program for HIV-specialist and non-specialist health care workers in urban and rural locations in the Odessa region. The results indicate that all workers benefited from the training program and that even rural non-specialists were able to increase their knowledge and skills regarding basic HIV knowledge and voluntary counseling and testing procedures.

A second paper by Dr. Janet Ikeda et al. discusses ways of breaking down the silos that are typical in health care programs in Guatemala. As in many other countries, the situation has been exacerbated by the inordinate amount of funding directed toward HIV/AIDS, yet this funding also provides an opportunity for integration of services. The study evaluated the effectiveness of a program integrating HIV diagnosis and treatment into tuberculosis services at a hospital in rural Guatemala. The results showed that integrated services resulted in greater access to antiretroviral treatment and lower overall mortality.

The final paper in this issue reports on research conducted by Dr. Fabiola Callegari, et al., in Brazil. The senior author is Dr. Angelica Espinosa, who has another paper presented in this issue. Dr. Espinosa, an ITAPS alumni, went on to serve as a mentor for Dr. Callegari, thereby demonstrating the long-term impact of ITAPS as a sustainable method of building capacity in resource-constrained settings. The authors measured the prevalence of syphilis infection among patients attending an AIDS clinic in Vitoria, Brazil. The authors found a prevalence of more than 5% (treponema positive 19%) among patients with HIV. Based on this evidence, the authors recommended STI screening and counseling for all patients attending HIV/AIDS clinics.

Possessing an intimate knowledge of their own cultures, the international researchers featured in this special issue were able to gain the trust of hard-to-reach populations (e.g., MSM, FSW, and people who inject drugs) as well as conduct rigorous studies of more accessible populations (e.g., pregnant women and adolescents). These high-impact studies have been used to inform prevention and care campaigns and to shape public health policies in the authors' home countries, with regional and international implications. We are proud of these scientists, along with our hundreds of other ITAPS alumni, many of whom have gone on to leadership positions at universities, ministries of health, and national AIDS control

programs. We have had the privilege of watching many of these investigators begin their research careers in our training program and mature into senior investigators supported by independent funding. Together, we're making a significant contribution to fighting AIDS worldwide.

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