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Translating Social and Behavioral Science Research to the AIDS Epidemic: A CFAR Perspective

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The HIV epidemic is at a crucial crossroads just over thirty years since the first cases of pneumocystis pneumonia were reported.¹ Scientific discoveries have led to major breakthroughs in understanding the etiology of AIDS, transmission dynamics in individuals and populations, effective therapy, and efficacious biologic, technical, and behavioral strategies to prevent HIV infection. Furthermore, the major declines in mortality in developed countries and the rapid scale-up of prevention and treatment programs throughout much of Africa and many middle income countries has exceeded what seemed possible a decade ago.

And yet...the HIV epidemic rages on, and two million people will die this year from HIV infection with an additional two million or more persons becoming infected. There is as yet no cure, and HIV infection remains life-long with virus in most individuals reappearing to high levels in plasma when antiretroviral therapy (ART) is interrupted. The work for both science and society is far from done.

Of critical importance to the ongoing epidemic is the integration of innovative social and behavioral science with public health approaches for HIV prevention and treatment. Recent findings from the HIV Prevention Trials Network “052” study provide strong confirmation that HIV testing and ART can suppress viral load and markedly decrease transmission among asymptomatic HIV serodiscordant couples in a randomized controlled trial.² Can the results of these efficacy trials lead to effective prevention efforts in more general populations? Furthermore, what is the impact of behavioral, cultural, economic, and social barriers on the populations at greatest risk? Data from the United States illustrates the complexity of this issue even for a country where extensive healthcare resources are available. The Centers for Disease Control and Prevention estimates that while 80% of persons living with HIV in the United States are aware of their HIV infection status, 20% are not, and as infected and infectious individuals represent an ongoing driver of the U.S.

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epidemic. Moreover, even among those who are aware of their status, as few as 20% are in care and on ART with a suppressed viral load.^{3; 4} Clearly, there are barriers and challenges to meet before the potential benefits of “treatment as prevention” can be realized.

It has become increasingly apparent that public health approaches must consider social, behavioral, and other factors across diverse populations so that society’s focus does not become one of “treatment instead of prevention” and limited only to those who have access to and remain in care. This more comprehensive approach will necessitate strengthening and focusing social and behavioral research linking testing and treatment strategies to populations at greatest risk of transmitting and acquiring HIV infection in the U.S. and abroad. Because “one size will not fit all,” it will be imperative that social and behavioral science research synergize with alternative approaches that can best address unique challenges in diverse populations (e.g. injecting drug users, sex workers, discordant couples, etc.).

For these reasons, the work of the Social and Behavioral Science Research Network (SBSRN) will be crucial in the coming years. The SBSRN originated in 2006 as a partnership conceived by scientists at the University of Pennsylvania and Emory Centers for AIDS Research (CFAR) and has since flourished with NIH and CFAR support. This Network has grown to include all of the 20 currently funded centers. For over two decades the CFAR program at NIH has fostered an interdisciplinary approach to complex basic, clinical and social challenges posed by the AIDS epidemic, and has provided infrastructure for collaborative research within and between CFARs. It has been the focus of CFARs to ensure that this multifaceted approach to AIDS research is translated to address the most relevant scientific and social challenges. The CFAR program also supports and encourages strong linkages between CFARs and their communities as well as mentoring and training of young investigators, particularly women and minorities.

As this JAIDS supplement issue describes, the SBSRN exemplifies the achievement of these CFAR program goals. The challenge for science and society to quell the HIV epidemic remains great amidst the enormous promise of over three decades of HIV/AIDS research. The need for research translating this promise into accomplishment has never been greater.

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