

What can mental health interventions contribute to the global struggle against HIV/AIDS?

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Mental health is an essential component of worldwide efforts to contain the spread of HIV infection and to treat those who are already infected or affected by the virus. This paper describes the integration of mental health approaches into primary and secondary prevention strategies for vulnerable populations, the identification and management of psychiatric conditions that increase the risk for becoming infected with HIV, and the diagnosis and treatment of the neuropsychiatric manifestations of HIV infection.

Key words: HIV infection, mental health interventions, prevention

Mental health interventions are critical to worldwide efforts to contain the spread of human immunodeficiency virus (HIV) and to treat those who are already infected or affected by it. The acquired immune deficiency syndrome (AIDS) pandemic has spread to every part of the world, with approximately 40 million people currently living with HIV infection (1). Given the estimated 14,000 new infections a day, and an even partially effective vaccine projected to be at least a decade away, even the most optimistic predictions for improved access to antiretroviral treatment will not be sufficient to keep up with the world's expanding need for it. AIDS treatment will be affordable and sustainable only if the number of new infections is reduced. Therefore, prevention programs targeting the sexual and drug use behaviors that transmit HIV must be effective and made a very high priority, and treatment of mental health conditions associated with HIV transmission, poor disease prognosis, and poor adherence to antiretroviral regimens – addiction and depression chief among them – must be provided on a massive scale.

The increasing global investment in new HIV prevention and care initiatives (1) is creating a window of opportunity to integrate mental health approaches into these new programs. Although a pandemic, AIDS manifests itself in epidemics that are heterogeneous in terms of their intensity, pace, and impact. Therefore, locally-appropriate prevention, treatment, care, and impact-cushioning strategies need to be developed (2) with input from mental health professionals. Psychiatrists and other mental health professionals can play multiple roles in the prevention and treatment of HIV infection. They can diagnose and treat psychiatric and substance use disorders that are related to HIV risk-taking behaviors to reduce such risk; perform differential diagnosis and treatment of psychiatric disorders that co-occur with HIV infection; assist with adherence to medical, psychiatric and substance abuse treatment; and help manage psychosocial problems such as disclosure of positive HIV-status, adjustment to HIV diagnosis and illness, and access to concrete services like housing and financial assistance.

This paper describes the impact of HIV/AIDS in vulnerable populations around the world, highlights prominent mental health aspects of the epidemic as well as clin-

ical and management strategies essential to the diagnosis and treatment of mental health problems associated with HIV-related illness, and discusses the broad application of mental health concepts in modifying behaviors that sustain the epidemic.

THE EPIDEMIOLOGY OF HIV/AIDS AND VULNERABLE POPULATIONS

The worldwide effort to reduce the toll of HIV/AIDS involves inhibiting concentrated epidemics from becoming general population epidemics. The World Health Organization (WHO) defines a concentrated epidemic as one in which a sub-population has an HIV infection rate greater than 5%, but the HIV infection rate in pregnant women remains under 1%.

The impact of a generalized epidemic is most obvious in countries in sub-Saharan Africa. Of the 25 countries with the highest HIV prevalence (ranging from 5% to 39% of adults aged 15-49 years), 24 are in sub-Saharan Africa. About two-thirds of all people with HIV live in this region (1); roughly equally large numbers of people are being newly infected with HIV as are dying of AIDS, and there is no sign yet of an overall, national decline in the most affected southern African countries.

HIV epidemics also have generalized in the Caribbean, where HIV prevalence is the second highest in the world, exceeding 2% in five countries. Haiti has the largest number of people living with HIV in the Caribbean, with an estimated prevalence at almost 6% among people aged 15-49 years (1), followed by Jamaica and Guyana. Two countries in Latin America – Guatemala and Honduras – also have epidemics that have generalized.

These generalized epidemics vary, but predominantly are driven by heterosexual transmission, although sex between men (which is heavily stigmatized and in some places illegal), sex tourism, and injection drug use account for significant numbers of cases and remain underestimated by local public health surveillance systems, due to the societal disenfranchisement of individuals who engage in these activities.

Some countries that do not yet have generalized HIV epidemics nevertheless contain regions where the epidemic has generalized. This includes areas of China where unsafe blood donation took place, parts of India where injection drug use is prevalent, regions of Brazil with large populations of men who have sex with men (MSM), areas of Myanmar and southern Thailand where HIV infection among pregnant women exceeds 2%, and some urban areas of Eastern Europe such as St. Petersburg (Russian Federation) and Odessa (Ukraine) (1).

Surveillance data suggest that most countries still are contending with concentrated epidemics (1). While we correctly have moved away from the concept of risk groups, since unprotected sexual and drug use behaviors will put anyone at risk for HIV infection, it nonetheless remains true that most countries currently have epidemics that are concentrated in vulnerable populations. Historically, HIV begins its spread in three vulnerable groups: injection drug users (IDUs), MSM, and sex workers. Containing epidemics while they are still concentrated in these sub-populations is key to preventing spread into general populations.

Injection drug users

Injection drug use in the absence of sterile injection equipment is a recipe for public health disaster. This is the predominant route of HIV transmission in many developed and resource-poor countries with concentrated epidemics. Western Europe has a mature concentrated HIV epidemic with IDUs constituting the largest transmission group (1). The epidemic in Eastern Europe is more recent, but even more strongly driven by injection drug use. For instance, in the Russian Federation, between 1.5 and 3 million people inject drugs, which is 1-2% of the entire population. Many of these individuals begin injecting and become infected while still in their teens; their active sex lives pose a risk to the general population and heterosexual transmission is accounting for a dramatically growing proportion of new infections (1). More than 50% of heterosexually acquired AIDS cases in Eastern Europe are in people known to have an IDU sex partner. China, with 22% of the world's population, also cites injection drug use as the single most common mode of HIV transmission, and this is a prominent mode of transmission in regions of many other countries in North America, Latin America, East Asia (including India), and the Middle East (1).

The prevalence of drug addiction among IDUs is the most obvious link between psychiatric disorders and HIV transmission. Furthermore, substance use disorders are highly comorbid with other psychiatric disorders (e.g., bipolar disorder, depression, psychotic disorders, anxiety disorders, antisocial and borderline personality disorders). Moreover, alcohol and other drug use disorders are strongly associated with increased sexual risk for HIV infection. In many countries, alcohol and other drug use disorders

are not addressed with effective treatment but instead are neglected or criminalized (1). Although not optimal, jails can provide an entry point for both antiretroviral and drug substitution treatment.

Men who have sex with men

MSM is a term that describes men of various identities and social contexts who engage in sexual behavior with other men. Widespread homophobia is providing an ideal climate for the spread of HIV by driving MSM away from the information, services, and security they need to protect themselves and others against HIV. In many parts of the world, surveillance, prevention, and treatment are impeded by the stigma and secrecy that surround same-sex behavior. This stigma probably also contributes to elevated rates of alcohol abuse and depression that have been documented in some countries (3), further fueling the epidemic and creating additional barriers to care. Some men have sex with other men without self-identifying as gay or bi-sexual, so they disregard prevention messages directed at the gay community.

In developed countries with good surveillance systems, MSM are one of the first groups to be identified as highly affected by the HIV epidemic. For example, in the United States, MSM was the hardest-hit group early in the epidemic, and unprotected sexual behavior among MSM continues to be the leading route of HIV transmission (4). In the world's second most populous country, India, one household study found that 6% of men reported having sex with men and another study found that 57% of MSM were married (5). The potential for HIV transmission between MSM and for cross-over transmission to the general population is very high under these conditions.

Whether they self-identify as gay or not, MSM may be unaware of their own HIV infection. In Buenos Aires (Argentina), for instance, only one in seven MSM who tested positive knew he was HIV-positive (6). Similarly, in Beijing (China), approximately 3% of MSM were found to be infected and almost all of them were unaware of their serostatus (7). Recent evidence from major cities in Europe, Australia, Canada and the United States suggests that the prevalence of sexual risk behavior and HIV infection rates among MSM are increasing (4); this represents both a resurgence of infection among older MSM as well as a disregard for risk reduction among younger MSM. Despite this, in the United States, MSM are less likely than heterosexual men and women to receive prevention counseling, and only 10% of the HIV prevention outcome studies in the United States have focused on MSM (8).

Sex workers

Commercial sex work, whether legal or illegal, is an economic exchange in which specific sexual activities are purchased. Many social and economic factors are associated with prostitution, including extreme poverty, illitera-

cy, unaddressed (or even sanctioned) violence against women and MSM. Childhood sexual abuse histories are common among male and female sex workers, and trafficking and other forms of exploitation undoubtedly result in severe psychological trauma among women brought into sex work forcibly (1).

While research on the mental health of sex workers is limited, a few studies have found that male and female sex workers have elevated rates of psychopathology when compared to matched controls (9,10), although these studies cannot establish whether psychopathology precedes or follows sex trading.

A number of studies suggest that mental illness is associated with higher HIV prevalence and lower rates of condom use among sex workers. In one study conducted in Puerto Rico (11), sex workers with high levels of depressive symptoms had a 70% HIV infection rate, whereas those with low depressive symptoms had a 30% infection rate. This did not appear to be a consequence of HIV infection, since depressive symptoms were independent of HIV status.

The circumstances under which sex workers operate can have a significant impact on whether they take safety precautions, including those against HIV. Many sex workers are uninformed or misinformed about bodily functions and lack access to and information on health services, HIV/sexually transmitted infections, drug abuse, and other health problems. Commercial sex remains the main driver of the HIV epidemics in West Africa and parts of India. Structural prevention interventions focused on commercial sex workers have successfully reduced the prevalence and incidence of HIV where instituted (12). In countries with both legal and illegal sex workers, the HIV prevalence among legal workers is usually considerably lower, suggesting easier implementation of prevention interventions.

Overlap among vulnerable populations

What is common to all three of these vulnerable populations is their disenfranchisement from the dominant culture, with the corresponding stigma, secrecy, and barriers to resources that make prevention efforts difficult. The WHO estimates that fewer than 5% of IDUs can access essential prevention services and that only about 10-20% of sex workers and MSM can do so (1). Needless to say, there is tremendous variability within vulnerable groups, and there may be sub-groups who are not receiving interventions specifically designed to meet their needs or to address the particular culture in which risk is taking place. So, for example, African-American MSM in the United States have higher rates of infection than other ethnic minority MSM, and younger African-American MSM have the highest rates of all.

Although we have talked about vulnerable groups as discrete populations, an individual simultaneously or over time may belong to more than one vulnerable group. Addiction to drugs can lead to sex work in exchange for drugs or for money to purchase drugs. There are some parts of the

world where rates of drug use are high among sex workers (1). An example is St. Petersburg (Russia), where 81% of surveyed sex workers said they injected drugs at least once a day (65% had used non-sterile injecting equipment); 48% of sex workers were HIV-positive (1). Similar rates of HIV infection were reported among female sex workers who inject drugs in Ho Chi Minh City (Viet Nam). A study in Puerto Rico found that 47% of female sex workers injected drugs, and 70% of injectors were HIV-positive (11).

HIV spreads from historically vulnerable populations to the general population primarily through unprotected sexual contact. For example, men buying sex is a prominent practice in Asian countries, where studies suggest that 5-10% of men do so, often paying more for sex without a condom (1). Frequently these men are married or have regular sexual partners with whom condom use would call attention to infidelity.

Misconceptions and denial allow the virus to flourish. Underlying the daunting task of preventing the spread of HIV within and beyond vulnerable populations are numerous structural factors, including stigma, social discrimination, political indifference, poverty, violence, and oppression. An example of this is the finding that, in countries with generalized epidemics, young women aged 15-24 are between 2 and 6 times as likely to be HIV infected than young men of the same age (1). The vulnerability of women to HIV infection stems not simply from lack of knowledge, but from their pervasive disempowerment. One study in Zambia showed that only 11% of women believed that they had the right to ask their husbands to use a condom, even if he had proven himself to be unfaithful and was HIV-positive (1).

Mental health has a contribution to make in understanding the social relations that underlie the limited choices faced by both married and unmarried women, including recasting harmful stereotypes of masculinity and enabling men to assume their share of responsibility for HIV prevention and protection. Fundamental changes in behavior within entire populations need to occur. Although difficult to achieve, developing appropriate interventions to do so is essential to efforts to contain and reverse the AIDS epidemic among new generations reaching sexual maturity. Mental health must become part of the fabric of public health initiatives to accomplish this task.

APPLICATION OF MENTAL HEALTH CONCEPTS IN MODIFYING BEHAVIORS THAT SUSTAIN THE EPIDEMIC

Ample evidence exists that behavioral interventions reduce high-risk behaviors and promote safer practices. This has been demonstrated with all three historically vulnerable populations (13) and with an array of other groups as well (e.g., adolescents, women, psychiatric patients). In addition, programs that provide opiate substitution treatment and increase access to sterile injection equipment can reduce new HIV infection among people who inject drugs,

without running the risk of increasing the number of people who engage in this behavior (14). These programs can serve as a platform for other services and also for interventions to reduce unprotected sexual behavior. However, in many countries, providing sterile injection equipment and substitute medications such as methadone is banned by law from use in drug treatment practice.

Many countries that are very heavily affected by HIV still have not mounted coherent and coordinated responses, and even countries that have had a vigorous response to one at-risk population may neglect another. So, for example, Thailand has been very effective in reducing HIV among sex workers, while new cases among IDUs have been detected at alarming rates and remain unaddressed by a comparable national prevention campaign.

There are some countries that continue to have a very low HIV prevalence even among historically vulnerable groups and have a rare opportunity to prevent HIV from gaining a firm foothold. These include Bangladesh, East Timor, Mongolia, People's Democratic Republic of Lao, Pakistan, Philippines, Sri Lanka, and several Latin American countries.

Levels of intervention

The broadest level of intervention is that which is initiated by a country's government. Some of the global successes in HIV prevention that are best known have been coherent nationally-led AIDS responses in some of the hardest-hit countries. So, for example, Uganda achieved a considerable reduction in rates of HIV infection with its community implemented approach, and Thailand and Cambodia contained their epidemics by promoting condom use among sex workers (15). By contrast, in the Russian Federation, where the epidemic has been concentrated among IDUs, harm reduction programs have not kept pace with need (1).

Country-level interventions often involve media campaigns and the provision of concrete assistance and incentives to change risky practices. Two commonly used indicators of countries' success are condom supply and reported condom use at last high-risk sex act. Obviously, in a country where the primary driving force is injection drug use, these two indicators by themselves will not be sufficient.

Changes in practice can also occur at a grass-roots level. This can be seen among the many non-governmental organizations (NGOs) that operate in countries throughout the world promoting safer practices. In Eastern Europe, where HIV prevention programming tends to be poor, an emerging movement of civil society and people living with HIV is gaining force. Grass-roots movements are most successful when they ultimately can influence government responses. This occurred among MSM in the United States, when ACT-UP (AIDS Coalition To Unleash Power) demanded better and faster treatment, effectively changing federal approval process and funding for anti-

retroviral medication (16). Brazil's grass-roots movement also resulted in prevention and treatment policies that guarantee access to both for every citizen (17).

Between the extremes of bottom-up and top-down approaches are the actions of every entity with an interest in reducing the impact of HIV. Among the tools enlisted are capacity building, networking, and partnership development. The benefit of such local responses is that they are tailored to the needs of the communities they serve. The downside is that services are fragmented, scattered, and too short-term, and affected individuals often must navigate between several programs or systems to obtain the full range of care they need.

Around the world, successful prevention efforts have been pragmatic, focusing on behavior rather than moral judgment about behavior, and have worked to improve the social, legal, and political environments in which those most at risk live and work. Moreover, multiple levels of intervention were conducted simultaneously. For example, in Brazil and Australia, government policies were developed in collaboration with MSM communities, reducing dramatically the number of new HIV infection cases, though some resurgence has been seen in both countries as a result of misunderstandings about the degree of transmission risk that remains following antiretroviral treatment.

Where interventions have been implemented to good effect, intervening once was not enough; complacency and misperception of who is at risk can result in resurgences in HIV incidence. Multiple examples exist of relapse into less-safe behavior when prevention interventions stop completely. What works best is ongoing and, if possible, structural reinforcement of risk-reduction behaviors, as is done with sex workers in Thailand, who are regularly monitored through licensing and other governmental mechanisms.

The biopsychosocial approach is particularly important to the management of HIV infection. Successful prevention and treatment cannot occur in the absence of well integrated psychosocial approaches. This includes the development of strategies to reduce sexual and drug use risk behaviors; the provision of comprehensive pre- and post-test counseling; helping those who are infected to disclose to their partners while creating safeguards against violence; and offering a host of end-of-life services that provide compassionate care to the dying and adequate planning for children who lose their caregivers. Mental health workers, either directly or in consultation with other providers, have an important role to play in ensuring that these services are well-conceptualized and meet the mental health needs of those who use them.

Mental health is important to integrate into all prevention interventions at all levels. Models of behavior change need to be incorporated into prevention initiatives to understand what motivates people to engage in risky behavior, what incentives are available to change such behavior, and what skills are needed to implement and maintain safer practices. In addition, detecting, under-

standing, and treating behavioral and psychiatric problems that interfere with safer practices or even promote unsafe practices must be a priority. Unless mental health is a component, prevention interventions – small or large in scope – are not going to contain the epidemic (13).

MENTAL HEALTH CONDITIONS ASSOCIATED WITH HIV TRANSMISSION AND POOR DISEASE OUTCOMES

Mental health problems can occur as risk factors for HIV, coincidentally with HIV, or as a result of HIV infection and its complications.

Alcohol and other drug use disorders are among the most common mental disorders among HIV-infected people (18). Furthermore, epidemiological studies indicate that the majority of HIV-infected individuals will suffer from other psychiatric disorders, most commonly anxiety, depression, or psychosis (19).

These multiple diagnoses must be addressed in an integrated manner. The presence of drug use disorders can complicate the management of HIV illness and compromise adherence to HIV medication and secondary prevention efforts (20). Some mental health conditions, like depression, can contribute to HIV transmission, poor HIV disease prognosis, *and* poor adherence to antiretroviral regimens (21). Therefore, ensuring that depression is detected and managed is a critical primary and secondary prevention task that psychiatrists must spearhead.

Severe mental illness (psychosis with or without an affective component) has been associated with HIV infection in 6 of 8 countries where seroprevalence studies have been done. Rates are highest among those with severe mental illness who have co-occurring substance use disorders (22,23). Adherence to antiretroviral regimens among those with severe mental illnesses can be as good as among those in the general population: psychiatric patients are experienced medication takers and should not be underestimated when antiretroviral treatment is indicated (24).

Traumatic childhood experiences and other psychosocial stressors can contribute to the acquisition of HIV and further exacerbate mental health problems. Sexual abuse, for instance, whether in childhood or later, has been shown to increase the risk of HIV infection in adolescent girls, commercial sex workers, gay and bisexual men, people with severe mental illness, and other groups (25). Assessing this risk and intervening appropriately takes the skill and sensitivity that mental health professionals readily possess or can develop.

Some somatic symptoms of HIV infection – particularly fatigue; lypodystrophy, lipoatrophy and wasting; insomnia; pain; sexual dysfunction – may cause considerable deterioration of quality of life and complicate the treatment of psychiatric disorders. These prevalent somatic problems are frequently overlooked (26). Mental health care providers have a very important role in either treating

or advocating for treatment of these problems. When prescribing psychotropics, it is helpful to consider whether they will exacerbate or improve somatic symptoms. It should be noted that hepatitis C, a common problem in IDUs and hemophiliacs, can have neuropsychiatric manifestations, and that its treatment, particularly interferon, can cause or exacerbate depression (26).

There are some important principles that guide treating mental health problems in the presence of advancing HIV illness (26). These include taking into account multiple comorbidities; ruling out a new medical cause for any change in mental status (HIV-related or not); starting with lower doses of psychotropic medication and slowly titrating them upward; checking for drug interactions and overlapping toxicities between psychotropics, antiretrovirals, and any other medications being taken; offering adherence support to patients whose cognitive or psychiatric symptoms interfere with regular medication taking.

When treating substance use disorders in HIV-infected people, it is much easier to coordinate treatment when it is integrated in one site (26). Moreover, many medical providers to these patients have significant difficulty managing some of their disruptive, sometimes demanding behaviors, and on-site mental health services can be critical to retaining them in care. For those people on methadone maintenance substitution therapy, it is important to note that many antiretrovirals will change methadone levels, usually lowering them. Therefore, the dose of methadone needs to be adjusted accordingly (27).

In the case of mild or transient anxiety, use of psychotherapy, relaxation training, stress-reduction techniques, and avoidance of anxiety-provoking substances such as caffeine and nicotine should be utilized prior to prescribing medication (26).

Most chronic anxiety disorders are best treated with selective serotonin reuptake inhibitors rather than benzodiazepines, due to the lower potential for tolerance and addiction. When a benzodiazepine is needed, it is best to choose one that does not tend to interact with antiretrovirals. Lorazepam and clonazepam are the most frequently used with HIV patients (26).

For depression, psychostimulants may be particularly useful in people with cognitive impairment and fatigue (28), although their effect on mood is variable. It is important to caution patients on antiretroviral treatment not to use St. John's wort, a common over-the-counter herbal treatment for depression, which can lower levels of protease inhibitors. It is important to rule out hypogonadism, which is present in up to 50% of men with symptomatic HIV infection or AIDS and can be a cause of or contributor to depression. Other androgen deficiencies, mainly of dihydroepiandrosterone, are also common in both HIV-infected men and women (29). Testosterone replacement, therefore, can be an important component of the treatment of depression in these individuals and has been shown to be efficacious (30).

NEUROPSYCHIATRIC MANIFESTATIONS OF HIV INFECTION

HIV is a neurotropic virus that enters the central nervous system at the time of initial infection and persists there. Neuropsychiatric manifestations of the direct effects of HIV in the brain become more frequent as illness advances (26). Common problems include decreased attention and concentration, psychomotor slowing, reduced speed of information processing, executive dysfunction and, in more advanced cases, verbal memory impairment (26). Neuropsychiatric manifestations occur with a range of severity varying from subclinical manifestations to specific disorders that include minor cognitive motor disorder and HIV-associated dementia (HAD). The dementia is subcortical, although with advanced disease cortical areas may be compromised as well (26).

Mental health professionals often have a role to play in diagnosing these cognitive and behavioral disorders and in treating some of the psychiatric illnesses associated with them, including mania and psychosis. These are most commonly seen in HAD, where symptoms range from apathy and depression to mania and psychosis, mimicking functional psychiatric disorders and thus requiring a thorough differential diagnosis which can best be performed by a psychiatrist (26). Neuropsychiatric manifestations of HIV are diagnoses of exclusion and the physician must first eliminate all other possible medical causes, including opportunistic infections, metabolic problems, side effects of antiretrovirals, as well as substance intoxication or withdrawal (26). This is an essential task given that a variety of untreated medical problems can cause irreversible neuronal damage.

The best form of both prevention and treatment for the neuropsychiatric manifestations of HIV is highly active antiretroviral therapy (HAART), the use of three or more antiretroviral medications to suppress viral replication. It should be noted that some of the antiretrovirals themselves have neuropsychiatric side effects, most notably efavirenz (26). Efavirenz is currently considered one of the most important drugs to include in HAART regimens, because its use is associated with the durability and efficacy of the regimen. For that reason this drug is being used extensively in antiretroviral roll-out programs in resource-poor countries. However, efavirenz is often associated with neuropsychiatric manifestations such as anxiety, depression, nervousness, drowsiness, impaired concentration, insomnia, disturbingly vivid dreams, and even on occasion suicidality. Most of these side effects occur within 24 hours to 4 weeks of treatment initiation (31) and, if the patient can tolerate them, with or without help from treating clinicians, they usually will spontaneously subside.

What is particularly challenging about HAART is the need for patients to take at least 95% of the medication to suppress viral replication and minimize the chances of developing HIV strains that are resistant and cross-resistant to antiretroviral drugs (26). This level of adherence is

not normally seen in patients with any medical disorder, let alone one that is chronic. Mental health concepts have been critical throughout the epidemic for determining how to assess patient readiness for such unforgiving regimens and how to maximize adherence.

CONCLUSIONS

Psychiatrists can contribute to the containment of, arguably, the most challenging public health problem the world has tried to address on a global scale, through elucidation of mental health-related factors that facilitate HIV transmission from vulnerable populations to the general population; advocacy for substance abuse treatment; development and implementation of HIV behavioral prevention interventions; and treatment of the mental health aspects of HIV and AIDS. On a person-by-person basis, we also can foster non-judgmental prevention (with a wide range of safer sex options according to the specific person's needs and lifestyle), educate HIV-infected patients about associated central nervous system problems, monitor psychiatric sequelae, adherence, and quality of life issues (e.g., sleep, sexual functioning), and assist in managing the psychosocial impact of the disease on infected people and their relatives.

On a more global level, our individual efforts can impact policy and grass-roots efforts. Psychiatrists, psychologists, and other mental health care providers have been central in providing institutions and governments with needed help in the AIDS epidemic, joining together to advocate for and help develop policies in their own countries that have served as models in other countries. By integrating mental health concepts into every level of HIV intervention, we can continue to improve the quality of care and the quality of life of people affected by this global pandemic.

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