

31503

HIV/AIDS and Mental Health

Florence Baingana, Rachel Thomas and Christine Comblain

January 2005



HIV/AIDS AND MENTAL HEALTH

Florence Baingana, Rachel Thomas and Christine Comblain

January 2005

Health, Nutrition and Population (HNP) Discussion Paper

This series is produced by the Health, Nutrition, and Population Family (HNP) of the World Bank's Human Development Network ([HNP Discussion Paper](#)). The papers in this series aim to provide a vehicle for publishing preliminary and unpolished results on HNP topics to encourage discussion and debate. The findings, interpretations, and conclusions expressed in this paper are entirely those of the author(s) and should not be attributed in any manner to the World Bank, to its affiliated organizations or to members of its Board of Executive Directors or the countries they represent. Citation and the use of material presented in this series should take into account this provisional character. For free copies of papers in this series please contact the individual authors whose name appears on the paper.

Enquiries about the series and submissions should be made directly to the Managing Editor, Joy de Beyer (jdebeyer@worldbank.org). Submissions should have been previously reviewed and cleared by the sponsoring department, which will bear the cost of publication. No additional reviews will be undertaken after submission. The sponsoring department and authors bear full responsibility for the quality of the technical contents and presentation of material in the series.

Since the material will be published as presented, authors should submit an electronic copy in a predefined format. Rough drafts that do not meet minimum presentational standards may be returned to authors for more work before being accepted.

For information regarding this and other World Bank publications, please contact the [HNP Advisory Services](#) (healthpop@worldbank.org) at: Tel (202) 473-2256; and Fax (202) 522-3234.

© 2004 The International Bank for Reconstruction and Development / The World Bank
1818 H Street, NW
Washington, DC 20433

All rights reserved.

Health, Nutrition and Population (HNP) Discussion Paper

HIV/AIDS and Mental Health

Florence Baingana,^a Rachel Thomas^b and Christine Comblain^c

^a Senior Health Specialist, Mental Health, World Bank, Washington, DC

^b Consultant, International Mental Health, World Bank, Washington, DC

^c Intern, World Bank, Fall 2003.

Abstract: Mental and neurological disorders have an intertwined relationship with HIV, yet are often overlooked when AIDS interventions are planned and implemented. Cognitive disorders, substance abuse, and disorders of personality can influence behavior in ways that lead to greater risk of HIV infection. Conversely, HIV/AIDS itself can lead to psychological conditions due to circumstances surrounding the disease, and psychiatric conditions resulting from HIV-related neurological changes. Such disorders can adversely influence the progression of the disease, lead to noncompliance with prescribed medical treatment, and increase the likelihood that people living with HIV/AIDS (PLWHA) will act in high-risk ways. Since the World Bank is the largest long-term investor in the prevention and mitigation of HIV/AIDS in developing countries, it has an important role to play in mental health interventions related to the HIV/AIDS pandemic.

The main purpose of this document is to increase knowledge of the relationship between HIV/AIDS and mental health and highlight the need for psychosocial support for PLWHA. The document begins with a description of the global AIDS pandemic, addresses psychosocial risks for infection, then discusses the socio-economic impact of HIV/AIDS. This is followed by a description of the neuro-psychiatric and psychological disorders associated with HIV/AIDS and the social and economic implications of failing to address these disorders. Next, current World Bank AIDS initiatives are considered, and opportunities and challenges for including mental health and psychosocial interventions in AIDS programming are explored. The document concludes with recommendations for future initiatives aimed at meeting the mental health and psychosocial needs of PLWHA.

Keywords: mental health; mental disorders; psychosocial disorders; psychosocial interventions; HIV/AIDS.

Disclaimer: The findings, interpretations and conclusions expressed in the paper are entirely those of the authors, and do not represent the views of the World Bank, its Executive Directors, or the countries they represent.

Correspondence Details: Florence Baingana, World Bank, HDNHE MSN G7-701, 1818 H St. NW, Washington, DC 20433. Tel: (202) 458-5939; Fax: (202) 522-3489; Email: fbaingana@worldbank.org.

Table of Contents

ACKNOWLEDGEMENTS	VII
INTRODUCTION.....	1
GLOBAL CONTEXT	1
THE WORLD BANK RESPONSE.....	2
PSYCHOSOCIAL RISKS AND VULNERABILITIES FOR HIV/AIDS.....	3
POVERTY	3
HUMANITARIAN CRISES	3
CONFLICTS	4
GENDER INEQUALITY	4
STIGMA AND DISCRIMINATION.....	5
OTHER RISKS	6
THE SOCIO-ECONOMIC IMPACT OF HIV/AIDS	7
ORPHANS AND VULNERABLE CHILDREN (OVC)	7
IMPACT ON EDUCATION AND HUMAN CAPITAL	8
SOCIO-ECONOMIC IMPACT ON HOUSEHOLDS.....	9
NATIONAL SOCIO-ECONOMIC IMPACT	10
NEUROPSYCHIATRIC AND PSYCHOLOGICAL DISORDERS ASSOCIATED WITH HIV/AIDS	11
PROBLEMS THAT EMERGE FROM LIFE CIRCUMSTANCES.....	11
BRAIN DISEASES	12
DISORDERS OF PERSONALITY AND TEMPERAMENT	13
DISORDERS OF MOTIVATED BEHAVIOR.....	14
HIV/AIDS, MENTAL AND PSYCHOSOCIAL DISORDERS AND CHILDREN	14
THE COSTS OF FAILING TO ADDRESS MENTAL HEALTH WITHIN THE HIV/AIDS PANDEMIC.....	15
NON-ADHERENCE TO DRUG REGIMENS	16
RISKY BEHAVIOR	17
IMPACT ON NATIONAL ECONOMIES.....	18
WORLD BANK INTERVENTIONS TO DATE	18
OPPORTUNITIES FOR INTEGRATING MENTAL HEALTH AND PSYCHO-SOCIAL INTERVENTIONS INTO THE WORLD BANK’S AIDS AGENDA.....	20
CHALLENGES FOR PROVIDING ADEQUATE MENTAL HEALTH CARE AND PSYCHOSOCIAL SUPPORT FOR PLWHA	21
LACK OF BASIC NEEDS.....	21
KNOWLEDGE GAPS.....	21
STIGMA AND DISCRIMINATION.....	22
LIMITED FUNDING AND RESOURCES FOR MENTAL HEALTH IN GENERAL.....	23

DEFINING PSYCHOSOCIAL SUPPORT AND TARGETING	23
THE TOLL OF AIDS ON CAREGIVERS	24
MAINTAINING HUMAN RIGHTS	24
THE WAY FORWARD: RECOMMENDED INTERVENTIONS	24
PRIMARY PREVENTION	25
<i>Changing Social Structures</i>	25
<i>Increasing Knowledge, Information and Communication</i>	25
<i>Preventing Mother-to-Child Transmission</i>	26
SECONDARY PREVENTION	26
<i>Recognizing Mental Disorder Risk Factors</i>	26
<i>Including Mental Health in Primary Health Care</i>	27
<i>Providing Access to Psychiatric Medications</i>	27
<i>Providing Access to Antiretroviral Drug Treatment</i>	28
TERTIARY INTERVENTIONS	28
<i>Improving Communication Between Parents and Children</i>	28
<i>Preparing Children for Life after Parental Death</i>	29
<i>Training Teachers to Offer Support</i>	29
<i>Additional Measures for Easing Transitions</i>	29
CONCLUSION	29
NOTES.....	31
REFERENCES.....	46

ACKNOWLEDGEMENTS

This document was prepared by Rachel Thomas while interning at the World Bank in the summer of 2004. She built on an extensive literature review compiled by Christine Comblain. The work was supervised by Florence Baingana, Senior Health Specialist, Mental Health, HDNHE. The authors of this report are grateful to the World Bank for having published it as an HNP Discussion Paper.

Between June 2002 and November 2003, the mental health activities of the World Bank were made possible by the generous support of the National Institute for Mental Health and the Center for Mental Health Services, both U.S. Government organizations. The MacArthur Foundation and the World Federation for Mental Health (WFMH) provided invaluable support for the World Bank's mental health activities between February 1999 and May 2002.

The authors would like to thank all those who have conducted HIV/AIDS research and interventions over the past two decades for building the body of knowledge on which this work is based. Furthermore, we acknowledge those presently living with HIV/AIDS, their families and friends. It is our hope that this document will help to improve their access to mental and psychosocial support in the years to come.

Finally, we value the suggestions of World Bank staff and others who reviewed drafts of this document, including Andreas Seiter, Oye Gureje, John Williamson, Rachel Jenkins, and Joan M. MacNeil.

INTRODUCTION

GLOBAL CONTEXT

Since its appearance in 1981, HIV/AIDS has infected more than 60 million people and claimed over 20 million lives.¹ In 2002 alone it killed three million people, making it the fourth leading cause of death in the world and the most devastating epidemic since influenza claimed the lives of roughly 100 million people between 1918-1919.² Moreover, the global rate of HIV/AIDS infection is growing. Approximately five million people were infected with HIV in 2003, the largest number in a twelve-month span since the pandemic's beginning.³ Another 14,000 infections occur around the world each day.⁴ Though the epidemic is international, the disease has disproportionately affected the developing world.⁵ According to UNAIDS, at the end of the last decade, 95 percent of all HIV/AIDS cases had been in developing nations.⁶

Approximately 29.5 million people in Sub-Saharan Africa (SSA) are living with the HIV/AIDS virus,⁷ which is the leading cause of death in the region.⁸ The sheer magnitude of the epidemic in SSA has made it by far the most severely affected area,⁹ home to 26 of the world's 28 hardest hit countries.¹⁰ In several SSA nations more than 30 percent of the populace is HIV/AIDS positive and,¹¹ in some regions, AIDS has reduced life expectancy by as much as 50 percent.¹² Though there has been modest progress in reducing AIDS incidence in some parts of SSA, it remains a widespread crisis, spread mainly through heterosexual sex.¹³

Eastern Europe and Central Asia currently face the highest rates of new infection, in part because mass unemployment, labor migration, economic uncertainty and deteriorating health systems have provided a conducive environment for AIDS to spread. According to data from the Centers for Disease Control and Prevention, around 90,000 people in Central Asia are HIV/AIDS positive and the figure is expected to "skyrocket" to 1.65 million by 2005 unless effective interventions are immediately employed.¹⁴ To date, injection drug use has been the most frequent mode of transmission in the region, but cases of infection through sex are more and more common as the disease spreads from drug users to their partners and beyond.¹⁵

Though prevalence rates are low in India and China, the figures are deceptive. As many as 3.97 million people in India and 1 million in China are HIV positive, and the epidemics are growing. In China the number of HIV/AIDS infected individuals is expected to reach 10 million, the size of the entire population of Belgium, by 2010.¹⁶ As home to three-fifths of the world's inhabitants, Asia's AIDS crisis is of mounting international concern.¹⁷ Barring effective intervention, the proportion of AIDS infections in Asia and the Pacific's low and middle income countries is projected to increase in proportion to economically similar regions by 20 percent between 2002 and 2010.¹⁸

Though there has been some progress toward containing the spread of HIV, the virus continues to burgeon around the world, yielding harsh psychosocial and economic consequences for present and future generations. The regions where HIV/AIDS is having its strongest impact are

being devastated by the multi-faceted effects of the disease. In addition to deteriorating quality of life for infected people, AIDS is taxing already strained health and social care systems, creating orphans, forcing the poor further into poverty, reducing the workforce, and putting immense pressure on national economies. For some countries, the present crisis threatens to undo the development progress that has taken place over the last half century.¹⁹ Furthermore, predictions indicate that 126 of the world's low- and middle-income countries will be faced with another 45 million newly infected individuals between 2002 and 2010.²⁰ This would almost double the current world total of people living with HIV/AIDS (PLWHA).²¹ According to Peter Piot, Executive Director of UNAIDS, "the epidemic is still in its early stages."²²

THE WORLD BANK RESPONSE

Because HIV/AIDS is a global epidemic, to combat its spread the World Bank has recently committed over \$1.7 billion dollars to AIDS-related projects around the world.²³ While much of the assistance is through credit programs and loans, HIV/AIDS programs in countries most in need are financed through grants administered by the World Bank's International Development Association (IDA). The Bank has responded to HIV/AIDS' broad impact by incorporating a number of sectors in its approach, including health, education, transport, urban development, water supply and sanitation.²⁴ Among other things, the Bank has supported studies and analysis in Eastern Europe and Central Asia, health sector reform in East Asia and the Pacific, capacity building in South Asia, advocacy in the Middle East and North Africa, and Multi-Country HIV/AIDS Programs (MAP) in Latin America, the Caribbean, and Sub-Saharan Africa. It has also been active in research and development for an HIV/AIDS vaccine.²⁵ The Bank is currently "the largest long-term investor in the prevention and mitigation of HIV/AIDS in developing countries."²⁶ However, despite having identified neuropsychiatric disorders as "an important emerging health problem for developing market economies,"²⁷ it has yet to significantly address the role of mental health in the HIV/AIDS pandemic.

Mental and neurological disorders have an intertwined relationship with HIV, yet are often overlooked when AIDS interventions are planned and implemented. Cognitive disorders, substance abuse, and disorders of personality can influence behavior in ways that lead to greater risk of HIV infection. Conversely, HIV/AIDS itself can cause a number of psychological conditions due to circumstances surrounding the disease, and psychiatric conditions resulting from HIV-related neurological changes. These disorders can adversely influence the progression of the disease, lead to noncompliance with prescribed medical treatment, and increase the likelihood that PLWHA will act in high-risk ways. Each of these increases the chance of HIV transmission. Furthermore, due to new treatments and increasing life expectancies, mental disorders are becoming progressively more relevant for HIV/AIDS management.

The main purpose of this document is to increase knowledge of the relationship between HIV/AIDS and mental health and highlight the need for psychosocial support for PLWHA. The document begins by addressing the psychosocial risks for HIV transmission and discussing the socio-economic impact of HIV/AIDS. This is followed by a description of the neuropsychiatric and psychological disorders associated with HIV/AIDS and the social and economic implications of failing to address these disorders. Next, current World Bank AIDS initiatives are considered, and opportunities and challenges for including mental health and psychosocial

interventions in AIDS programming explored. The document concludes with recommendations for future initiatives aimed at meeting the mental health and psychosocial needs of PLWHA.

PSYCHOSOCIAL RISKS AND VULNERABILITIES FOR HIV/AIDS

The term “psychosocial” acknowledges the relationship between psychological factors and the social context in which they occur, recognizing that mental health is closely linked to culture, traditions and relationships. While mental disorders have been defined and classified through standard diagnostic systems like the International Classification of Disorders, 10th Edition (ICD-10), and the American Psychological Association’s Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV), a method for categorizing psychosocial disorders has not yet been developed adequately. Though bridging that gap is outside the scope of this document, it is critical that the psychosocial aspects of HIV/AIDS transmission and impact be addressed. With that in mind, the following section explores psychosocial risks and vulnerabilities for AIDS infection and transmission.

POVERTY

While the consequences of AIDS have been felt across all population groups, the disease is most prevalent among impoverished people with fewer resources for coping. Per capita GNP in Sub-Saharan Africa is barely 10 percent of the world average level. Though it claims only 11 percent of the world’s population, SSA is home to 70 percent of all cases of HIV/AIDS.²⁸ The relationship between poverty and AIDS stands to reason since as much as 80 percent of HIV infections occur through sexual transmission²⁹ and economic position often predicts the frequency and nature of sexual activity.³⁰ The poor are more likely to be driven to trading sex to meet basic needs, have less choice over condom use, and may be forced to have multiple sexual partners for economic protection. Poverty, furthermore, is linked to a number of other factors that increase the risks of HIV infection, including humanitarian crises, mental disorders and substance abuse.

HUMANITARIAN CRISES

Humanitarian crises exacerbate the HIV/AIDS pandemic, which, in turn, intensifies humanitarian crises. For example, HIV/AIDS prevalence is “alarmingly high” in countries experiencing food shortages.³¹ Not only are ill people unable to contribute to food production, in addition, other potential producers must forgo their usual work to care for the infected. Food shortages further worsen the impact of AIDS since, in regions where there is limited or no access to antiretroviral treatment, good nutrition is the most effective means of warding off AIDS-related illnesses.³² Among other factors, “HIV prevalence is highly correlated with falling calorie consumption and falling protein consumption.”³³ What is more, the incidence of malnutrition and food shortage may worsen as a generation of children are left orphaned without having learned the farming and foraging skills that their parents would have taught them.

In general, humanitarian crises lead to weakened social services, widespread unemployment, social displacement and desperation. These conditions can set drug and alcohol abuse in motion, force women and children into sexual acts for survival, and disrupt HIV/AIDS interventions, all of which fuel the spread of the disease.³⁴

CONFLICTS

Conflicts also place populations at a higher risk of contracting the HIV/AIDS virus. By causing “forced displacement and sudden destitution, the collapse of social structures and the breakdown of rule of law,”³⁵ conflicts are a catalyst for the spread of HIV. They also contribute to its quick progression to AIDS due to collapsed health services and disrupted food distribution networks. In many conflicts mass rape has been used as a tool of war and has increased the spread of AIDS exponentially. During the conflict in Rwanda an estimated 3 percent of all women were raped. Though the HIV prevalence rate in rural areas was only 1 percent prior to 1994, by 1997, 11 percent of the rural population was HIV positive.³⁶ Finally, the mobilization of armies has been linked to an increase in the prevalence of HIV/AIDS, as in the Ugandan military where the rate is much higher among soldiers (27%) than among the general population (9.5%).³⁷ Once conflicts cease, infected soldiers return home, passing the virus on to their wives and future children.

GENDER INEQUALITY

The worldwide HIV infection rate for females increased from 41 percent of total new infections in 1997 to 47 percent just three years later.³⁸ These statistics reflect a global trend of growing female vulnerability to AIDS. In Sub-Saharan Africa one in ten HIV negative women become infected each year,³⁹ and the number of women with HIV/AIDS presently exceeds the number of men by 14 percent.⁴⁰ Approximately 50 percent of worldwide HIV infections occur in the under 25 population and, in developing nations, 67 percent of infected 15 to 24 year olds are female.⁴¹ In some areas of the world, adolescent girls are five times more likely to become infected with HIV than their male peers.⁴²

The rate of HIV infection is increasing more rapidly among women than men for several reasons. From a **biological perspective**, females have a 2 to 4 percent higher likelihood of being infected by HIV during unprotected intercourse since a substantial portion of the female genital tract is permeable to fluids.⁴³ Semen from infected males, furthermore, generally contains a higher concentration of the HIV virus than female secretions, further escalating women’s risk of infection.⁴⁴ Finally, preexisting sexually transmitted infections (STIs) can increase the likelihood of contracting HIV/AIDS tenfold.⁴⁵ For many women, STIs go untreated due to an absence of obvious symptoms, limited access to health care, or fear and embarrassment.⁴⁶

According to UNICEF, “Social and economic powerlessness and low status relative to that of men/boys is the root cause of women’s and girls’ greater vulnerability to HIV infection, their disadvantaged position in coping with it and their greater suffering from its effects.”⁴⁷ From a **social perspective**, many societies allow and sometimes expect men to have multiple sexual partners, while female sexuality is strictly controlled. Under these conditions, even monogamous

females are at risk of contracting HIV/AIDS.⁴⁸ Similarly, societal taboos and gender roles increase female likelihood of contracting HIV/AIDS since girls are often kept ignorant of sex and its risks and are socialized to be sexually submissive to men.⁴⁹ A survey conducted in Kenya in 1998 revealed that an alarming 36 percent of 15 to 19 year old girls were unable to identify even one strategy for protection against HIV infection,⁵⁰ and 32 percent did not realize an individual who appeared healthy could carry the virus.⁵¹ Male partners, furthermore, are often older, already sexually experienced and therefore more likely to have STIs. They also wield control over decisions regarding condom use.⁵²

Societies place females at additional risk for HIV infection since they are the main targets of sexual violence, and social stigmas inhibit proper medical treatment. In South Africa, for instance, AIDS is twice as likely to be transmitted through rape as through mother-to-child transmission, in part because stigmas prevent ready access to post-exposure prophylaxis.⁵³ Women are also at risk due to myths that sex with virgins cures AIDS, and because of culturally-based practices like female genital mutilation (FGM) and child marriage, which can lead to tears in undeveloped genital tracts.⁵⁴ As HIV spreads, the risk for women will increase further since men will be more likely to look for young, uninfected partners, and because the number of child marriages may increase due to economic pressures within orphan filled households.⁵⁵ Women who do become HIV positive frequently face more stigma, discrimination and contempt than men in their societies when their status is revealed.⁵⁶ They also confront the psychological turmoil that accompanies blame and guilt when they pass the virus on to their children.⁵⁷

From an **economic perspective**, women and girls are highly vulnerable to HIV/AIDS since they constitute 70 percent of the world's poorest population.⁵⁸ Faced with institutionalized discrimination in employment, housing, education and health, and lacking in skill-based education, economic resources and opportunities, women are exposed to many avenues for contracting HIV. Just as economic inequality is a driving force behind female HIV infection, HIV/AIDS exacerbates inequality between men and women since women and girls serve as the primary caregivers for PLWHA and must forgo economic and educational activities in order to do so.⁵⁹ They also face the added possibility of losing all land and assets when their male family members die.⁶⁰ In a survey in Uganda between 1999 and 2001, 29 percent of widows reported losing property after the death of their husbands, making women four times more likely to be the targets of property grabbing than men who lost spouses.⁶¹

STIGMA AND DISCRIMINATION

PLWHA experience a high level of stigma and discrimination (S&D) because of the perceived link between HIV/AIDS, immoral behaviors and marginalized groups such as sex workers and homosexuals.⁶² Widespread misconceptions about how HIV is transmitted further fuel S&D, such as in Zambia and Burkina Faso where substantial portions of the populations attribute infection to sorcery and witchcraft,⁶³ and in regions where there is deep-rooted fear that AIDS is spread through casual contact.⁶⁴ Stigma and discrimination occur in a variety of settings and at all levels of society. In policy and legal contexts, S&D may involve "compulsory screening and testing, compulsory notification of AIDS cases, restrictions to the right of anonymity, prohibition

of PLHA^a from certain occupations, and medical examination, isolation, detention and compulsory treatment of infected persons.”⁶⁵ In Russia, for example, 47.9 percent of HIV positive participants who took part in a 2002 study reported that they had been forced to sign documents admitting their HIV status, while many also described losing health care access (29.6%), being fired (9.9%) and being shunned by their families (9.9%).⁶⁶ In its most extreme form, discrimination against PLWHA has led to violent murders, documented in Colombia, India, Ethiopia, South Africa and Thailand.⁶⁷

When conditions exist which make PLWHA afraid to acknowledge their HIV status openly due to fear of being ostracized by their families and communities or shunned and shut out of their livelihoods, they are likely to sacrifice treatment and support and may feel forced to act in ways that endanger others. For example, even when infant formula can be afforded, HIV positive mothers may feel pressure to breastfeed despite transmission risks in order to avoid stigma. Likewise, sex workers with no other form of income or support may remain in the sex trade, hiding their positive diagnoses. According to Armenia’s Ministry of Health, though AIDS is a growing concern, few citizens even inquire about testing due to fears over the stigma and discrimination attached to the disease.⁶⁸

Society plays a major role in how HIV/AIDS is perceived. Where individualism is prized, much of the blame for infection will be directed at infected individuals themselves. Conversely, in societies that hold collectivism in high regard, families and communities may be considered responsible for infection within their midst.⁶⁹ These cultural differences will impact how societies react to the disease and what forms S&D take.⁷⁰ Similarly, religious doctrines can have a strong influence on how AIDS is viewed and, in some regions, have fueled S&D by portraying AIDS as a punishment for sin.⁷¹ When stigma and discrimination are strong, they can easily be internalized by PLWHA, causing severe pain and suffering and leading to self-induced isolation from society.⁷²⁻⁷³ According to Rao Gupta, President of the International Center for Research on Women, confronting stigma is the “single greatest challenge” in combating the spread of HIV/AIDS.⁷⁴

OTHER RISKS

On an individual level, people with **existing mental illnesses** may be at higher risk for HIV/AIDS infection as a result of impaired judgment.⁷⁵ Similarly, those with patterns of **substance abuse** have a heightened risk of contracting the virus since drugs and alcohol also impair judgment and reduce inhibitions. Studies in Sub-Saharan Africa have also found a relationship between risky sexual behavior and **educational level**, in that men and women who attain higher educational levels are significantly more likely to use condoms in non-spousal sexual acts than their less educated peers.⁷⁶ Finally, **childhood sexual abuse** has been linked to early sexual activity, prostitution and promiscuous sexual practices, all of which increase the chance of HIV transmission.^{77,78,79} For women, combined sexual and physical abuse in childhood is associated with a 5-fold increase in HIV risk behaviors in adulthood.⁸⁰

^a Alternate abbreviation for people living with HIV/AIDS.

THE SOCIO-ECONOMIC IMPACT OF HIV/AIDS

The socio-economic impact of HIV/AIDS on individuals, households and nations is already substantial, and is increasing as the pandemic grows. The following section explores the consequences of widespread HIV infection and looks at what these consequences mean in regard to future development.

ORPHANS AND VULNERABLE CHILDREN (OVC)

Children are vulnerable to a number of factors that may hinder their social, physical, and mental wellbeing and development, foremost amongst which is AIDS. According to a 2000 study in Cameroon, 38 percent of 71 sexually abused children tested positive for HIV as a result of the abuse.⁸¹ In South Africa 41 percent of rapes are perpetrated against children under 12, the average age for child rape is 3, and approximately 40 percent of all raped children that do not receive post-exposure prophylaxis become infected with HIV.⁸² In addition to infected children, and those in danger of infection due to poverty, conflict and exploitation, by 2000 15.6 million children under age 15 had lost their mothers or both parents to the disease.⁸³ Moreover, the number of HIV/AIDS orphans is on the rise and is projected to remain high for at least the next fifteen to twenty-five years.⁸⁴ In some countries as many as 20 percent of the total under-15 population have lost one or both parents,⁸⁵ while before the advent of AIDS only 2 percent of children in developing countries were orphaned.⁸⁶ Furthermore, the cards are dramatically stacked against young people growing up in areas with widespread HIV infection. According to UNAIDS, in countries where 15 percent of the population is currently HIV positive, a minimum of one-third of 15 year olds will die as a result of AIDS.⁸⁷ In countries with higher prevalence rates, estimates have approached two-thirds.⁸⁸

As a result of the large number of OVC, households and communities face an immense strain on already limited resources. Data gathered by UNICEF on the development of children in Burundi show that children who have lost their mothers or both parents are more likely to be malnourished and, hence, will not reach their full physical or intellectual potentials.⁸⁹ Because of AIDS, only 5 of Sub-Saharan Africa's 51 countries are projected to reach the 2015 development goal of 45 child deaths or less for every 1,000 live births.⁹⁰ Other research finds that OVC who survive often show signs of distress such as "hysteria, crying, insomnia, nervousness, and a general emotional imbalance marked by anxiety, depression and grief."⁹¹ Due to psychological vulnerability and economic desperation, parentless children are prone to sexual abuse and exploitation and may become trapped in hard labor, prostitution or pornography in order to survive.⁹² As USAID concisely asserts, "The substantial gains made in child health and survival that countries attained in earlier years have begun to unravel."⁹³

Though a number of studies have investigated the consequences of poor socio-economic conditions on OVC, few have explored the psychological impact of their circumstances. When surveyed, most HIV/AIDS positive Ugandan parents showed concern about their children's future economic situation, but only 10 percent reported that they were worried about their emotional wellbeing.⁹⁴ However, studies have shown that the psychological impact of orphanhood is considerable. One study carried out in Tanzania compared the psychological

health of orphans to non-orphans and found “substantial evidence of reduced psychological wellbeing [for orphans], with most orphans showing psychological impairment, especially internalised behavior changes such as depression, anxiety and low self-esteem....”⁹⁵ Other research shows that orphans have “higher tendencies toward social pathology” than non-orphans.⁹⁶ The HIV/AIDS pandemic has robbed many OVC of a sense of security and hope for the future. Children raised in such destabilized environments may lack trust in others and in an overall system of law, both of which are necessary for creating a stable society in the future.⁹⁷

Box 1: Impact of HIV/AIDS-related death on children’s home life	
Increased:	Reduced:
Poverty	Access to food
Household responsibility	Access to health services
Psychosocial distress	Access to school
Vulnerability to abuse, child labor, sexual risk	Material goods such as clothes, supplies
Stigma and isolation	Guidance, protection and love from adults
Hunger and malnutrition	

Source: Gilborn, et al. Making a Difference for Children Affected by AIDS: Baseline Findings from Operations Research in Uganda. New York: Population Council Inc, 2001.

IMPACT ON EDUCATION AND HUMAN CAPITAL

Education improves the lives of children, providing them with better opportunities for leading full, secure and healthy lives. It also contributes to the social and economic wellbeing and security of nations by reducing poverty, increasing labor productivity, and improving the health of citizens so that they may participate fully in their economies and in the development and maintenance of their societies. Yet, in AIDS-affected areas where education is direly needed, its supply and quality are decreasing due to AIDS-related faculty deaths and absenteeism.⁹⁸

Between January and October of 1998, Zambia lost 1300 teachers to AIDS, a figure equal to two-thirds the total number of teachers entering the country’s teaching profession each year.⁹⁹ Though the results have been varied, a substantial number of studies have found that AIDS-affected regions that provide “a higher level of general education may have less incidence of HIV.”¹⁰⁰ This stands to reason, since children not enrolled in school have less chance of acquiring information about sexual and reproductive health and fewer opportunities to learn skills that will help them avoid sexual exploitation in the future.

Like supply, demand for education is also decreasing in regions with high HIV/AIDS prevalence since HIV/AIDS limits educational opportunities for PLWHA and children in their households. Evidence indicates that child participation in school is decreasing in countries with high HIV/AIDS prevalence in comparison to countries with lower prevalence. AIDS-affected children have a higher risk of dropping out of school since many can no longer meet their educational expenses due to HIV/AIDS induced poverty. In rural Zambia, for instance, 68 percent of orphans

are not even enrolled in school, versus 48 percent of non-orphans.¹⁰¹ Similarly, many children (especially girls) are pulled from school in order to care for infected relatives or simply because parents see investing in the education of children who may not reach adulthood as wasteful.¹⁰²

Already, one-third of SSA children do not attend school, and projections indicate that the AIDS pandemic will continue to reduce demand for education.¹⁰³ As a result, countries with high HIV prevalence face declining human capital from deaths of workers in their prime, and due to their growing failure to educate future generations.¹⁰⁴ For orphans who do reach adulthood, after being deprived of care and stability from their parents, many will lack the skills necessary to raise and educate their own children, creating a downward spiral of lost human capital.¹⁰⁵

SOCIO-ECONOMIC IMPACT ON HOUSEHOLDS

The relationship between poverty and HIV/AIDS is more complicated than simply cause and effect as illustrated through the experience of Botswana, the country with the highest per capita income in Africa and the highest rate of HIV infection.¹⁰⁶ Because economic growth can lead to rapid transition and increased economic inequality within nations, both economic growth and decline can create conditions in which HIV/AIDS transmission thrives.¹⁰⁷ Though the details of how national economic change affects HIV/AIDS require further research, it is already clear that the disease exacerbates conditions of poverty. According to UNAIDS, “In general, AIDS-affected households are more likely to suffer severe poverty than non-affected households.”¹⁰⁸

AIDS pushes people deeper into poverty as livelihoods are compromised and savings consumed by the costs of health care and funerals.¹⁰⁹ In some countries, up to one-third of monthly household earnings are used for AIDS-related expenses. Yet household earnings are often declining as in Zambia and South Africa where monthly incomes in the homes of PLWHA are reduced by 66 to 80 percent.¹¹⁰ The loss of productive workers severely affects household capacity to purchase food and cover school and health care costs. World Bank research in Tanzania suggests that overall household expenditures decrease during AIDS-related illness of an adult member, that spending on non-food household goods (i.e. clothes, soap, etc.) declines by approximately 33 percent and spending on medical care increases.¹¹¹ Other studies have found that expenditure on food may fall by as much as 41 percent.¹¹² These studies reveal that, in order to meet health expenses, the families of PLWHA are dramatically reducing their other purchases.

In many areas funeral expenses can total as much as 50 percent more than the actual medical expenses accrued during AIDS illness.¹¹³ Research from Uganda and Tanzania show that families experiencing an adult death are more likely to sell off assets than families with no deaths. Nearly one forth of households surveyed in Zimbabwe sold assets to help cover the expenses of the deaths of adult women.¹¹⁴ When destitute households must disband, their surviving members are either forced onto the street or into other families. When new households take on the responsibility for more dependent members, already scarce resources are stretched further and the economic impact of AIDS spreads.¹¹⁵

NATIONAL SOCIO-ECONOMIC IMPACT

World Bank economist Rene Bonnel estimates that AIDS reduced Africa's economic growth by 0.8 percent per year during the 1990s,¹¹⁶ and the pandemic and its repercussions have grown substantially since. For Russia, projections show that AIDS will make GDP growth 4.15 percent lower in 2010 than if there was no epidemic.¹¹⁷ The International Labour Organization predicts that by 2020 AIDS will have reduced the labor force in 38 countries by 5 to 35 percent.¹¹⁸ In the agricultural sector, from which 24 percent of Africa's GDP is derived, projections indicate that one-fifth of workers in southern Africa will die from AIDS by 2020.¹¹⁹ For the private sector, AIDS means a loss of approximately 20 percent of profits due to AIDS-related absenteeism, high worker turnover rates, retraining and insurance costs.¹²⁰ As the tax-base from the dwindling working class contracts, the proportion of children and elderly will grow, expanding the need for economic aid.¹²¹ One result of the economic impact of AIDS will be to deepen existing inequities between countries.¹²²

Ironically, as the problem grows fewer resources will be available to address it.¹²³ According to UNAIDS, if HIV infection continues at its current rate in eastern and southern Africa, as many as 60 percent of 15 year olds living today will not live to be 60.¹²⁴ For countries like Ethiopia, Kenya and Zimbabwe, the "health sector costs of treatment, care and support related to HIV/AIDS" are projected to be around 25, 50 and 75 percent, respectively, of total health spending by 2005.¹²⁵ Meanwhile, to meet rising HIV-related costs, funds will have to be directed away from other sectors. World Bank figures show that the expense of one year of treatment for an AIDS patient is 2.7 times the average country's per capita GNP, or the cost of one year of education for 10 children.¹²⁶

In their 2003 World Bank report, Bell, Devarajan and Gersbach criticize past cost estimates of the AIDS pandemic, asserting that they underestimate the real economic damage caused by AIDS. Looking at the long-run, Bell et al. emphasize the role human capital plays in economic growth and the way it is transmitted across generations.¹²⁷ Because AIDS decimates existing systems for human capital transmission, Bell et al. predict that "the disease will eventually perpetuate a collapse of economic productivity."¹²⁸

As the sections above illustrate, socio-economic impacts contribute to the spread of HIV/AIDS and affect the ability of societies to deal with the epidemic. Just as factors like gender inequality, stigma and discrimination, and humanitarian crises create a fertile environment for the transmission of AIDS, AIDS increases the likelihood of these risks while decimating societies' resources for recovery. Economic decline, decreased human capital and increased numbers of OVC also have significant psychological repercussions for individuals, communities and societies. These adverse psychological effects, and the psychiatric complications associated with HIV/AIDS, have the potential to increase the pandemic's impact. The next sections will provide a description of the neuropsychiatric and psychological disorders related to HIV/AIDS and the costs of failing to address these disorders.

NEUROPSYCHIATRIC AND PSYCHOLOGICAL DISORDERS ASSOCIATED WITH HIV/AIDS

The World Health Organization asserts that the mental health consequences of AIDS are “substantial.”¹²⁹ In addition to general emotional responses of “anger, guilt, fear, denial, and despair,”¹³⁰ 38 to 73 percent of HIV/AIDS patients will have at least one psychiatric disorder in their lifetimes,¹³¹ with up to 20 percent of PLWHA exhibiting psychiatric symptoms as their earliest medical symptoms of AIDS.¹³² Mental disorders associated with HIV/AIDS can result from the psychological impact of having a fatal disease, or stem from the effects of psychosocial stressors associated with the illness like stigma and discrimination. They can also result from actual neurological changes in the physical and chemical structures of the central nervous system that occur as a result of the HIV virus, opportunistic infections, or related treatments.¹³³ Treisman et al. claim that most HIV positive psychiatric patients actually suffer from multiple disorders. They classify these disorders into the following four categories, described and elaborated below.¹³⁴ Most of the disorders discussed in this section appear in the American Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV).

1. Problems that Emerge from Life Circumstances
2. Brain Diseases
3. Personality and Temperament Disorders
4. Disorders of Motivated Behavior

PROBLEMS THAT EMERGE FROM LIFE CIRCUMSTANCES

HIV/AIDS infected individuals face a number of the same stressors confronted by other patients with chronic illness, such as long-term discomfort, physical deterioration, physical and financial dependence and eventual death. These factors contribute to higher mental disorder prevalence among chronically ill people (30-50%) than among the general population (15-30%),¹³⁵ and suicide rates that are 7 to 37 times the rates of demographically comparable groups.¹³⁶ However, HIV/AIDS patients confront a number of additional stressors that other chronic illness sufferers generally do not. Since HIV/AIDS is a sexually transmitted disease, PLWHA must often watch loved ones suffer and die before them, and must deal with the resulting loss, grief and fear for their own mortality.¹³⁷ They also face sexual rejection and restriction.¹³⁸ Furthermore, intense stigma and discrimination accompany the HIV/AIDS virus. According to Jonathan Mann, former director of the WHO Global Programme on AIDS, AIDS entails three distinct epidemics, including “the epidemic of HIV, the epidemic of AIDS, and the epidemic of stigma, discrimination, and denial.”¹³⁹ AIDS-related stigma and discrimination can lead to an absence of support networks for PLWHA, which further increases their chances of mental morbidity.¹⁴⁰

Disorders resulting from life circumstances may take the form of adjustment disorder, which is also known as **demoralization**. Demoralization has many of the same symptoms as depression, including sadness, feelings of helplessness, and sleep disturbances, but is treated through psychotherapy, not medication.¹⁴¹ For HIV/AIDS patients, demoralization generally springs

from the strain of chronic illness, social stigma, and the process of accepting mortality. **Acute stress** is also common for PLWHA immediately following an HIV positive diagnosis and as new symptoms develop.¹⁴² In addition to emotional reactions, acute stress can lead to “somatic symptoms, suicidal ideation” and “substance abuse.”¹⁴³

In much the same way, HIV/AIDS-related stressors can elicit high levels of **anxiety** among PLWHA. Anxiety may manifest itself through motor symptoms like shakiness and jumpiness, autonomic responses such as palpitations, excessive sweating, hyperventilation, rapid heart beat, and diarrhea, or vigilance symptoms including hypervigilance, decreased sleep, irritability and distractibility.¹⁴⁴ Anxiety can also be a symptom of other AIDS-related mental disorders like depression.¹⁴⁵ In addition to these disorders, environmental stress can serve as a catalyst for the emergence of existing psychiatric disorders that otherwise might have remained dormant.

BRAIN DISEASES

Neuropsychiatric disorders in HIV/AIDS patients are often overlooked since psychiatric conditions are frequently misconstrued as psychological in nature.¹⁴⁶ However, actual neurological impairment can occur as a direct effect of HIV/AIDS on the central nervous system (CNS) or result from opportunistic infections that the body is defenseless against due to immune system damage.^{147,148} Brain diseases typically manifest themselves in syndromal forms and are caused by “structural or functional brain lesions.”¹⁴⁹ Autopsies reveal that three-fourths of all HIV/AIDS patients experience neurological changes, and 30 percent exhibit multiple lesions in the CNS.¹⁵⁰ Examples of common, HIV/AIDS-related brain disorders include AIDS Dementia Complex (ADC), tumors, and opportunistic infections such as TB and cryptococcal meningitis.

AIDS-related **opportunistic infections** that affect the central nervous system range from toxoplasma encephalitis, a parasitic infection that is the most frequent form of mass brain lesion for PLWHA, to cryptococcal meningitis, the third most common neurological complication for AIDS patients.¹⁵¹ They may also include primary central nervous system lymphoma, cytomegalovirus encephalitis, progressive multifocal leukoencephalopathy (PML), and tuberculous meningitis.^{152,153} Though in the past PML was fairly rare, HIV/AIDS has significantly increased its prevalence and is now the underlying factor in 72 percent of all PML cases, affecting 1 to 10 percent of AIDS patients.¹⁵⁴ Similarly, since the emergence of the HIV/AIDS epidemic in Uganda, cryptococcal meningitis and “suspected” toxoplasmosis have been diagnosed with “increasing frequency.”¹⁵⁵ A study on hospitalized AIDS patients in Cambodia found that a number of the most common opportunistic infections associated with AIDS are those that affect the CNS such as cryptococcal meningitis (12.6%) and forms of encephalitis like toxoplasmosis and cytomegalovirus (4.7%).¹⁵⁶ Twenty-six percent of patients also had tuberculosis,¹⁵⁷ an opportunistic disease linked to HIV/AIDS that can take the form of tuberculous meningitis. A study conducted in France showed that 4 percent of TB-infected HIV/AIDS patients had some form of cerebral tuberculosis.¹⁵⁸

Some degree of cognitive impairment is detected in as many as 50 percent of AIDS patients.¹⁵⁹ **AIDS Dementia Complex**, one of the more severe forms of impairment, occurs in approximately 20 percent of PLWHA¹⁶⁰ and is characterized by “marked impairment in cognitive functioning, involving the ability to observe, concentrate, memorise, and quickly and

flexibly process information.”¹⁶¹ It can also lead to irritability, poor coordination, apathy, and social withdrawal.¹⁶² Studies conducted in the United States show that HIV/AIDS is one of the most common causes of dementia among 20 to 59 year olds,¹⁶³ but occurs in as few as 2 percent of PLWHA cases if they receive AZT drug treatment.¹⁶⁴ Research by Koutsilieri et al. shows that neurochemical changes resulting from the HIV virus can impair cognition within as little as two months of initial infection.¹⁶⁵ Left untreated, ADC often progresses to “global cognitive impairment” within ninety days of its first cognitive symptoms.¹⁶⁶

HIV/AIDS may also lead to mood disorders. Treisman et al. estimate that as many as 60 percent of HIV/AIDS patients suffer from **major depression** at some point during their illness.^{167,168} Moreover, PLWHA are two times more likely to suffer from major depression than the general population.¹⁶⁹ The disorder may be episodic or chronic, and is characterized by a general loss of satisfaction from activities that were once enjoyable, overwhelming sadness, and feelings of guilt and self-loathing.¹⁷⁰ Diagnosis of depression may be complicated since it shares several symptoms (i.e. fatigue, weight loss, etc.) with the general immune system suppression caused by the HIV virus.^{171,172}

Approximately 8 percent of HIV/AIDS patients with immunosuppression and no prior personal or family history of bipolar disorder suffer from **mania**,¹⁷³ which can develop as a result of organic factors related to HIV (i.e. CNS lesions, medications, dementia, etc.).¹⁷⁴ Mania is generally exhibited as intense excitability and may range from talkativeness and energetic behavior to delusions of grandeur, belligerence and violence.¹⁷⁵ Patients can also alternate between periods of mania and depression, a condition known as **bipolar disorder**. For PLWHA, separation from reality, or **psychosis**, may also result from impairment of the CNS, and occurs in the later stages of AIDS in .2 to 15 percent of patients.¹⁷⁶ Symptoms of psychosis that have been exhibited in AIDS patients include bizarre behavior, delusions and auditory and visual hallucinations.¹⁷⁷ Psychotic PLWHA have higher mortality rates than the infected population as a whole.¹⁷⁸ As with most AIDS-related mental illnesses, psychosis can precede HIV as a risk factor for infection or may be induced by the illness.¹⁷⁹

DISORDERS OF PERSONALITY AND TEMPERAMENT

Disorders of personality and temperament lead PLWHA to act in “seemingly irrational and deliberately self-destructive” ways, complicating their treatment and further impairing their health.¹⁸⁰ Disorders in this category are not specifically induced by neurological changes or environmental stressors, but are naturally occurring differences in how humans react to given situations. Treisman et al. cite two personality dimensions that are critical considerations in HIV/AIDS patient treatment. The first, stability-instability, looks at how patients react to and cope emotionally with stimuli.¹⁸¹ For example, unstable patients are more likely to react to adverse situation with strongly negative emotions that may further compromise their health. In the second dimension, introversion-extroversion, extroverts “tend to seek rewards rather than avoid consequences” and “focus on the present rather than the future.”¹⁸² Introverts, conversely, are more concerned with consequences. Though there are strengths and weaknesses associated with each trait, HIV/AIDS patients who tend toward instability and extroversion exhibit a higher level of risky behavior, have worse adherence to treatment regimens, and have more problems coping with the disease than their more stable, introverted peers.¹⁸³

DISORDERS OF MOTIVATED BEHAVIOR

Research shows that 20 to 73 percent of HIV/AIDS infected individuals have **substance abuse disorders**.¹⁸⁴ In fact, transmission through injected drug use currently accounts for 5 percent of worldwide HIV infection.¹⁸⁵ For some, the mechanics of the substance use disorder (i.e. injection) or the impaired judgment and impulsivity associated with drug or alcohol use led to HIV infection. For others, substance abuse is a coping mechanism for dealing with an HIV positive diagnosis. It is critical that substance abuse disorders in the general population and among PLWHA be addressed since users are “prone to have sexual behaviors at risk for HIV transmission” due to “a higher rate of sexual dis-inhibition, impaired judgment, and impulsivity.”¹⁸⁶

Alcohol abuse increases the probability of a variety of risky sexual behaviors, including sex with multiple partners, sex with strangers, possibility of rape, failure to use condoms, and sex with intravenous drug users. A national survey in the Central African Republic (CAR) showed that the likelihood of having multiple sexual partners in a one-year period increased for both men and women when sex was combined with alcohol.¹⁸⁷ Additional research using a random sample of women in CAR found that rape, the first sexual encounter for 22 percent of respondents, was significantly correlated with alcohol use.¹⁸⁸ Furthermore, in many societies alcohol is seen as a social lubricant, making interaction between new acquaintances smoother. In Namibia, fifty percent of 13 to 28 year old secondary school students interviewed held the belief that “alcohol facilitates communication with the opposite sex.”¹⁸⁹ Such perceptions increase the likelihood of alcohol abuse and risky sexual behavior.

Finally, interactions between disorders of motivated behavior and other forms of mental disorder are common. For example, studies conducted at the Johns Hopkins HIV clinic found that, among HIV patients, major depression precipitates increased drug and alcohol use and decreased concern for personal safety.¹⁹⁰

HIV/AIDS, MENTAL AND PSYCHOSOCIAL DISORDERS AND CHILDREN

Children face wide-ranging consequences resulting from the HIV/AIDS pandemic. According to UNAIDS, UNICEF and USAID, by the end of 2003 approximately 143 million children 17 years of age or under had lost one or both parents to AIDS in 93 countries alone.¹⁹¹ In Sub-Saharan Africa 50 percent of the current population are children, and 12 percent of these children are orphans.¹⁹² In addition to the emotional trauma related to nursing ill family members and watching their decline, children affected by HIV/AIDS are often pushed into adult roles prematurely, having to fend for themselves and their younger siblings.¹⁹³ Meanwhile, another 2.1 million children are currently living with the virus and face the additional psychological and psychosocial distress of being HIV positive,¹⁹⁴ as well as the psychiatric complications related to the disease. It is these children that will be considered in the following section.

Because women are more vulnerable to HIV/AIDS infection than men (see section on Gender Inequality), children have an increased risk of acquiring HIV through mother-to-child transmission.¹⁹⁵ Approximately 25 to 40 percent of infants born in developing countries to

mothers infected by HIV/AIDS will, themselves, be infected through childbirth or breastfeeding.¹⁹⁶ Ninety percent of HIV infected children acquire the virus through mother-to-child transmission and, without treatment, most begin to show symptoms between 4 and 8 months after birth.^{197, 198} According to a study by Drotar et al., “HIV infection results in more frequent and earlier abnormalities in infants’ neurologic status and motor development that are not attributable to other biological and environmental risk factors.”¹⁹⁹ Drotar et al.’s work with Ugandan infants found that one year after birth, 30 percent of HIV positive babies displayed motor impairments and 26 percent exhibited cognitive impairments as opposed to 5 and 6 percent of their seronegative peers.²⁰⁰

Children infected through perinatal transmission face the risk of abnormal brain development and high rates of morbidity and mortality.^{201, 202} Though neurological reactions to HIV/AIDS vary, delayed cognitive and motor development and steady deterioration of previous abilities are common.²⁰³ HIV positive children also confront the possibility of short-term memory loss, decreased intellectual levels, attention deficits, language disorders, spatial ability problems, deficiencies in behavioral and social performance, and moderate to severe mental retardation as a result of the virus.^{204, 205} Furthermore, when neurological damage occurs in children, it frequently leads to death.²⁰⁶ As of 2000, children 15 and younger comprised 20 percent of the total number of world deaths resulting from AIDS.²⁰⁷

Like adults, HIV/AIDS infected children face a number of psychological and psychosocial stressors. They must deal with the anxiety and stress of chronic illness and certain death, cope with stigmas and discrimination associated with AIDS, and contend with AIDS-related risk factors such as poverty, nutritional and housing problems, and lack of social support.²⁰⁸ Studies show that HIV/AIDS infected children display a number of behavioral and psychosocial problems such as hyperactivity, attention deficits, social withdrawal and depression,²⁰⁹ though it is often difficult to determine whether these symptoms are psychologically or neurologically based.²¹⁰

THE COSTS OF FAILING TO ADDRESS MENTAL HEALTH WITHIN THE HIV/AIDS PANDEMIC

In the past, the effect of mental disorders on health and development has been largely underestimated since measures of disease impact focused almost exclusively on raw mortality rates. In 1996, however, international understanding of the scope of mental health disorders increased as a result of the Global Burden of Disease Project, which measures years of life lost (YLL) due to premature death and years lived with disability (YLD). YLL and YLD are combined into an overall measure of disability adjusted life years (DALYS), which more closely approximates the true impact of diseases. Using this methodology, mental and behavioral disorders are now understood to account for 12 percent of the world’s global burden of disease,²¹¹ and 28.5 percent of disability.²¹² Furthermore, five mental disorders are among the top ten leading causes of disability, and include alcohol abuse, bipolar disorder, schizophrenia, obsessive compulsive disorder and major depression. At present, major depression is the principal cause of DALYS among the working age population and greatest overall source of disability in the world.²¹³

For low and middle income countries, mental disorders comprise 10 percent of the DALYS lost due to non-communicable diseases. The impact of these disorders is divided in the following manner: unipolar depression (38%), bipolar depression (11%),^b alcohol dependence (10%), psychoses (9%), obsessive compulsive disorder (8%) and other neuropsychiatric disorders (24%).²¹⁴ Though it has not been linked to obsessive compulsive disorder,²¹⁵ HIV/AIDS is associated with each of the other conditions. It therefore stands to reason that addressing the relationship between HIV and mental health will serve the dual purpose of reducing the disease burden associated with HIV and mental disorders.

According to UNAIDS, despite expanded HIV treatment and widespread programming, “the AIDS epidemic continues to outpace the global response.”²¹⁶ As the pandemic grows, the psychosocial consequences of failing to address mental health and its role within it are also increasing. In addition to decreasing quality of life, AIDS-related mental health disorders increase the costs associated with the pandemic by fueling its spread, reducing PLWHA life expectancies, and increasing already substantial economic burdens.

NON-ADHERENCE TO DRUG REGIMENS

Research shows that psychological, psychosocial and psychiatric factors play a significant role in how well PLWHA comply with treatment. According to Singh et al., variables such as satisfaction with social support and ability to cope are significantly correlated with treatment adherence, while dimensions like hopelessness, loss of motivation and poor coping skills are indicative of noncompliance.²¹⁷ Additional research has found that “age, education, employment, religious support, and perceived quality of life” are not specifically correlated with adherence to drug treatments, but adaptive coping ability and level of depression are.²¹⁸ According to Gordillo et al., depressed subjects with poor support adhere to drug treatments only about half as frequently as non-depressed subjects with good social support.²¹⁹ These factors make interventions that focus specifically on mental health a prime avenue for improving treatment compliance.

In a follow-up evaluation six months after their initial study, Singh et al. discovered that the HIV/AIDS virus progressed significantly faster (as measured by CD4 cell counts) for individuals who did not adhere to the drug treatments.²²⁰ As maintained by Chesney et al., “While combination therapy is known to be effective in slowing disease progression, the long-term benefit of these therapies can only be sustained if resistant strains of HIV do not emerge.”²²¹ Once HIV/AIDS drug treatments are started, strict adherence is critical in order to ensure that resistant strains of HIV do not develop.^{222, 223} Because of the strong correlation between mental health disorders and noncompliance with treatments, addressing mental disorders within the HIV pandemic is critical for preventing drug-resistance.

^b Individuals with unipolar depression suffer from depression only, while those with bipolar depression fluctuate between periods of depression and mania.

RISKY BEHAVIOR

Mental disorders impair judgment, reduce fear of consequences, and increase vulnerability to outside influences. As a result, people with untreated mental disorders are at risk for engaging in behaviors that further the spread of AIDS. In 2002 Yuri Amirkhanian et al. conducted a study on a cross-section of the HIV positive population in St. Petersburg, Russia.²²⁴ Most respondents were young, with histories of drug use and risky sexual behavior. Despite knowing that they were HIV positive, “most remained sexually active,” “approximately half engaged in unprotected sex with HIV negative partners” and the majority of those who used drugs still shared needles.²²⁵ More than 33 percent were believed to suffer from clinical depression.²²⁶

Research suggests that 20 to 50 percent of psychiatric patients participate in high-risk behaviors such as intravenous drug use and unprotected sex.²²⁷ They may also be more likely to have sex with multiple partners, have sex with partners they know little about, and be coerced into unsolicited sexual encounters.²²⁸ A number of studies have explored the relationship between HIV transmission and mental illness and indicate that HIV prevalence is higher for psychiatric patients than the general population.²²⁹ They have also shown that psychiatric patients have a greater risk for HIV infection.²³⁰ Research further suggests that risk increases with disorder severity as shown in a Columbia University study in which patients with more severe psychiatric symptoms were three times more likely to have multiple sexual partners than those with milder symptoms.²³¹ Though it is possible that statistics showing a higher prevalence of HIV among psychiatric patients are in part due to more regular testing of and opportunity for diagnosis among this population, the claim warrants further investigation.

A study conducted in Italy among psychiatric patients found that the level of knowledge regarding HIV transmission, risky behavior, and prevention was significantly lower for inpatients and outpatients than for a control group representing the general population.²³² Of a sample of patients in Canada with schizophrenia, bipolar disorder and unipolar mood disorder, 50 percent had been sexually active within the previous 12-months, yet 25 percent did not believe that one unsafe sexual experience could put them at risk for HIV infection, and 33 percent indicated that they would not push for condom use during a sexual encounter.²³³ Similar findings are shown in a study conducted among mental health outpatients treated in community settings in Australia in that 43 percent of male and 51 percent of female patients had been sexually active in the previous year, yet 20 percent of men and 57 percent of women who had sex with casual partners did not use condoms.²³⁴ The study also found that those with mental disorders were eight times more likely than the general population to have injected illicit drugs. While these studies on risk behavior among mental health patients focus on the developed world, they suggest a relationship between HIV transmission and mental health that, due to the scope of the AIDS pandemic in developing nations, may have a profound impact in these regions. The existing data highlight the need for initiatives that increase the level of AIDS-knowledge among those with mental disorders.

IMPACT ON NATIONAL ECONOMIES

Part of the economic losses related to HIV/AIDS result from the mental disorders associated with the disease. Generally speaking, anxiety, stress, demoralization, mood disorders, psychosis, substance abuse and dementia disrupt functioning and reduce short and long-term productivity. Individuals with advanced disorders may have decreased cognitive and/or motor functioning that lead to absenteeism, reduced productivity and lower overall labor force participation. Meanwhile, since mental health disorders are often misdiagnosed, the costs of travel to specialists and related days of work forgone can be triple the actual health care costs of treatment. In the process, untreated mental health conditions are left to worsen.²³⁵

Although more research examining the costs of mental health disorders in low and middle-income countries is needed, existing studies indicate that mental disorders are directly related to a loss of productivity and income.²³⁶ A study conducted in Bulgaria, for example, found that households with a mentally ill member earned only 63 percent of average household income.²³⁷ In analyzing the health care expenses and opportunity costs associated with anxiety and depression in regions of Bangladesh and Pakistan, Chisholm et al. found that these disorders constitute a significant financial burden for households, equivalent to 7-14 days of an agricultural worker's wages in India and 20 in Pakistan.²³⁸ Research conducted in Laos supports these findings, showing that costs related to medical treatment, care-taking, lost economic productivity, and economic and social repercussions from psychotic behavior (i.e. destroyed property, fines, etc.) lead to "significant economic loss" for families affected by mental disorders.²³⁹

WORLD BANK INTERVENTIONS TO DATE

The World Bank has responded aggressively to the HIV/AIDS pandemic through a number of programs, as highlighted below.

1. **The Global HIV/AIDS Program** was created in 2002 to support the World Bank's efforts to address the pandemic from a cross-sectoral perspective. The program is actively working to: strengthen the Bank's capacity to respond to the needs of national governments, civil society and other stakeholders; share and expand available knowledge about effective approaches to HIV/AIDS and develop new approaches; and improve the quality of monitoring and evaluation, and build capacity in this area among partners working in AIDS-related projects and programs at the country level.²⁴⁰
2. **The World Bank Institute's Leadership Program on AIDS** aims to deliver learning activities to strengthen implementation capacity; use technology to share knowledge; and build the capacity of local institutions.²⁴¹
3. **World Bank AIDS Economics** is part of the International AIDS Economics Network ([IAEN](#)). The IAEN offers data, tools, and analysis for compassionate, cost-effective responses to the global HIV/AIDS epidemic.²⁴²

4. Along with nine other UN organizations,^c the World Bank is a cosponsor of **UNAIDS**, the coordinating body for HIV/AIDS interventions in the developing world. The Bank is also home to the **Global HIV/AIDS Monitoring and Evaluation Support Team (GAMET)** set up by UNAIDS to improve systems for monitoring and evaluating the epidemic.
5. At the request of countries affected by HIV/AIDS, the **UNAIDS Inter Agency Task Team for Education (IATT)** was established as a mechanism for coordinating action on AIDS and education among the UNAIDS co-sponsors, bilateral donors and civil society. In 2002, the IATT established a Working Group with the specific operational aim of helping countries to “accelerate the education sector response to HIV/AIDS in Africa”. Working with country teams, the Working Group identified four key areas for support: donor coordination, leadership in the education sector, capacity building, and sharing of information on good practices in sectoral responses to HIV/AIDS.

Key elements of this activity are sub-regional and national workshops that bring together education, health, and AIDS teams to share good practices and develop more effective strategies that result in implementation at the school level. The workshops are a point of entry for dialogue to: promote sectoral leadership; identify gaps in knowledge and build capacity; share information and build networks; strengthen stakeholder coordination; and identify new resources for the education sector.²⁴³

6. **The Social Protection Network** of the World Bank has responded to the HIV/AIDS epidemic mainly through knowledge management to understand the impact of the epidemic on orphans and other vulnerable children (OVC). Regional workshops on OVC have been held for Europe and Central Asia, the Middle East and North Africa and Sub-Saharan Africa. Various discussion papers have been prepared and a Toolkit on OVC was piloted in October, 2004.
7. To support implementation of its HIV/AIDS strategy for the Africa Region, the Bank established a multi-sectoral **AIDS Campaign Team for Africa (ACT Africa)**. A main function of the ACT Africa Team is the implementation of the **Multi Country HIV/AIDS Programs (MAP)**

The MAP combines efforts and resources across regions in the fight against AIDS. Since its introduction, MAP has been implemented in Africa, Latin American and the Caribbean in the hope that it will dramatically increase access to HIV/AIDS prevention, care, and treatment programs, with emphasis on vulnerable groups (such as youth, women of childbearing age, and other groups at high risk).²⁴⁴ Dialogue has also begun

^c These include the Office of the United Nations High Commissioner for Refugees (UNHCR), the United Nations Children’s Fund (UNICEF), the World Food Programme (WFP), the United Nations Development Programme (UNDP), the United Nations Population Fund (UNFPA), the United Nations Education, Scientific and Cultural Organization (UNESCO), the World Health Organization (WHO), the United Nations International Drug Control Programme (UNDCP), and the International Labor Organization (ILO).

between the Global HIV/AIDS Program and the Disability Team to determine how people with disabilities can best access HIV/AIDS prevention, treatment, care and mitigation efforts.

Since the MAP approach was first initiated, over US \$1 billion has gone toward its implementation across 28 countries of Africa,²⁴⁵ and another \$155 million has been allocated to the Caribbean.²⁴⁶ According to UNAIDS, MAP's strength lies in the fact that it "builds on work already started and focuses on the strong comparative advantages possessed by the partners."²⁴⁷

The Bank supports HIV/AIDS activities in all regions of the world. In **Europe and Central Asia**, the focus is on advocacy and analytical services, while in **East Asia and Pacific**, a regional strategy has just been completed and support is being provided in the context of health sector reform. In the **South Asia Region**, support began in 1992 and takes the form of analytic work, investment and capacity building, while support to the **Latin America and Caribbean Region** is mainly through MAP. In the **Middle East and North Africa**, the major role of the Bank has been advocacy through the preparation of a regional report on HIV/AIDS as well as support for the development of strategic plans for some of the countries in the region.²⁴⁸

The World Bank supports AIDS projects in 64 countries worldwide.²⁴⁹ Though half of Bank funded HIV/AIDS projects are currently in Sub-Saharan Africa, intervention focus is expanding to regions like Asia where the epidemic is growing most rapidly. In these areas there is still a significant possibility for early, cost-effective initiatives to confine the extent of the epidemic.²⁵⁰ As the largest investor in AIDS projects in the developing world, the Bank has a substantial opportunity for reducing AIDS spread and mitigating its impact. Introducing mental health components in World Bank interventions is a means toward this end.

While current MAPs include voluntary counseling and testing, prevention of mother-to-child transmission, facilitating the formation of support groups, and the provision of services for OVC, mental health and psychosocial issues are not comprehensively addressed. A recent MAP evaluation noted this as an area requiring program strengthening. Yet, many of the HIV/AIDS projects supported by the Bank are country-driven, meaning that the countries themselves determine how best to use Bank resources to meet the goals of their National HIV/AIDS Strategies. With this in mind, it is even more important that the mental health issues addressed in this paper reach beyond World Bank staff and into the field.

OPPORTUNITIES FOR INTEGRATING MENTAL HEALTH AND PSYCHO-SOCIAL INTERVENTIONS INTO THE WORLD BANK'S AIDS AGENDA

World Bank involvement in the AIDS crisis is widespread and diverse, and presents a clear opportunity for the integration of mental health components. Already geared toward vulnerable groups, MAP interventions provide an ideal base for dealing with mental health and psychosocial issues. In fact, addressing psychosocial and mental health needs is critical to the basic design of MAP approaches as they attempt to cover all sectors with a full range of HIV/AIDS prevention, support, and mitigation activities. Generally speaking, many World Bank

supported HIV/AIDS projects have a component that supports care, clinical management and social support. This is the rubric under which mental health issues can be addressed.

Furthermore, since the World Bank has experience developing a network for reducing AIDS-related drug costs, the same network could be used for improving access to psychiatric drugs. Existing AIDS education programs could also be restructured to include mental and psychosocial disorder awareness raising components. Each of the structural adjustments suggested above could include mental health considerations in their implementation such as counseling opportunities, mental status evaluations, and mental health and HIV/AIDS education to reduce stigma and discrimination.

The next section will discuss the challenges to providing mental health and psychosocial services to PLWHA, followed by some recommendations for how this could be done. A Toolkit is currently being prepared with the support of the Disability Team of the World Bank, that will outline steps for the development and implementation of mental health and psychosocial initiatives for developing countries.

CHALLENGES FOR PROVIDING ADEQUATE MENTAL HEALTH CARE AND PSYCHOSOCIAL SUPPORT FOR PLWHA

The costs of failing to address mental health within the AIDS pandemic make the need for intervention clear. Yet, substantial barriers exist to providing adequate mental health care and psychosocial support to PLWHA. The following sections outline some of the major challenges in meeting the mental health and psychosocial needs of AIDS-affected populations.

LACK OF BASIC NEEDS

Many PLWHA do not have access to basic needs such as nutrition and security. Mental health care and psychosocial support may be less relevant if these needs are not fulfilled.

KNOWLEDGE GAPS

Though what is known regarding the relationship between HIV/AIDS and mental disorders is compelling, further research is required in a variety of areas. First, the precise correlations between HIV/AIDS and mental disorders are not yet thoroughly understood, and existing studies are not always comparable since they lack standardized methods and definitions.²⁵¹ Second, because several psychiatric symptoms of PLWHA overlap those of the AIDS virus itself, psychiatric disorders can be difficult to identify. Advances have been made in this area, such as in the adaptation and development of culturally relevant measures for depression screening in Tanzania²⁵² and major depression prevalence detection in Uganda.²⁵³ However, more studies are required to better differentiate HIV/AIDS associated symptoms from psychiatric ones so that proper, timely care can be provided.

Third, though the pharmacotherapeutic regimens used to treat HIV/AIDS are associated with a reduction in the number of AIDS symptoms and mortality rates, they may produce profound side effects on cognition and behaviors and can lead to severe mental disorders. Consequently they must be examined further.^{254, 255} More research must also be compiled on possible drug interactions between ARVs, antidepressants, and other psychiatric drugs. While this topic has been explored, most studies focus on interactions among the newer treatments used in developed nations. Since newer psychiatric drugs may be difficult to stock and afford for developing countries, future research must consider the interactions among older, more easily attainable psychiatric drugs treatments and ARVs. In addition, the impact of social and psychological variables on drug treatment adherence has only begun to be examined and merits further attention.²⁵⁶

Country-specific information is needed regarding the costs of psychiatric, psychological and psychosocial interventions for PLWHA in order to determine the types of interventions that are most cost-effective. Moreover, indicators for measuring psychosocial wellbeing must be developed in order to determine intervention success. Finally, a more diverse body of research regarding psychiatric morbidity and HIV/AIDS is required since most studies, thus far, have been conducted on western, homogeneous populations.²⁵⁷

STIGMA AND DISCRIMINATION

Stigma and discrimination can be a challenge to psychosocial interventions for a number of reasons. For instance, in attempting to avoid stigma and discrimination, people may be less likely to adopt strategies that prevent AIDS infection and spread such as condom use, HIV testing, revealing HIV status to sexual partners, and adherence to treatment regimens. Stigma and discrimination also limit PLWHA's access to mental health related services since they serve as barriers between people affected by HIV/AIDS and the support and counseling they need to cope with their circumstances. PLWHA may also fear involvement in AIDS organizations, believing it would mean public disclosure of their status and would expose them to discrimination. HIV negative individuals wishing to be involved in AIDS prevention and treatment programs may abstain for the same reasons, a waste of potentially useful partnerships and human resources.²⁵⁸ Moreover, since stigma and discrimination prompt high risk PLWHA to veil their lifestyles, it will be harder to reach them through interventions.²⁵⁹

Along with HIV infection, mental disorders remain a highly stigmatized subject in many developing countries. This "double stigma" can further complicate policy development and program implementation regarding mental health interventions for PLWHA. At the same time, PLWHA often face stigma and discrimination from within their own families, which magnifies the debilitating effects of S&D and makes it even harder to address.²⁶⁰ Another complication arises since some HIV/AIDS programs can actually increase the stigma associated with AIDS by singling out and targeting high risk groups, publicly separating them from the general population.²⁶¹ Stigma and discrimination also tend to be conceptualized on an individual level, as the attitude or action of a group toward a solitary person. S&D, however, are much more than that and have to be understood as social processes that must be addressed through coordinated social action.²⁶²

LIMITED FUNDING AND RESOURCES FOR MENTAL HEALTH IN GENERAL

The 2001 *WHO Atlas of Mental Health Resources* indicates that 62 percent of low-income countries spend less than 1 percent of their national health budgets on mental health. Furthermore, though the majority of the world's mental health care financing is tax-based (60.2%), out-of-pocket payments are the primary source of mental health financing for 40 percent of low-income countries^d as compared to 2.9 percent of countries with high incomes.²⁶³ This reliance on individual funding for mental health care in areas with little disposable income places a substantial burden on the mentally ill and their families as they attempt to meet their health care needs.

The limited number of available mental health resources is another challenge for developing nations with high HIV/AIDS prevalence. While high-income countries have an average of 8.7 psychiatric beds per 10,000 population, low and lower middle-income countries have only 0.24 and 1.4 beds, respectively. Low-income countries also have very few mental health professionals compared to high-income countries, as seen in the dramatic difference between the number of psychiatrists (.06/9.0 per 100,000), psychiatric nurses (.16/33.5 per 100,000), psychologists (.04/26.7 per 100,000), and mental health social workers (.03/25.5 per 100,000) working within the regions.²⁶⁴ The critical need for mental health interventions coupled with the dilemma of limited resources led the 1974 WHO Committee on Mental Health to conclude that, in order for basic mental health care to reach the populations of developing countries, such care must be provided by non-specialized personnel at all levels of the health care system. In addressing the AIDS pandemic, mental health's inclusion in primary health care settings is especially critical since they are where the majority of HIV/AIDS patients first go for treatment.

DEFINING PSYCHOSOCIAL SUPPORT AND TARGETING

One major challenge to providing psychosocial support for PLWHA is in establishing a consensual definition of what is meant by "psychosocial". According to the Regional Psychosocial Support Initiative (REPSSI), a collaborative initiative working with children affected by HIV/AIDS, psychosocial support is an "ongoing process" that includes "meeting the physical, emotional, social, mental and spiritual needs" of target populations.²⁶⁵ Work is underway to define indicators of psychosocial wellbeing, but a consensus has not yet been reached. Indicators should be developed in cross-cultural contexts since experience, expression and recognition of emotional distress are rooted in culture. They should also take into account age and gender (i.e. girls tend to internalize their behaviors whereas boys tend to externalize them).²⁶⁶

Another challenge lies in deciding on the level and type of psychosocial support needed by diverse AIDS-affected groups, especially considering limited resources. Are vulnerable children and orphans a priority? What about parents or guardians? Should targeting be done on an

^d Countries are categorized by World Bank (2000) determined income groups based on GNI per capita levels, with low-income countries at \$755 USD or less per capita and high-income countries at \$9,266 USD or more.

individual level or for households? And what is the minimum amount of psychosocial care PLWHA need?²⁶⁷

THE TOLL OF AIDS ON CAREGIVERS

As the AIDS pandemic spreads, responsibility for AIDS patients has fallen increasingly upon “lay caregivers” in families and communities.²⁶⁸ These roles are highly stressful and take a substantial mental and physical toll on those fulfilling them as they bear witness to the physical, emotional, and economic needs of their patients. In regions where resources are limited and stigma high, emotionally distraught family members may even be tempted to stop providing care for loved ones they know are dying.²⁶⁹ In order for the emotional needs of PLWHA to be met, the needs of their caregivers must first be addressed.

Providing counseling for caregivers may help both the patient and caregiver to adjust to life with AIDS. John Williamson, the Senior Technical Advisor for the Displaced Children and Orphans Fund of USAID, suggests a number of measures that may help to reduce caregiver strain. These measures include providing recognition for caregiver efforts, offering a forum for discussing experiences and stress, developing strong support networks with other caregivers, and ensuring opportunities to ‘regularly get away’ from care giving responsibilities.²⁷⁰

MAINTAINING HUMAN RIGHTS

AIDS devastates countries and countries desperately try to retaliate. In the process, human rights can be forgotten. In Swaziland, where over 25 percent of the adult population is HIV/AIDS positive,²⁷¹ a number of strategies for dealing with the epidemic were proposed in a 2000 parliament debate. Among others, they included establishing camps to quarantine all HIV positive citizens and implementing a national sterilization campaign. Though neither of these measures passed, a year later the president dictated that there was to be a “5-year sex ban for women of marriageable age.”²⁷² According to a UNDP study, such attempts at controlling the spread of HIV/AIDS have resulted in “the epidemic being driven underground” and contributed to “the unprecedented spread of infection.”²⁷³ Reactions like these can also add to the prevalence of psychological disorders. Therefore, avoiding this kind of response is another challenge in addressing mental health aspects of the HIV/AIDS pandemic.

THE WAY FORWARD: RECOMMENDED INTERVENTIONS

The World Bank’s approach to the HIV/AIDS pandemic has incorporated prevention, treatment and impact mitigation through work in a number of sectors. Though these measures have meant progress in some facets of the crisis, failing to address mental health’s relationship to AIDS has contributed to the pandemic’s growth. Overlooking mental health has led to increased suffering for PLWHA and lost resources for communities and nations as a result of missed opportunities for psychiatric and psychological interventions. As this document has argued, the relationship between HIV/AIDS and mental health must be addressed if developing economies are to

eventually recover from the impact of AIDS. Since there is still no cure, it is all the more critical that the process by which mental disorders fuel the spread of HIV be addressed.

The public health approach recognizes three interventional strategies: primary prevention, which relates to preventing transmission; secondary prevention, which involves care and support; and tertiary prevention, which relates to rehabilitation. In the context of HIV/AIDS, tertiary prevention can be taken to be mitigating the impact of the epidemic on the families of those with HIV/AIDS. The discussion that follows will focus on the role of mental and psychosocial interventions at all three levels in the public health approach to HIV/AIDS.

PRIMARY PREVENTION

Changing Social Structures

Since stigma and discrimination stem from societal inequality, interventions targeting them should ideally focus on changing the structure of society. Richard Parker and Peter Aggleton, suggest social movements to empower disenfranchised groups most affected by HIV, and an increased involvement of PLWHA in visible roles within governments and communities.²⁷⁴ Campaigns should also be developed that target personal attitudes toward HIV/AIDS through education about and exposure to people living with the virus.²⁷⁵ Concomitantly, a legal framework must be put in place for protecting the rights of PLWHA, ensuring their full access to employment, health care and community activities.²⁷⁶

Increasing Knowledge, Information and Communication

Programs for information, education, and communication (IEC) about HIV are an integral part of primary prevention. It is essential to provide populations with knowledge and information about HIV/AIDS, stigma and discrimination, voluntary HIV counseling and testing and available health services. This information can be provided through numerous means including school programs, community education and media campaigns.

School sex education programs that include HIV/AIDS and STI prevention tactics can help reduce the prevalence and severity of stigma and discrimination. Teachers should be encouraged to organize group discussions about HIV, stigma and discrimination in order to educate youth about HIV itself, warn them about indirect risk factors for HIV transmission (i.e. drug and alcohol use), and reduce stigma surrounding the disease. Teachers should also provide information regarding how to access health services. Peers and young people living with HIV/AIDS are a valuable resource for providing information about voluntary counseling and testing, stigma, discrimination and prevention.

If only 8 percent of out-of-school youth in SSA have been educated about HIV prevention,²⁷⁷ it stands to reason that even fewer have been exposed to information regarding stigma and discrimination. Media can play an important role in addressing this deficiency by raising public awareness regarding the mental health of PLWHA, harm of stigma and need for open HIV/AIDS dialogue. Openly talking about HIV and providing accurate information regarding its causes, prevalence, and relationship to mental disorders can help dispel stigma and discrimination and alleviate the effects of mental disorders arising from psychological and psychosocial factors.

For adults, **voluntary counseling and testing (VCT)** has been shown cost-effectively to reduce risky behavior. Pre-testing establishes the reasons for testing and likelihood of HIV infection before results are discovered, and post-test counseling helps determine future actions.²⁷⁸ For negative results, counseling addresses future prevention strategies, while for positive results, it helps PLWHA determine their next steps.

When VCT was implemented in Kenya, Tanzania and Trinidad there was a 43 percent reduction in unprotected sex among the tested population.²⁷⁹ Furthermore, a study conducted in Kenya and Uganda has shown the promise of adapting voluntary counseling and testing services to meet the needs of young people.²⁸⁰ When asked to name the “satisfactory aspects” of their testing experience, youth cited counseling more than any other component. Some even related personal experiences regarding the benefits of counseling or the detriment of its absence.²⁸¹ Over 90 percent of untested Ugandan youth and 77 percent of youth in Kenya reported that they would be interested in being tested for HIV as long the services are confidential, affordable and conveniently located.²⁸²

As the responses in Kenya and Uganda demonstrate, an important component of VCT services is counseling and support. A system should be in place through which patients in need of additional mental health services are directed to psychiatrists or psychologists trained in HIV/AIDS issues. Furthermore, caregivers and volunteers who provide support should be reinforced and recognized in their helping function.

Preventing Mother-to-Child Transmission

Prevention of mother to child transmission (PMTCT) straddles primary and secondary prevention. The present practice is to provide counseling to women during the ante-natal period, or just before delivery for those who may not have attended ante-natal care. Those who agree are tested, and those who test positive receive a tablet of Niverapine, an anti-retroviral drug that has been found to prevent transmission of the virus from the mother to the child. Unfortunately, typically at present, no further psychological support is provided to the mother, and she is not supported in informing her husband/the father of the baby that she had an HIV test and was found to be positive.

For the well-being of the baby, it is crucial that the mother be mentally healthy. Yet by failing to offer support opportunities, the mental health of mothers may be compromised. Thus on-going counseling and support, either during well-baby clinic visits, or as a special support group for mothers found to be positive, would go a long way to ensuring good health and nutritional outcomes for the babies and a longer life for the mothers. It may also help to prevent the future spread of AIDS.

SECONDARY PREVENTION

Recognizing Mental Disorder Risk Factors

At the individual level, efforts must be made to identify mental disorder risk factors in PLWHA so that preventive interventions can be started immediately. Risk factors that can be

predetermined include psychiatric history, conditions of limited social support, and the frequent use of avoidance or denial as coping mechanisms for adversity.²⁸³ Early interventions aimed at individuals affected by these types of risks may reduce the incidence and severity of mental disorders related to HIV/AIDS. Interventions targeting these groups should incorporate training in effective coping strategies in order to reduce the risk of psychological harm and AIDS proliferating behavior.

Including Mental Health in Primary Health Care

Because social support for PLWHA has been shown to be a critical component of good mental health, health care providers should assess patient support networks as part of their initial patient evaluation. HIV/AIDS patients should also be routinely screened for mental health disorders while being treated for general medical purposes and when ARVs or prevention services for mother-to child transmission (PMTCT) are provided. Primary care practitioners must be trained to recognize and manage mental health disorders in PLWHA and taught Helpful Active Listening techniques so that they are able to provide support. They must also have referral systems at their disposal for cases outside their scope of capability. Early diagnosis and treatment of mental health disorders prevents the emotional costs that accompany misdiagnosis and improper treatment, and reduces overall costs to patients and health care systems.

Psychological interventions have been shown to increase the quality of life substantially for PLWHA.²⁸⁴ They can also play an important role in reducing the transmission of HIV by persons infected with the virus, especially adolescents and young adults. As antiretroviral medications become more widely used and prolong life for these young people, the risks of them handling life's normal frustrations and disappointments inappropriately and deliberately exposing others to the infection may also increase. With this in mind, developing culturally appropriate psychological interventions that target the young is critical. Such interventions could help them to cope better with their infection status, build the skills necessary for self-disclosure, and improve self-esteem. They should also address strategies for staying healthy with HIV, preventing future transmission, making sexual decisions, avoiding substance abuse, and moving forward with life.²⁸⁵ The interventions could be offered by primary care clinicians and others involved in the management of PLWHA.²⁸⁶

There is also a need for service providers such as clinicians, community-based care providers, and family members to understand better how HIV infection affects mental health physiologically. It is more common for clinicians working with HIV positive children to assess them for cognitive development. However, for adults this is often a neglected area unless the patient presents with a clear case of a toxoplasmosis, or something similar. Clinicians need more training in understanding these manifestations and recognizing them in their patients.²⁸⁷

Providing Access to Psychiatric Medications

Though many psychiatric drugs are prohibitively expensive, "cheap and equally effective" alternatives do exist and should be stocked in pharmacies and utilized.²⁸⁸ An essential drug list for psychiatric disorder treatment should be compiled and medical professionals trained in drug distribution. Key drugs to include would be anti-depressants such as the SSRIs that have been found not to interact with antiretrovirals, and anti-psychotics such as Haloperidol. Haloperidol has been shown to be very effective in the management of psychotic episodes during the terminal

stages of HIV/AIDS, and for organic mental disorders associated with opportunistic infections, such as cryptococcal and TB meningitis.

Providing Access to Antiretroviral Drug Treatment

The World Health Organization has adopted the goal that at least 3 million people in developing nations should have access to highly active antiretroviral therapy (HAART)^e by 2005.²⁸⁹ As of 2002, however, only 4 percent of the 6 million people in need were receiving the treatment.²⁹⁰ In Africa, where 290 million inhabitants live on less than one dollar per day,²⁹¹ the two dollars per person per day necessary for HAART, plus additional costs of testing, infrastructure, personnel and monitoring, seem prohibitively expensive.²⁹² However, according to Joep M. A. Lange, President of the International AIDS Society, “From a humanitarian as well as an economic and developmental perspective, we cannot afford not to bring highly active antiretroviral therapy (HAART)” to the developing world.²⁹³

HAART reduced the death rate of AIDS patients by 47 percent in the United States shortly after its introduction.²⁹⁴ It has already proven to be “highly cost-effective” in industrialized countries²⁹⁵ and has the potential to be so in the developing world where 95 percent of all AIDS cases occur.²⁹⁶ AIDS-related deaths decreased by 50 percent within three years when a concerted effort was made to provide drug treatment to all PLWHA in Brazil.²⁹⁷ Due to the devastating effect of AIDS on national workforces in developing countries, drugs that extend life expectancy and maintain health for PLWHA have the potential to improve national economic conditions greatly. Resulting country stability, moreover, would lead to increased global security.

In addition to the physical conditions staved off by HAART, antiretroviral therapy has been shown to reduce dementia incidence from 20 to 2 percent,²⁹⁸ has led to “significant improvements in cognitive, emotional and behavioral functioning” for children,²⁹⁹ and reduces the chance of infant infection by two-thirds when administered to seropositive expectant mothers.³⁰⁰

TERTIARY INTERVENTIONS

Improving Communication Between Parents and Children

In addition to providing for the education, health, shelter and general basic needs of orphans and other children made vulnerable by HIV/AIDS, it is important to provide for their psychosocial and mental well-being. In Uganda, communities have expressed the need for improved AIDS-related communication between parents and children.³⁰¹ Parents have said they need “support and advice” on how to talk to their children about sex, parental illness and death.³⁰² Open discussion is important for the mental health outcomes of all family members, and gives them time to adjust to and develop strategies for coping with AIDS. In Uganda, 91 percent of parents who chose to reveal their HIV status to their children felt it had been the right decision, and older children who were told of their parents’ seropositive status overwhelmingly agreed (88%) since it helped them “know the truth, avoid AIDS and prepare mentally and practically for the

^e A number of drugs are incorporated in HAART, including AZT.

future.”³⁰³ It also allows children time to ask questions and get answers while their parents are still able to provide them, and gives them the opportunity to say goodbye.³⁰⁴

Preparing Children for Life after Parental Death

Interventions must target vulnerable children before their parents die since parental illness affects child education, economic status, and levels of psychosocial distress. Children of HIV positive parents report that “being in school” and “being with other children” are things that make them happy, yet 26 percent of older children say their school attendance declined as a result of a parent’s illness.³⁰⁵ Interventions, therefore, must work to bolster child morale by keeping them in school, alleviating economic barriers to their continued education.³⁰⁶ Issues of stigma and discrimination must also be resolved so that AIDS illness can be made public. Once this occurs, future guardians can be named for children with HIV positive parents to help families make the mental transition between parental death and the future.³⁰⁷ Studies show that child anxiety is substantially reduced if children are aware that a plan for their future has been made.³⁰⁸ Programs that give youth job training and provide economic opportunities should also be encouraged to help youth see possibilities in the future and reduce their dependence on potentially harmful survival strategies.

Training Teachers to Offer Support

School offers a valuable opportunity to provide support for children dealing with AIDS-related parental illness or death. Teachers should be trained to recognize children that need special support, encourage interactions between orphans and other students, and learn how to use activities such as art and storytelling to help children express their emotions. They should also be shown where to refer children who require specialized attention. In some African communities, schools have been instrumental in organizing projects like school gardens, for which orphaned and non-orphaned children band together to raise money to meet the material needs of orphaned students.³⁰⁹ These measures can have a substantial impact on child mental health.

Additional Measures for Easing Transitions

The Memory Book Project, developed in the UK, has also been used in several AIDS-affected areas of SSA to help parents and children deal with HIV/AIDS-related illness and death. In the project, parents are encouraged to create books that include pictures and descriptions of family history, thoughts, feelings and messages for the future. Creating and passing on Memory Books helps parents to prepare for their deaths and gives children knowledge that they were loved while providing them with a sense of identity. Communities can help the rehabilitation process by encouraging traditional funeral ceremonies to help initiate children’s emotional healing and by providing structured activities for orphaned children that encourage group interaction.³¹⁰ Meanwhile, children should also be given opportunities for ongoing interpersonal group therapy, especially when the interventions listed above fall short of fulfilling their rehabilitation needs.

CONCLUSION

International AIDS Society President Joep Lange likens recent AIDS initiatives to a “modern day scramble for Africa” due to the lack of communication and cooperation between involved agencies.³¹¹ As the HIV/AIDS pandemic enters its third decade it is crucial to expand and

nurture partnerships between governments, NGOs, international organizations, faith-based groups, donors and civil society. Doing so will ensure that limited resources are used most efficiently and effectively in order to mitigate the impact of AIDS. In the process, organizations must begin to incorporate mental health in their intervention agendas in order to meet the needs of PLWHA, reduce HIV/AIDS' spread, and protect against the emergence of new strains of the virus. Due to its current standing as the largest long-term investor in AIDS related projects, the World Bank has a substantial opportunity to make mental health initiatives a priority in AIDS interventions in the developing world.

NOTES

-
- ¹ World Bank, *HIV/AIDS at a Glance*, October 2003.
<[http://wbln0018.worldbank.org/HDNet/hddocs.nsf/c840b59b6982d2498525670c004def60/0560436b70e56de385256a4800524119/\\$FILE/AAG%20HIVAIDS%2010-03.pdf](http://wbln0018.worldbank.org/HDNet/hddocs.nsf/c840b59b6982d2498525670c004def60/0560436b70e56de385256a4800524119/$FILE/AAG%20HIVAIDS%2010-03.pdf)> (27 November 2004).
- ² Alan Whiteside, "Poverty and HIV/AIDS in Africa," *Third World Quarterly* 23, no. 2 (2002): 313.
- ³ UNAIDS, *2004 Report on the Global AIDS Epidemic: Executive Summary* (Geneva: UNAIDS, 2004), 5.
- ⁴ World Bank, *HIV/AIDS at a Glance*.
- ⁵ UNAIDS, "New UN Report Estimates that Over One-Third of Today's 15-year-olds Will Die of AIDS in Worst Affected Countries," Press Release, 27 June 2000. <<http://www.thebody.com/unaid/fifteen.html>> (20 August 2004).
- ⁶ UNAIDS, "New UN Report Estimates."
- ⁷ UNAIDS/ WHO, *AIDS Epidemic Up-Date: December 2002* (Geneva: UNAIDS/WHO, 2002), 16.
- ⁸ World Bank, *HIV/AIDS at a Glance*.
- ⁹ World Bank, *HIV/AIDS at a Glance*.
- ¹⁰ Whiteside, 315.
- ¹¹ UNAIDS/ WHO, 16.
- ¹² World Health Organization, *The World Health Report 2001: Mental Health: New Understanding, New Hope* (Geneva: WHO, 2001), 44.
- ¹³ Peter Lamptey, Merywen Wigley, Dara Carr and Yvette Collymore, "Facing the HIV/AIDS Pandemic," *Population Bulletin* 57, no. 3 (September 2002): 10,12.
- ¹⁴ USAID, "Central Asian Republics," <www.usaid.gov/locations/europeeurasia/car/briefers/hivaidsprevention.html> (3 August 2004).
- ¹⁵ UNAIDS, *2004 Report on the Global AIDS Epidemic: Executive Summary*, 7.
- ¹⁶ UNAIDS/ WHO, 7.
- ¹⁷ UNAIDS, *2004 Report on the Global AIDS Epidemic: Executive Summary*, 5.
- ¹⁸ UNAIDS/ WHO, 5.
- ¹⁹ World Bank, *HIV/AIDS at a Glance*.

-
- ²⁰ UNAIDS/ WHO, 7.
- ²¹ UNAIDS/ WHO, 3.
- ²² International AIDS Economics Network, Interview with Dr. Peter Piot, Executive Director, Joint United Nations Programme on HIV/AIDS (UNAIDS) and Under Secretary-General of the United Nations, Conducted for release on World AIDS Day, 1 December 2003
<<http://www.iaen.org/globdial/piot/index.php>> (25 August 2004).
- ²³ World Bank, "AIDS," June 2004 <http://www1.worldbank.org/hiv_aids/overview.asp> (3 August 2004).
- ²⁴ World Bank, "AIDS."
- ²⁵ World Bank, "AIDS."
- ²⁶ World Bank, "World Bank HIV/AIDS," <http://www1.worldbank.org/hiv_aids/> (3 August 2004).
- ²⁷ Harvey Whiteford, M. Teeson, R. Scheurer and Dean Jamison, "Responding to the Burden of Mental Illness," Commission on Macroeconomics and Health Working Paper Series, Paper No. WG1:12 (Geneva: WHO, July 2001), 3.
- ²⁸ Lamptey, Wigley, Carr and Collymore, 9.
- ²⁹ UNAIDS, "World AIDS Campaign 2001 Fact Sheet,"
<http://www.thebody.com/unaidspdfs/fs_wac.pdf> (20 August 2004).
- ³⁰ Whiteside, 317.
- ³¹ UNAIDS/ WHO, 7.
- ³² UNAIDS/ WHO, 29.
- ³³ E. Stillwagon, "HIV Transmission in Latin America: comparison with Africa and policy implications," *South African Journal of Economics* 68, no. 5 (2000): 985-1011.
- ³⁴ UNAIDS/ WHO, 29.
- ³⁵ UNAIDS/ WHO, 30.
- ³⁶ UNAIDS/ WHO, 30.
- ³⁷ UNAIDS/ WHO, 30.
- ³⁸ UNICEF, *HIV/AIDS Education: A Gender Perspective, Tips and Tools* (New York: UNICEF, 2002), 4.
- ³⁹ I. Susser and Z. Stein, "Culture, Sexuality and Women's Agency in the Prevention of HIV/AIDS in Southern Africa," *American Journal of Public Health* 90, no. 7 (1998): 1042-1048.
- ⁴⁰ UNAIDS, *2004 Report on the Global AIDS Epidemic: Executive Summary*, 3.

-
- ⁴¹ E. Weiss et al., *Vulnerability and Opportunity: Adolescents and HIV/AIDS in the Developing World*, Washington : International Center for Research on Women, 1996.
- ⁴² UNICEF, *HIV/AIDS Education: A Gender Perspective*, 4.
- ⁴³ Elaine Murphy, "Being Born Female is Dangerous for Your Health," *American Psychologist* 58, no. 3 (March 2003): 207.
- ⁴⁴ Murphy, 207.
- ⁴⁵ Lamptey, Wigley, Carr and Collymore, 5.
- ⁴⁶ UNICEF, *HIV/AIDS Education: A Gender Perspective*, 6.
- ⁴⁷ UNICEF, *HIV/AIDS Education: A Gender Perspective*, 4.
- ⁴⁸ UNICEF, *HIV/AIDS Education: A Gender Perspective*, 6.
- ⁴⁹ UNICEF, *HIV/AIDS Education: A Gender Perspective*, 6.
- ⁵⁰ Susan Hunter and John Williamson. *Children on the Brink: Executive Summary* (Washington: USAID, 2000), 10.
- ⁵¹ UNAIDS/ UNICEF, *Children Orphaned by AIDS: Front-line Responses from Eastern and Southern Africa* (New York: United Nations, 1999), 6.
- ⁵² UNICEF, *HIV/AIDS Education: A Gender Perspective*, 7.
- ⁵³ Charlene Smith, "Rape has become a sickening way of life in our land," *Sunday Independent*, 26 September 2004, <<http://www.sundayindependent.co.za/index.php?fSectionId=1042&fArticleId=2238856>> (27 November 2004).
- ⁵⁴ UNICEF, *HIV/AIDS Education: A Gender Perspective*, 7.
- ⁵⁵ UNESCO, "Overcoming the effects of HIV/AIDS on basic education," Issue Paper, April 2000, <http://www.unesco.org/education/efa/wef_2000/strategy_sessions/session_II-1.shtml> (20 August 2004), impact on the demand for education.
- ⁵⁶ Horizons and Alliance, *The Involvement of People Living with HIV/AIDS in Community-based Prevention, Care and Support Programs in Developing Countries* (New York: Population Council Inc. and the International HIV/AIDS Alliance, 2003), 131.
- ⁵⁷ Yvette Collymore, "Rooting Out AIDS-Related Stigma and Discrimination," *Population Reference Bureau*, <http://www.prb.org/Template.cfm?Section=PRB&template=/Content/ContentGroups/Articles/02/Rooting_Out_AIDS-Related_Stigma_and_Discrimination.htm> (21 August 2004), Unraveling the Concept of Stigma.
- ⁵⁸ World Health Organization, "Gender, Health and Poverty," (Fact Sheet #251), Geneva: World Health Organization, 2000.
- ⁵⁹ UNICEF, *HIV/AIDS Education: A Gender Perspective*, 7.

-
- ⁶⁰ UNAIDS, *2004 Report on the Global AIDS Epidemic: Executive Summary*, 8.
- ⁶¹ Laelia Zoe Gilborn, et al., *Making a Difference for Children Affected by AIDS : Baseline Findings from Operations Research in Uganda* (New York: Population Council Inc, 2001), 12-13.
- ⁶² Horizons and Alliance, 129.
- ⁶³ Horizons and Alliance, 51.
- ⁶⁴ International Center for Research on Women, "Addressing HIV-Related Stigma and Resulting Discrimination in Africa: A Three-Country Study in Ethiopia, Tanzania, and Zambia," *Information Bulletin*, March 2002, <http://www.sahims.net/doclibrary/2004/03_March/05%20Fri/Regional/Abstract/Addressing%20HIV-Related%20Stigma%20and%20Resulting%20Discrimination%20in%20Africa.pdf> (27 November 2004), Understanding stigma.
- ⁶⁵ Richard Parker and Peter Aggleton et al., *HIV/AIDS-related Stigma and Discrimination: A Conceptual Framework and an Agenda for Action* (New York: The Population Council, Inc., 2002), 5.
- ⁶⁶ Yuri A. Amirkhanian, Jeffery A. Kelly and Timothy L. McAuliffe, "Psychosocial needs, mental health, and HIV transmission risk behavior among people living with HIV/AIDS in St. Petersburg, Russia," *AIDS* 17, no. 16 (6 November 2003), abstract.
- ⁶⁷ Parker and Aggleton et al., 7.
- ⁶⁸ Talin Babikian et al., "An Assessment of HIV/AIDS Risk in Higher Education Students in Yerevan, Armenia," *AIDS and Behavior* 8, no. 1 (March 2004): 48.
- ⁶⁹ Parker and Aggleton et al., 7.
- ⁷⁰ Parker and Aggleton et al., 7.
- ⁷¹ Parker and Aggleton et al., 7.
- ⁷² Parker and Aggleton et al., 8.
- ⁷³ International Center for Research on Women, *Stigma Accompanies and Fuels HIV/AIDS*.
- ⁷⁴ International Center for Research on Women, *Stigma Accompanies and Fuels HIV/AIDS*.
- ⁷⁵ Calvert Warren and Robert Stern, "Neuropsychiatric Emergencies in the Patient with HIV Infection," *Emergency Medicine Reports* 16, no. 15 (24 July 1995), epidemiology.
- ⁷⁶ Lagarde et al., "Educational Level is Associated with Condom Use within Non-Spousal Partnerships in Four Cities in Sub-Saharan Africa," *AIDS* 15, no. 11 (July 2001): 1399-1408.
- ⁷⁷ Zieler et al., "Adult Survivors of Childhood Sexual Abuse and Subsequent Risk of HIV Infection," *American Journal of Public Health* 81, no. 5 (May 1991): 572-575.

-
- ⁷⁸ Lillian S. Bensley, Juliet Van Eenwyk and Katrina W. Simmons, "Self-reported Childhood Sexual and Physical Abuse and Adult HIV-risk Behaviors and Heavy Drinking," *American Journal of Preventive Medicine* 18, no. 2 (2000): 151-158.
- ⁷⁹ Cohen et al., "Domestic Violence and Childhood Sexual Abuse in HIV-Infected Women and Women at Risk for HIV," *American Journal of Public Health* 90, no. 4 (April 2000): 560-565.
- ⁸⁰ Bensley, Van Eenwyk and Simmons, 151.
- ⁸¹ D. M. Menick and F. Ngoh, "Seroprevalence of HIV Infection in Sexually Abused Children in Cameroon," *Medecine Tropicale (Marseilles)* 62, no. 2 (2003): 155-158.
- ⁸² Smith, "Rape has become a sickening way of life in our land."
- ⁸³ Hunter and Williamson, 1.
- ⁸⁴ Hunter and Williamson, 1.
- ⁸⁵ Hunter and Williamson, 1.
- ⁸⁶ Lamptey, Wigley, Carr and Collymore, 7.
- ⁸⁷ UNAIDS, "New UN Report Estimates."
- ⁸⁸ UNAIDS, "New UN Report Estimates."
- ⁸⁹ K. Subbarao, Angel Mattimore and Kathrin Plangemann, "Social Protection of Africa's Orphans and Other Vulnerable Children," *African Region Human Development Working Paper Series*, August 2001, 11.
- ⁹⁰ Hunter and Williamson, 5.
- ⁹¹ Subbarao, Mattimore, and Plangemann, 11.
- ⁹² UNAIDS/ UNICEF, 5.
- ⁹³ USAID, *USAID Project Profiles: Children Affected by HIV/AIDS*, 3rd edition (Washington: USAID, 2003), 1.
- ⁹⁴ Geoff Foster, "Beyond education and food: psychosocial well-being of orphans in Africa," *Acta Paediatrica* 91, no. 5 (1 May 2002): 502.
- ⁹⁵ Foster, 503.
- ⁹⁶ World Bank, "Orphans and Other Vulnerable Children: What role for social protection?," *Social Protection Discussion Paper no. 0126*, ed. Anthony Levine, (Washington: World Bank, October 2001), ii.
- ⁹⁷ Subbarao, Mattimore, and Plangemann, 11.
- ⁹⁸ UNESCO, Impact on the supply of education.

-
- ⁹⁹ UNAIDS, “New UN Report Estimates.”
- ¹⁰⁰ UNESCO, The impact of general education on HIV prevalence.
- ¹⁰¹ UNAIDS/ UNICEF, 17.
- ¹⁰² UNESCO, Introduction ; Impact on the demand of education.
- ¹⁰³ UNESCO, Introduction ; Impact on the demand of education.
- ¹⁰⁴ Clive Bell, Shantayanan Devarajan and Hans Gersbach, *The Long-run Economic Costs of AIDS: Theory and an Application to South Africa* (Washington: World Bank, June 2003), 7-9.
- ¹⁰⁵ Bell, Devarajan and Gersbach, 7-9.
- ¹⁰⁶ Whiteside, 317.
- ¹⁰⁷ Whiteside, 319-320.
- ¹⁰⁸ UNAIDS, *2004 Report on the Global AIDS Epidemic: Executive Summary*, 8.
- ¹⁰⁹ Whiteside, 320-324.
- ¹¹⁰ UNAIDS, *2004 Report on the Global AIDS Epidemic: Executive Summary*, 8-9.
- ¹¹¹ Whiteside, 322-323.
- ¹¹² UNAIDS/ UNICEF, 4.
- ¹¹³ Whiteside, 322.
- ¹¹⁴ Whiteside, 322-323.
- ¹¹⁵ Whiteside, 320-321.
- ¹¹⁶ Whiteside, 323.
- ¹¹⁷ World Bank, *Averting AIDS Crisis in Eastern Europe and Central Asia* (Washington: The World Bank, 2003), 14.
- ¹¹⁸ UNAIDS, *2004 Report on the Global AIDS Epidemic: Executive Summary*, 10.
- ¹¹⁹ UNAIDS, *2004 Report on the Global AIDS Epidemic: Executive Summary*, 9.
- ¹²⁰ UNAIDS/ UNICEF, 3.
- ¹²¹ UNAIDS, “New UN Report Estimates.”
- ¹²² UNAIDS/ UNICEF, 2.
- ¹²³ Whiteside, 323.

-
- ¹²⁴ UNAIDS, *2004 Report on the Global AIDS Epidemic: Executive Summary*, 8.
- ¹²⁵ UNAIDS/ UNICEF, 3.
- ¹²⁶ World Bank, *Confronting AIDS: Public Priorities in a Global Epidemic*, Washington: Oxford University Press, 1997.
- ¹²⁷ Bell, Devarajan and Gersbach, 7.
- ¹²⁸ Bell, Devarajan and Gersbach, 7-9.
- ¹²⁹ World Health Organization, *The World Health Report 2001: Mental Health*, 44.
- ¹³⁰ Lucia Gallego, Victoria Gordillo, and Jose Catalan, "Psychiatric and Psychological Disorders associated to HIV Infection," *AIDS Reviews* 2, no. 1 (2000): 49.
- ¹³¹ Gallego, Gordillo and Catalan, 50.
- ¹³² Robert A. Stern, Diana O. Perkins, and Dwight L. Evans, "Neuropsychiatric Manifestations of HIV-1 Infection and AIDS," in *Psychopharmacology. The Fourth Generation of Progress*, eds. F. E. Bloom and D. J. Kupfer. New York: Raven Press Ltd, 2000.
- ¹³³ Stern, Perkins, and Evans.
- ¹³⁴ Glenn J. Treisman, Andrew F. Angelino, and Heidi E. Hutton, "Psychiatric Issue in the Management of Patients with HIV Infection," *Journal of the American Medical Association* 286, no. 22 (21 December 2001): 2857.
- ¹³⁵ Gallego, Gordillo and Catalan, 49.
- ¹³⁶ Stern, Perkins and Evans.
- ¹³⁷ Gallego, Gordillo and Catalan, 50.
- ¹³⁸ Mario Maj, Review of *HIV, AIDS, and the Brain: Association for Research in Nervous and Mental Disease Research Publications*, ed. Richard W. Price and Samuel Perry, *The American Journal of Psychiatry* 153, no. 6 (June 1996): 834.
- ¹³⁹ Parker and Aggleton et al., 1.
- ¹⁴⁰ Gallego, Gordillo and Catalan, 50.
- ¹⁴¹ Treisman, Angelino and Hutton, 2860.
- ¹⁴² José Catalán, Adrian Burgess and Ivana Klimes, *Psychological Medicine of HIV Infection*. Oxford: Oxford University Press, 1995.
- ¹⁴³ Gallego, Gordillo and Catalan, 49.
- ¹⁴⁴ Warren and Stern, Anxiety Disorders.
- ¹⁴⁵ Warren and Stern, Anxiety Disorders.

-
- ¹⁴⁶ E. Koutsilieri, et al., "Psychiatric Complications in Human Immunodeficiency Virus Infection," *Journal of NeuroVirology* 8, no. 2 (2002): 129.
- ¹⁴⁷ Tiffany A. Chenneville and Howard M. Knoff, "HIV/AIDS: What Parents Should Know," *National Mental Health and Education Center*, 1998, <http://www.naspcenter.org/adol_HIV.html> (14 August 2004), Neurological Implications.
- ¹⁴⁸ F. Daniel Armstrong, John F. Seidel and Thomas P. Swales, "Pediatric HIV Infection: A Neuropsychological and Educational Challenge," *Journal of Learning Disabilities* 26, no. 2 (February 1993): 93.
- ¹⁴⁹ Treisman, Angelino and Hutton, 2859.
- ¹⁵⁰ Stern, Perkins, and Evans.
- ¹⁵¹ Arunima Mamidi, Joseph A. DeSimone, and Roger J. Pomerantz, "Central Nervous System Infections in Individuals with HIV-1 Infection," *Journal of NeuroVirology* 8 (2002):158-159.
- ¹⁵² Mamidi, DeSimone and Pomerantz, 158-164.
- ¹⁵³ Sanchez-Portocarrero et al., "Tuberculosis Meningitis: clinical characteristics and comparison with cryptococcal meningitis in patients with human immunodeficiency virus infection," *Arch Neurol.* 53, no. 7 (1996): 671-676.
- ¹⁵⁴ Mamidi, DeSimone and Pomerantz, 161-163.
- ¹⁵⁵ R. D. Mugerwa, L. H. Marum and D. Serwadda, "Human Immunodeficiency Virus and AIDS in Uganda," *East African Medical Journal* 73, no. 1 (1996): 20-26.
- ¹⁵⁶ Chhin Senya et al., "Spectrum of Opportunistic Infections in Hospitalized HIV-infected Patients in Phnom Penh, Cambodia," *International Journal of STD and AIDS* 14 (2003): 411-416.
- ¹⁵⁷ Senya et al., 411-416.
- ¹⁵⁸ P. Lesprit et al., "Cerebral Tuberculosis in Patients with the Acquired Immunodeficiency Syndrome (AIDS)," *Medicine* (Baltimore) 76, no. 6 (1997): 423-431.
- ¹⁵⁹ Gallego, Gordillo and Catalan, 49.
- ¹⁶⁰ Project Inform, "AIDS Dementia Complex," April 2002, <<http://www.projectinform.org/pdf/dementia.pdf>> (14 August 2004), 2.
- ¹⁶¹ Gallego, Gordillo and Catalan, 49.
- ¹⁶² Project Inform, 1.
- ¹⁶³ Stern, Perkins and Evans.
- ¹⁶⁴ Project Inform, 2.
- ¹⁶⁵ Koutsilieri et al., 130.

-
- ¹⁶⁶ Warren and Stern, HIV-1 Associated Dementia.
- ¹⁶⁷ Treisman, Angelino and Hutton, 2859.
- ¹⁶⁸ Jeffrey A. Ciesla and John E. Roberts, "Meta-Analysis of the Relationship Between HIV Infection and Risk for Depressive Disorders," *American Journal of Psychiatry* 158 (2001): 729.
- ¹⁶⁹ Warren and Stern, Depression.
- ¹⁷⁰ Treisman, Angelino and Hutton, 2859.
- ¹⁷¹ Treisman, Angelino and Hutton, 2859.
- ¹⁷² Chenneville and Knoff, Physical Implications.
- ¹⁷³ Koutsilieri et al., 130.
- ¹⁷⁴ Warren and Stern, Mania.
- ¹⁷⁵ Warren and Stern, Mania.
- ¹⁷⁶ Gallego, Gordillo and Catalan, 50.
- ¹⁷⁷ Stern, Perkins and Evans.
- ¹⁷⁸ Koutsilieri et al., 130.
- ¹⁷⁹ Koutsilieri et al., 130.
- ¹⁸⁰ Treisman, Angelino and Hutton, 2860.
- ¹⁸¹ Treisman, Angelino and Hutton, 2860- 2861.
- ¹⁸² Treisman, Angelino and Hutton, 2861.
- ¹⁸³ Treisman, Angelino and Hutton, 2861-2862.
- ¹⁸⁴ Gallego, Gordillo and Catalan, 50.
- ¹⁸⁵ UNAIDS, "World AIDS Campaign 2001 Fact Sheet."
- ¹⁸⁶ Gallego, Gordillo and Catalan, 50.
- ¹⁸⁷ P. Somse, M. K. Chapko and R. V. Hawkins, "Multiple Sexual Partners: results of a national HIV/AIDS survey in the Central African Republic," *AIDS* 7, no. 4 (April 1993): 579-583.
- ¹⁸⁸ M. K. Chapko et al., "Predictors of Rape in the Central African Republic," *Health Care Women Int.* 20, no. 1 (Jan-Feb 1999): 71-79.
- ¹⁸⁹ R. F. Zimba, "Secondary School Students' Risks that may Promote HIV Infection and the Spread of AIDS: a Namibian Study," *School Psychology Quarterly* 16, no. 1 (Feb 1995): 67-78.

¹⁹⁰ Andrew F. Angelino and Glenn J. Treisman, "Management of Psychiatric Disorders in Patients Infected with Human Immunodeficiency Virus," *Clinical Infectious Disease* 33 (2001): 848.

¹⁹¹ UNAIDS, UNICEF/ USAID, *Children on the Brink 2004: A Joint Report of New Orphan Estimates and a Framework for Action*, July 2004, <http://www.unicef.org/publications/index_22212.html> (27 November 2004), 7.

¹⁹² UNICEF, *Africa's Orphaned Generations* (New York: UNICEF, 2003), 7.

¹⁹³ USAID, *USAID Project Profiles*, 1.

¹⁹⁴ UNAIDS, *2004 Report on the Global Aids Epidemic*, Geneva: UNAIDS, 2004.

¹⁹⁵ Chenneville and Knoff, HIV/AIDS in Children and Young Adults.

¹⁹⁶ Lamptey, Wigley, Carr and Collymore, 26.

¹⁹⁷ Armstrong, Seidel, and Swales, 93.

¹⁹⁸ Lamptey, Wigley, Carr and Collymore, 26.

¹⁹⁹ Dennis Drotar et al., "Neurodevelopmental Outcomes of Ugandan Infants with Human Immunodeficiency Virus Type 1 Infection," *Pediatrics* 100, no. 1 (July 1997), abstract.

²⁰⁰ Drotar et al., 3.

²⁰¹ Chenneville and Knoff, Neurological Implications.

²⁰² Armstrong, Seidel and Swales, 93.

²⁰³ Armstrong, Seidel, and Swales, 94.

²⁰⁴ Chenneville and Knoff, Neurological Implications.

²⁰⁵ Armstrong, Seidel, and Swales, 95.

²⁰⁶ Chenneville and Knoff, Neurological Implications.

²⁰⁷ UNAIDS, *AIDS Epidemic Update: December 2000*, Geneva: UNAIDS, 2000.

²⁰⁸ Chenneville and Knoff, Social Implications.

²⁰⁹ Armstrong, Seidel, and Swales, 95-96.

²¹⁰ Armstrong, Seidel, and Swales, 95-96.

²¹¹ World Health Organization, *The World Health Report 2001: Mental Health*, 3.

²¹² Whiteford, Teeson, Scheurer and Jamison, 4.

²¹³ Whiteford, Teeson, Scheurer and Jamison, 4.

-
- ²¹⁴ World Health Organization, *The World Health Report 1999: Making a Difference* (Geneva: WHO, 1999), 14.
- ²¹⁵ Gallego, Gordillo and Catalan, 50.
- ²¹⁶ UNAIDS, *2004 Report on the Global AIDS Epidemic: Executive Summary*, 3.
- ²¹⁷ Nina Singh, Steven M. Berman et al., "Adherence of Human Immunodeficiency Virus-Infected Patients to Antiretroviral Therapy," *Clinical Infectious Diseases* 29, no. 4 (Oct 1999): 824-30.
- ²¹⁸ Nina Singh, C. Squier et al., "Determinants of Compliance with Antiretroviral Therapy in Patients with Human Immunodeficiency Virus : prospective assessment with implications for enhancing compliance," *AIDS Care* 8, no. 3 (June 1996): 261-269.
- ²¹⁹ Victoria Gordillo et al., "Sociodemographic and psychological variables influencing adherence to antiretroviral therapy," *AIDS* 13 (1999): 1767.
- ²²⁰ Singh and Berman et al., 824-30.
- ²²¹ M. A. Chesney et al., "Adherence : a necessity for successful HIV combination therapy," *AIDS* 13, Suppl . A (1999), abstract.
- ²²² Chesney et al., abstract.
- ²²³ John Henkel, "Attacking AIDS with a 'Cocktail' Therapy," *U.S. Food and Drug Administration*, July-August 1999 <<http://www.fda.gov/fdac/features/1999/499aids.html>> (22 August 2004), Regimen has drawbacks.
- ²²⁴ Amirkhanian, Kelly and McAuliffe, abstract.
- ²²⁵ Amirkhanian, Kelly and McAuliffe, abstract.
- ²²⁶ Amirkhanian, Kelly and McAuliffe, abstract.
- ²²⁷ Luigi Grassi, "Risk of HIV Infection in Psychiatrically Ill Patients," *AIDS Care* 8, no. 1 (Feb 1996): 103-116.
- ²²⁸ John H. Coverdale and Sarah H. Turbott, "Risk Behaviors for Sexually Transmitted Infections Among Men with Mental Disorders," *Psychiatric Services* 51, no. 2 (February 2000): 234.
- ²²⁹ Grassi, 102-116.
- ²³⁰ Coverdale and Turbott, 234.
- ²³¹ McKinnon et al., "The Relative Contributions of Psychiatric Symptoms and AIDS Knowledge to HIV Risk Behaviors among People with Severe Mental Illness," *Journal of Clinical Psychiatry* 57, no. 11 (Nov 1996): 506-513.
- ²³² Luigi Grassi et al., "Knowledge About HIV Transmission and Prevention Among Italian Patients with Psychiatric Disorders," *Psychiatric Services* 52, no. 5 (May 2001): 679-681.

-
- ²³³ H. T. Chuang and M. Atkinson, "AIDS Knowledge and High-risk Behavior in the Chronic Mentally Ill," *Canadian Journal of Psychiatry* 41, no. 5 (June 1996): 269-272.
- ²³⁴ Davidson et al., "Risk Factors for HIV/AIDS and Hepatitis C Among the Chronic Mentally Ill," *Australian New Zealand Journal of Psychiatry* 35, no. 2 (April 2001): 203-209.
- ²³⁵ D. Chisholm et al., "Integration of mental health care into primary care: Demonstration cost-outcome study in India and Pakistan," *British Journal of Psychiatry* 176 (2000): 585-586.
- ²³⁶ Joseph Westermeyer, "Economic losses associated with chronic mental disorder in a developing country," *The British Journal of Psychiatry* 144 (1984): 475-481.
- ²³⁷ Whiteford, Teeson, Scheurer and Jamison, 12.
- ²³⁸ Chisholm, 585.
- ²³⁹ Westermeyer, 475-481.
- ²⁴⁰ World Bank, "The Global HIV/AIDS Program," <http://www1.worldbank.org/hiv_aids/globalprogram.asp> (21st September, 2004).
- ²⁴¹ World Bank, "WBI Leadership Program on AIDS," <<http://www.worldbank.org/wbi/aidsleadership/>> (21 September, 2004).
- ²⁴² World Bank, "World Bank AIDS Economics," <<http://www.worldbank.org/aids-econ/>> (21 September, 2004).
- ²⁴³ World Bank, "Accelerating the Education Sector Response to HIV/AIDS," <<http://www.schoolsandhealth.org/HIV-AIDS&Ed/Introduction-HIV-AIDS&Education-Accelerate.htm>> (22 September, 2004).
- ²⁴⁴ World Bank, "About the Multi Country HIV/AIDS Program (MAP)," <<http://www.worldbank.org/afr/aids/map.htm>> (4 August 2004).
- ²⁴⁵ World Bank, "About the Multi Country HIV/AIDS Program (MAP)."
- ²⁴⁶ World Bank, "AIDS."
- ²⁴⁷ UNAIDS, "World Bank," <<http://www.unaids.org/en/about+unaids/cosponsors/world+bank.asp>> (12 September 2004).
- ²⁴⁸ World Bank, "AIDS."
- ²⁴⁹ UNAIDS, "World Bank."
- ²⁵⁰ World Bank, "World Bank HIV/AIDS Activities: Why should the Bank Invest in AIDS?" <http://www.worldbank.org/html/extdr/hiv/aids/aids_wb.htm> (12 September 2004).
- ²⁵¹ Gallego, Gordillo and Catalan, 57.
- ²⁵² Kaaya et al., "Validity of the Hopkins Symptom Checklist-25 amongst HIV-Positive Pregnant Women in Tanzania," *Acta Psychiatrica Scand.* 106, no. 1 (July 2002): 9-19.

-
- ²⁵³ P. Bolton, C. M. Wilk and L. Ndogoni, "Assessment of Depression Prevalence in Rural Uganda using Symptom and Function Criteria," *Social Psychiatry Psychiatric Epidemiology* 39, no. 6 (June 2004):442-447.
- ²⁵⁴ Gallego, Gordillo and Catalan, 57.
- ²⁵⁵ R. Foster, D. Olajide and I. P. Overall, "Antiretroviral Therapy-Induced Psychosis: case report and brief review of the literature," *British HIV Association HIV Medicine* 4 (2003): 139-144.
- ²⁵⁶ Singh and Berman et al., 824.
- ²⁵⁷ Gallego, Gordillo and Catalan, 51.
- ²⁵⁸ Horizons and Alliance, 131.
- ²⁵⁹ Lamptey, Wigley, Carr and Collymore, 9.
- ²⁶⁰ Margo M. Kelly, "Fighting AIDS-Related Stigma in Africa," *Population Reference Bureau*, <<http://www.prb.org/Template.cfm?Section=PRB&template=/ContentManagement/ContentDisplay.cfm&ContentID=8008>> (21 August 2004), Introduction.
- ²⁶¹ Parker and Aggleton et al., 6.
- ²⁶² Parker and Aggleton et al., 9.
- ²⁶³ World Health Organization, *Atlas: Mental Health Resources in the World* (Geneva: WHO, 2001), 22-23.
- ²⁶⁴ World Health Organization, *Atlas: Mental Health Resources*, 26-37.
- ²⁶⁵ REPSSI, About REPSSI: State of the Initiative, 2003
<<http://www.repssi.org/initiativestate.htm>> (24 August 2004).
- ²⁶⁶ Leslie Snider, "Indicators for Psychological Programs," Presentation at a UNAID workshop, *Orphans and Vulnerable Children: technical consultation*, Washington, DC. 4 November 2003.
- ²⁶⁷ Leslie Snider, "Indicators for Psychological Programs," Presentation at a UNAID workshop, *Orphans and Vulnerable Children: technical consultation*, Washington, DC. 4 November 2003.
- ²⁶⁸ Sue Armstrong, "Caring for Caregivers: Managing stress in those who care for people with HIV and AIDS," (Geneva, UNAIDS, 2001), 5.
- ²⁶⁹ C.N.M. Brouwer, C. L. Lok, I. Wolffers and S. Sebagalls, "Psychological and Economic Aspects of HIV/AIDS and Counseling of Caregivers of HIV-infected Children in Uganda," *AIDS Care* 12, no. 5 (2000): 538.
- ²⁷⁰ John Williamson, *Children and Families Affected by AIDS : Guidelines for Action*. Draft prepared for UNICEF, October 1995.
- ²⁷¹ Whiteside, 315.

-
- ²⁷² Kelly, The Swaziland Example.
- ²⁷³ Kelly, The Swaziland Example.
- ²⁷⁴ Parker and Aggleton et al., 13.
- ²⁷⁵ Parker and Aggleton et al., 13-14.
- ²⁷⁶ Parker and Aggleton et al., 14.
- ²⁷⁷ UNAIDS, *2004 Report on the Global AIDS Epidemic: Executive Summary*, 11.
- ²⁷⁸ Jose Catalan, "Psychological Interventions," in *Mental Health and HIV Infection: Psychological and Psychiatric Aspects*, ed. Jose Catalan (London: University College London, 1999), 54.
- ²⁷⁹ Lamptey, Wigley, Carr and Collymore, 28.
- ²⁸⁰ Population Council, *Horizons: Global Operations Research on HIV/AIDS/STI Prevention and Care*, 10 April 2003 <http://www.popcouncil.org/horizons/ressum/vct_youth.html> (23 August 2004), Introduction.
- ²⁸¹ Population Council, Counseling is a valued part of HIV testing.
- ²⁸² Helen Epstein et al., *HIV/AIDS Prevention Guidance for Reproductive Health Professionals in Developing Country Settings* (New York: The Population Council Inc. and UNFPA, 2002), 26.
- ²⁸³ Gallego, Gordillo and Catalan, 50-51.
- ²⁸⁴ Catalan, 151-160.
- ²⁸⁵ Catalan, 155-156.
- ²⁸⁶ Oye Gureje, Professor and Head of the Department of Psychiatry University Of Ibadan, Nigeria, comments to authors.
- ²⁸⁷ Joan MacNeil, Senior HIV/AIDS Specialist, World Bank, comments to authors.
- ²⁸⁸ Chisholm et al., 587.
- ²⁸⁹ Joep M. A. Lange, "Access to Antiretroviral Therapy in Resource-Poor Settings," *International AIDS Society*, 1 December 2002, <<http://www.impactaids.org.uk/IAS%20Access3.htm>> (11 November 2003), Conclusion.
- ²⁹⁰ Mari M. Kitahata, et al., "Comprehensive Health Care for People Infected with HIV in Developing Countries," *British Medical Journal (BMJ)* 325 (26 October 2002): 954.
- ²⁹¹ BBC, "Stark Warning over AIDS Apathy," *BBC Online*, British Broadcasting Corporation, 10 July 2000 <<http://news.bbc.co.uk/1/hi/world/africa/826979.stm>> (20 August 2004).
- ²⁹² Lange, Challenges.

-
- ²⁹³ Lange, Introduction.
- ²⁹⁴ Henkel, Introduction.
- ²⁹⁵ Lange, Why antiretroviral therapy?
- ²⁹⁶ UNAIDS/ WHO, 16.
- ²⁹⁷ Lamptey, Wigley, Carr and Collymore, 17.
- ²⁹⁸ Project Inform, 2.
- ²⁹⁹ Armstrong, 97.
- ³⁰⁰ Henkel, Pregnant women and children.
- ³⁰¹ Gilborn et al., 2.
- ³⁰² Population Council, Improving capacity for adult-to-child communication.
- ³⁰³ Gilborn et al., 14, 15.
- ³⁰⁴ Williamson, *Children and Families*.
- ³⁰⁵ Gilborn et al., 18, 27.
- ³⁰⁶ Gilborn et al., 27.
- ³⁰⁷ Gilborn et al., 27.
- ³⁰⁸ Gilborn et al., 4, 26.
- ³⁰⁹ UNAIDS, Investing in Our Future: Psychosocial Support for Children Affected by HIV/AIDS, (Geneva: UNAIDS, July 2001), 32-34.
- ³¹⁰ Williamson, *Children and Families*.
- ³¹¹ Lange, Lack of a common agenda and leadership in implementation.

REFERENCES

- Amirkhanian, Yuri A., Jeffery A. Kelly and Timothy L. McAuliffe. "Psychosocial needs, mental health, and HIV transmission risk behavior among people living with HIV/AIDS in St. Petersburg, Russia." *AIDS* 17, no. 16 (6 November 2003): 2367-2374.
- Angelino, Andrew F. and Glenn J. Treisman. "Management of Psychiatric Disorders in Patients Infected with Human Immunodeficiency Virus." *Clinical Infectious Disease* 33 (2001): 847-856.
- Armstrong, F. Daniel, John F. Seidel, and Thomas P. Swales. "Pediatric HIV infection: A Neuropsychological and Educational Challenge." *Journal of Learning Disabilities* 26, no. 2 (February 1993): 92-103.
- Armstrong, Sue. "Caring for Caregivers: Managing stress in those who care for people with HIV and AIDS." Geneva: UNAIDS, 2001.
- Babikian, Talin, Mary-Catherine Freier, Gary L. Hopkins, Ralph DiClemente, Duane McBride, and Matt Riggs. "An Assessment of HIV/AIDS Risk in Higher Education Students in Yerevan, Armenia." *AIDS and Behavior* 8, no. 1 (March 2004): 47-61.
- BBC. "Stark Warning over AIDS Apathy." *BBC Online*. British Broadcasting Corporation. 10 July 2000. <<http://news.bbc.co.uk/1/hi/world/africa/826979.stm>> (20 August 2004).
- Bell, Clive, Shantayanan Devarajan and Hans Gersbach. *The Long-run Economic Costs of AIDS: Theory and an Application to South Africa*. Washington: World Bank, June 2003.
- Bensley, Lillian S., Juliet van Eenwyk and Katrina W. Simmons. "Self-reported Childhood Sexual and Physical Abuse and Adult HIV-risk Behaviors and Heavy Drinking." *American Journal of Preventive Medicine* 18, no. 2 (2000): 151-158.
- Bolton, P., C. M. Wilk and L. Ndogoni. "Assessment of Depression Prevalence in Rural Uganda using Symptom and Function Criteria." *Social Psychiatry Psychiatric Epidemiology* 39, no. 6 (June 2004): 442-447.
- Brouwer, C. N. M., C. L. Lok, I. Wolffers and S. Sebagalls, "Psychological and Economic Aspects of HIV/AIDS and Counseling of Caregivers of HIV-infected Children in Uganda." *AIDS Care* 12, no. 5 (2000): 535-540.
- Catalán, José, Adrian Burgess and Ivana Klimes. *Psychological Medicine of HIV Infection*. Oxford: Oxford University Press, 1995.
- Catalan, Jose. "Psychological Interventions." In *Mental Health and HIV Infection: Psychological and Psychiatric Aspects*. Edited by Jose Catalan, 151-163. London: University College London, 1999.
- Chapko, M. K., P. Somse, A. M. Kimball, R. V. Hawkins, and M. Massanga. "Predictors of Rape in the Central African Republic." *Health Care Women Int.* 20, no. 1 (Jan-Feb 1999): 71-79.
- Chenneville, Tiffany A. and Howard M. Knoff. "HIV/AIDS: What Parents Should Know." *National Mental Health and Education Center*. 1998. <http://www.naspcenter.org/adol_HIV.html> (14 August 2004).

Chesney, M. A., J. Ickovics, F. M. Hecht, G. Sikipa and J. Rabkin. "Adherence : a necessity for successful HIV combination therapy." *AIDS* 13, Suppl . A (1999): S271-8.

Chisholm, D., K. Sekar, K. Kishore Kumar, K. Saeed, S. James, M. Mubbashar and R. Srinivasa Murthy. "Integration of mental health care into primary care: Demonstration cost-outcome study in India and Pakistan." *British Journal of Psychiatry* 176 (2000): 581-588.

Chuang H. T. and M. Atkinson. "AIDS Knowledge and High-risk Behavior in the Chronic Mentally Ill." *Canadian Journal of Psychiatry* 41, no. 5 (June 1996): 269-272.

Ciesla, Jeffrey A. and John E. Roberts. "Meta-Analysis of the Relationship Between HIV Infection and Risk for Depressive Disorders." *American Journal of Psychiatry* 158 (2001): 725-730.

Cohen, M., C. Deamant, S. Barkan, J. Richardson, M. Young, S. Holman, K. Anastos, J. Cohen, S. Melnick. "Domestic Violence and Childhood Sexual Abuse in HIV-Infected Women and Women at Risk for HIV." *American Journal of Public Health* 90, no. 4 (April 2000): 560-565.

Collymore, Yvette. "Rooting Out AIDS-Related Stigma and Discrimination." *Population Reference Bureau*. <http://www.prb.org/Template.cfm?Section=PRB&template=/Content/ContentGroups/Articles/02/Rooting_Out_AIDS-Related_Stigma_and_Discrimination.htm> (21 August 2004).

Coverdale, John H. and Sarah H. Turbott. "Risk Behaviors for Sexually Transmitted Infections Among Men with Mental Disorders." *Psychiatric Services* 51, no. 2 (February 2000): 234-238.

Davidson, S., F. Judd, D. Jolley, B. Hocking, S. Thompson, and B. Hyland. "Risk Factors for HIV/AIDS and Hepatitis C Among the Chronic Mentally Ill." *Australian New Zealand Journal of Psychiatry* 35, no. 2 (April 2001): 203-209.

Drotar, Dennis, Karen Olness, Max Wiznitzer, Laura Guay, Lawrence Marum, Grace Svilar, David Hom, Joseph F. Fagan, Christopher Ndugwa, and Rebecca Kiziri-Mayengo. "Neurodevelopmental Outcomes of Ugandan Infants with Human Immunodeficiency Virus Type 1 Infection." *Pediatrics* 100, no. 1 (July 1997): 1-7.

Epstein, Helen, Daniel Whelan, Janneke van de Wijgert, Purnima Mane, and Suman Mehta. *HIV/AIDS Prevention Guidance for Reproductive Health Professionals in Developing Country Settings*. New York: The Population Council Inc. and UNFPA, 2002.

Foster, Geoff. "Beyond Education and Food: psychosocial well-being of orphans in Africa." *Acta Paediatrica* 91, no. 5 (1 May 2002): 502-504.

Foster, R., D. Olajide and I. P. Everall. "Antiretroviral Therapy-Induced Psychosis: case report and brief review of the literature." *British HIV Association HIV Medicine* 4 (2003): 139-144.

Gallego, Lucia, Victoria Gordillo, and Jose Catalan. "Psychiatric and Psychological Disorders associated to HIV Infection." *AIDS Reviews* 2, no. 1 (2000): 48-60.

Gilborn, Laelia Zoe, Rebecca Nyonyintono, Robert Kabumbuli, and Gabriel Jagwe-Wadda. *Making a Difference for Children Affected by AIDS : Baseline Findings from Operations Research in Uganda*. New York: Population Council Inc., 2001.

Gordillo, Victoria, Julia del Amo, Vicente Soriano, and Juan Gonzalez-Lahoz. "Sociodemographic and Psychological Variables Influencing Adherence to Antiretroviral Therapy." *AIDS* 13 (1999): 1763-1769.

Grassi, Luigi, Bruno Biancosino, Roberto Righi, Luciano Finotti, and Luana Peron. "Knowledge About HIV Transmission and Prevention Among Italian Patients with Psychiatric Disorders." *Psychiatric Services* 52, no. 5 (May 2001): 679-681.

Grassi, Luigi. "Risk of HIV Infection in Psychiatrically Ill Patients." *AIDS Care* 8, no. 1 (Feb 1996): 103-116.

Henkel, John. "Attacking AIDS with a 'Cocktail' Therapy." *U.S. Food and Drug Administration*. July-August 1999 <http://www.fda.gov/fdac/features/1999/499_aids.html> (22 August 2004).

Horizons and Alliance. *The Involvement of People Living with HIV/AIDS in Community-based Prevention, Care and Support Programs in Developing Countries*. New York: Population Council Inc. and the International HIV/AIDS Alliance, 2003.

Hunter, Susan and John Williamson. *Children on the Brink: Executive Summary*. Washington: USAID, 2000.

Institute of Medicine. *Neurological, Psychiatric, and Developmental Disorders: Meeting the Challenge in the Developing World*. Washington: National Academies Press, 2001.

International AIDS Economics Network. Interview with Dr. Peter Piot, Executive Director, Joint United Nations Programme on HIV/AIDS (UNAIDS) and Under Secretary-General of the United Nations. Conducted for release on World AIDS Day, 1 December 2003. <<http://www.iaen.org/globdial/piot/index.php>> (25 August 2004).

International Center for Research on Women. "Addressing HIV-Related Stigma and Resulting Discrimination in Africa: A Three-Country Study in Ethiopia, Tanzania, and Zambia." *Information Bulletin*, March 2002. <http://www.sahims.net/doclibrary/2004/03_March/05%20Fri/Regional/Abstract/Addressing%20HIV-Related%20Stigma%20and%20Resulting%20Discrimination%20in%20Africa.pdf> (27 November 2004).

Kaaya, S. F., M. C. Fawzi, J. K. Mbwambo, B. Lee, G. I. Msamanga, and W. Fawzi. "Validity of the Hopkins Symptom Checklist-25 amongst HIV-Positive Pregnant Women in Tanzania." *Acta Psychiatrica Scand.* 106, no. 1 (July 2002): 9-19.

Kelly, Margo M. "Fighting AIDS-Related Stigma in Africa," *Population Reference Bureau*, <<http://www.prb.org/Template.cfm?Section=PRB&template=/ContentManagement/ContentDisplay.cfm&ContentID=8008>> (21 August 2004).

Kitahata, Mari M., Mary K. Tegger, Edward H. Wagner, and King K. Holmes. "Comprehensive Health Care for People Infected with HIV in Developing Countries." *British Medical Journal (BMJ)* 325 (26 October 2002): 954-957.

Koutsilieris, E., C. Scheller, S. Sopper, V. ter Meulen, and P. Riederer. "Psychiatric Complications in Human Immunodeficiency Virus Infection." *Journal of NeuroVirology* 8, no. 2 (2002): 129-133.

Lagarde, E., M. Carael, J. R. Glynn, L. Kanhonou, S. C. Abega, M. Kahindo, R. Musonda, B. Aubert, and A. Buve. "Educational Level is Associated with Condom Use within Non-Spousal Partnerships in Four Cities in Sub-Saharan Africa." *AIDS* 15, no. 11 (July 2001): 1399-1408.

Lampthey, Peter, Merywen Wigley, Dara Carr and Yvette Collymore. "Facing the HIV/AIDS Pandemic." *Population Bulletin* 57, no. 3 (September 2002): 1-41.

Lange, Joep M. A. "Access to Antiretroviral Therapy in Resource-Poor Settings." *International AIDS Society*. 1 December 2002. <<http://www.impactaids.org.uk/IAS%20Access3.htm>> (11 November 2003).

Lesprit, P., A. M. Zagdanski, A. de La Blanchardiere, M. Rouveau, J. M. Decazes, J. Frija, P. Langrange, J. Modai and J. M. Molina. "Cerebral Tuberculosis in Patients with the Acquired Immunodeficiency Syndrome (AIDS)." *Medicine* (Baltimore) 76, no. 6 (1997): 423-431.

Maj, Mario. Review of *HIV, AIDS, and the Brain: Association for Research in Nervous and Mental Disease Research Publications*. Edited by Richard W. Price and Samuel Perry. *The American Journal of Psychiatry* 153, no. 6 (June 1996): 834.

Mamidi, Arunima, Joseph A. DeSimone, and Roger J. Pomerantz. "Central Nervous System Infections in Individuals with HIV-1 Infection." *Journal of NeuroVirology* 8 (2002):158-167.

McKinnon, K., F. Cournos, R. Sugden, J. R. Guido, and R. Herman. "The Relative Contributions of Psychiatric Symptoms and AIDS Knowledge to HIV Risk Behaviors among People with Severe Mental Illness." *Journal of Clinical Psychiatry* 57, no. 11 (Nov 1996): 506-513.

Menick, D. M. and F. Ngoh. "Seroprevalence of HIV Infection in Sexually Abused Children in Cameroon." *Medecine Tropicale (Marseilles)* 62, no. 2 (2003): 155-158.

Mugerwa, R. D., L. H. Marum and D. Serwadda. "Human Immunodeficiency Virus and AIDS in Uganda." *East African Medical Journal* 73, no. 1 (1996): 20-26.

Murphy, Elaine. "Being Born Female is Dangerous for Your Health." *American Psychologist* 58, no. 3 (March 2003): 205-210.

Parker, Richard, Peter Aggleton, Kathy Attawell, Julie Pulerwitz, and Lisanne Brown. *HIV/AIDS-related Stigma and Discrimination: A Conceptual Framework and an Agenda for Action*. New York: The Population Council, Inc., 2002.

Population Council. *Horizons: Global Operations Research on HIV/AIDS/STI Prevention and Care*. 10 April 2003. <http://www.popcouncil.org/horizons/ressum/vct_youth.html> (23 August 2004).

Project Inform. "AIDS Dementia Complex." April 2002. <<http://www.projectinform.org/pdf/dementia.pdf>> (14 August 2004).

REPSSI. "About REPSSI: State of the Initiative." 2003. <<http://www.repssi.org/initiativestate.htm>> (24 August 2004).

Sanchez-Portocarrero, J., E. Perez-Cecilia, A. Jimenez-Escrig, P. Martín-Rabadan, V. Roca, M. Ruiz Yague, J. Romero-Vivas, E. Palau, J. Picazo. "Tuberculosis Meningitis: clinical characteristics and comparison with cryptococcal meningitis in patients with human immunodeficiency virus infection." *Arch Neurol*. 53, no. 7 (1996): 671-676.

Senya, Chhin, Akanksha Mehta, Joseph I. Harwell, David Pugatch, Timothy Flanigan, and Kenneth H. Mayer. "Spectrum of Opportunistic Infections in Hospitalized HIV-infected Patients in Phnom Penh, Cambodia." *International Journal of STD and AIDS* 14 (2003): 411-416.

Singh, Nina, Stephen M. Berman, Susan Swindells, Janice C. Justis, Jeffrey A. Mohr, Cheryl Squier, and Marilyn M. Wagener. "Adherence of Human Immunodeficiency Virus-infected Patients to Antiretroviral Therapy." *Clinical Infectious Diseases* 29, no. 4 (Oct 1999): 824-30.

Singh, N, C. Squier, C. Sivek, M. Wagener, M. H. Nguyen and V. L. Yu. "Determinants of Compliance with Antiretroviral Therapy in Patients with Human Immunodeficiency Virus : prospective assessment with implications for enhancing compliance." *AIDS Care* 8, no. 3 (June 1996): 261-269.

Smith, Charlene. "Rape has become a sickening way of life in our land." *Sunday Independent*. 26 September 2004. <<http://www.sundayindependent.co.za/index.php?fSectionId=1042&fArticleId=2238856>> (27 November 2004).

Somse, P., M. K. Chapko and R. V. Hawkins. "Multiple Sexual Partners: results of a national HIV/AIDS survey in the Central African Republic." *AIDS* 7, no. 4 (April 1993): 579-583.

Stern, Robert A., Diana O. Perkins, and Dwight L. Evans. "Neuropsychiatric Manifestations of HIV-1 Infection and AIDS." In *Psychopharmacology: The Fourth Generation of Progress*. Edited by F. E. Bloom and D. J. Kupfer. New York: Raven Press Ltd, 2000.

Stillwagon, E. "HIV Transmission in Latin America: comparison with Africa and policy implications." *South African Journal of Economics* 68, no. 5 (2000): 985-1011.

Subbarao, K., Angel Mattimore and Kathrin Plangemann. "Social Protection of Africa's Orphans and Other Vulnerable Children." *African Region Human Development Working Paper Series*, August 2001.

Susser, I., and Z. Stein. "Culture, Sexuality and Women's Agency in the Prevention of HIV/AIDS in Southern Africa." *American Journal of Public Health* 90, no. 7 (1998): 1042-1048.

Treisman, Glenn J., Andrew F. Angelino, and Heidi E. Hutton. "Psychiatric Issue in the Management of Patients with HIV Infection." *Journal of the American Medical Association* 286, no. 22 (21 December 2001):2857-2864.

UNAIDS, UNICEF/ USAID. *Children on the Brink 2004: A Joint Report of New Orphan Estimates and a Framework for Action*. July 2004. <http://www.unicef.org/publications/index_22212.html> (27 November 2004).

UNAIDS/ UNICEF. *Children Orphaned by AIDS: Front-line Responses from Eastern and Southern Africa*. New York: United Nations, 1999.

UNAIDS/ WHO. *AIDS Epidemic Update: December 2002*. Geneva: UNAIDS/WHO, 2002.

UNAIDS. *2004 Report on the Global AIDS Epidemic*. Geneva: UNAIDS, 2004.

UNAIDS. *2004 Report on the Global AIDS Epidemic: Executive Summary*. Geneva: UNAIDS, 2004.

UNAIDS. *AIDS Epidemic Update: December 2000*. Geneva: UNAIDS, 2000.

UNAIDS. *Investing in Our Future: Psychosocial Support for Children Affected by HIV/AIDS*. Geneva: UNAIDS, July 2001.

UNAIDS. "New UN Report Estimates that Over One-Third of Today's 15-year-olds Will Die of AIDS in Worst Affected Countries." Press Release, 27 June 2000. <<http://www.thebody.com/unaid/fifteen.html>> (20 August 2004).

UNAIDS. "World AIDS Campaign 2001 Fact Sheet." <http://www.thebody.com/unaid/pdfs/fs_wac.pdf> (20 August 2004).

UNAIDS. "World Bank." <<http://www.unaid.org/en/about+unaid/cosponsors/world+bank.asp>> (12 September 2004).

UNESCO. "Overcoming the Effects of HIV/AIDS on Basic Education." Issue Paper. April 2000. <http://www.unesco.org/education/efa/wef_2000/strategy_sessions/session_II-1.shtml> (20 August 2004).

UNICEF. *Africa's Orphaned Generations*. New York: UNICEF, 2003

UNICEF. *HIV/AIDS Education: A Gender Perspective, Tips and Tools*. New York: UNICEF, 2002.

USAID. *USAID Project Profiles: Children Affected by HIV/AIDS*, 3rd edition. Washington: USAID, 2003.

USAID, "Central Asian Republics," <www.usaid.gov/locations/europeeurasia/car/briefers/hivaidsprevention.html> (3 August 2004).

Warren, Calvert and Robert Stern. "Neuropsychiatric Emergencies in the Patient with HIV Infection." *Emergency Medicine Reports* 16, no. 15 (24 July 1995): 141-148.

Weiss, Ellen, Daniel Whelan, and Geeta Rao Gupta. *Vulnerability and Opportunity : Adolescents and HIV/AIDS in the Developing World*. Washington : International Center for Research on Women, 1996.

Westermeyer, Joseph. "Economic Losses Associated with Chronic Mental Disorder in a Developing Country." *The British Journal of Psychiatry* 144 (1984): 475-481.

Whiteford, Harvey, M. Teeson, R. Scheurer and Dean Jamison. "Responding to the Burden of Mental Illness." Commission on Macroeconomics and Health Working Paper Series, Paper No. WG1:12. Geneva: WHO, July 2001.

Whiteside, Alan. "Poverty and HIV/AIDS in Africa." *Third World Quarterly* 23, no. 2 (2002): 313-332.

Williamson, John. *Children and Families Affected by AIDS : Guidelines for Action*. Draft prepared for UNICEF. October 1995.

World Bank. "Accelerating the Education Sector Response to HIV/AIDS." <<http://www.schoolsandhealth.org/HIV-AIDS&Ed/Introduction-HIV-AIDS&Education-Accelerate.htm>> (22 September, 2004).

World Bank. "About the Multi Country HIV/AIDS Program (MAP)." 2002. <<http://www.worldbank.org/afr/aids/map.htm>> (4 August 2004).

World Bank. "AIDS." June 2004. <http://www1.worldbank.org/hiv_aids/overview.asp> (30 July 2004).

World Bank. *Averting AIDS Crisis in Eastern Europe and Central Asia*. Washington: The World Bank, 2003.

World Bank. "WBI Leadership Program on AIDS." <<http://www.worldbank.org/wbi/aidsleadership/>> (21 September, 2004).

World Bank. *Confronting AIDS: Public priorities in a global epidemic*. New York: Oxford University Press, 1999.

World Bank. *HIV/AIDS at a Glance*. October 2003. <[http://wbln0018.worldbank.org/HDNet/hddocs.nsf/c840b59b6982d2498525670c004def60/0560436b70e56de385256a4800524119/\\$FILE/AAG%20HIVAIDS%2010-03.pdf](http://wbln0018.worldbank.org/HDNet/hddocs.nsf/c840b59b6982d2498525670c004def60/0560436b70e56de385256a4800524119/$FILE/AAG%20HIVAIDS%2010-03.pdf)> (November 27 2004).

World Bank. "Orphans and Other Vulnerable Children: What role for social protection?" *Social Protection Discussion Paper no. 0126*. Edited by Anthony Levine. Washington: World Bank, October 2001.

World Bank. "The Global HIV/AIDS Program." <http://www1.worldbank.org/hiv_aids/globalprogram.asp> (21st September, 2004).

World Bank. "World Bank AIDS Economics." <<http://www.worldbank.org/aids-econ/>> (21 September, 2004).

World Bank. "World Bank HIV/AIDS." <http://www1.worldbank.org/hiv_aids/> (3 August 2004).

World Bank. "World Bank HIV/AIDS Activities: Why should the Bank Invest in AIDS?" <http://www.worldbank.org/html/extdr/hiv aids/aids_wb.htm> (12 September 2004).

World Health Organization. *Atlas: Mental Health Resources in the World*. Geneva: WHO, 2001.

World Health Organization. "Gender, Health and Poverty." (Fact Sheet #251). Geneva: World Health Organization, 2000.

World Health Organization. *Preventing Suicide: A resource for general physicians*. Geneva: WHO, 2000.

World Health Organization. *The World Health Report 1999: Making a Difference*. Geneva: WHO, 1999.

World Health Organization. *The World Health Report 2001: Mental Health: New Understanding, New Hope*. Geneva: WHO, 2001.

Zieler, S., L. Feingold, D. Laufer, P. Velentgas, I. Kantrowitz-Gordon and K. Mayer. "Adult Survivors of Childhood Sexual Abuse and Subsequent Risk of HIV Infection." *American Journal of Public Health* 81, no. 5 (May 1991): 572-575.

Zimba, R. F. "Secondary School Students' Risks that may Promote HIV Infection and the Spread of AIDS: a Namibian Study." *School Psychology Quarterly* 16, no. 1 (Feb 1995): 67-78.



HEALTH, NUTRITION,
AND POPULATION



HUMAN DEVELOPMENT NETWORK

THE WORLD BANK

About this series...

This series is produced by the Health, Nutrition, and Population Family (HNP) of the World Bank's Human Development Network. The papers in this series aim to provide a vehicle for publishing preliminary and unpolished results on HNP topics to encourage discussion and debate. The findings, interpretations, and conclusions expressed in this paper are entirely those of the author(s) and should not be attributed in any manner to the World Bank, to its affiliated organizations or to members of its Board of Executive Directors or the countries they represent. Citation and the use of material presented in this series should take into account this provisional character. For free copies of papers in this series please contact the individual authors whose name appears on the paper.

Enquiries about the series and submissions should be made directly to the Managing Editor Joy de Beyer (jdebeyer@worldbank.org) or HNP Advisory Service (healthpop@worldbank.org, tel 202 473-2256, fax 202 522-3234). For more information, see also www.worldbank.org/hnppublications.



THE WORLD BANK

1818 H Street, NW
Washington, DC USA 20433
Telephone: 202 473 1000
Facsimile: 202 477 6391
Internet: www.worldbank.org
E-mail: feedback@worldbank.org