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I. Introduction

HIV has blazed throughout sub-Saharan Africa, particularly Southern Africa, leaving almost no community unaffected by its devastating effects. Despite successful interventions in some countries and communities to combat the virus, it has continued to wreak its havoc at an alarming rate. Evidence continues to pour in, identifying solutions that have the capability to reduce the transmission of HIV substantially. Nonetheless, HIV/AIDS is mired in politics and foreign aid, which causes efforts to stray away from evidence-based solutions. Although the effectiveness of reduction in multiple concurrent partnerships and the delay of sexual debut is evident, prevention efforts often focus almost entirely on condom promotion, to the exclusion of promoting behavior change that addresses multiple partnerships. UNAIDS, a United Nations body with a lot of political and financial weight, has continued to promote strategies that often do not address the fundamental underlying behaviors that facilitate the spread of HIV. The need is urgent for locally driven campaigns that are aimed at stopping risky behaviors and cultivating a culture of personal responsibility. In order for these campaigns to be effective, they must respect local cultures and engage community leaders.

This paper first presents an overview of how HIV is transmitted, statistics on how many people are affected by HIV/AIDS, and the differences between prevalence and incidence and generalized and concentrated epidemics, critical for understanding how to respond appropriately and effectively in various contexts. Next, it details the elements of a person-centered response, particularly risk avoidance, which is based on a holistic perception of the person's needs in prevention, treatment, care, and support and underscores the capacity of the person to make responsible choices that greatly reduce the risk of transmitting or contracting HIV. It explores the importance of local development of intervention strategies in effectively communicating to and meeting the needs of the person. The paper then focuses on the success of antiretroviral therapy in treating those infected with HIV, strategies that effectively curtail the risk of HIV transmission, namely reducing multiple concurrent partners and delay of sexual debut, and strategies that can only reduce the risk of HIV transmission, such as circumcision, condom use, and voluntary counseling and testing. Finally, the paper describes UNAIDS' successes in promoting access to antiretroviral therapy and its failures in overprioritization and promotion of interventions that have not proven the most effective in generalized epidemics.

II. HIV/AIDS background, statistics, and terminology

A. HIV transmission

HIV, or human immunodeficiency virus, is a virus that leads to the deterioration of the immune system by infecting human immune system cells and destroying or impairing their function. Once the immune system is deficient, it is not able to fight against infections and diseases,

¹ UNAIDS, Fast facts about HIV, http://www.unaids.org/en/media/unaids/contentassets/dataimport/pub/factsheet/ 2008/20080519_fastfacts_hiv_en.pdf.

causing increased susceptibility to infections.² Infections that take advantage of the weakened immune system are called opportunistic infections.³ A person has AIDS, or acquired immunodeficiency syndrome, when he or she is in the most advanced stages of HIV and is infected by any of more than twenty opportunistic infections.⁴ When a person contracts HIV. there are often no immediate symptoms, and thus one can go for a while without knowing that he or she has HIV.⁵ During the initial period of infection, a person with HIV is highly infectious and transmission to another person is possible.⁶ Antibodies to HIV are developed through a process called serocoversion one to six weeks after the point of infection.⁷ The risk of transmission is highest during the postseroconversion period, when the HIV load is highest.⁸ One study found that the rate of transmission for discordant couples, in which one partner is HIV-positive and the other is not, was twelve times higher during the 2.5 months after seroconversion than during the intermediate stage ("prevalent phase") of HIV infection, and that the rate again increased in the late stages of HIV infection.⁹

HIV is transmitted through preventable means: unprotected sex with an HIV-positive person (whether vaginal, anal, or, to a lesser extent, oral), using HIV-contaminated needles and syringes, from HIV-positive mother to her child in pregnancy, childbirth, or breastfeeding, and blood transfusion with HIV-contaminated blood. ¹⁰ Thus, it is clear that HIV does not affect only those with high-risk behaviors, such as sex workers, injecting drug users, and men who have sex with men. 11

B. Statistics

More than 34 million people were living with HIV at the end of 2010, including 3.4 million children under the age of 15 years. 12 2.7 million people, including 390,000 children, became infected with HIV in 2010.¹³ 1.9 million new infections in 2010 were in sub-Saharan Africa.¹⁴ 1.8 million people died of AIDS-related causes in 2010, 15 69 percent of which (1.2 million) were

² *Id*.

 $^{^3}$ Id.

⁴ *Id*.

⁵ *Id*.

⁶ *Id*.

⁸ Maria J. Wawer et al., Rates of HIV-1 Transmission per Coital Act, by Stage of HIV-1 Infection, in Rakai, Uganda, 191 J. INFECTIOUS DISEASES 1403, 1403 (2005).

⁹ See id. at 1406.

¹⁰ UNAIDS, HIV prevention fast facts, http://www.unaids.org/en/media/unaids/contentassets/dataimport/pub/brochu repamphlet/2009/20090401_prevention_fast_facts_en.pdf [hereinafter UNAIDS, HIV prevention fast facts]. See id.

¹² WHO, UNAIDS, & UNICEF, GLOBAL HIV/AIDS RESPONSE: EPIDEMIC UPDATE AND HEALTH SECTOR PROGRESS TOWARDS UNIVERSAL ACCESS (2011), available at http://www.unaids.org/en/media/unaids/contentassets/documents /unaidspublication/2011/20111130 UA Report en.pdf [hereinafter UNAIDS, GLOBAL HIV/AIDS RESPONSE].

¹³ *Id*. ¹⁴ *Id*.

¹⁵ *Id*.

located in sub-Saharan Africa.¹⁶ More than 60 million people have been infected with HIV since the beginning of its existence, and over 30 million have died of AIDS.¹⁷

C. Prevalence vs. incidence

According to UNAIDS, "HIV prevalence quantifies the proportion of individuals in a population who are living with HIV at a specific point in time," and is usually measured among individuals aged 15-49. HIV incidence, on the other hand, "is the number of new cases arising in a given period in a specified population," and is also usually measured among individuals aged 15-49. HIV prevalence does not consider when the person became infected. Given that HIV-positive people are living longer today, incidence (the number of new infections) gives a better picture of how various interventions are working to reduce HIV transmission than does prevalence. ²¹

D. Generalized vs. concentrated epidemics

The HIV epidemic is not a global one.²² Rather, there are various epidemics around the world, each with its own challenges and solutions.²³ These epidemics can be divided into two general types: concentrated and generalized.²⁴ Historically, HIV epidemics have been sorted into categories based on prevalence, where those with more than 5 percent of a subpopulation but less than one percent of the general population infected are classified as concentrated epidemics.²⁵ David Wilson of the World Bank has suggested a new framework, where epidemics are defined by "WHO gets infected and HOW,"²⁶ not by prevalence. Under this framework, "epidemics [are] concentrated if transmission [is] mostly among vulnerable groups and if protecting vulnerable groups would protect wider society. Conversely, epidemics [are] generalized if transmission [is] mainly outside vulnerable groups and would continue despite effective vulnerable group interventions."²⁷ This transmission-based understanding of epidemics allows for appropriate interventions, for solutions in concentrated epidemics do not necessarily work in generalized epidemics.²⁸ HIV is simply not spread in the same manner in each kind of

¹⁶ WHO, Global Health Repository, HIV/AIDS, http://www.who.int/gho/hiv/en/index.html (last visited July 26, 2012).

¹⁷ *Id*.

¹⁸ UNAIDS, TERMINOLOGY GUIDELINES 23 (2011), *available at* http://www.unaids.org/en/media/unaids/content assets/documents/unaidspublication/2011/JC2118_terminology-guidelines_en.pdf [hereinafter UNAIDS, TERMINOLOGY].

¹⁹ *Id.* at 17.

²⁰ *Id*.

 $^{^{21}}$ Edward C. Green, Broken Promises: How the AIDS Establishment Has Betrayed the Developing World 30–31 (2011).

²² David Wilson, Kampala Plenary Talk, Uganda, June 2008, *available at* http://siteresources.worldbank.org/ INTHIVAIDS/Resources/DAVIDWILSONUgandaPlenaryJune08.pdf [hereinafter Wilson, Kampala Plenary Talk].
²³ Id.

²⁴ *Id*.

²⁵ UNAIDS, TERMINOLOGY, *supra* note 18, at 7.

²⁶ Wilson, Kampala Plenary Talk, *supra* note 22.

²⁷ Id.

²⁸ *Id*.

epidemic.²⁹ In concentrated epidemics, HIV infection occurs in vulnerable groups (also known as most at risk populations, or MARPS): sex workers, injecting drug users (IDUs), and men who have sex with men (MSM).³⁰ More men than women are infected, and heterosexual vaginal intercourse is not the primary mode of transmission.³¹ In generalized epidemics, HIV is spread through heterosexual vaginal intercourse, and it infects sexually active people who have low-risk behavior.³² More women than men are infected.³³

Again, knowing what kind of epidemic a country is facing is important for tailoring and instituting appropriate interventions.³⁴ As discussed below, successful interventions in

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concentrated epidemics have not worked in generalized epidemics.³⁵ In generalized epidemics, circumcision and partner reduction have reduced HIV transmission, but interventions targeted at those engaged in high-risk behaviors, such as the promotion of

condoms, have not worked, even though they were more effective in concentrated epidemics.³⁶

III. Elements of a person-centered response to HIV/AIDS

The HIV/AIDS epidemic must be met with a person-centered approach, which is based on a holistic perception of the person's needs in prevention, treatment, care, and support. A person-centered response has as its focus the intrinsic dignity of the person, and as its aim the goal of maximizing the effectiveness of

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HIV/AIDS programs and education. The effectiveness of prevention interventions lies in the way in which they respond to the capacity of the person to make responsible choices. The goal of

Given the complexity of the virus and the extent of the global epidemic, it is critical that the focus remain on the science of transmission and the importance of pursuing choices that avoid risk. HIV prevention is ultimately to build a culture of individual responsibility, and to foster programs that go beyond mere harm reduction strategies. Given the complexity of the virus and the extent of the global epidemic, it is critical that the focus remain on the science of transmission and the importance of pursuing

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³⁰ Edward C. Green, *Establishing Risk Elimination and Improving Harm Reduction in AIDS Prevention*, 13 RUSSIAN J. AIDS, CANCER, & PUB. HEALTH 46, 47 (2009) [hereinafter Green, *Establishing Risk Elimination*].

³¹ *Id*.

³² *Id*.

³³ *Id*.

³⁴ Wilson, Kampala Plenary Talk, *supra* note 22.

³⁵ Green, Establishing Risk Elimination, supra note 30, at 47.

³⁶ Wilson, Kampala Plenary Talk, *supra* note 22.

choices that avoid risk. It is also essential to understand the differences between concentrated and generalized epidemics and to tailor strategies depending on the type of epidemic involved.

A. Risk avoidance

There are two basic approaches to risks associated with HIV transmission: harm reduction and risk avoidance. Harm reduction strategies focus on reducing the harm—in effect, treating the symptoms³⁷—caused by harmful behavior, and it is term that is often used to justify high-risk behavior. The International Harm Reduction Association, which hosts a yearly conference supported by UNAIDS,³⁸ defines harm reduction in the context of its focus, drug use:

Harm reduction refers to policies, programmes and practices that aim to reduce the harms associated with the use of psychoactive drugs in people unable or unwilling to stop. The defining features are the focus on the prevention of harm, rather than on the prevention of drug use itself, and the focus on people who continue to use drugs.³⁹

This is an approach strongly endorsed by the World Health Organization (WHO), and it entails needle and syringe programs, opioid substitution therapy, condom distribution, management of sexually transmitted infections (STIs), tuberculosis, and viral hepatitis, HIV testing, and HIV

treatment and care.⁴⁰ This harm reduction approach is applicable to sexual transmission of HIV as well, where the focus is on condom use, testing, and management of STIs.⁴¹ Harm reduction programs "defend people['s] alleged rights to engage in a variety of high-

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risk behaviors."⁴² This attempt to defend people's right to engage in high risk behavior is misguided, destructive, and in opposition to a person-centered response. High-risk behaviors are usually inherently destructive. Although providing comprehensive medical and HIV services to persons engaged in high-risk behaviors is laudable, it is misguided to promote and defend a right to engage in these behaviors because they are so destructive.

Those who reject the harm reduction approach recognize that it "give[s] the message that society has given up on the addict, condones their drug use, and condemns them to a life of drug

³⁷ Green, Establishing Risk Elimination, supra note 30, at 53.

³⁸ See, e.g., UNAIDS, International conference on harm reduction in Liverpool, Apr. 28, 2010, http://www.unaids.org/en/resources/presscentre/featurestories/2010/april/20100428ihrc/; UNAIDS, International Harm Reduction Conference opens in Bangkok, Apr. 20, 2009, http://www.unaids.org/en/Resources/PressCentre/Featurestories/2009/April/20090420BangkokConference/.

³⁹ Int'l Harm Reduction Ass'n, What is harm reduction? 1, *available at* http://www.ihra.net/files/2010/08/10/Briefing_What_is_HR_English.pdf.

⁴⁰ See WHO, Injecting drug use, http://www.who.int/hiv/topics/idu/about/en/index.html (last visited July 26, 2012).

⁴¹ See Green, Establishing Risk Elimination, supra note 30, at 47.

⁴² *Id.* at 52.

dependence."⁴³ This criticism applies more broadly: for example, harm reduction also gives the message that society has given up on the sex worker, condones a person's choice to pay a man, woman, girl, or boy for sex, and condemns the sex worker to a life of dependence on selling his or her body for subsistence. Another societal message is that the typical African cannot control his or her sexuality, and thus promoting condoms is the best way to deal with concurrent sexual relations.

Risk avoidance strategies focus on changing the underlying behavior that puts a person in a position of harm. While behavior change is an essential component of any approach to the prevention of HIV transmission, *primary* behavior change is a specific subset of these behavior

Risk avoidance strategies focus on changing the underlying behavior that puts a person in a position of harm. changes that is concerned with risk avoidance. ⁴⁴ In the case of the addict, risk avoidance means focusing on treating the illness of addiction. ⁴⁵ In the case of the sex worker, risk avoidance means empowering the woman to change her career. ⁴⁶ In the case

of many Africans at risk of contracting HIV, reducing multiple concurrent partnerships so that there is mutual fidelity between two HIV-negative partners avoids the risk of contracting HIV,⁴⁷ as discussed below.

Although the foundation of these approaches is different, in the delivery of practical approaches and program implementation there is usually a mix of both approaches. However, programs emphasize or prioritize one approach over the other.

B. Local, home-grown intervention strategies

Responses to HIV/AIDS epidemics are most successful when they come from within the affected

communities themselves,⁴⁸ and person-centered responses in particular are most appropriate if they understand the context in which the infected person lives. In both Uganda and California, local leaders led the charge for behavior change,

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capitalizing on a message of fear but also emphasizing openness and acceptance, as opposed to

⁴³ Int'l Task Force on Strategic Drug Policy, Statement on So-Called 'Harm Reduction' Policies, *available at* http://www.itfsdp.org/pdfs/hrstatementbrussels.pdf.

⁴⁴ See Edward C. Green, *The Impact of Religious Organizations in Promoting HIV/AIDS prevention*, Revised version of paper presented at Challenges for the Church: AIDS, Malaria & TB, Christian Connections for International Health (May 25–26, 2001).

⁴⁵ See GREEN, supra note 21, at 101.

⁴⁶ See id.

⁴⁷ See, e.g., Green, Establishing Risk Elimination, supra note 30, at 49.

⁴⁸ David Wilson, *Partner reduction and the prevention of HIV/AIDS*, 328 BMJ 848, 848 (2004) [hereinafter Wilson, *Partner reduction*].

discrimination.⁴⁹ Uganda's successful community-based response is particularly well-known and lauded,⁵⁰ with organized mobilization by "faith based organisations, prominent cultural figures [...], political, military and community figures, non-governmental organisations (NGOs) and care organisations." Most importantly, Uganda's president was highly involved in combatting the spread of HIV.⁵² Uganda used a "zero grazing" message, a concept with which Ugandans easily identified, to convey the importance of faithfulness in combating the transmission of HIV.⁵³ This message, along with the messages "Be faithful" and "Love carefully,"⁵⁴ were spread throughout the country by the media, on posters, through plays and music performances, by the three major faith communities, and even by traditional healers.⁵⁵ Further, the involvement of those actually affected by HIV allowed for effective and energizing intervention strategies.⁵⁶

There are substantial financial resources and international development dedicated to combat HIV/AIDS.⁵⁷ Because money is attractive, many organizations are willing to receive aid and alter the approach they believe would be best for their community even if they do not agree with the strings attached. Foreign aid often means foreign ideas as to the best prevention efforts, even though the prevention issue is fundamentally local, and the real solutions come from within the countries affected.⁵⁸ Many times, messages approved by Africans are changed by Westerners who think they have a better idea about what will get the message across, ⁵⁹ or there is no input or feedback from Africans.⁶⁰ Many HIV prevention messages designed by well-intentioned Westerners are highly sexualized and based on an ideology focused on sexual and reproductive rights. 61 This can cause those who recognize that their own behavior is not "promiscuous" to reject the idea that they are at risk of contracting HIV.⁶² Furthermore, culturally inappropriate messages can cause people to feel ashamed of their behavior and thus to refuse to undergo testing or to receive care. 63

Community-driven initiatives are particularly critical given that many AIDS prevention

⁴⁹ *Id.*; GREEN, *supra* note 21, at 41–42.

⁵⁰ See, e.g., Green, supra note 21, at 29–76; Helen Epstein, The Invisible Cure 161–67 (2007); Wilson, Partner reduction, supra note 48, at 848; Edward C. Green et al., Uganda's HIV Prevention Success: The Role of Sexual Behavior Change and the National Response, 10 AIDS & BEHAV. 335, 338–39 (2006) [hereinafter Green et al., *Uganda's HIV Prevention Success*]. ⁵¹ Daniel Low-Beer & Rand Stoneburner, *Behavior and communication change in reducing HIV: is Uganda*

unique?, 2 AFR. J. AIDS RES. 9, 14 (2003). ⁵² See GREEN, supra note 21, at 37–38.

⁵³ EPSTEIN, *supra* note 50, at 201.

⁵⁴ GREEN, *supra* note 21, at 40.

⁵⁵ *Id.* at 38–40.

⁵⁶ See Thomas J. Coates, Linda Richter, & Carlos Caceres, Behavioural strategies to reduce HIV transmission: how to make them work better, 372 LANCET 669, 671 (2008).

⁵⁷ GREEN, *supra* note 21, at 107–30; EPSTEIN, *supra* note 50, at 202–09.

⁵⁸ GREEN, *supra* note 21, at 128–29.

⁵⁹ *Id.* at 202.

⁶⁰ *Id.* at 127.

⁶¹ See, e.g., id. at 77–106.

⁶² EPSTEIN, *supra* note 50, at 145–46.

⁶³ *Id.* at 144.

catchphrases used by global health policy experts are not well-understood locally.⁶⁴ Social and cultural considerations are important for effective communication-based prevention efforts.⁶⁵

IV. Person-centered treatment

A. Antiretroviral treatment

A person-centered response to HIV/AIDS requires the provision of care and treatment for those infected with HIV. Studies show that combination antiretroviral therapy, which is a cocktail of

Antiretroviral drugs seriously decrease mortality rates and potential years of life lost while increasing life expectancy.

at least three antiretroviral (ARV) drugs that works by suppressing viral replication and progression of the disease, 66 seriously decreases mortality rates and potential years of life lost while increasing life expectancy. 67 Life expectancy is lower for those who were

infected through injecting drug use and those who initiated treatment at a later stage of infection. ⁶⁸ Early initiation is optimal for decreasing the risk of mortality. ⁶⁹

Unfortunately, only 6.6 million people, including 420,000–460,000 children, in low- and middle-income countries were receiving antiretroviral therapy (ART) as of 2011.⁷⁰ Governments and donors must commit more aid to the provision of ART to the 9 million people who still lack it.⁷¹ Commitment to ART is particularly critical because treatment is lifelong, as HIV is not eradicable.⁷²

B. Treatment as prevention

Evidence is clear that early treatment with antiretrovirals (ARVs) drastically reduces the risk of

⁶⁴ See, e.g., Joy Noel Baumgartner et al., "Being faithful" in a sexual relationship: perceptions of Tanzanian adolescents in the context of HIV and pregnancy prevention, 22 AIDS CARE 1153, 1156 (2010); Tiffany Lillie, Julie Pulerwitz, & Barbara Curbow, Kenyan in-School Youths' Level of Understanding of Abstinence, Being Faithful, and Consistent Condom Use Terms: Implications for HIV-Prevention Programs, 14 J. HEALTH COMMC'N. 276, 280–88 (2005).

⁶⁵ See, e.g., Nancy W. Muturi, Communication for HIV/AIDS Prevention in Kenya: Social—Cultural Considerations, 10 J. HEALTH COMMC'N. 77 (2005).

⁶⁶ WHO, Antiretroviral therapy, http://www.who.int/hiv/topics/treatment/en/ (last visited July 26, 2012).

⁶⁷ The Antiretroviral Therapy Cohort Collaboration, *Life expectancy of individuals on combination antiretroviral therapy in high-income countries: a collaborative analysis of 14 cohort studies*, 372 LANCET 293 (2008). ⁶⁸ *Id.*

⁶⁹ When To Start Consortium, *Timing of initiation of antiretroviral therapy in AIDS-free HIV-1-infected patients: a collaborative analysis of 18 HIV cohort studies*, 373 LANCET 1352, 1359 (2009).

⁷⁰ WHO, HIV treatment reaching 6.6 million people, but majority still in need, http://www.who.int/mediacentre/news/releases/2011/hivtreatement_20110603/en/index.html.

⁷¹ See UNAIDS, 15 million accessing treatment, http://www.unaids.org/en/targetsandcommitments/15millionaccessingtreatment/ (last visited July 26, 2012).

⁷² See When To Start Consortium, supra note 69, at 1360.

transmitting HIV.⁷³ In one study, early initiation of antiretroviral therapy led to an 89 percent reduction in the number of HIV-1 transmissions.⁷⁴ ARVs decrease the viral load to a level that makes it virtually impossible to transmit HIV to another person, 75 and early treatment speeds up the process of reducing the viral load. This is good news particularly for discordant couples, where one person is HIV-positive and the other is not.⁷⁷ Evidence also shows that initiation of ARVs during pregnancy reduces to almost zero perinatal transmission and transmission during breastfeeding from HIV-positive mother to child, regardless of how advanced the mother's HIV is.⁷⁸

ART allows committed, faithful, discordant couples to continue to engage in sexual relations. However, ART should not be considered by HIV-positive people to be a license to engage in risky behavior. ART is not 100 percent effective. The strategies detailed below are the best ways of avoiding the risk of contracting HIV, and should be followed by HIV-positive people who are not in a committed, faithful relationship.

V. Person-centered prevention strategies

A. Primary behavior change

1. Reduction in multiple concurrent partners (mutual fidelity)

Evidence shows that "in every case of HIV prevalence decline in Africa, the proportion of men and women who report >1 sexual partner in the past year has declined significantly, a few years prior to significant prevalence decline. This refers to partners of any sort."⁷⁹ This suggests that reduction in the number of partners each person has is a critical component of reducing the HIV prevalence rate. Unfortunately, having concurrent partners (more than one partner at a time) is not uncommon in many African countries, 80 and evidence strongly indicates that concurrency is

⁷³ See WHO, PROGRAMMATIC UPDATE: ANTIRETROVIRAL TREATMENT AS PREVENTION (TASP) OF HIV AND TB 6 (2012), available at http://whqlibdoc.who.int/hq/2012/WHO HIV 2012.12 eng.pdf [hereinafter WHO, ART TREATMENT AS PREVENTION].

⁷⁴ Myron S. Cohen et al., *Prevention of HIV-1 Infection with Early Antiretroviral Therapy*, 365 NEW ENG. J. MED. 493, 503 (2011).

⁷⁵ WHO, ART TREATMENT AS PREVENTION, *supra* note 73, at 6.

⁷⁶ Cohen et al., *supra* note 74, at 496.

⁷⁷ See generally id.

⁷⁸ See, e.g., Besigin Tonwe-Gold et al., Antiretroviral Treatment and Prevention of Peripartum and Postnatal HIV Transmission in West Africa: Evaluation of a Two-Tiered Approach, 4 PLoS MED. 1362, 1368–71 (2007). Even with the success of ARVs, preventing mother-to-child transmission requires access to maternal and child health services, in addition to interventions during pregnancy. Pierre M. Barker & Kedar Mate, Eliminating Mother-to-Child HIV Transmission Will Require Major Improvements in Maternal and Child Health Services, 31 HEALTH AFFAIRS 1489, 1493-95 (2012).

⁷⁹ Green, Establishing Risk Elimination, supra note 30, at 48.

⁸⁰ For studies of concurrency in some African communities, see Martina Morris, Helen Epstein, & Maria Wawer, Timing is everything: International Variations in Historical Sexual Partnership Concurrency and HIV Prevalence, 5 PLoS ONE 1 (2010) (discussing concurrency in Uganda, in addition to in the United States and in Thailand); Ingvild F. Sandøy, Kumbutso Dzekedzeke, &Knut Fylkesnes, Prevalence and Correlates of Concurrent Sexual

largely to blame for high HIV prevalence in southern and eastern Africa. In some cases, concurrency results from a migrant labor system, where men go off to work in mines or in other industries, leading to extramarital relationships. 81 In others, it is a result of transactional sex, where women participate in ongoing sexual relationships in exchange for money, food, and gifts, leading them to tolerate partners' relationships with other women, and often leading them to have multiple partners themselves. 82 Concurrency is also an obvious component of polygamous relationships.83

A UNAIDS reference group has suggested that concurrency be defined as "overlapping sexual partnerships in which sexual intercourse with one partner occurs between two acts of intercourse with another partner." ⁸⁴ According to the group, "[t]his definition embodies the generally understood meaning of concurrency, and makes explicit the importance of sex with two different partners in temporally overlapping partnerships."85 Other researchers suggest the definition be "the overlap of one or more sexual partnerships for a period of one month or longer," taking into consideration that acute HIV infection lasts for approximately one month, "which is an important element for transmission during concurrent partnerships."86 This debate over the definition of concurrency is important for further research, particularly in surveying people about their sexual behavior to determine what contributes to HIV prevalence increase or decrease.⁸⁷

Examples of sexual concurrency include when a man is married and at the same time has a longterm girlfriend, or when a man has two simultaneous wives (polygamy) or girlfriends; likewise, a woman can have a husband and a boyfriend or two or more boyfriends at the same time. In some cases, the wife of a man with a girlfriend on the side might also have her own boyfriend on the side. These situations create extensive networks of sexual partners. 88 One study of seven villages in Malawi, for example, found that half of sexually active respondents were connected to each other through a sexual network and one-quarter were connected through multiple independent sexual relationships.⁸⁹

Partnerships in Zambia, 14 AIDS BEHAV. 59 (2010); Marion W. Carter et al., "A Bull Cannot be Contained in a Single Kraal": Concurrent Sexual Partnerships in Botswana, 11 AIDS BEHAV. 822, 828 (2007). The study from Botswana found that concurrency occurred "across education levels, areas of residence, and marital status," and thus was not narrowly confined. See id. at 828.

⁸¹ See, e.g., Nancy Romero-Daza, Multiple sexual partners, migrant labor, and the makings for an epidemic: Knowledge and beliefs about AIDS among women in highland Lesotho, 53 HUMAN ORG. 192 (1994); Andrew D. Spiegel, Polygyny as myth: Towards understanding extramarital relations in Lesotho, 50 AFRICAN STUDIES 145 (1991).

⁸² See, e.g., Kristin L. Dunkle et al., Transactional sex among women in Soweto, South Africa: prevalence, risk factors and association with HIV infection, 59 Soc. Sci. & MED. 1581 (2004). See also Joyce Wamoyi et al., Transactional sex amongst young people in rural northern Tanzania: an ethnography of young women's motivations and negotiation, 7 REPROD. HEALTH 2 (2010).

⁸³ See, e.g., Debby C.J. Vissers et al., Separation of Spouses due to Travel and Living Apart Raises HIV Risk in Tanzanian Couples, 35 SEXUALLY TRANSMITTED DISEASES 714 (2008).

⁸⁴ UNAIDS Reference Group on Estimates, Modelling, & Projections: Working Group on Measuring Concurrent Sexual Partnerships, HIV: consensus indicators are needed for concurrency, 375 LANCET 621, 621 (2010). ⁸⁵ *Id*.

⁸⁶ Timothy L. Mah & Daniel T. Halperin, Concurrent Sexual Partnerships and the HIV Epidemics in Africa: Evidence to Move Forward, 14 AIDS BEHAV. 11, 12 (2010).

⁸⁷ UNAIDS Reference Group, *supra* note 84, at 621.

⁸⁸ See, e.g., EPSTEIN, supra note 50, at 57–73.

⁸⁹ See Stéphane Helleringer & Hans-Peter Kohler, Sexual network structure and the spread of HIV in

The Malawi example immediately suggests the problem with sexual concurrency in places with HIV epidemics. If one person in a network of concurrency has HIV, everyone in the network is at risk of contracting HIV.⁹⁰ This even includes a member of the network who is monogamous, such as the wife of a man who has a long-term girlfriend in the city where he works as a miner. This explains why faithful to his or her partner can contract HIV.⁹¹

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HIV does not just infect those who engage in "promiscuous" behavior; a person who remains

This problem is intensified by the nature of HIV transmission, where the viral load is high during the acute phase in the first few months after contracting HIV. ⁹² The transmission risk per sexual act is 10 to 30 times higher during the acute phase than during the chronic phase of HIV infection. 93 Thus, "[i]f someone has concurrent regular partners, and is newly infected by one of them, he (or she) is able to expose the other partner immediately and repeatedly during this acute phase."94 Even if sexual acts are infrequent, at one to two times per week, the probability of HIV transmission is still high within a particular relationship. 95 This is in contrast to serial monogamy, where an infected person will likely pass through the acute phase before acquiring a new partner, and thus will not expose that new partner to as great a risk of contracting HIV.⁹⁶ There are also a higher total number of coital acts during regular concurrent partnerships than in casual partnerships, causing concurrency to pose greater risks. 97

Long-term concurrent relationships also pose the problem of infrequency of condom use. 98 Evidence shows that condom use in any long-term partnership is much lower than in casual sexual encounters or short-term relationships. 99

Africa: evidence from Likoma Island, Malawi, 21 AIDS 2323, 2323, 2330 (2007). The study was not able to assess whether the sexual relationships were concurrent or serial. Id. at 2325.

⁹⁰ See, e.g., Helen Epstein & Martina Morris, Concurrent partnerships and HIV: an inconvenient truth, 14 J. INT'L AIDS SOC'Y 13, 14 (2011); Daniel T. Halperin & Helen Epstein, Concurrent sexual partnerships help to explain Africa's high HIV prevalence: implications for prevention, 364 LANCET 4, 5 (2004) [hereinafter Halperin & Epstein, *Concurrent sexual partnerships*].

⁹¹ See, e.g., Epstein & Morris, supra note 90, at 16.

⁹² *Id.* at 14.

⁹³ *Id*.

⁹⁴ *Id*.

⁹⁵ *Id.* at 18.

⁹⁶ *Id.* at 14; Mah & Halperin, *supra* note 86, at 14.

⁹⁷ Mah & Halperin, *supra* note 86, at 14.

⁹⁸ See, e.g., Epstein & Morris, supra note 90, at 14; Mah & Halperin, supra note 86, at 14.

⁹⁹ See, e.g., Nelli Westercamp et al., Determinants of Consistent Condom Use Vary by Partner Type among Young Men in Kisumu, Kenya: A Multi-Level Data Analysis, 14 AIDS & BEHAV. 949 (2010); Daniel T. Halperin & Helen Epstein, Why is HIV Prevalence So Severe in Africa?: The role of multiple concurrent partnerships and lack of male circumcision: Implications for AIDS prevention, S. AFRICAN J. HIV MED. 19, 21 (2007) [hereinafter Halperin & Epstein, Why is HIV Prevalence So Severe in Africa?]; Maurizio Macaluso et al., Partner type and condom use, 14 AIDS 537 (2000); Janet S. St. Lawrence et al., Factors Influencing Condom Use Among African American Women: Implications for Risk Reduction Interventions, 26 Am. J. CMTY. PSYCH. 7 (1998).

Edward C. Green states that what has worked in Africa are "[s]trategies that break up these multiple and concurrent sexual networks – or, in plain language, faithful mutual monogamy or at least reduction in numbers of partners, especially concurrent ones,"¹⁰⁰ which avoids the risk of HIV transmission. Within polygamy, faithfulness is a solution, ¹⁰² in addition to consistent condom use. 103

The most famous example of HIV prevalence turnaround is Uganda, where fidelity and partner reduction were two of several forms of behavior change observed over the period that the prevalence rate decreased. 104 Fidelity was the primary component of a home-grown, nationwide strategy in Uganda, later dubbed the ABC campaign by an American, given that the three major interventions that led to a decline in the HIV rate were abstinence (delay of sexual debut), being faithful, and condoms as a last resort. 105 Thailand was also able to decrease its HIV prevalence rate because men had fewer commercial and casual sex partners after public campaigns. A reduction in partners has also been successful in gay communities in Europe and the United States. 107

In 2006, the South African Development Committee organized a meeting of experts, who determined that "[k]ey drivers of the epidemic in southern Africa [include] multiple concurrent partnerships by men and women with low consistent condom use, and in the context of low

"Key drivers of the epidemic in southern [include] Africa multiple concurrent partnerships by men and women with low consistent condom use, and in the context of low levels of male circumcision."

-South African Development Committee Expert Think Tank Meeting

levels of male circumcision." The participants emphasized prioritizing interventions that aim to reduce the number of multiple and concurrent partnerships. 109 Because interventions that are already in place are relatively new and have not been tested, 110 there is a continuing need to assess these interventions and develop effective strategies for partner reduction.

¹⁰⁰ Edward C. Green, Condoms, HIV-AIDS and Africa – The Pope Was Right, WASH. POST, Mar. 29, 2009, available at http://www.washingtonpost.com/wp-dyn/content/article/2009/03/27/AR2009032702825.html.

Green, Establishing Risk Elimination, supra note 30, at 49.

¹⁰² *Id.*; Epstein & Morris, *supra* note 90, at 19.

¹⁰³ Epstein & Morris, *supra* note 90, at 19.

¹⁰⁴ See, e.g., Green et al., Uganda's HIV Prevention Success, supra note 50, at 343; Low-Beer & Stoneburner, supra note 51, at 11.

¹⁰⁵ GREEN, *supra* note 21, at 29–44.

¹⁰⁶ Low-Beer & Stoneburner, *supra* note 51, at 14.

¹⁰⁷ James D. Shelton et al., Partner reduction is crucial for balanced "ABC" approach to HIV prevention, 328 BMJ 891, 892 (2004); Low-Beer & Stoneburner, *supra* note 51, at 15–17.

¹⁰⁸ Expert Think Tank Meeting on HIV Prevention in High-Prevalence Countries in Southern Africa, REPORT 3 (2006), available at http://data.unaids.org/pub/report/2006/20060601 sadc meeting report en.pdf.

¹¹⁰ Epstein & Morris, *supra* note 90, at 20.

Delay of sexual debut is another key behavior change that avoids the risk of contracting HIV, since people cannot contract HIV sexually if they are not engaging in sexual activity. Evidence shows that early sexual debut "is a significant predictor of prevalent HIV infection." Young people who initiate sex early are at a greater risk of contracting STIs and HIV, and thus if more people initiate sex early, HIV can spread more rapidly. 112

A delay in the onset of sexual activity was associated with a decline in HIV prevalence in Zimbabwe. 113 Delaying the onset of sexual activity means that a person is less exposed to the

risk of contracting HIV sexually than he or she would have been otherwise. This is particularly important for young women, who are more susceptible to contracting HIV than young men.¹¹⁴ This susceptibility is due to both biological factors and behavioral factors. A key behavioral factor is the tendency of

Delaying the onset of sexual activity means that a person is less exposed to the risk of contracting HIV sexually than he or she would have been otherwise.

younger women to have relationships with older men, who have had more sexual partners. ¹¹⁵ Biological factors include physical and immunological immaturity of the female genital tract ¹¹⁶ and the presence of cervical ectopy. ¹¹⁷

The benefits of delay of sexual debut are contingent on other behavior changes after initiation of sexual activity. Although a person is not exposed to a risk of contracting HIV sexually before he engages in sexual activity, once he becomes sexually active, he becomes exposed to the risk. Thus, it is necessary for anyone who delays sexual debut to then practice mutual fidelity once he engages in sexual activity. Furthermore, since sexual partnerships are often between older men and younger women, 118 a young woman who delays her sexual debut may be at great risk if she

¹¹¹ Audrey E. Pettifora et al., *Early age of first sex: a risk factor for HIV infection among women in Zimbabwe*, 18 AIDS 1435, 1442 (2004).

¹¹² Qiaoqin Ma et al., Early initiation of sexual activity: a risk factor for sexually transmitted diseases, HIV infection, and unwanted pregnancy among university students in China, 9 BMC PUB. HEALTH 111 (2009).

¹¹³ Simon Gregson et al., HIV Decline Associated with Behavior Change in Eastern Zimbabwe, 311 Sci. 664, 665 (2006)

^{(2006). &}lt;sup>114</sup> See J.R. Glynn et al., Why do young women have a much higher prevalence of HIV than young men? A study in Kisumu, Kenya and Ndola, Zambia, 15 AIDS S51 S57–S60 (2001).

T.B. Hallett et al., Behaviour change in generalised HIV epidemics: impact of reducing cross-generational sex and delaying age at sexual debut, 83 SEXUALLY TRANSMITTED INFECTIONS i50, i53 (2007); Simon Gregson et al., Sexual mixing patterns and sex-differentials in teenage exposure to HIV infection in rural Zimbabwe, 359 LANCET 1896, 1901–02 (2002). Early sexual debut is also associated with later emotional and psychological problems as well. See, e.g., Stacy Armour & Dana L. Haynie, Adolescent Sexual Debut and Later Delinquency, 36 J. YOUTH ADOLESCENCE 141, 142–43 (2007).

¹¹⁶ See M. Elizabeth Duncan et al., First coitus before menarche and risk of sexually transmitted disease, 335 LANCET 338, 340 (1990).

¹¹⁷ Gregory B. Moss et al., Association of Cervical Ectopy with Heterosexual Transmission of Human Immunodeficiency Virus: Results of a Study of Couples in Nairobi, Kenya, 164 J. INFECTIOUS DISEASES 588, 589 (1991).

¹¹⁸ See, e.g., Kim Longfield, et al., Relationships Between Older Men and Younger Women: Implications for STIs/HIV in Kenya, 35 STUDIES IN FAM. PLANNING 125, 126 (2004).

begins a sexual relationship with an older man. Abstaining from these relationships will reduce a woman's risk of contracting HIV. 119 In Uganda, criminalization of sex with a minor under the age of 18 years helped to decrease HIV prevalence in the 15-19 age group more than in any other age group. 120

VI. Strategies that only reduce—or even increase—the risk of **HIV** transmission

A. Circumcision

Circumcision is a key component of any HIV prevention efforts, although by itself it can only partially reduce the risk of contracting HIV. Widely practiced circumcision in western Africa, where most countries are Muslim, ¹²¹ partly explains why HIV prevalence there is five times lower than in southern Africa, where circumcision is much less common. Widespread circumcision also helps to explain why HIV prevalence is so low in Pakistan, Bangladesh, Indonesia, and the Philippines, even though HIV has been present there for two decades. 123 Randomized circumcision trials have confirmed the success of circumcision in reducing the transmission of HIV. 124 Several trials were stopped after interim analyses showed circumcision to be so effective that it was unnecessary to continue the trials. The trials "provide firm evidence that the risk of acquiring HIV is halved by male circumcision," and this efficacy could translate into the prevention of tens of thousands of new HIV infections each year. 126 Before governments begin to implement wide-scale circumcision programs, however, they must educate people on the procedure, emphasizing that circumcision alone is not an effective strategy at combating HIV transmission. 127 There must also be research on the possible acceptance of circumcision by people in eastern and southern Africa. 128 Furthermore, governments must build

¹¹⁹ See Hallett et al., supra note 115, at i52–i53.

¹²⁰ GREEN, supra note 21, at 43.

¹²¹ See Bertran Auvert et al., Randomized, controlled intervention trial of male circumcision for reduction of HIV infection risk: the ANRS 1265 Trial, 2 PLoS Med 1112, 1113 (2005).

¹²² See, e.g., Halperin & Epstein, Why is HIV Prevalence So Severe in Africa?, supra note 99, at 19. Likewise, the fact that circumcision is not widely practiced in southern and eastern Africa cannot exclusively explain why HIV prevalence is so high in those regions, for circumcision is not widely practiced in India and Europe, for example, where HIV prevalence rates are extremely low. This suggests that the practice of concurrency is largely to blame for the high HIV prevalence, and thus a reduction in multiple concurrent partners is critical. See id.

¹²³ Halperin & Epstein, Concurrent sexual partnerships, supra note 90, at 4.

¹²⁴ See Robert C. Bailey et al., Male circumcision for HIV prevention in young men in Kisumu, Kenya: a randomised controlled trial, 369 LANCET 643 (2007); Ronald H. Gray et al., Male circumcision for HIV prevention in men in Rakai, Uganda: a randomised trial, 369 LANCET 657 (2007); Bertran Auvert et al., Randomized, controlled intervention trial of male circumcision for reduction of HIV infection risk: the ANRS 1265 Trial, 2 PLoS Med 1112

¹²⁵ Marie-Louise Newell & Till Bärnighausen, Male circumcision to cut HIV risk in the general population, 369 LANCET 617, 617 (2007).

¹²⁶ *Id*.

¹²⁷ *Id.* at 618.

¹²⁸ *Id*.

the capacity to provide safe and cost-effective circumcision services. 129 Finally, there are ethical concerns about mass circumcision with respect to when it is not a necessary procedure for all men and with respect to children and whether or not they are able to consent. ¹³⁰ Circumcision, as well as other prevention efforts, has to be accepted within the local context.

Because circumcision does not completely shield against the transmission of HIV, it is essential that it be accompanied by a reduction in multiple concurrent partners and a delay in sexual debut.

B. Condoms

Although condom use has played a significant role in reducing HIV transmission in concentrated epidemics, where transmission occurs primarily in sex work or among men who have sex with men, 131 condom use has not been a primary factor in reducing HIV transmission in any generalized epidemic. 132 "100% Condom Programs" helped to reduce transmissions in Thailand and Cambodia—countries with concentrated epidemics—because they mandated condom use in commercial sex, 133 and these programs were successful because enforcement was possible in brothels. 134 These public awareness measures also caused men to be aware of the risk of HIV transmission, leading to a substantial decline in the percentage of men who visited sex workers, from 20 percent to 10 percent, ¹³⁵ a behavior change that detracts from the claims that condoms were solely responsible for the success in these countries. 136

The success of the condom approach does not translate to generalized epidemics, in which transmission generally occurs within steady relationships, where condoms are not typically used. 137 Many people believe that faithfulness and condom use are mutually exclusive. 138 Women are often powerless to insist on the use of condoms because it

The success of the condom approach does not translate to generalized epidemics, in which transmission generally occurs within relationships, where condoms are not typically used.

signals to their male partners a lack of trust. 139 Rates of HIV transmission are high in many countries in sub-Saharan Africa, even though rates of condom use are high. 140 There is also concern that promoting condom use and the benefits of condoms will lead people to miscalculate

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<sup>129</sup> Id.
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¹³¹ Malcolm Potts et al., Reassessing HIV Prevention, 320 Sci. 749, 749 (2008).

¹³² Id.; Norman Hearst & Sanny Chen, Condom Promotion for AIDS Prevention in the Developing World: Is It Working?, 35 STUDIES IN FAM. PLANNING 39, 41 (2004).

¹³³ Kiat Ruxrungtham, Tim Brown, & Praphan Phanuphak, HIV/AIDS in Asia, 364 LANCET 69, 71 (2004); Hearst & Chen, supra note 132, at 42.

¹³⁴ Green, Establishing Risk Elimination, supra note 30, at 49.

¹³⁵ Ruxrungtham et al., *supra* note 133, at 71, 76.

¹³⁶ Green, Establishing Risk Elimination, supra note 30, at 49.

¹³⁷ Hearst & Chen, *supra* note 132, at 40.

¹³⁸ See, e.g., Baumgartner et al., supra note 64, at 1156.

¹³⁹ See GREEN, *supra* note 21, at 59.

¹⁴⁰ Hearst & Chen, *supra* note 132, at 41.

risk and engage in riskier behaviors¹⁴¹; to begin with, the provision of condoms does not even address the underlying risky behavior.

Even though condoms are 90 percent effective in preventing transmission of HIV when they are used correctly and consistently, the problem is that they are rarely used correctly and consistently, particularly in higher risk situations. ¹⁴² Also, 90 percent effectiveness does not mean 100 percent effectiveness, and it is factually and ethically wrong to spread the message that condoms are the most effective means to avoid HIV acquisition. ¹⁴³ Appropriate communications about HIV transmission requires telling the truth. 144

C. Voluntary HIV counseling and testing (VCT)

Although widespread testing is necessary for treatment roll-out, voluntary HIV counseling and testing (VCT) does not work alone as a prevention method. First, many people do not undergo VCT even though it is made easily available and free of charge, often due to fear or denial. 145 Second, acceptance of VCT was shown to have no effect on "subsequent risk behaviors" for those who test HIV-negative, 146 meaning that HIV-negative people did not change their sexual behavior as a result of undergoing counseling and testing. Third, repeatedly testing negative can actually have an adverse effect on behavior, causing participants to engage in riskier activities because their perception is that they are resistant to infection. 147

Evidence shows that testing does reduce the transmission of HIV for individuals that test positive for HIV, 148 particularly for those individuals in discordant relationships. 149 This indicates that testing is critical in reducing high-risk behavior of those individuals who are HIV-positive. 150 Furthermore, treatment cannot exist without testing, because a person must be tested to know that he or she has HIV and then must undergo treatment. It is thus essential that testing be available. However, testing is not a stand-alone prevention strategy.

¹⁴¹ *Id.* at 43–44.

¹⁴² *Id.* at 42.

¹⁴³ See id. at 45.

¹⁴⁴ See id.

¹⁴⁵ Joseph K.B. Matovu et al., Voluntary HIV counseling and testing acceptance, sexual risk behavior and HIV incidence in Rakai, Uganda, 19 AIDS 503, 507-08 (2005).

¹⁴⁶ Elizabeth L. Corbett et al., HIV incidence during a cluster-randomized trial of two strategies providing voluntary counselling and testing at the workplace, Zimbabwe, 21 AIDS 483, 487–88 (2007); Matovu et al., supra note 146, at 509-10. See also Lance S. Weinhardt et al., Effects of HIV Counseling and Testing on Sexual Risk Behavior: A Meta-Analytic Review of Published Research, 1985-1997, 89 Am. J. Pub. HEALTH 1397(1999).

¹⁴⁷ GREEN, *supra* note 21, at 151.

¹⁴⁸ Weinhardt et al., *supra* note 146, at 1401.

¹⁴⁹ See, e.g., Susan Allen et al., Sexual behavior of HIV discordant couples after HIV counseling and testing, 17 AIDS 733, 738 (2003).

¹⁵⁰ See also Weinhardt et al., supra note 146, at 1401.

D. Hormonal contraception

Evidence shows that hormonal contraception doubles the risk of HIV-1 acquisition by women and HIV-1 transmission from women to men. 151 Injectable methods, such as depot medroxyprogesterone acetate, pose a particular risk. This is possibly because their use can change the vaginal structure and increase cervicovaginal shedding of HIV-1, among other factors. 153 It is critical then that women have this knowledge, since they typically are the ones in

Hormonal contraception doubles the risk of HIV-1 acquisition by women transmission HIV-1 from women to men.

their sexual relationships who control what hormonal contraceptives they take. Efforts to communicate the risk of taking hormonal contraception are absolutely necessary, yet the WHO states, "Women at high risk of HIV can continue to use all existing hormonal

contraceptive methods without restriction,"¹⁵⁴ an assertion echoed by UNAIDS. ¹⁵⁵ WHO also recommends the simultaneous use of condoms for women at high risk of HIV. 156 Condom use, however, is typically controlled by men. Expecting that women will be able to enforce the simultaneous use of two forms of contraception does not address the reality that many women face, one in which condom use is not culturally appropriate. 157 It is hard enough for many women to use one form of contraception in many settings. To suggest they routinely use two forms is not realistic.

VII. The role of UNAIDS in setting global HIV/AIDS policy

The Joint United Nations Programme on HIV/AIDS (UNAIDS) is the United Nations body charged with addressing the global HIV and AIDS epidemic. UNAIDS is considered an authority on HIV/AIDS within the global health policy community. While UNAIDS' approaches to HIV treatment and mother-to-child transmission prevention understand the needs of those afflicted by HIV, its approach to prevention in generalized epidemics is largely not focused on evidence-based, person-centered interventions. Several recently released books detail UNAIDS' failures to prioritize effective interventions. 158 They highlight UNAIDS' mischaracterization of the AIDS epidemic to gain funding, ¹⁵⁹ and its choice not to publish both

¹⁵³ See, e.g., Zdenek Hel, Elizabeth Stringer, & Jiri Mestecky, Sex Steroid Hormones, Hormonal Contraception, and the Immunobiology of Human Immunodeficiency Virus-1 Infection, 31 ENDOCRINE REVS. 79, 80–81 (2010).

¹⁵¹ Renee Hefron et al., Use of hormonal contraceptives and risk of HIV-1 transmission: a prospective cohort study, 12 LANCET INFECT. DIS. 19, 24 (2012).

¹⁵⁴ WHO, Hormonal contraception and HIV, www.who.int/reproductivehealth/topics/family_planning/hc_hiv/en/ index.html (last visited July 26, 2012).

¹⁵⁵ See, e.g., UNAIDS, HIV AND HORMONAL CONTRACEPTION: FREQUENTLY ASKED QUESTIONS 3 (2012), available at http://www.unaids.org/en/media/unaids/contentassets/documents/unaidspublication/2012/JC2309 HIV hormonal contraception en.pdf.

¹⁵⁶ See WHO, Hormonal contraception and HIV, supra note 154.

¹⁵⁷ See, e.g., Hearst & Chen, supra note 132, at 40.

¹⁵⁸ See, e.g., GREEN, supra note 21; EPSTEIN, supra note 50.

¹⁵⁹ See GREEN, supra note 21, at 196–98.

data on the success of reducing multiple concurrent partnerships in preventing HIV transmission 160 and a study it had commissioned when the authors found that condoms were not effective in reducing HIV transmission. 161 A detailed investigation of UNAIDS documents reveals that it does not elaborate on risk avoidance interventions, instead focusing primarily on promoting harm reduction strategies. 162

A. UNAIDS' positive approach to PMTCT and ART

UNAIDS' person-centered efforts lie in its focuses on preventing mother-to-child transmission (PMTCT) and on ART. Its prioritization of preventing new HIV infections of children has resulted in many documents on strategies and collaborations with the WHO and other organizations. 163 UNAIDS, along with the WHO, has commissioned monthly intelligence reports on PMTCT. 164 One of its strategy goals is to "[e]liminate new HIV infections among children by 2015 and substantially reduce AIDS-related maternal deaths." ¹⁶⁵ It promotes four prongs that will aid in achieving this goal, including first preventing HIV among women of reproductive age, and also providing HIV testing and access to ARVs to prevent the transmission of HIV from mother to child during pregnancy, childbirth, and breastfeeding. ¹⁶⁶

UNAIDS is also focused on increasing access to ART for those who have HIV. Its goal is to "[r]each 15 million people living with HIV with lifesaving antiretroviral treatment by 2015." 167 UNAIDS launched Treatment 2.0 with the WHO to "improve the efficiency and impact of HIV care and treatment programmes in resource-limited countries and ultimately ensure their longterm sustainability." ¹⁶⁸ In order to do so, it has outlined five priority areas and goals for 2020,

¹⁶⁰ See EPSTEIN, supra note 50, at 177–78.

¹⁶¹ See GREEN, supra note 21, at 140–41.

¹⁶² The WHO is also largely concerned with harm reduction and not risk avoidance. Its strategy document focuses on condoms, clean needles, and harm reduction, and mentions "behaviour change" without elaborating on what kinds of behavior change would help reduce HIV transmission. See WHO, GLOBAL HEALTH SECTOR STRATEGY ON HIV/AIDS 2011-2015 (2011), available at http://whqlibdoc.who.int/publications/2011/9789241501651_eng.pdf. The WHO also has its name on a document that questions the efficacy of behavior change interventions in generalized epidemics. See WHO & THE GLOBAL FUND TO FIGHT AIDS, TUBERCULOSIS, AND MALARIA, HIV PREVENTION IN GENERALIZED EPIDEMICS: OPTIMAL INTERVENTIONS FOR GLOBAL FUND APPLICATIONS (2011), available at http://whqlibdoc.who.int/publications/2011/9789241502467_eng.pdf.

¹⁶³ See, e.g., UNAIDS, GLOBAL PLAN TOWARDS THE ELIMINATION OF NEW HIV INFECTIONS AMONG CHILDREN BY 2015 AND KEEPING THEIR MOTHERS ALIVE, 2011-2015 (2011), available at http://www.unaids.org/en/media/unaids/ contentassets/documents/unaidspublication/2011/20110609_JC2137_Global-Plan-Elimination-HIV-Children_en.pdf [hereinafter UNAIDS, 2011 GLOBAL PLAN]; UNAIDS ET AL., IT TAKES A VILLAGE: ENDING MOTHER-TO-CHILD HIV TRANSMISSION - A PARTNERSHIP UNITING THE MILLENNIUM VILLAGES PROJECT AND UNAIDS (2010), available at http://www.unaids.org/en/media/unaids/contentassets/documents/document/2010/20101231_MVP_en.

 $[\]frac{\text{pdf.}}{\text{164}} \textit{See} \ \text{WHO, PMTCT monthly intelligence reports, http://www.who.int/hiv/topics/mtct/newsletters/en/index.html}$ (last visited July 26, 2012).

¹⁶⁵ UNAIDS, Eliminating new infections among children, http://www.unaids.org/en/targetsandcommitments/ eliminatingnewhivinfectionamongchildren/ (last visited July 26, 2012).

¹⁶⁶ See UNAIDS, 2011 GLOBAL PLAN, supra note 163, at 12.

¹⁶⁷ UNAIDS, 15 million accessing treatment, *supra* note 71.

¹⁶⁸ UNAIDS, GLOBAL HIV/AIDS RESPONSE, *supra* note 12, at 90.

B. UNAIDS' failure in prioritizing harm reduction and condom promotion over other prevention strategies

1. Condom use instead of reduction in multiple concurrent partners and delay of sexual debut

UNAIDS is unwavering in its support of condoms in the fight against HIV transmission, even in the general population, ¹⁷⁰ where condom use has not proven to be the most effective strategy. ¹⁷¹ One of its strategy goals is to reduce sexual transmission of HIV by half by 2015. 172 UNAIDS recognizes that to achieve this goal, a comprehensive approach to HIV prevention is necessary. It acknowledges that "[s]trengthened programming using the latest knowledge and best practices to deliver effective prevention, treatment and care services to people in need, or at risk, is highly effective." However, UNAIDS is unequivocal in its support of condoms as the "single, most efficient, available technology to reduce the sexual transmission of HIV and other sexually transmitted infections." Fortunately, UNAIDS recently has mentioned reduction of multiple concurrent partners and delay of sexual debut in its reports on how HIV transmission has decreased, ¹⁷⁵ yet these mentions are not given the same priority as condoms. These strategies are often alluded to only as behavior change, which could also mean increased use of condoms, without being fully discussed. For example, in the first chapter of its 2010 Global Report, UNAIDS indicates its priorities in big, bold, red letters: "Young people still lack knowledge and, importantly, often lack the tools they need to practice HIV risk-reduction strategies, however. Many people still lack ready access to condoms and lubrication, and people who inject drugs also lack sufficient access to sterile needles." The importance of primary behavior change also deserves a big, bold announcement, but it does not receive such attention. The UNAIDS 2011-2015 Strategy Report emphasizes a need for "revolutionizing" prevention, 177 but it does not outline a revolutionary response, one that highlights the importance of reduction in multiple concurrent partnerships and of a delay in sexual debut. None of its documents has a primary

¹⁶⁹ See id. at 91.

¹⁷⁰ UNAIDS & UNFPA, MAKING CONDOMS WORK FOR HIV PREVENTION 25 (2004), *available at* http://www.unaids.org/en/media/unaids/contentassets/dataimport/publications/irc-pub06/jc941-cuttingedge_en.pdf.

¹⁷² See UNAIDS, 2011-2015 STRATEGY: GETTING TO ZERO 31 (2010), available at http://www.unaids.org/en/media/unaids/contentassets/documents/unaidspublication/2010/jc2034_unaids_strategy_en.pdf [hereinafter UNAIDS, GETTING TO ZERO].

¹⁷³ UNAIDS, 2010 UNAIDS REPORT ON THE GLOBAL AIDS EPIDEMIC 14 (2010), available at http://www.unaids. org/globalreport/documents/20101123_GlobalReport_full_en.pdf [hereinafter UNAIDS, 2010 GLOBAL REPORT]. ¹⁷⁴ UNFPA, WHO, & UNAIDS, Position statement: Condoms and HIV prevention 1 (2009) [hereinafter UNAIDS, Condom Position Statement], available at http://www.unfpa.org/hiv/docs/statement_condoms_HIV.pdf. UNAIDS lauds that "[c]orrect and consistent condom use has been found to be greater than 90% effective in preventing transmission of HIV and other sexually transmitted infections." UNAIDS, 2010 GLOBAL REPORT, *supra* note 174, at 66

¹⁷⁵ See, e.g., UNAIDS HIV prevention fast facts, supra note 10.

¹⁷⁶ UNAIDS, 2010 GLOBAL REPORT, supra note 173, at 14.

¹⁷⁷ See UNAIDS, GETTING TO ZERO, supra note 172, at 31.

Where comprehensive efforts have been instituted, UNAIDS is not satisfied unless condom usage has increased. The 2010 Global Report notes that HIV incidence in Zambia decreased by more than 25 percent between 2001 and 2009 due to an increase in the age of sexual debut and abstinence among young people in addition to a decline in the number of adults who are sexually active or who have multiple partners. However, the report decries that condom use among young men and women in Zambia has decreased. 179



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In a position paper on condoms and HIV prevention published in 2004 and updated in 2009, UNAIDS asserts that "condoms will remain the key preventive tool for many, many years to come." The paper further states, "Condoms have also encouraged safer sexual behaviour more generally," 181 when in reality there is concern that condom use actually encourages riskier sexual behavior. 182 The paper highlights how condoms have played a central role in countries fighting HIV and AIDS, including Uganda, and even though it mentions the roles of delay of sexual debut and reduction in multiple concurrent partners, 183 it does not indicate that the success in Uganda was largely due to reduction in multiple concurrent partners. 184 Even though UNAIDS recognizes that concurrency is a key driver of HIV, 185 it does not prioritize interventions to discourage concurrency and encourage delay of sexual debut.

Female empowerment is also a central theme for UNAIDS in eradicating the sexual transmission of HIV.

UNAIDS promotes the female condom because it can give women more control in protecting themselves from HIV. 186 It has also found that condoms are a negotiation tool for women and girls. 187 It recognizes, however, that women are vulnerable because they do not have equal

¹⁷⁸ See id. at 68.

¹⁷⁹ See id.

¹⁸⁰ UNAIDS, Condom Position Statement, *supra* note 174, at 1.

¹⁸¹ Id at 2

¹⁸² See Hearst & Chen, supra note 132, at 43–44.

¹⁸³ UNAIDS, Condom Position Statement, *supra* note 174, at 2.

¹⁸⁴ See section V.A.1 supra.

¹⁸⁵ "Individuals who have multiple partners (concurrently or sequentially) have a higher risk of HIV transmission than individuals that do not link into a wider sexual network." UNAIDS, 2010 GLOBAL REPORT, *supra* note 173, at 223.

¹⁸⁶ See UNAIDS, Condom Position Statement, supra note 174, at 2.

¹⁸⁷ See UNAIDS, GUIDANCE NOTE ON HIV AND SEX WORK 12 (2012), available at http://www.unaids.org/en/media/unaids/contentassets/documents/unaidspublication/2009/JC2306_UNAIDS-guidance-note-HIV-sex-work_en.pdf [hereinafter UNAIDS, GUIDANCE NOTE].

decision-making powers.¹⁸⁸ Therefore, an overreliance on the use of condoms is not beneficial to the prevention of HIV transmission. Strengthening of couples and families with the goal of decreasing exploitation of women is needed.

Further exacerbating the problem of overreliance on condoms, condom usage is not acceptable in many contexts, which UNAIDS understands. 189 However, instead of identifying culturally and contextually appropriate methods to combat HIV transmission, its recommendations primarily entail efforts to encourage more people to use condoms. 190 UNAIDS should recognize that each

country's HIV/AIDS epidemic is distinctive in terms of drivers, vulnerabilities, aggravating factors, and populations affected, and therefore the responses from both the international community and the nations themselves must be uniquely tailored to each particular situation, according to the needs of each country, and sensitive to cultural context. one-size-fits-all There is no

UNAIDS should recognize that each country's HIV/AIDS epidemic is distinctive in terms of drivers, vulnerabilities, aggravating factors, and populations affected, and therefore the responses from both the international community and the nations themselves must be uniquely tailored to each particular situation, according to the needs of each country, and sensitive to cultural context.

approach to these epidemics, and thus UNAIDS should broaden its solutions to include strategies other than the promotion of condoms, particularly in generalized epidemics.

2. Normalization of sex work instead of promoting initiatives to provide alternatives to inherently exploitative occupations

Sex workers in many countries have higher rates of HIV infection than do most other population groups. 191 In 2007, UNAIDS issued its Guidance Note on HIV and Sex Work, which was meant to "provide the UNAIDS Cosponsors and Secretariat with a coordinated human-rights-based approach to promoting universal access to HIV prevention, treatment, care and support in the context of adult sex work." The Guidance Note rightly recommends a comprehensive set of services that should be available to sex workers, including microfinance opportunities, control of family assets, and education for life. 193 However, the Guidance Note falls short of addressing a major root problem of HIV transmission in sex work.

The Guidance Note identifies sex work clients in many countries as "the most important source of new HIV infections, risking HIV transmissions to their wives and partners." The report's proposed solution involves educational programs that teach clients to use condoms and not to

¹⁸⁸ See UNAIDS, Condom Position Statement, supra note 174, at 2.

¹⁸⁹ See id.

 $^{^{190}}$ See id.

¹⁹¹ UNAIDS, GUIDANCE NOTE, *supra* note 187, at 2.

¹⁹³ See id. at 17–18.

¹⁹⁴ *Id.* at 14.

discriminate or use violence against sex workers. UNAIDS asserts that "[c]lients who are reached with educational and prevention programmes can become a positive force for demanding safer sex." Fortunately, the Guidance Note does mention that overall demand for sex work should be addressed, but it only weakly proposes that demand should be decreased 196; this avoidance of a strong statement on demand for sex work hints at an unwillingness to condemn the practice, even though it has played a significant role in spreading HIV. In fact, a UNAIDS advisory group, which "was constituted in 2009 by the Executive Director of UNAIDS to provide advice and guidance to UNAIDS on matters related to HIV and sex work, while paying particular attention to the human rights of female, male, and transgender sex workers and the goal of universal access to HIV prevention, treatment, care and support for sex workers," 197 criticizes efforts to reduce demand for sex work; it promotes reducing "demand for unprotected paid sex," given that, according to the document, it is not sex in itself that causes HIV, but only unprotected sex between discordant partners. ¹⁹⁸ This ignores that eliminating the demand for sex work in general would eliminate transmission of HIV through sex work. It also portrays a refusal to recognize that sex work in itself is dangerous, and it lacks recognition that condoms are not 100 percent effective in preventing HIV transmission. 199 Although the advisory group does not portray the official views of UNAIDS, it is alarming that such a group would be commissioned by UNAIDS and have its recommendations included as annexes to an official UNAIDS document.

UNAIDS laments that sex work is criminalized in many countries,²⁰⁰ and recommends that "[c]ountries should now take action to decriminalize sex workers." The same advisory group to UNAIDS recommends that criminal laws be repealed because, among other reasons, they

contribute to the economic and social marginalisation of sex workers and their families [...]. This legal discrimination can lead to further social exclusion, as well as poverty, harassment and exploitation. Plainly, moreover, this marginalisation is a barrier to access to health care and adds to the risk that sex workers will be treated disrespectfully even if they have access to health services.²⁰²

While laws must not prevent HIV prevention and treatment programs from reaching sex workers, these consequences are not an excuse to normalize sex work as just another career choice. It is possible to have anti-discrimination laws protecting sex workers, injecting drug users, and people with HIV without having to legalize or tolerate the underlying risky behavior. This also does not acknowledge that the safest option for a sex worker is to have these conditions changed; it ignores the dangers of being a sex worker no matter if she or he always has protected sex. This attitude that sex work is a perfectly acceptable career option leads to fewer efforts to provide

¹⁹⁵ *Id*.

¹⁹⁶ See id. at 5.

¹⁹⁷ UNAIDS, GUIDANCE NOTE, *supra* note 187, at Annex Introduction.

¹⁹⁸ See id. at Annex 2.

¹⁹⁹ See Hearst & Chen, supra note 132, at 42.

²⁰⁰ See UNAIDS, GUIDANCE NOTE, supra note 187, at 5.

²⁰¹ UNAIDS, 2010 GLOBAL REPORT, *supra* note 173, at 5.

²⁰² See id. at Annex 1.

opportunities to get women and men out of sex work.

UNAIDS must place a greater emphasis on the problem of human trafficking and forced sex work. The Guidance Note on HIV and Sex Work acknowledges that

While laws must not prevent HIV prevention and treatment programs from reaching sex workers, these consequences are not an excuse to normalize sex work as just another career choice. possible to have anti-discrimination laws protecting sex workers, injecting drug users, and people with HIV without having to legalize or tolerate the underlying risky behavior.

trafficking is a gross human rights violation that contributes to the global HIV/AIDS epidemic.²⁰³ However, it does not fully address what to do about this contribution and the fact that many women who choose sex work do not actually have the "agency over her/his body and sexuality" that UNAIDS affirms.²⁰⁴ It recognizes there are many "complex factors" that lead someone into sex work, 205 but its subtle support of sex work as a profession does not make sense in light of the fact that sex work is a major source of HIV transmission.

3. Harm reduction instead of risk avoidance for injecting drug users (IDUs)

A UNAIDS strategy goal is to halve, by 2015, "all new HIV infections prevented among people who use drugs.",206 According to the UNAIDS Programme Coordinating Board, the comprehensive approach that is "among the most effective and cost-effective way to prevent the epidemic among injecting drug users" includes "measures such as access to sterile injection equipment; opioid substitution therapy such as with methadone and buprenorphine; communitybased outreach; and providing HIV prevention information on safer injecting and safer sex."207 It also promotes ART, HIV testing, prevention of STIs, and condom programs for IDUs, ²⁰⁸ the latter three of which do not address the underlying risky behavior.

Although UNAIDS does acknowledge that drug dependence treatment is a component of a comprehensive package of services for IDUs, it does not assert that the best prevention tool for the IDU is to stop injecting drugs. It is clear, given the emphasis it places on it, that UNAIDS believes the main tool in the toolkit for achieving its 2015 strategy goal is access to sterile injection equipment. The UNAIDS 2010 Global Report laments in its first chapter that "people

205 "Some individuals freely choose to engage in sex work. Others enter into sex work as a result of conditions that, while deplorable, do not involve direct coercion and/or deceit by another; such conditions include poverty, gender inequality, indebtedness, low levels of education, lack of employment opportunities, family breakdown and abuse, dependent drug use, humanitarian emergencies and post conflict situations." Id. at 5.

²⁰³ See id. at 5–6.

²⁰⁴ *Id.* at 3.

²⁰⁶ UNAIDS, Preventing HIV among drug users, http://www.unaids.org/en/targetsandcommitments/preventinghiv amongdrugusers/ (last visited July 26, 2012).

²⁰⁷ UNAIDS PROGRAMME COORDINATING BOARD, HIV PREVENTION AMONG DRUG USERS 5 (June 8, 2009), available at http://data.unaids.org/pub/InformationNote/2009/20090518 hiv prevention among idus final en.pdf. ²⁰⁸ WHO, UNODC, & UNAIDS, TECHNICAL GUIDE FOR COUNTRIES TO SET TARGETS FOR UNIVERSAL ACCESS TO HIV PREVENTION, TREATMENT AND CARE FOR INJECTING DRUG USERS 6 (2009), available at https://www.unodc.org/ documents/hiv-aids/idu target setting guide.pdf.

who inject drugs [...] lack sufficient access to sterile needles."²⁰⁹ The report emphasizes that "[m]aking injecting safer for people who use drugs by providing sterile equipment is relatively easy and inexpensive and can significantly reduce levels of HIV transmission."²¹⁰ It investigates how many people have access to sterile injecting equipment, but does not indicate how many have access to treatment of the underlying addiction. The lack of emphasis on drug treatment access is disturbing.

UNAIDS also laments laws that criminalize drug use and drug users, arguing that "the application of criminal penalties drives people who use drugs away from HIV prevention and treatment services." Once again, this consequence is not justification for the decriminalization of drug use and thus the legalization of the underlying risky behavior. Instead, it is a call to ensure that drug users have access to the treatment that they need.

Access to sterile equipment, condoms, and STI prevention services can only work to help the drug user in the short run, however. These solutions assume that the best commitment is to leave the drug user in his or her current state. The emphasis should be on treatment of drug addiction in all forms, with the goal of getting the drug user to stop using drugs, thereby stopping his or her underlying risky behavior.

VIII. Conclusion

It is time for UNAIDS, as the global policy-setter on HIV/AIDS, to embrace evidence-based interventions that have been proven to work. The overreliance on and prioritization of condom promotion in generalized epidemics, to the exclusion of a person-centered approach that includes delayed age of sexual debut and partner reduction, runs counter to the evidence. On the treatment side, antiretroviral therapy has proven very effective, yet 9 million people currently lack access to such treatment. Support for those who have contracted HIV, including non-discrimination efforts, is laudable and a central component of a person-centered response. Continuing support and investment in these areas by UNAIDS and governments around the world is needed.

Although tens of millions of people have died of HIV/AIDS in the past few decades, it is not too late for large-scale, locally developed interventions to break the chains that allow HIV to spread throughout the world.

²⁰⁹ UNAIDS, 2010 GLOBAL REPORT, supra note 173, at 14.

²¹⁰ *Id.* at 73.

²¹¹ See id. at 72–73.

²¹² Letter from Michael Sidibé, Executive Director of UNAIDS, Nov. 9, 2009, *available at* dl.dropbox.com/u/64663 568/library/EECAAC2009 Reply from Sidibe.pdf.