

The ABC Approach
to Preventing the Sexual
Transmission of HIV

Common Questions
and Answers

**Christian Connections
for International Health**



**Medical Service
Corporation International**

The ABC Approach
to Preventing the Sexual Transmission of HIV
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Comments and Suggestions

The authors and the CCIH HIV Prevention and Health Behavior Working Group invite your comments, criticisms, and suggestions. You may contact Dr. Green at egreenc@aol.com, and Ms. Herling at aherling@gmail.com. The CCIH HIV and Health Behavior Working Group can be contacted at ccih@ccih.org. You may also send comments by mail to Christian Connections for International Health (1817 Rupert St., McLean, VA, 22101, USA), or to Medical Service Corporation International (1716 Wilson Blvd., Arlington, VA, 22209, USA).

Abbreviations and Acronyms

ABC	Abstain, Be faithful, or use Condoms
ANC	Antenatal clinic
ART	Antiretroviral therapy
ARV	Antiretroviral drug
CCIH	Christian Connections for International Health
DHS	Demographic and Health Surveys
MSCI	Medical Service Corporation International
OGAC	Office of the U.S. Global AIDS Coordinator
PEPFAR	President's Emergency Plan for AIDS Relief (Emergency Plan)
PLWA	People Living with HIV/AIDS
STI	Sexually Transmitted Infection
UCSF	University of California, San Francisco
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	U.S. Agency for International Development
VCT	Voluntary Counseling and Testing

Introduction

The ABC approach—Abstain, Be faithful, or use Condoms—has gained prominence and garnered controversy in recent years, as it has become the policy of the largest AIDS relief plan in the history of the pandemic. In January 2003, the United States pledged \$15 billion to global AIDS under the President’s Emergency Plan for AIDS Relief (PEPFAR). The U.S. Agency for International Development (USAID) had recently adopted the ABC approach as the model of HIV prevention for generalized epidemics, using Uganda’s success as a model. In 2003, PEPFAR also adopted the ABC approach. The first PEPFAR prevention strategy document to be released announced that “risk elimination” would be the “cornerstone” of prevention.¹ Risk elimination, also called risk avoidance, refers to sexual abstinence and to mutual fidelity between two uninfected sex partners. Risk reduction, on the other hand, refers to strategies such as condom usage that reduce but do not eliminate the risk of sexual transmission. PEPFAR, through the ABC approach, would combat AIDS both ways. The Office of the U.S. Global AIDS Coordinator (OGAC) later released further guidance on the ABC approach.² Although this guidance

¹ Office of the United States Global Aids Coordinator for AIDS Relief. The President’s Emergency Plan for AIDS Relief: U.S. Five-Year Global HIV/AIDS Strategy. Washington, DC, Feb 2004.

² Office of the United States Global AIDS Coordinator for AIDS Relief. ABC Guidance for United States Government In-Country Staff and Implementing Partners Applying the ABC Approach to Preventing Sexually Transmitted HIV Infections within The President’s Emergency Plan for AIDS Relief. Washington, DC, Mar 2005.

has clarified the prevention approach to be followed by programs under PEPFAR, considerable confusion and controversy remain. The evidence for and appropriate application of the ABC approach to HIV prevention remain widely misinterpreted and misunderstood.

The HIV Prevention and Health Behavior Working Group of Christian Connections for International Health (CCIH) has recognized a need for a document that explains the ABC approach to HIV prevention, clearly presents the evidence for such an approach, and responds to common critiques with empirical evidence. It is not the intention of the Working Group, CCIH, or the authors of this document to be provocative or polemical, although criticisms will be addressed and answered. Our position reflects that of PEPFAR, USAID, and the “Consensus Statement” published in the medical journal *The Lancet* on December 1, 2004, and endorsed by over 150 public health experts worldwide and the president of Uganda.³ Stated simply, this position is that all three components of the ABC approach are necessary, and that the application of this approach will vary according to the target groups.

The ABC approach addresses the sexual transmission of HIV and has proven most effective in generalized epidemics (as opposed to epidemics concentrated among high-risk groups). Therefore, this document will address only the sexual transmission of HIV and will focus on transmission within generalized epidemics. Sub-Saharan Africa bears the greatest burden of the HIV/AIDS pandemic, is the region with the most generalized pandemic, and provides the clearest examples of the success of an ABC approach in turning the tide of generalized epidemics. Therefore, this document will focus predominantly on sub-Saharan Africa (usually referred to simply as Africa).

³ Halperin DT, Steiner MJ, Cassell MM et al. The Time Has Come for Common Ground on Preventing Sexual Transmission of HIV. *The Lancet* 2004; 364: 1913–1915.

We use the term “ABC” in this document as the simplest way to refer to a set of individual behaviors (Abstain, Be faithful, use Condoms) that when promoted at a population level have resulted in reduced HIV transmission. We recognize that the term “ABC” has become controversial, and that many alternatives have been proposed. Additions to ABC have included D for Drugs or Destigmatization, E for Empowerment of women or Education, and so on. CNN (Condoms, Needles, Negotiating skills) is another alternative approach that was compared to ABC in a high profile debate at the 2004 International AIDS Conference in Bangkok. SAVE (Safer practices, Available medications, Voluntary counseling and testing, and Empowerment through Education) has been developed by the African Network of Religious Leaders Living with or personally affected by HIV and AIDS (ANERELA) and adopted by Christian Aid in the United Kingdom. CCIH has at times used the term ABCplus in order to focus attention on both the importance of individual behaviors such as ABC *plus* the relevance of contextual factors such as gender inequity, violence, and poverty. We acknowledge that the ABC approach does not address every factor that can impact HIV transmission, and that other approaches (such as addressing poverty and the status of women) can complement an ABC approach. Our intention in this document is not to defend any particular set of letters as a “magic bullet” for HIV prevention, but rather to present the evidence for the effectiveness of an HIV prevention approach that includes a major focus on individual behaviors that eliminate or reduce the risk of HIV infection.

The summary section of this document contains a list of questions and short answers. This section is followed by a list of the same questions, with more in-depth answers. The short answers are intended for the reader who wants a quick overview of issues surrounding the ABC approach. For those who want a more in-depth understanding, the full answers pro-

vide a more thorough explanation, including relevant research and data.

We hope that all readers will gain a greater understanding of the ABC approach through this document, and that the power of this approach to sharply reduce the sexual transmission of HIV/AIDS will be clearly understood.

Summary of Common Questions and Answers about the ABC Approach to HIV Prevention

What is the ABC approach to HIV prevention? (p. 17)

“A” stands for Abstaining from sex, “B” stands for Being faithful (fidelity), and “C” stands for Condom use. The ABC approach employs population-specific interventions that emphasize abstinence for youth and other unmarried persons, including delay of sexual debut; mutual faithfulness (sometimes measured as reduction in number of sexual partners) for sexually active adults; and correct and consistent use of condoms by those whose behavior places them at risk for transmitting or becoming infected with HIV.

What evidence is there for the ABC approach? (p. 17)

An ABC approach has been shown to be effective in generalized epidemics—that is, epidemics in which most infections are found in the general population, rather than limited to high-risk groups such as intravenous (IV) drug users or sex workers. Uganda provides the clearest case study of a successful ABC approach. HIV prevalence peaked in Uganda at 15% in 1991, and decreased to 5% by 2001.¹ During this period, abstinence and age of sexual debut increased among youth and condom use

¹ Green EC, Nantulya V, Stoneburner R, Stover J. *What Happened in Uganda? Declining HIV Prevalence, Behavior Change, and the National Response*. Washington, DC: USAID, 2002. Available at http://www.usaid.gov/our_work/global_health/aids/Countries/africa/uganda_report.pdf (accessed 8 Apr 2006).

increased.² Most critically, B behaviors (fidelity and reduction in number of sexual partners) increased, and the decrease in multiple sexual partnerships and networks appears to have been the most important determinant of the reduction in HIV incidence.³ Other countries in which elements of an ABC approach seem to have contributed to a reduction in HIV prevalence include Senegal, Jamaica, Thailand, Zambia, the Dominican Republic, and, most recently, Kenya, Zimbabwe, and urban Rwanda.

Aren't all parts of the ABC approach important? Why do proponents of the ABC approach often emphasize abstinence and fidelity and not consider condom use an equally valid choice? (p. 23)

According to a 2004 statement published in *The Lancet* and endorsed by 150 public health experts, all the elements of the ABC approach are necessary, “although the emphasis placed on individual elements needs to vary according to the target population.”⁴ For youth, the first priority should be to encourage abstinence or delay of sexual debut. For adults, the first priority should be to promote mutual fidelity with an uninfected partner. Finally, for people at high risk of exposure to HIV, the first priority should be to promote consistent condom use.

Are condoms effective against HIV/AIDS? (p. 24)

Condoms are estimated to be between 80% and 90% effective against HIV when used consistently and correctly—that is, to reduce HIV transmission by 80% to 90% compared to non-use.^{5, 6} Promotion of condoms alone has not been shown to be an

² Demographic and Health Surveys (DHS). Available at www.measuredhs.com.

³ Green et al., 2002.

⁴ Halperin et al., 2004.

⁵ Weller S, Davis K. Condom effectiveness in reducing heterosexual HIV transmission. *Cochrane Database Systematic Review* 2002; (1): CD003255.

⁶ Hearst N, Chen S. Condom Promotion for AIDS Prevention in the Developing World: Is it Working? *Studies in Family Planning* 2004; 35(1): 39–47.

effective strategy to lower infection rates in generalized epidemics, such as those found in Africa.⁷ Condoms have been shown to reduce HIV prevalence in concentrated epidemics, as in Thailand and Cambodia, where most HIV infections are found among high-risk groups. High levels of consistent condom use have been achieved among certain high-risk groups. For populations other than high-risk groups, inconsistent condom use is the norm rather than the exception. As a 2003 UNAIDS study concluded, “There is little evidence that sometimes (but not always) using condoms provides any protection as compared to not using condoms at all.”⁸

Should condoms be promoted only to high-risk populations such as sex workers and truck drivers? Doesn't everyone need condoms? (p. 32)

Condoms can be promoted to anyone and everyone, yet many years of experience provides persuasive evidence that those outside of high-risk groups are unlikely to use them consistently. Furthermore, mounting evidence suggests that inconsistent condom use does not protect people, possibly because risk compensation or disinhibition⁹ may cause condom users to take greater risks in their sexual behavior. Guidance from the Office of the U.S. Global AIDS Coordinator (OGAC) suggests that condom promotion be targeted to high-risk groups, following Uganda’s successful approach during the 1990s. Those engaging in high-risk behaviors (such as commercial sex, sex with multiple partners, or sex with a person known or likely to be infected with HIV) are more likely to use condoms, especially

⁷ Hearst & Chen, 2004.

⁸ Hearst N, Chen S. Condoms for AIDS Prevention in the Developing World: A Review of the Scientific Literature. Geneva: UNAIDS, 12 Jan 2003, p. 31.

⁹ Risk compensation and disinhibition refer to the tendency for a perception of reduced risk to make risk taking more attractive. People adjust their behavior in response to the increased sense of personal safety that comes with protective behaviors such as wearing a seatbelt or using a condom.

when condoms are promoted effectively and made readily available. Promoting condom use to those with high-risk behaviors is also strategic in that they are more likely to be “core transmitters” within a population.

Does providing information about condoms lead to earlier or increased sexual activity among youth? (p. 35)

Studies from developed countries as well as developing countries have found that providing information about condoms in sex and HIV education programs that primarily emphasize abstinence does not lead to earlier or more frequent sexual activity among youth.¹⁰ Such sex education programs can, in fact, delay sex and increase abstinence (as well as lead to greater condom use among sexually active youth). Demographic and Health Surveys (DHS) data show that the majority of adults in sub-Saharan Africa think that youth should be taught about the use of condoms to prevent HIV/AIDS.¹¹

Does the ABC approach demand an unrealistic standard of behavior? (p. 38)

Many factors can limit or take away a person’s ability to practice abstinence, faithfulness, or consistent condom use. These factors include poverty, illiteracy, instability and displacement, and gender inequity. Yet data show that more than half of African youth aged 15 to 19 abstained from premarital sex last year, and the great majority of sexually active adults were faithful, meaning that they did not report more than one sex partner in the last year.¹² Not only are most Africans practicing A and B behaviors, but 93% of Africans aged 15 to 49 are

¹⁰ Kirby D, Laris BA, Roller L. *Impact of Sex and HIV Curriculum-Based Education Programs in Schools and Communities on Sexual Behaviors of Youth. Youth Research Working Paper No. 2.* Arlington, VA: FHI/YouthNet, 2005.

¹¹ DHS. Available at www.measuredhs.com.

¹² DHS. Available at www.measuredhs.com.

not HIV infected. According to UNAIDS, sub-Saharan Africa now has an average HIV prevalence rate of 7.2%, down from 7.3% in 2004 and 7.5% in 2003.¹³ Furthermore, some of the strongest evidence for effectiveness of an ABC approach comes from situations in which there were high levels of poverty, illiteracy, and instability, such as Uganda during the late 1980s and early 1990s.

Is the ABC approach unrealistic for women? (p. 43)

It is a tragic fact that some women who have practiced premarital abstinence and marital fidelity have nevertheless become infected by unfaithful spouses or partners. According to the United Nations Population Fund (UNFPA), 60–80% of HIV-positive women in Africa have been infected by their husbands.^{14, 15} In addition, women may be victims of rape and sexual violence, including violence within marriage, and may be made vulnerable by poverty or other circumstances. The ABC approach should go hand in hand with addressing gender inequity. Furthermore, there must be consciousness raising among women and girls so that they realize and exercise the control that they do have over their sexual lives. Although some women may be unable to practice abstinence, ensure mutual fidelity, or use condoms (given their relative lack of power in patriarchal societies), available data show that the majority of women in

¹³ UNAIDS. *AIDS Epidemic Update 2005*. Geneva: UNAIDS, 2005. Available at <http://www.unaids.org/Epi2005/doc/report.html> (accessed 3 Jan 2006).

¹⁴ UNFPA. *State of World Population 2005: The Promise of Equality: Gender Equity, Reproductive Health, and the Millennium Development Goals*. New York: UNFPA, 2005. Available at <http://www.unfpa.org/swp/2005/pdf/> (accessed 18 May 2006).

¹⁵ Norman Hearst of UCSF is skeptical of this figure: "It doesn't fit the reality that, in most generalized epidemics, many women get infected in their teens, with much higher rates of infection among young women than young men. Perhaps 80% are in a monogamous relationship at the time they *discover* they are infected. The 80% figure also doesn't jive with the fact that, in most settings, discordant couples tend to be about 50% male positive, 50% female positive." Personal communication, 22 May 06.

Africa exercise more freedom of individual choice than is often attributed to them. Last year, two-thirds of unmarried girls and women in Africa (ages 15 to 24) practiced abstinence.¹⁶ The majority of women in Africa—ranging from 71% of women in Zimbabwe to 87% of women in Rwanda—report that a woman is justified in refusing sex with her husband for reasons such as knowing that he has a sexually transmitted infection (STI).^{17, 18} The belief in the West that most African women have few or no choices or options in matters of sexual behavior is not supported empirically.

Does the ABC approach consider local realities such as gender and social inequalities, poverty, and cultural impediments to behavior change? (p. 45)

The ABC approach focuses on what an individual can do to change (or maintain) behavior, and thereby avoid or reduce risk of infection. It is recognized that not all individuals have control over their sexual behavior. In addition, broader goals such as advancing women, increasing access to education, and decreasing poverty should also be pursued. The ABC approach should be seen as an individual behavioral approach to the prevention of sexual transmission of HIV/AIDS that should be complemented by larger community and societal responses. Yet, these important broader societal and structural goals may not be achievable in the short or even medium term. In Uganda and

¹⁶ DHS. Available at www.measuredhs.com.

¹⁷ DHS data, cited in Murphy E, Greene ME, Duong T. *Defending the ABCs: A Feminist Perspective on AIDS Prevention*. Washington, DC: George Washington University School of Public Health, 2005 (unpublished).

¹⁸ Even in countries in which a great majority of women report that a woman is justified in refusing sex with her husband, other data point to women's continued vulnerability. According to DHS data, a significant minority of women in Africa agree that a husband is justified in hitting or beating his wife for reasons such as burning the food, arguing with him, or refusing to have sex with him. Over half of women in Rwanda and Uganda believe that a husband is justified in hitting or beating his wife if she neglects the children.

other countries, HIV prevention has been successful even though these broader goals (although pursued) had not been fully met.

Is the ABC approach overly simplistic? Do we need, instead, an "A to Z" approach? (p. 47)

Some argue that the ABC approach is overly simplistic and that we need to go “beyond ABC” to an approach that includes other interventions such as voluntary counseling and testing (VCT), treatment of HIV and other STIs, destigmatization, reducing poverty, increasing political openness, and educating and improving the status of women. These interventions are critical matters of justice and human rights and may promote an environment that encourages changes in sexual behavior. Yet they do not in themselves prevent the sexual transmission of HIV. Data show that expanding access to VCT does not necessarily reduce HIV prevalence in a population.^{19, 20, 21, 22} In some countries HIV prevalence rises—rather than falls—with income level.²³ We might find political leadership, open discussion of HIV/AIDS, or other factors conducive to fighting AIDS, yet no decline in HIV transmission within a country. The only way to directly influence the sexual transmission of HIV is through changes in sexual behavior.

¹⁹ Matovu JKB, Kigozi G, Nalugoda F. *Repetitive VCT, Sexual Risk Behavior and HIV-Incidence in Rakai, Uganda*. Presentation at the Uganda Virus Research Institute, Entebbe, Uganda, 28 Nov 2003.

²⁰ Weinhardt LS, Carey MP, Johnson BT, Bickham NL. Effects of HIV Counseling and Testing on Sexual Risk Behavior: A Meta-Analytic Review of Published Research, 1985–1997. *American Journal of Public Health* 1999; 89: 1397–1405.

²¹ Wolitski R, MacGowan R, Higgins D, Jorgensen C. The Effects of HIV Counseling and Testing on Risk-Related Practices and Help-Seeking Behavior. *AIDS Education and Prevention* 1997; 9(Suppl B): 52–67.

²² Glick P. *Scaling up HIV Voluntary Counseling and Testing in Africa: What Can Evaluation Studies Tell Us about Potential Prevention Impacts?* Strategies and Analysis for Growth and Access (SAGA) Working Paper. Cornell University, Mar 2005.

²³ Shelton JD, Cassell MM, Adetunji J. Is Poverty or Wealth at the Root of HIV? *The Lancet* 2005; 366: 1057–1058.

Does the ABC approach contribute to stigmatization and marginalization of People Living with HIV/AIDS (PLWAs)? (p. 50)

People Living with HIV/AIDS (PLWAs) are often leaders in the fight against HIV/AIDS. In many African countries, networks of PLWAs are leaders in advocating for behavior change, including an ABC approach. Some people may feel marginalized or stigmatized by an ABC approach and may face social disapproval for either engaging in or *not* engaging in A, B, or C behaviors. Yet to object to the promotion of abstinence and faithfulness because some will not or cannot abstain or be faithful denies information and support to the majority of the population that does, in fact, already practice AB behaviors.

Has PEPFAR imposed the ABC approach on people in the developing world? (p. 51)

The President's Emergency Plan for AIDS Relief (PEPFAR) has adopted an ABC approach for generalized HIV/AIDS epidemics, following the Ugandan model of a balanced ABC approach that was successful in reducing HIV prevalence. Uganda's response to HIV/AIDS—the ABC approach—was an indigenous response to the threat of HIV/AIDS and was not an American invention. Far from dictating prevention approaches to Africans, PEPFAR has learned from an indigenous African approach.

Is PEPFAR promoting abstinence and faithfulness at the expense of condoms? (p. 52)

PEPFAR supports a comprehensive ABC approach, and the U.S. Government is the largest single supplier of condoms worldwide. Under PEPFAR, annual condom procurement has been steadily rising, and the Office of the Global AIDS Coordinator estimates that in 2005 the U.S. Government shipped more than

612 million condoms to Africa, Asia, and Latin America, the greatest annual figure since 1995.^{24, 25} In spite of this, it is often alleged that PEPFAR is promoting an “abstinence-only” strategy. This is inaccurate both because of PEPFAR’s continued support of condoms for at-risk populations and because the ABC approach emphasizes fidelity as well as abstinence (and is therefore not abstinence-only).

A recent study suggested that condoms and mortality from AIDS—and not abstinence and faithfulness—had caused HIV prevalence to decline. Does this mean that an ABC approach didn't work in Uganda after all? (p. 54)

A 2005 paper presented by Wawer, Gray et al.²⁶ was widely interpreted as proving that condoms and mortality from AIDS—and not abstinence and faithfulness—were responsible for Uganda’s decline in HIV prevalence. Another interpretation of these same data is that there had been major changes in behavior toward abstinence and faithfulness prior to the study period (1995–2004). This led to a decrease in HIV incidence prior to 1995 and a corresponding decrease in HIV prevalence after 1995.²⁷ Although HIV prevalence declined between 1995 and 2004, incidence did not, despite the fact that condom use was increasing. This suggested that other protective behaviors were on the decline. In fact, between 1995 and 2004 A and B behaviors declined.

²⁴ Chaya N, Amen K, Fox M. *Condoms Count: Meeting the Need in the Era of HIV/AIDS: 2004 Data Update*. 2004. Population Action International. Available at http://www.populationaction.org/resources/publications/condomscout/downloads/2004updateInsert_final.pdf (accessed 8 Apr 2006).

²⁵ Donnelly J. U.S. Condom Policy in Africa Targets “High-Risk” Areas. *Boston Globe*, 8 Sept 2005.

²⁶ Wawer MJ, Gray R et al. *Declines in HIV Prevalence in Uganda: Not as Simple as ABC*. Presentation at Conference on Retroviruses and Opportunistic Infections. Boston, 22 Feb 2005.

²⁷ Incidence is the number of new cases of a disease over a certain period. Prevalence is the proportion of a population infected with a disease at a given time.

Even if the ABC approach did work in Uganda, is there evidence that it could work in other countries? (p. 57)

An ABC approach has been implemented to varying degrees in Senegal, Jamaica, Zambia, Kenya, and Thailand, all with positive results. Kenya may provide the most recent example of a successful ABC approach. HIV prevalence in Kenya peaked in the late 1990s at 10% and had declined to 7% by 2003.²⁸ During this period, Kenya also saw significant increases in A and B behaviors and a smaller increase in condom use reported at last higher-risk sex.²⁹

In mature epidemics,³⁰ a large percentage of new HIV infection can occur in serodiscordant couples. How can an ABC approach curb transmission among these couples? (p. 60)

Condom usage rates among married or regular partners are typically low, with less than 5% of regular partners reporting consistent use.³¹ Couples' counseling may increase usage rates among discordant couples,³² but A and B messages can also have great relevance. Serodiscordant couples report abstinence as well as condom usage as strategies to avoid infection, and research has shown that many HIV-negative females would prefer abstinence had their partners not refused.³³ Furthermore, to sustain or expand an epidemic, the "reproductive number" (R_0 , used by epidemiologists) must be greater than 1, meaning that

²⁸ UNAIDS, 2005a..

²⁹ DHS. Available at www.measuredhs.com.

³⁰ A mature epidemic is one in which infections have moved beyond the rapid infection of the very susceptible.

³¹ Norman Hearst, personal communication, 16 June 2005.

³² Allen S, Meinzen-Derr J, Kautzman M et al. **Sexual Behavior of HIV Discordant Couples after HIV Counseling and Testing.** *AIDS* 2003; 17(5): 733–740.

³³ Bunnell RE, Nassozi J, Marum E et al., **Living with Discordance: Knowledge, Challenges, and Prevention Strategies of HIV-Discordant Couples in Uganda.** *AIDS Care* 2005; 17(8): 999–1012.

an infected person must infect more than one other person.³⁴ Thus, to avoid further transmission of HIV, a B message that strongly discourages extramarital partners is vital.

³⁴ Cohen MS, Eron JJ. Sexual HIV Transmission and Its Prevention. Continuing Medical Education Series; 27 June 2001. Available at <http://www.medscape.com>.

Common Questions and Answers about the ABC Approach to HIV Prevention

What is the ABC approach to HIV prevention?

“A” stands for Abstaining from sex, “B” stands for Being faithful (fidelity), and “C” stands for Condom use. The ABC approach employs population-specific interventions that emphasize abstinence for youth and other unmarried persons, including delay of sexual debut; mutual faithfulness (sometimes measured as reduction in number of sexual partners) for sexually active adults; and correct and consistent use of condoms by those whose behavior places them at risk for transmitting or becoming infected with HIV.

What evidence is there for the ABC approach?

The sexual transmission of HIV can be directly prevented in only three ways: by avoiding the exposure to risk through sexual abstinence; by reducing the risk of exposure through partner faithfulness and reduction in partners; or by blocking the efficiency of transmission through a barrier like a condom. In other words, by practicing A, B, or C. Treatment of sexually transmitted infections (STIs) (including HIV) and male circumcision can also reduce, although not eliminate, the risk of HIV transmission. In the future, vaginal microbicides may also reduce the risk of HIV transmission once a safe and effective drug has been approved for use.

The ABC approach offers risk reduction as well as risk avoidance and options for those at various levels of risk. A broader approach ought to have greater impact than a narrower one, given the variability of human behavior and circumstances. A single preventive approach to something as complex as human sexual behavior will never appeal to all people, let alone influence their behavior. For those who continue to have multiple sexual partners or who are otherwise at risk, the only preventive options may be those classifiable as risk reduction, namely condom use, male circumcision, and appropriate treatment of STIs.

An ABC approach is appropriate for generalized epidemics, which require a different prevention approach than do concentrated epidemics. World Bank AIDS expert David Wilson provides definitions of concentrated and generalized epidemics that point to appropriate interventions. “Epidemics are concentrated if transmission occurs mostly among vulnerable groups and if protecting vulnerable groups would protect wider society. Conversely, epidemics are generalized if transmission occurs mainly outside vulnerable groups and would continue despite effective vulnerable group interventions.”¹

By definition, one cannot impact HIV prevalence in generalized epidemics by promoting risk reduction measures to vulnerable (or high-risk) groups, however successful those interventions might be. What is effective in concentrated epidemics will not necessarily be effective in generalized epidemics. In the United States, Europe, and most of Latin America and Asia, HIV infections are concentrated in a few fairly well-defined high-risk groups. In sub-Saharan Africa, most infections are found in the general population. Differences in epidemiological patterns and cultural settings are real and call for different approaches to prevention.

¹ Wilson D. *A Monitoring and Evaluation Framework for Concentrated Epidemics and Vulnerable Populations*. Washington, DC: The World Bank, 2005.

Because Uganda provides the clearest case study of a successful ABC approach, this document makes frequent reference to Uganda. As discussed below, there is also recent evidence for ABC behaviors being associated with reductions in HIV prevalence in Kenya, Zimbabwe, and urban Rwanda.

In Uganda, HIV prevalence decreased from 15% to 5% between 1991 and 2001.² During the same period, the following changes in ABC behaviors occurred (Figure 1):

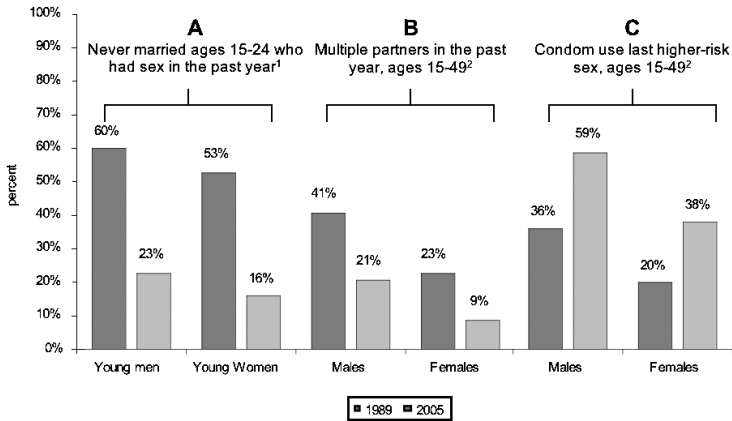
- The proportion of young males age 15–24 reporting premarital sex decreased from 60% in 1989 to 23% in 1995. For females, the decline was from 53% to 16%.³
- For all age groups, 41% of males had more than one sex partner in 1989. This declined to 21% by 1995. For females, the decline was from 23% to 9%. The proportion of males reporting three or more sex partners fell from 15% to 3% between 1989 and 1995.⁴
- In 1995, about 6% of sexually active Ugandans used a condom with some regularity. By 2000, this rose to 11% of sexually active Ugandans, or 8% of all Ugandans. In the same period, the percentage of males who used a condom at last higher-risk sex (sex with a non-marital, non-cohabiting partner) increased from 36% to 59%, and the number of females who used a condom at last higher-risk sex increased from 20 to 38%.⁵

² Green et al., 2002.

³ Bessinger R, Akwara P, Halperin D. *Sexual Behavior, HIV, and Fertility Trends: A Comparative Analysis of Six Countries*. Calverton, MD: ORC Macro, the Measure Project, and United States Agency for International Development. Available at www.cpc.unc.edu/measure/publications/pdf/sr-03-21b.pdf (accessed 3 Jan 2006).

⁴ DHS. Available at www.measuredhs.com.

⁵ DHS. Available at www.measuredhs.com.

Figure 1: ABC Behaviors in Uganda, 1989 to 2005

Source: ¹Global Programme on AIDS (GPA), ²Demographic Health Surveys (DHS)

The main behavior change that occurred in Uganda was a decrease in number of sexual partners and increased monogamy and fidelity (mostly marital fidelity). The decrease in multiple sexual partnerships and networks appears to have been the most important determinant of the reduction in HIV incidence.⁶ Although AIDS prevention programs often focus on youth, evidence shows that it is reduction in the number of sexual partners among those who are sexually active—and not abstinence among youth—that is most critical to curbing an AIDS epidemic.⁷ Most Ugandans ages 15 to 49 (the age group in which surveys such as DHS measure both behavior and HIV status) were sexually active and faithful, not abstinent. Youth were given information on a range of AIDS prevention options, including condoms, with abstinence (often termed delay of sexual debut) emphasized as

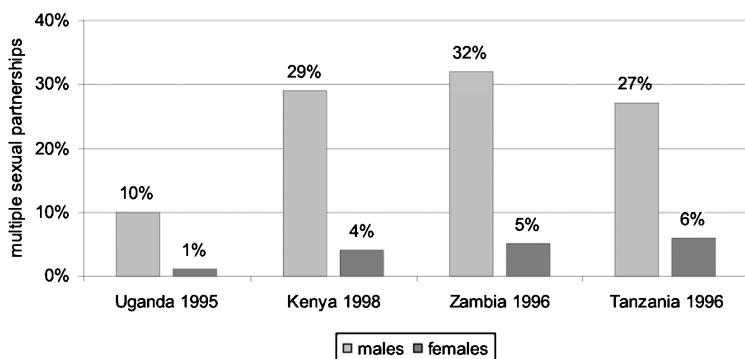
⁶ Green et al., 2002.

⁷ Shelton JD, Halperin DT, Nantulya V et al. Partner Reduction Is Crucial for Balanced “ABC” Approach to HIV Prevention. *British Medical Journal* 2004; 328: 891–893.

the only 100% sure option. Adults were targeted with a “be faithful” message that included slogans such as “love faithfully” and “zero grazing.”

Data show that compared to other countries in Africa, it was with regard to B behaviors that Uganda was different.⁸ As shown in Figure 2, condom use was not higher in Uganda than in other countries. Rather it is in “Be faithful” behaviors that Uganda stands out. There was far less multi-partner sex in Uganda than in other countries, as illustrated in Figure 3.

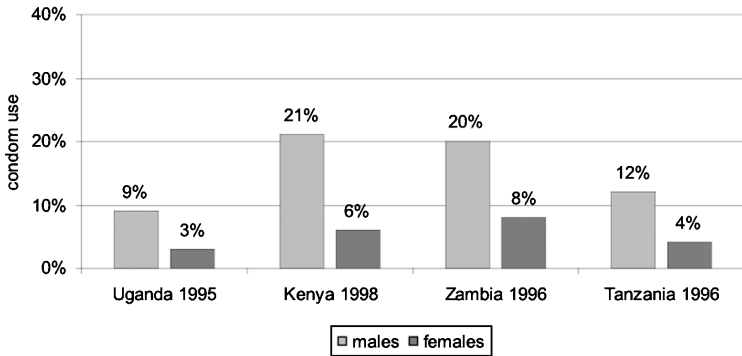
Figure 2: Condom Use at Last Sex*



* Percent of sexually active men and women ages 15 to 49 who used a condom at last sex with anyone

Source: Demographic and Health Surveys (DHS)

⁸ Stoneburner R, Low-Beer D. Population-Level HIV Declines and Behavioral Risk Avoidance in Uganda. *Science* 2004; 304: 714–718.

Figure 3: Multiple Sexual Partnerships*

* Percent of sexually active men and women ages 15 to 49 who have had sexual intercourse with more than one partner in the last 12 months

Source: Demographic and Health Surveys (DHS)

There is a clear need for a balance of A, B, and C interventions. Interventions should be targeted for efficiency and likely impact and must take into account crucial differences among target groups. A balanced ABC approach might be implemented in the form of A interventions emphasizing sexual postponement or a return to abstinence for youth; B interventions promoting fidelity or partner reduction to all who are sexually active and especially those not in monogamous relationships (or those in polygamous marriages, as was done in Uganda); and C interventions promoting condom use to those at high risk of exposure to HIV infection. People at high risk include those engaging in commercial sex or multiple partnerships, discordant couples and others having sex with a person known or likely to be infected with HIV or another STI, and young people who are sexually active. Yet, these high-risk groups always comprise a minority of any national population. This is true in Africa today, where recent DHS show that the majority of men and women do not report more than one regular sex partner in the previous year (see Table 4).

Aren't all parts of the ABC approach important? Why do proponents of the ABC often emphasize abstinence and faithfulness, and not consider condom use an equally valid choice?

According to a statement published in *The Lancet* and endorsed by over 150 public health experts, all the elements of the ABC approach are necessary, “although the emphasis placed on individual elements needs to vary according to the target population.”⁹ This article states that for youth, the first priority should be to encourage abstinence or delay of sexual debut. For adults, the first priority should be to promote mutual fidelity with an uninfected partner. This is especially important, as evidence from countries where HIV has declined suggests that partner reduction and fidelity were the most important behaviors leading to the decline, both in generalized and concentrated epidemics.^{10,11} Finally, for people at high risk of exposure to HIV, the first priority should be to promote correct and consistent condom use, along with other approaches such as avoiding high-risk behaviors or partners. Correct information about condoms should be given to all youth and adults, and adults should be encouraged to use condoms correctly and consistently if they have a sexual partner of unknown sero-status. Yet the promotion of condoms to youth and adults who are not in a high-risk category should not precede or supersede efforts to promote abstinence and fidelity.

In appropriately targeting AIDS prevention messages, there is a need to distinguish between individual and public health strategies. This distinction has been made by Dr. Norman Hearst in his evaluation of condom promotion in the developing world. To paraphrase Dr. Hearst: “If I am foolish enough to engage in risky sex, it certainly makes sense for me as an individual to use

⁹ Halperin, Steiner et al., 2004.

¹⁰ Shelton et al., 2004.

¹¹ Stoneburner & Low-Beer, 2004.

a condom, since this will greatly reduce my risk of infection. But as a public health strategy, promotion of condoms has had a poor record of producing lower HIV infection rates, especially in generalized epidemics.”¹² Similarly, the Phase One report of the USAID ABC Study concluded that A and B behavior changes are necessary for levels of national HIV prevalence to decline in Africa.¹³ When abstinence and fidelity are promoted as public health strategies and adopted by large numbers of people, especially in generalized epidemics, HIV prevalence begins to fall.

Are condoms effective against HIV/AIDS?

There are two questions to consider when it comes to condoms and HIV/AIDS. First, how effective are condoms in preventing the transmission of HIV? Second, how successful have condoms been in curbing the spread of HIV within populations?

Condoms are estimated to be between 80% and 90% effective when used consistently and correctly—that is, they reduce HIV transmission by 80% to 90% compared to non-use.^{14,15} Condoms can also reduce the risk of many other sexually transmitted infections, the presence of which can increase the transmission efficiency of HIV.

Promotion of condoms alone has not been shown to be an effective strategy to lower infection rates in generalized epidemics, such as those found in Africa. A 2003 study concluded, “Especially in the setting of generalized heterosexual transmission, it is unknown what level of condom use in the population is necessary to have a substantial impact on HIV transmission. Indeed, there are no definite examples yet of generalized epidemics that have been turned back by prevention programs based primarily on condom promotion.”¹⁶ An article in *The Lan-*

¹² Hearst & Chen, 2004.

¹³ Bessinger et al., 2003.

¹⁴ Weller & Davis, 2002.

¹⁵ Hearst & Chen, 2004.

¹⁶ Hearst & Chen, 2004.

cet similarly stated, “Massive increases in condom use worldwide have not translated into demonstrably improved HIV control in the great majority of countries where they have occurred.”¹⁷

Evidence for the effectiveness of condoms in reducing HIV rates at the population level comes from countries like Thailand and Cambodia that have different types of epidemic patterns than are found in Africa. In Thailand, which is considered the world’s great condom success story, the epidemic was largely fueled by contact with sex workers. During the early 1990s, the number of men reporting consistent condom use when visiting a sex worker increased from 36% to 71%. During this time period, the number of men reporting premarital or extramarital sex was cut in half and the percentage visiting sex workers was likewise cut in half.¹⁸ All of these trends, along with political support and increased STI control, likely contributed to Thailand’s declining HIV incidence during the early 1990s. There is always a lag between incidence and prevalence decline, and data from antenatal clinics (ANCs) showed a decline in HIV prevalence from 2% in 1995 to 1.6% in 2001.¹⁹

When HIV infections are concentrated among sex workers and their clients, condom promotion is an effective primary strategy, at least for these groups. In Africa, the vast majority of HIV infections occur outside high-risk groups, in the very groups in which condom usage remains stubbornly low. David Wilson of the World Bank recently observed that generalized epidemics will continue “despite effective vulnerable group interventions.”²⁰ In other words, even if sex workers, truck drivers, soldiers, and others at high risk used condoms, epidemics could

¹⁷ Richens J, Imrie J, Copas A. Condoms and Seat Belts: The Parallels and the Lessons. *The Lancet* 2000; 29: 400.

¹⁸ Phoolcharoen W. HIV/AIDS Prevention in Thailand: Success and Challenges.” *Science* 19 June 1998; 280 (5371): 1873–1874

¹⁹ Phoolcharoen, 1998.

²⁰ Wilson, 2005.

continue because most infection occurs outside these groups. A different strategy is needed for the majority in the general population—an ABC approach.

Few people are found to use condoms consistently outside high-risk groups. Condom use may be felt to signal a lack of trust within a relationship, to diminish the pleasure of sex, or to be undesirable in other ways. Use of drugs and alcohol can affect a person's ability to use a condom or to use it successfully. Women often lack the power to insist on condom use. Other barriers to condom use include availability and cost. Even in Thailand, condom use among non-sex workers remained relatively low, according to a survey conducted by Family Health International, in which condom use is defined as use during last sex intercourse. In Bangkok, where condom use among sex workers reached nearly 90% by 1996, reported condom use by women in the general population was only 18.9% in 1996. Only 28.5% of Bangkok sex workers reported using condoms with nonpaying sex partners, such as boyfriends.²¹

No country in Africa has ever had rates of consistent condom usage above 5%²² among married people or regular sexual partners,²³ and usage rates at last intercourse with any type of partner remain relatively low (Table 1). In some countries, condom usage rates among high-risk groups have increased significantly, even as usage rates among the general population have not. In Kenya, between 1998 and 2003, condom use at last higher-risk sex increased from 44% to 47% for men, and from 16% to 24% for women. In the same period; condom use at last sex among all men and women decreased somewhat.²⁴ This reflected the fact that although condom use was increasing in

²¹ Family Health International. *AIDS Control and Prevention Project: Final Report for the AIDSCAP Program in Thailand November 1991 to September 1996*. Available at <http://www.fhi.org/en/HIVAIDS/pub/Archive/aidscapeports/finalreportAIDSCAPthailand/index.htm> (accessed 3 Jan 2006).

²² DHS. Available at www.measuredhs.com.

²³ Hearst N, personal communication, 16 June 2005.

²⁴ DHS. Available at www.measuredhs.com.

higher-risk sex, higher-risk sex was on the decline. In other words, an ABC approach was resulting in greater C and especially greater B behaviors.

Table 1: Condom Use at Last Sex in sub-Saharan Africa

<i>Country and year</i>	<i>Percent of sexually active adults ages 15–49 using a condom at last intercourse with any type of partner</i>	
	MALE	FEMALE
Benin 2001	16	4
Burkina Faso 2003	31	9
Cameroon 2004	32	15
Cote d'Ivoire 1998	23	7
Ethiopia 2000	5	1
Ghana 2003	18	9
Guinea 1999	14	3
Kenya 2003	17	5
Malawi 2000	14	5
Mali 2001	10	2
Mozambique 2003	14	6
Namibia 2000	45	28
Nigeria 2003	16	5
Rwanda 2000	6	1
Tanzania 1999 ²⁵	16	8
Togo 1998	19	6
Uganda 2000/01	15	7
Zambia 2001/02	19	12
Zimbabwe 1999	28	9
Average (unweighted)	19	7

Source: all data from DHS unless otherwise noted

Although correct and consistent condom use may significantly reduce risk of HIV transmission, such usage does not seem to have reached high enough rates in any African country to impact HIV prevalence at a population level. In fact, the number of condoms per male per year in Africa remains low, and in

²⁵ Tanzania Reproductive and Child Health Survey, 1999. Available at www.measuredhs.com.

the countries with the highest usage we also see the highest HIV prevalence. In 2000, Shelton and Johnston determined the annual average number of condoms available in several African countries per male aged 15 to 49 years, computing the average over a 10-year period.²⁶ Figure 4 depicts condom availability by country, as well as national HIV prevalence. This figure demonstrates that condom availability in Africa is still very low, largely because of low demand.²⁷ Yet there are differences among countries. Zimbabwe, Botswana, and South Africa have the highest rates of condom availability but are also among the countries with the highest rates of HIV infection. In contrast, during the unprecedented decline of HIV in Uganda from 1989 through 2000, only four condoms were used per male annually.²⁸ And as seen in Table 1, the two countries with the lowest condom user rates, Ethiopia and Rwanda, also have low HIV prevalence by standards of East Africa: 4% and 3% respectively.

There are several possible explanations for the relationship between condom use and higher HIV or STI infection. The fact that HIV prevalence is highest in the countries with highest condom usage does not necessarily mean that there is a causal relationship or that condom use is in any way contributing to greater HIV prevalence. The range of possible explanations and causal associations include:

- 1) People who know or suspect they are HIV positive are more likely to use condoms (effect-cause);
- 2) People who would have more partners anyway are both more likely to use condoms and more likely to be infected (effect-effect);

²⁶ Shelton J, Johnston B. Condom Gap in Africa: Evidence from Donor Agencies and Key Informants. *British Medical Journal* 2001; 323: 139.

²⁷ Longfield K, Agha S, Kusanthan T, et al. *Non-Use of Condoms: What Role Do Supply, Demand, and Acceptance Play in the 'Condom Gap'?* Presentation at the International Conference on AIDS and STDs in Africa, Ouagadougou, Burkina Faso, Dec 2001.

²⁸ Green EC. *Rethinking AIDS Prevention*. Westport, CT: Praeger, 2003.

- 3) Condom promotion might encourage higher risk sex (cause-effect);
- 4) Failure to separate out commercial sex (in its various forms) from the data;
- 5) Failure to fully adjust for other possible confounders.²⁹

However, a recent prospective study of Ugandan men published in the *Journal of Acquired Immune Deficiency Syndromes* suggests that condom promotion might in fact encourage higher risk sex (“cause-effect”). In this study, intensive condom promotion was found to lead to increased condom use but also to increased numbers of sex partners, thereby increasing risk of infection. The authors conclude:

The increase in condom uptake that the intervention produced seems not to have been sufficient to counteract the increase in numbers of sex partners. Although this was not the result we intended or expected, it is consistent with the history of AIDS prevention efforts in Uganda. Uganda’s success in AIDS control seems to have resulted from reductions in numbers of partners, with condoms playing a relatively minor role.³⁰

Moreover, the most recent USAID-supported national sample survey of sexual behavior in Uganda, which includes a sero-survey of HIV infection, found that condom users are more likely than non-users to be HIV-infected.³¹ This survey compared “Condom use ever” (12.2% HIV prevalence) to “Never used condom” (6.9% HIV prevalence), and “Condom use at last sex in past

²⁹ Hulley SB, Cummings SR, Browner WS et al. *Designing Clinical Research: An Epidemiologic Approach, 2nd Edition*. Philadelphia: Lippincott, Williams & Wilkins, 2001.

³⁰ Kajubi P, Kamya MR, Kamya S et al. Increasing Condom Use without Reducing HIV Risk: Results of a Controlled Community Trial in Uganda. *Journal of Acquired Immune Deficiency Syndromes* 2005; 40(1): 77–82.

³¹ Ministry of Health (MOH) [Uganda] and ORC Macro. 2006. *Uganda HIV/AIDS Sero-behavioural Survey 2004-2005*. Calverton, Maryland, USA: Ministry of Health and ORC Macro.

12 months” (14.7% HIV prevalence) to “No condom use at last sex in past 12 months” (6.8% HIV prevalence). Only in one condom measure was there no significant difference in HIV prevalence between condom users and non-users. Those who reported condom use and those who reported non-use at last higher-risk sex in past 12 months had the same HIV prevalence (both around 15%), but of those who reported no such higher-risk sex, HIV prevalence was 6.1%.

Similar associations between condom use and higher levels of HIV infection were found by DHS plus sero-surveys in Kenya, Ghana and Tanzania.³² Studies will have to be done to sort out causal connections. As David Stanton of USAID notes of the new DHS plus sero-surveys:

The HIV testing technology used in these surveys is unable to establish time of infection. In other words, the result of the test reflects something that could have take place somewhere in an 8 to 10 year period. Comparing that result to the one-time answer to a survey question needs to be done very carefully. Someone who used condoms consistently and correctly in the last 12 months but was infected 5 years ago doesn't tell us much. I would be very cautious in drawing conclusions from the cross tabulation of HIV test result and survey responses. Even when the data are linked by respondent they are not linked in time let alone cause and effect.³³

We agree. Yet any positive association between condom use and HIV infection seems to warrant caution in the way condoms are marketed, especially to general populations. A report from Kenya notes:

[Condom] social marketing plays an important role in increasing demand for and use of all condoms in Kenya, whether they are supplied from the public sector, social mar-

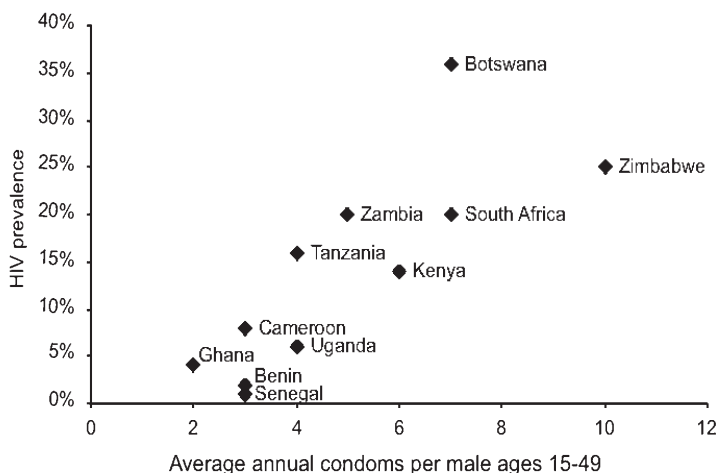
³² DHS. Available at www.measuredhs.com.

³³ David Stanton, USAID, personal communication, 17 Nov 2006.

keting, or commercial sources. Mass media campaigns have greatly reduced the societal stigma associated with condoms, which in turn have facilitated their increased availability and use. A generic ‘condom efficacy’ behaviour change campaign has increased Kenyans’ faith in the effectiveness of condoms in preventing disease from 50% to over 80% . . . ³⁴

As we create “demand” for condoms, we need to be careful that we are not enabling nor unconsciously sanctioning casual and risky sex.

Figure 4: Average Annual Number of Condoms per Male in sub-Saharan Africa



Source: Shelton and Johnston, 2001

³⁴ National AIDS and STI Control Programme (NAS COP), Ministry of Health, Kenya. *AIDS in Kenya: Trends, Interventions and Impact*, 7th ed. Nairobi: NAS COP, 2005, p. 50. Available at <http://www.aidskenya.org/%95%95%95AIDS%20in%20Kenya-Final%95%95.pdf> (accessed 19 July 2006).

Should condoms be promoted only to high-risk populations such as sex workers and truck drivers? Doesn't everyone need condoms?

Condoms can be promoted to anyone and everyone, yet many years of experience provides persuasive evidence that only those in high-risk groups are likely to use them consistently, especially in rural areas where a steady supply of condoms is problematic. As discussed above, *consistent* condom use in Africa is rare, and most condom use outside of a very few high-risk groups is *inconsistent*. Mounting evidence suggests that inconsistent condom use does not protect people. In fact, now that DHS include a population-based sero-survey component, it is possible to compare the HIV status of condom users and non-users. In the first countries for which DHS data are available (Tanzania, Kenya, and Ghana), it has been found that condom users were more likely to be infected than non-users, whether the measure is condom use at last sex, last high-risk sex, or last sex with sex workers.³⁵ These data are being called anomalous, yet they could be explained by factoring in inconsistent and/or incorrect use and the possibility of engaging in higher-risk sex due to disinhibition.^{36, 37}

Other studies have also provided evidence that inconsistent condom use provides little or no reduced risk of HIV. A study in Rakai, Uganda found that although consistent condom use reduced risk of HIV infection by 63%, irregular condom use did not reduce risk of HIV at all, after adjusting for demographic and behavioral variables.³⁸ Another recent study found

³⁵ Annie Cross, Macro International, personal communication, 17 Nov 2005. Also DHS from 2003 onward, available at www.measuredhs.com.

³⁶ Richens et al., 2000.

³⁷ Mosley H. Declining HIV in Uganda Cannot Be Explained by Mortality or Condoms (Letter). *British Medical Journal* 2005; 330: 496.

³⁸ Ahmed S, Lutalo T, Wawer M et al. HIV Incidence and Sexually Transmitted Disease Prevalence Associated with Condom Use: A Population Study in Rakai, Uganda. *AIDS* 2001; 15: 2171-2179.

that condom promotion can lead to greater sexual risk taking, which, when combined with inconsistent condom use, results in higher overall risk to HIV. A group of men in Kampala, Uganda participated in a condom promotion program that taught condom technical use skills, encouraged condom use, and provided free condoms. Compared to a control group that received only a brief informational presentation about AIDS, the men in the intervention group did use more condoms. The men in the intervention group also increased their number of sexual partners by 31%, in comparison to the control group, who decreased their number of partners by 17%. The net result was an increase in sexual risk in the intervention group, as “gains in condom use seem to have been offset by increases in the number of sex partners.”³⁹

We cannot discount the possibility that risk compensation or disinhibition⁴⁰ may be causing condom users to take greater risks in their sexual behavior. Ahmed and colleagues found evidence of this in Rakai, Uganda. The government of Uganda was aware of this possibility as early as 1988, when it advised, in what may be its earliest booklet on AIDS prevention, “Condoms give people a false idea they are totally safe from AIDS. The best way to avoid AIDS is to avoid causal sex and to stick to a faithful partner.”⁴¹

There is nothing in OGAC guidance documents that discourages or restricts the promotion of condoms to adults in a generalized population. OGAC guidance does suggest that condom promotion be targeted to high-risk groups, following

³⁹ Kajubi et al., 2005.

⁴⁰ Risk compensation and disinhibition refer to the tendency for a perception of reduced risk to make risk-taking more attractive. People may take greater risks in response to the increased sense of personal safety that comes with protective behaviors such as wearing a seatbelt or using a condom.

⁴¹ Government of Uganda, National Resistance Movement Secretariat. *Control of AIDS: Action for Survival*. Kampala, Uganda, 1988, p. 33.

Uganda's successful approach during the 1990s.⁴² This is for the simple fact that such groups are more likely to use condoms. In addition, promoting condoms to those who engage in high-risk behaviors is also strategic in that they are more likely to be the "core transmitters" within a population.

If we follow available evidence, it appears that the actual market for condoms is very low in Africa. As observed recently in *The Lancet*, "African men and women often have more than one—typically two or perhaps three—concurrent partnerships that can overlap for months or years. This pattern differs from that of the serial monogamy more common in the west, or the one-off casual and commercial sexual encounters that occur everywhere."⁴³ (It should be noted that although concurrent partnerships may be more common in Africa than in the West, in any given year most Africans do not have multiple partners, concurrent or otherwise.) A pattern of concurrent partners unfortunately facilitates HIV transmission far more than serial monogamy. Making the situation worse is the fact that most men (in Africa and elsewhere) rarely use condoms with their wives or other long-term, regular partners. Years of experience in condom promotion suggest that this is unlikely to change easily or at all. On the other hand, there is evidence that sex workers and their clients, truck drivers, soldiers posted far from home, and others are quite likely to use condoms in one-time or infrequent sex. Such one-time sexual

⁴² There have been many recent charges that U.S. pressure has led to a current situation in which Uganda is promoting "abstinence only" to the exclusion of condoms. (For instance, *AIDS in Uganda: The Human-Rights Dimension*, Human Rights Watch, 2005, and *The Lancet*, 18 June 2005.) Yet, the broad trend over the past decade—seemingly because of pressure from foreign donors—has been far more emphasis on condom promotion at the expense of AB programs. This can be seen in Ugandan government documents such as: *The National Strategic Framework for HIV/AIDS*; *The National Monitoring & Evaluation Framework for HIV/AIDS Activities in Uganda 2003/04–2005/06*; and *The National Condom Policy and Strategy*, which have few references to abstinence or faithfulness. Earlier Ugandan government documents of this sort emphasized AB interventions, especially in the period 1987–89.

⁴³ Halperin D, Epstein H. Concurrent Sexual Partnerships Help to Explain Africa's High HIV Prevalence: Implications for Prevention. *The Lancet* 2004; 363: 4–6.

experiences are relatively rare and do not add up to a substantial market for condoms. (For example, only 1.6% of Ugandan men reported paying for sex during the last year, according to the last DHS.) “Demand” for condoms is simply low in Africa and, indeed, throughout the developing world. A Population Services International survey that analyzed data from six African countries concluded that the main reasons for not using condoms have to do with poor demand.⁴⁴

Does providing information about condoms lead to earlier or increased sexual activity among youth?

According to the consensus statement in *The Lancet* referred to above, the priority for young people who have not yet started sexual activity should be to encourage abstinence or delay of sexual onset. For young people who have started sexual activity, returning to abstinence or being mutually faithful with an uninfected partner are the most effective ways of avoiding infection. For those young people who are sexually active and not faithful to a single uninfected partner, correct and consistent condom use should be supported.

Many sex and HIV education programs in sub-Saharan Africa and other developing countries emphasize abstinence as the best means to avoid infection with HIV, but also provide factual information about condoms. This indeed is what Uganda did in its pioneer School Health Education Program that began in 1987. Because such programs encourage condom use for young people who are sexually active, they are sometimes criticized for encouraging sexual activity among youth or providing “mixed messages” to youth. Some parents and communities may object to youth receiving information about condoms. However, DHS data suggest that the majority of adults in sub-Saharan African countries

⁴⁴ Longfield et al., 2001.

agree that youth should be taught about using a condom to avoid AIDS, although a significant minority does not. In most countries, approximately two-thirds of adults agree that young people aged 12 to 14 years should be taught about using condoms to avoid AIDS.⁴⁵ A notable exception is Nigeria, where only 39% of adults agree that young people should receive condom education.

Table 2: Adult Support of Education on Condom Use for Youth in sub-Saharan Africa

<i>Country and year</i>	<i>Percent of adults ages 18-49 who agree that young people aged 12-14 years should be taught about using condoms to avoid AIDS</i>	
	MALE	FEMALE
Burkina Faso 2003	71	-
Cameroon 2004	71	59
Ghana 2003	64	59
Kenya 2003	64	59
Mali 2001	65	63
Mozambique 2003	63	62
Namibia 2000	81	81
Nigeria 2003	43	36
Rwanda 2000	72	67
Tanzania 2003/4 ⁴⁶	69	61
Uganda 2000/1	59	65
Zambia 2001/2	67	56
Average (unweighted)	66	61

Source: all data from DHS unless otherwise noted

Sex and HIV education programs can delay sexual onset and increase abstinence, as well as lead to greater condom use among sexually active youth. A meta-analysis by Kirby et al. found that

⁴⁵ Note that the DHS question is, "Should children age 12-14 be taught about condoms to avoid AIDS?" This might be a leading question, because the wording suggests to interviewees that teaching about condoms results in avoiding AIDS, and parents may not want to seem to be disagreeing with a statement about their children avoiding AIDS.

⁴⁶ Tanzania HIV/AIDS Indicator Survey 2003-2004. Available at www.measuredhs.com.

such programs that included information on condoms while emphasizing abstinence did not lead to earlier or more frequent sexual activity.⁴⁷ This meta-analysis examined the impact of school and community-based sex and HIV education programs, and included 18 studies from developing countries, and nine from Africa. All of the programs in developing countries included some information on condoms. Although approximately half of the developing country programs had no effect on delay of sexual debut, frequency of sex, or number of sexual partners, about half of the programs impacted these behaviors positively. No developing country programs led to earlier sexual debut or greater sexual activity. Yet other data from developing and developed countries has found that youth may overestimate the effectiveness of condoms, believing them to be 100% effective, and that this belief may be correlated with a lower age of sexual debut.⁴⁸ A 2002 study conducted in Uganda found that 53% of secondary school students in Kampala and 71% of 14 to 16 year old students in the rural district of Kasese believed condoms to be 100% effective against HIV infection.⁴⁹

Whereas comprehensive programs which include accurate information on condom effectiveness can impact youth behavior positively, other data from Africa show that higher levels of condom awareness among youth do not lead to reduced risk of HIV. DHS findings among adolescents in sub-Saharan Africa found no relationship between levels of contraceptive awareness in general, or condom awareness in the context of AIDS (as measured by a “correct” answer to the question, “Do condoms prevent AIDS?”) and either HIV seroprevalence levels or success in

⁴⁷ Kirby D, Laris BA, Roller L. *Impact of Sex and HIV Curriculum-Based Education Programs in Schools and Communities on Sexual Behaviors of Youth*. Youth Research Working Paper No. 2. FHI/YouthNet: Arlington, VA, 2005.

⁴⁸ Grzelak S. *Teen STAR Program Evaluation in Three Countries: Poland, Chile, and USA (2002-2004)*. Washington, DC: Natural Family Planning Center of Washington, DC, 2004 (unpublished).

⁴⁹ Szymon Grzelak, personal communication, 7 June 2006.

seroprevalence stabilization.⁵⁰ If anything, there is an inverse relationship. The countries with the highest levels of adolescent awareness are Zimbabwe, Kenya, and Côte d'Ivoire, which all have high HIV infection rates relative to other countries in their respective regions. In fact, the condom measure is really one of *belief* in condom efficacy for AIDS prevention. Those countries in which belief among young women in condom efficacy is lowest (Senegal, Mali, Burkina Faso, Ghana) stand out as countries of low HIV seroprevalence.⁵¹

Does the ABC approach demand an unrealistic standard of behavior?

Critics of the ABC approach often make statements such as: "The behavioral bias of the ABC approach is based on the assumption that individuals all have an innate and equal power to make perfectly correct decisions about every issue in their sexual and reproductive health lives,"⁵² or, "We all know that abstinence and couples being mutually faithful would be great if they were applicable to everybody's lives, but they're not."⁵³ Critics of ABC may argue that African culture is polygamous, that Africans have numerous partners, or that Africans start to engage in sex at an early age. According to this logic, A and B behaviors are not realistic, and risk-reduction programs are justified by the alleged reality that Africans have many sexual partners and that women in particular can do nothing about it. Many international health organizations have therefore put the majority of their prevention resources into risk reduction measures, primarily condom promotion.

⁵⁰ Mahy M, Gupta N. *Trends and Differentials in Adolescent Reproductive Behavior in sub-Saharan Africa*. DHS Analytical Studies No.3. Calverton, MD: Macro International and MEASURE DHS Project, 2002. Cited in Green, 2003.

⁵¹ Green, 2003.

⁵² Osborne K. The ABCs of HIV: It's Not That Simple. *AIDSLink*; 82, 1 Nov 2003.

⁵³ Cohen J. Prevention Cocktails: Combining Tools to Stop HIV's Spread. *Science* 2005; 309(5737): 1002-1005.

Many factors can limit or take away a person's ability to practice abstinence, faithfulness, or consistent condom use. These factors can include poverty, illiteracy, instability and displacement, and gender disparity. Is the ABC approach still an effective strategy in such circumstances? In fact, some of the strongest evidence for an ABC approach comes from situations in which there were high levels of poverty, illiteracy, and instability. When Uganda began to respond to HIV/AIDS in the late 1980s and early 1990s, it was just emerging from two decades of war and extreme civil unrest. Far from being passive victims of forces beyond their control, Ugandans mounted an effective response to HIV/AIDS in spite of the difficult situations in which they were living.

Furthermore, the best biological and survey data show that for the majority of Africans, abstinence and faithfulness are not unrealistic behaviors. DHS and other survey data show that the great majority of African women and men are already practicing B and A behaviors, in that order (Tables 3 and 4). Only 3% of African women (and 23% of African men) reported multiple sexual partners in the previous year, and this figure has been quietly decreasing in recent years, beneath the "radar screen" of public discourse about global AIDS.⁵⁴ The number of Africans who practice abstinence or faithfulness in any given year is far greater than the number of Africans who practice consistent condom use. By citing these figures, we are *not* saying we should shift attention and resources away from risk reduction programs for those at high risk. We are suggesting that donors and international health organizations consider which behaviors are realistic and which interventions are appropriate for most Africans.

The trend in Africa is toward higher levels of monogamy, fidelity, and abstinence,⁵⁵ and the trend in HIV prevalence is

⁵⁴ Mahy & Gupta, 2003. Also see DHS surveys over past decade, available at www.measuredhs.com.

⁵⁵ Green, 2003.

incrementally downward. According to UNAIDS, sub-Saharan Africa now has an average HIV prevalence rate of 7.2%, down from 7.3% in 2004 and 7.5% a year earlier. This means that over 93% of Africans ages 15 to 49 are *not* HIV infected.⁵⁶ These welcome trends have come about in spite of the paucity or complete absence of national programs aimed at promoting fidelity and abstinence. The United States is the first major donor to fund such programs.

In the few countries where abstinence and fidelity have been promoted at the national level and backed by resources, sexual behavior has changed and rates of HIV and other STIs have decreased. Examples include Uganda, Senegal, Jamaica, Thailand, Zambia in the 1990s, Dominican Republic (after the mid-1990s), and Kenya (after the late 1990s). Data show that abstinence and faithfulness are realistic behaviors for most Africans (see Tables 3 and 4). More than half of African youth aged 15 to 19 years report abstaining from premarital sex in the previous year, according to DHS data. For example, among unmarried youth 15 to 24, 70% of Zambian youth and 71% of Ugandan youth had no sex partner in the previous year, and in some countries an even higher proportion reported abstinence. Most sexually active adults, whether married or not, report having only one partner in the previous year. In Uganda, this figure was 93%, whereas in Zambia it was 89%.⁵⁷

⁵⁶ UNAIDS, 2005a.

⁵⁷ DHS. Available at www.measuredhs.com.

Table 3: Premarital Sex among Youth Ages 15 to 24 in sub-Saharan Africa

<i>Country and year</i>	<i>Percent of youth ages 14-24 reporting premarital sex in last year</i>	
	MALE	FEMALE
Benin 2001	53	44
Botswana 2001 ⁵⁸	39	42
Burkina Faso 2003	32	26
Cameroon 2004	45	34
Central African Republic 1994/5	58	41
Cote d'Ivoire 1998	61	56
Eritrea 1995	10	1
Ethiopia 2000	16	2
Ghana 2003	24	30
Guinea 1999	52	27
Kenya 2003	41	21
Malawi 2000	49	27
Mali 2001	36	29
Mozambique 2003	67	54
Namibia 2000	59	46
Nigeria 2003	29	32
Rwanda 2000	9	4
Tanzania 1999 ⁵⁹	57	39
Togo 1998	46	53
Uganda 2000/01	31	27
Zambia 2003 ⁶⁰	33	28
Zimbabwe 1999	34	15
Average (unweighted)	40	31

Source: all data from DHS unless otherwise noted

⁵⁸ Botswana AIDS Impact Survey (BAIS), 2001. Available at www.measuredhs.com.

⁵⁹ Tanzania Reproductive and Child Health Survey, 1999. Available at www.measuredhs.com.

⁶⁰ Zambia Sexual Behavior Survey, 2003. Available at www.measuredhs.com.

Table 4: Multiple Partnerships in sub-Saharan Africa

<i>Country and survey date</i>	<i>Percent of sexually active adults ages 15-49 reporting multiple partners in last year</i>	
	MALE	FEMALE
Benin 2001	28	2
Burkina Faso 2003	23	1
Cameroon 2004	40	8
Cote d'Ivoire 1998	42	6
Ethiopia 2000	11	2
Ghana 2003	15	2
Kenya 2003	17	1
Mali 2001	23	6
Mozambique 2003	35	3
Namibia 2000	22	2
Nigeria 2003	22	1
Rwanda 2000	4	6
Tanzania 2003/4 ⁶¹	27	2
Uganda 2000/01	25	3
Zambia 2001/2	27	3
Average (unweighted)	24	3

Source: all data from DHS unless otherwise noted

Condom adoption is sometimes assumed to be a simpler behavior change to adopt than that of abstinence or faithfulness. Yet condom use, especially correct and consistent condom use, is also a difficult and demanding behavior change. Condom use also depends on supply, which can be sporadic and inconsistent in many parts of the developing world. After more than 20 years of condom promotion in the developing world, levels of consistent use remain low. In no African country have consistent condom usage rates higher than 5% ever been reported, among regular sexual partners, according to an estimate from Norman Hearst.⁶²

⁶¹ Tanzania HIV/AIDS Indicator Survey, 2003/4. Available at www.measuredhs.com.

⁶² Norman Hearst, personal communication, 16 June 2005.

Is the ABC approach unrealistic for women?

The argument is often made that women do not have the choice to abstain or practice faithfulness. It is a tragic fact that some women who have practiced premarital abstinence and marital fidelity have become infected by unfaithful spouses or partners. Women may be victims of rape and sexual violence, including violence within marriage, and may be made vulnerable by poverty or other circumstances. Condoms are often proposed as the solution for these women, and the ABC approach supports condom use for those at risk of HIV transmission. But condom use can be difficult if not impossible to negotiate for a woman in a coercive situation. As for married people, or others in regular sexual relationships, empirical data and anecdotal evidence show that condoms are rarely used by married couples or other regular partners.⁶³

Yet African women exercise more freedom of individual choice than is often attributed to them. Last year, two-thirds of unmarried girls and women in Africa (ages 15 to 24) practiced abstinence (Table 3). Between 75% and 92% of Ugandan women say that a woman is justified in refusing sex, or sex without a condom, for reasons such as suspecting that their husband has an STI or is unfaithful, according to the DHS. Although this is a greater percentage than in many other African countries,⁶⁴ most women in other countries also report that they have the power to refuse sex with their husbands. For instance, 73% of women in Malawi, 87% in Rwanda, 82% in Tanzania, and 71% in Zimbabwe said that they could refuse sex with their husbands if they knew their husbands had STIs.⁶⁵ Yet even in countries in which a great majority of women report that a woman is justified in refusing

⁶³ Gray RH, Wawer MJ, Brookmeyer R et al. Probability of HIV-1 Transmission Per Coital Act in Monogamous, Heterosexual, HIV-1-Discordant Couples in Rakai, Uganda. *The Lancet* 2001; 357: 1149–1153.

⁶⁴ Green, 2003, pp. 171–172.

⁶⁵ DHS data, cited in Murphy et al., 2005.

sex with her husband, other data point to women's continued vulnerability. According to DHS data, a significant minority of women in Africa agree that a husband is justified in hitting or beating his wife for reasons such as burning the food, arguing with him, or refusing to have sex with him. Over half of women in Rwanda and Uganda believe that a husband is justified in hitting or beating his wife if she neglects the children.⁶⁶

What is the solution for women who seemingly lack the power to refuse unwanted—and often risky—sex? Much attention has been given to developing products that women can control, but female condoms cannot be used without the male partner's knowledge, and a safe and effective vaginal microbicide is yet to be developed. Women who do not have the power to say no to unwanted sex probably do not have the power to insist on condom use. The best solution is for more men to be faithful and more women to be empowered to be able to refuse sex (or refuse sex without a condom). That is, the B of ABC is urgently needed, and the ABC approach must go hand in hand with addressing gender inequity. The B message must also address cross-generational sex, including rape and seduction of minor girls by older men. Under PEPFAR, prevention includes not only the promotion of ABC behaviors, but “reducing sexual violence and coercion, including child marriage, widow inheritance, and polygamy.”⁶⁷ Finally, there must be consciousness raising among women and girls so that they realize and exercise the control that they do have over their sexual lives.

Uganda provides evidence that far from being insensitive to the needs and status of women, an ABC approach can go hand in hand with raising the status of women and the social responsibility of men. Under Uganda's ABC approach, women were empowered to leave husbands and boyfriends who were unfaith-

⁶⁶ DHS. Available at www.measuredhs.com.

⁶⁷ United States Leadership Against HIV/AIDS, Tuberculosis, and Malaria Act of 2003 (HR 1298). Available at <http://www.house.gov/pence/rsc/doc/rights%20under%20HIV-AIDS%20law.pdf> (accessed 17 Mar 2006).

ful and were putting them at risk for infection. More women became economically independent,⁶⁸ and more women and girls went further in their education. Uganda also targeted men and boys with abstinence and “zero grazing” messages. Reaching men with AB messages is crucial to achieving behavior change, given prevailing power disparities between genders.

The official guidance provided by the Office of the Global AIDS Coordinator calls for communities to mobilize to reduce the vulnerability of women:

Communities must mobilize to address the norms, attitudes, values, and behaviors that increase vulnerability to HIV, including the acceptance or tolerance of multiple casual sex partnerships, cross-generational and transactional sex, forced sex, the unequal status of women, and the sexual coercion and exploitation of young people. To stimulate such mobilization, there is an urgent need to help communities identify the ways in which they contribute to establishing and reinforcing norms that contribute to risk, vulnerability, and stigma, and to help communities identify interventions that can change norms, attitudes, values, and behaviors that increase vulnerability to HIV.⁶⁹

Does the ABC approach consider local realities such as gender and social inequalities, poverty, and cultural impediments to behavior change?

The ABC approach focuses on what individuals can do to change (or maintain) behavior, and thereby avoid or reduce risk of infection. The ABC approach is not intended to be the sole response to combating HIV/AIDS. Instead, it should be seen as an individual behavioral approach to the prevention of sexual transmission of HIV/AIDS that should be complemented by larger community and societal responses, whenever possible. In

⁶⁸ Murphy et al., 2005.

⁶⁹ Office of the United States Global AIDS Coordinator for AIDS Relief, 2005.

countries such as Uganda where an ABC approach has been successful, broader goals such as advancing women, increasing access to education, and decreasing poverty were also pursued. These broader social changes should be pursued in addition to—and not instead of—an ABC approach. Policy-oriented HIV strategies may pursue social goals through political leaders, legislative bodies, and action at the level of civil society and communities. Yet, most AIDS programs have a limited ability to effect broad social changes, given their limited timeframes and the range of activities that can be funded under such programs. Furthermore, although HIV prevention efforts may be strengthened by positive social changes, they are effective only when sexual behavior is changed.

In Uganda and in other countries, HIV prevention has been successful even though broader societal goals such as gender equality, political stability, and poverty alleviation have not been fully met. Rwanda provides a striking example. Many experts assume that strife, civil war, genocide, and breakdown of law and order—in short, social instability—would both limit AB behaviors and predict a high HIV seroprevalence rate due to increased opportunities for casual and coerced sex. Nevertheless, DHS and surveillance data from Rwanda provide powerful evidence that social instability may, in fact, have less impact than widely assumed. A DHS population-based study recently found that Rwanda has a 3% national HIV prevalence, significantly lower than Uganda at present, and much lower than earlier UNAIDS estimates, which ran as high as 30%. In addition, recent evidence suggests that there may have been a decline in HIV prevalence in urban areas between 1998 and 2003 that was associated with low numbers of sexual partners and late sexual debut.⁷⁰

⁷⁰ Kayirangwa E, Hanson J, Munyakazi L, Kabeja A. Current Trends in Rwanda's HIV/AIDS Epidemic. *Sexually Transmitted Infections* 2006; 82(suppl_1): i27-i31.

The data in Tables 3 and 4 show that Rwanda stands out in high level of protective A and B behaviors. Only 9% of males and 4% of females ages 15 to 24 report premarital sex in the past year. Likewise, only 4% of males and 1% of females of those sexually active, ages 15 to 49, report multiple partners in the past year. Could other factors such as circumcision and condom use be responsible for low infection rates? In fact, male circumcision is not practiced widely in Rwanda and condom use, as shown in Table 1, is among the lowest in Africa. Among sexually active adults ages 15 to 49, 6% of males and 1% of females, report condom use at last intercourse with any type of partner. There seems to be no readily apparent explanation other than AB behaviors to explain why an impoverished east African population that has suffered great social instability should have an HIV prevalence rate of only 3%, less than half that of Uganda's rate at present.

Is the ABC approach overly simplistic? Do we need, instead, an "A to Z" approach?

The argument is sometimes made that we need to go "beyond ABC," as an ABC approach is simplistic or reductionist. Shouldn't we be doing everything to prevent AIDS: A, B, C, D (for Drugs, or De-stigmatizing AIDS), E (for Equal opportunity)...all the way to Z?

In this discussion, it is useful to distinguish between the direct and indirect factors that determine sexually transmitted HIV infection. The former (or "proximate determinants") have to do with sexual intercourse itself. The indirect factors include things like increased access to VCT and treatment for HIV and other STIs, diminishing AIDS-related stigma, poverty alleviation, effective political leadership, open discussion about sexual behavior, and educating and improving the status of women. These interventions are critical matters of justice and human rights and may promote an environment that encourages changes in sexual behavior, yet not directly influence the spread of HIV. For example,

creating laws that protect women from sexual exploitation may be a critical measure, but it is only when sexual behavior changes as a result that HIV transmission is directly impacted.

The ABC approach may be more effective when undertaken in conjunction with these complementary efforts. For example, STI treatment or male circumcision can reduce the efficiency of HIV transmission. Likewise, female education and economic independence can reduce the economic pressure some women experience to engage in commercial sex. Such measures as widespread STI treatment and poverty alleviation are often cited as critical solutions to the HIV crisis. Although both measures undoubtedly contribute to human health and dignity and may be protective on an individual level, it is sobering to note that the evidence at a population level is somewhat more ambiguous. Data show that expanding access to VCT does not necessarily reduce HIV prevalence in a population.^{71, 72, 73, 74} Furthermore, in some countries HIV prevalence rises—rather than falls—with income level.⁷⁵ These realities should raise questions about the true relationship between many presumed HIV preventive measures and the transmission of HIV itself. The sexual transmission of HIV can be directly prevented in three basic ways: by avoiding the exposure to risk through sexual abstinence, by reducing the risk of exposure through partner faithfulness and reduction in partners, or by blocking the efficiency of transmission through a measure such as condom usage.⁷⁶ In other words, by practicing A, B, or C.⁷⁷

⁷¹ Matovu et al., 2003.

⁷² Weinhardt et al., 1999.

⁷³ Wolitski et al., 1997.

⁷⁴ Glick, 2005.

⁷⁵ Shelton JD, Cassell MM, Adetunji J. Is Poverty Or Wealth at the Root of HIV? *The Lancet* 2005; 366: 1057–1058.

⁷⁶ Although condom usage can reduce transmission efficiency in the short term, other measures such as male circumcision and STI treatment can also reduce transmission efficiency in the long term.

⁷⁷ Ahmed S, Mosley H. *ABCDE...Zero HIV/AIDS*. Presentation at the Presidential Advisory Committee on HIV/AIDS, Washington, DC, 4 Aug 2003.

We might find political leadership, open discussion of HIV/AIDS, or other factors conducive to fighting AIDS, yet no decline in HIV transmission within a country. Uganda was unique in its clear focus on what individuals themselves could do to change or maintain behavior. Uganda had strong political leadership, pioneered approaches toward reducing stigma, and brought discussion of sexual behavior out into the open. Uganda also involved HIV-infected people in public education, persuaded individuals and couples to be tested and counseled improved the status of women, involved religious organizations, enlisted traditional healers, and much more. If any country could be said to have promoted “A through Z” to prevent AIDS, it is Uganda. Yet, the message for the public was the simple one of ABC.

One additional letter, or pair of letters, should be mentioned here: MC for male circumcision. An association between male circumcision and lower HIV infection rates was first noted around 1989.⁷⁸ Since then, over 40 epidemiological studies, several meta-analyses, and a randomized trial in South Africa have investigated this association. The UNAIDS Multicentre study of four African cities found that prevalence of MC was one of the most significant factors explaining levels of HIV infection, with cities with high rates of MC having lower HIV prevalence even when sexual behavioral risk factors were similar.⁷⁹ The first randomized trial of MC, held in South Africa, found that MC has the potential to reduce HIV infection rates by 60% to 70%.⁸⁰ As of this writing, two additional randomized trials are underway in Uganda and Kenya. Findings to date are sufficiently strong that the U.S. Presidential Advisory Council for HIV/AIDS is recommending that the MC evidence be carefully followed, with

⁷⁸ Bongaarts J, Reining P, Way P, Conant F. The Relationship between Male Circumcision and HIV Infection in African Populations. *AIDS* 1989; 3: 373–377.

⁷⁹ Auvert B, Buvé A, Lagarde E et al. Male Circumcision and HIV Infection in Four Cities in sub-Saharan Africa. *AIDS* 2001; 15 (Suppl.): S31–40.

⁸⁰ HAuvert BH, HTaljaard DH, HLagarde E et al. Randomized, Controlled Intervention Trial of Male Circumcision for Reduction of HIV Infection Risk: The ANRS 1265 Trial. *PLoS Medicine* 2005; 2(11): 298.

a view toward possible policy and program recommendations, at least for generalized epidemics.⁸¹

Does the ABC approach contribute to the stigmatization and marginalization of PLWAs?

Many public health strategies promote healthy behaviors that not everyone in a population is capable of or willing to adopt. Although this may stigmatize and marginalize those who do not adopt those healthy behaviors, the benefit for those who do adopt healthy behaviors may outweigh the risks of stigmatizing some. Consider the example of smoking. Even though the best public health campaigns about the dangers of smoking may not persuade all smokers to stop smoking and may, in fact, make some smokers feel stigmatized, antismoking campaigns have been effective. It is widely believed that the health, economic, and environmental benefits of decreased smoking justify some stigmatization of those who continue to smoke. In fact, anti-smoking campaigns in the United States have been largely successful, and rates of lung cancer have fallen.

PLWAs are often effective leaders in the fight against HIV/AIDS. In many African countries, networks of people living with HIV/AIDS are major advocates for behavior change, including all three ABC behaviors. In the face of the HIV/AIDS crisis, advocates of an ABC approach feel that it is justified to promote an approach that has been effective in changing sexual behavior and saving lives. Some people may feel marginalized or stigmatized by an ABC approach and may face social disapproval for either engaging in or *not* engaging in A, B, or C behaviors. Yet, to object to the promotion of abstinence and faithfulness because some will not or cannot abstain or be

⁸¹ Grogan, J, Smith A, Sweeney M et al. *Achieving an HIV-Free Generation: Recommendations for a New American HIV Strategy*. Washington, DC: Presidential Advisory Council for HIV/AIDS, 2005. Available at <http://www.pacha.gov/pdf/PACHArev113005.pdf> (accessed 2 June 2006).

faithful denies information and support to the majority of the population that does practice AB behaviors. As shown in Tables 3 and 4, in a given year, a majority of Africans already practice faithfulness (measured in not having more than one sexual partner) or abstinence.

Faith communities and leaders have been accused of contributing to stigma toward PLWAs, and some feel that it is inherently stigmatizing when faith leaders promote abstinence and faithfulness from a moral point of view. There have undoubtedly been times and situations in which faith communities and leaders have contributed to stigma. Stigma is often a problem at all levels of society, and faith communities are not immune. But in many situations, faith communities have effectively addressed stigma, encouraged compassion, and have effectively promoted A and B behaviors. Uganda and Senegal stand out as African countries with relatively little AIDS-associated stigma. Both countries also promoted A and B behaviors, and partnered with Christian and Muslim faith-based organizations (FBOs) in significant ways. Rather than being seen as part of the problem, faith communities were felt to be part of the solution, and their support was enlisted at a national level.

Has PEPFAR imposed the ABC approach on people in the developing world?

PEPFAR has adopted an ABC approach for generalized HIV/AIDS epidemics, using Uganda's experience as a model. Some observers allege that the ABC approach is driven by the ideology of U.S. conservatives and that PEPFAR inappropriately imposed it on other countries. In fact, the ABC approach was developed and successfully implemented by Africans, without significant involvement of the United States or other large donor organizations. Although Ugandans did not invent the ABC approach or necessarily use the term "ABC" in the beginning of the pandemic, Uganda's response was to promote abstinence, faithful-

ness, and later, condom use. Other countries in Africa have since adopted an ABC approach, but Uganda still provides the best example of a balanced and successful implementation of the approach.

Far from dictating prevention approaches to Africans, PEPFAR has learned from an indigenous African approach. The success of this indigenous approach has proved that “we should not assume that all the solutions to the problems of the poor lie outside those communities and populations, that they can be found only in the donor organizations.”⁸² Africans, and particularly Ugandans, should be given the credit for an approach that was culturally relevant, extremely low cost, and very successful.

Is PEPFAR promoting abstinence and faithfulness at the expense of condoms?

PEPFAR supports a comprehensive ABC approach that employs population-specific interventions that emphasize abstinence for youth and other unmarried persons, including delay of sexual debut; mutual faithfulness and partner reduction for sexually active adults; and correct and consistent use of condoms by those whose behavior places them at risk for transmitting or becoming infected with HIV. For years, there has been a standard biomedical risk reduction, used worldwide, that has promoted condom use, VCT, and STI treatment. Thus, a single approach using standardized program impact indicators already exists. The ABC approach incorporates the existing approach but is broader because it also promotes primary prevention, that is, A and B behaviors.

The U.S. Government is the largest single supplier of condoms worldwide, and under PEPFAR annual condom procure-

⁸² Green EC. Indigenous or Western Response to African AIDS? in *Indigenous Knowledge: Local pathways to Global Development*, Woytek R, Shroff-Mehta P, Mohan PC (eds.) . Washington, DC: World Bank, Africa Region Knowledge and Learning Center, 2004, pp. 18–24.

ment has been steadily rising. The Office of the Global AIDS Coordinator estimates that in 2005 the U.S. Government shipped more than 612 million condoms to Africa, Asia, and Latin America, the greatest annual figure since 1995.^{83, 84} Despite this, it is often alleged that PEPFAR is promoting an “abstinence-only” strategy. This is inaccurate both because of PEPFAR’s continued support of condoms for at-risk populations and because the ABC approach emphasizes fidelity as well as abstinence (and is therefore not “abstinence only”).

It has also been alleged that Uganda has begun to discontinue condoms in favor of an abstinence-only strategy.⁸⁵ A recent supply problem (caused by a large batch of condoms that had to be recalled) has fueled allegations that Uganda is experiencing a severe shortage of condoms. Ugandan officials have responded by saying that Uganda continues to promote all three components of the ABC approach and that Uganda has sufficient stocks of condoms. At the time of reports of critical condom shortages (summer 2005), Uganda procured 80 million condoms.⁸⁶

There is evidence that Uganda has been shifting away from AB messages and interventions and moving toward a greater emphasis on condom use, testing, and other medical interventions. In Uganda’s current national Strategic Framework for HIV/AIDS document, which is a blueprint for all the activities supported in Uganda to combat AIDS, there are virtually no A or B elements. That is, there are no specific objectives or impact indicators related to abstinence or faithfulness. The document is mostly concerned with condoms, testing, STIs, future vaccines, future microbicides, and antiretroviral drugs. The document

⁸³ Donnelly J. U.S. Condom Policy in Africa Targets “High-Risk” Areas. *Boston Globe*, 8 Sept 2005.

⁸⁴ Chaya et al., 2004.

⁸⁵ Cohen J, Schleifer R, Tate T. AIDS in Uganda: The Human-Rights Dimension. *The Lancet* 2005; 365: 2075–2076.

⁸⁶ U.S. harming Uganda’s AIDS battle. *BBC News*, Aug 30, 2005. Available at <http://news.bbc.co.uk/2/hi/africa/4195968.stm> (accessed 27 Nov 2005)

reflects the medical “products and procedures” biomedical approach to HIV prevention rather than a sociobehavioral approach. Examination of other national AIDS documents shows the same trend.⁸⁷ A 2005 survey of AIDS-related media content in Uganda carried out by the Steadman Media Group showed that in the previous three years, most of the AIDS-related media expenditures have been for the promotion of condoms and VCT. Only about 4% of content was on abstinence.⁸⁸ Proponents of the ABC approach are concerned that Uganda may be turning away from its proven prevention strategy, possibly influenced by advice and funding from international donors.

A recent study suggested that condoms and mortality from AIDS—and not abstinence and faithfulness—had caused HIV prevalence to decline. Does this mean that an ABC approach didn't work in Uganda after all?

In February 2005, Wawer, Gray et al. presented a paper at the Conference on Retroviruses and Opportunistic Infections.⁸⁹ This paper was widely interpreted as proving that condoms and mortality from AIDS—and not abstinence and faithfulness—were responsible for Uganda’s decline in HIV prevalence. Major newspapers reported on the story under such headlines as: “Uganda’s HIV success has more to do with condoms than abstinence”⁹⁰; “Uganda: Condoms outshine abstinence in Aids bat-

⁸⁷ For example, the *National Monitoring & Evaluation Framework, for HIV/AIDS Activities in Uganda. 2003/04–2005/06*, and the *National Condom Policy and Strategy*.

⁸⁸ Steadman Media Group. *AIDS Information, Education and Communication: A Comparative Review Of Expenditure on ABC Abstinence, Being Faithful and Condom in the Electronic Media: A Survey Carried out by the Steadman Media Group*. 2005. Interreligious Council of Uganda, Kampala.

⁸⁹ Wawer MJ, Gray R et al. *Declines in HIV Prevalence in Uganda: Not as Simple as ABC*. Presentation at Conference on Retroviruses and Opportunistic Infections. Boston, MA, 22 Feb 2005.

⁹⁰ *The Advocate*, CA, 25 Feb 2005.

tle”⁹¹; “Uganda’s decline in HIV/AIDS prevalence attributed to increased condom use”⁹²; “HIV study downplays abstinence in Uganda.”⁹³ The UNAIDS Epidemic Update 2005 concluded, “Evidence of such [behavior] change has been uneven, with researchers observing no significant increases in abstinence or fidelity... most of the momentum for Rakai’s decline in prevalence appears to have derived from higher mortality rates.”⁹⁴ In citing this unpublished paper, UNAIDS overlooked or ignored findings published in leading peer-reviewed journals such as *Science*, *The Lancet*, and *British Medical Journal*, all concluding that partner reduction was the major factor in Uganda’s prevalence decline.⁹⁵

Wawer and Gray suggest that because after 1994 there were higher levels of condom use and lower levels of monogamy and abstinence in Rakai, Uganda, condom use (and mortality rates) had accounted for continuing declines in HIV prevalence. Dr. Henry Mosley makes the following points about the error of this assumption⁹⁶:

The Rakai study intensively covered only a small population in one district of Uganda and thus is difficult to generalize for all of Uganda. Furthermore, the period of intensive observation documenting changes in HIV incidence and prevalence and in trends in sexual abstinence and multiple partners was 1994–95 to 2002–03, well after the major decline in HIV prevalence in most of Uganda.

⁹¹ *AllAfrica.com*, Africa, 24 Feb 2005.

⁹² *Medical News Today*, UK, 26 Feb 2005.

⁹³ *Newsday*, New York, 25 Feb 2005.

⁹⁴ UNAIDS, 2005a.

⁹⁵ See Allen T, Heald S. HIV/AIDS Policy in Africa: What Has Worked in Uganda and What Has Failed in Botswana? *Journal of International Development* 2004; 16: 1141–1154; Halperin & Epstein, 2004; Stoneburner & Low-Beer, 2004; Shelton et al., 2004.

⁹⁶ Mosley, 2005.

The data do permit the following two major conclusions regarding the effects of ABC on HIV trends in this district.

1) Over the entire study period A, B, and C did change as follows: men 15–19 reporting sexual abstinence *declined* from 60% to 47%; men 15 to 49 reporting 1 or more non-marital partners *increased* from 35% to 44%; men 15–49 reporting consistent condom use with last non-marital sexual partner *increased* from 18% to 73%. (Similar trends in ABC were seen among women.) The net effect of these countervailing trends was essentially *no change* in the annual incidence of HIV. Thus there is no evidence that condom use has altered the course of the epidemic during the study period. Rather the compensating effects of changes in A, B and C have kept the incidence stable.

2) Epidemiologically, it can be shown that most of the decline in prevalence during the study period must come from a *decline in incident cases 7 to 8 years earlier*, not from a rise in death rates as reported by the authors. This analysis estimates that incident cases in the period 1987 to 1995 must have declined by about 40%. This was period when condom use must have been well below the 18% for men and 8% from women reported in 1994–95. The only factors reasonably accounting for this dramatic decline in this early period must have been and increase in A and B behaviors.

The countervailing trends in A, B, and C behaviors suggest that what is being observed with increasing condom use is “behavioral disinhibition.” Other protective behaviors are being discarded as condoms are being adopted. This could be an explanation for why condom programs alone have not been associated with any amelioration of population-wide heterosexual AIDS epidemics in many sub-Saharan African countries.

Even if the ABC approach did work in Uganda, is there evidence that it could work in other countries?

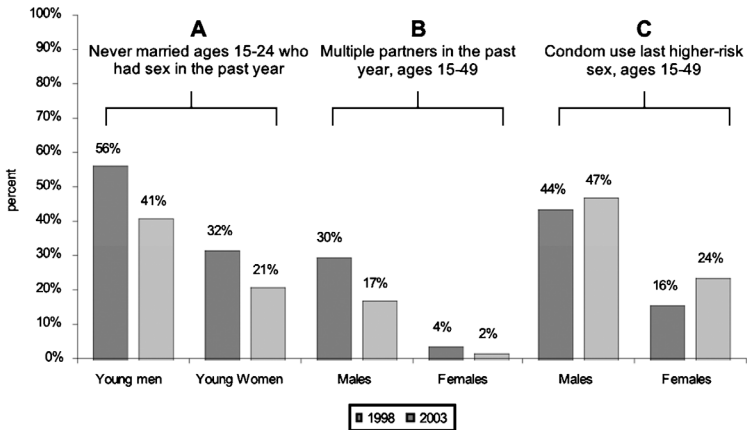
The ABC approach has been implemented to varying degrees in Senegal, Jamaica, Zambia, Kenya, and among Thailand's general population, and elsewhere, with varying degrees of positive results in at least the countries just named.⁹⁷ In Zambia, there were significant declines in HIV among youth in the 1990s,⁹⁸ but this was not sustained after about 1998. In Zimbabwe and Kenya, there have been recent A and B behavior changes associated with a decline in HIV prevalence.

Kenya provides a recent example of a successful ABC approach. In Kenya, the major response to AIDS before 1999 was condom supply and promotion. There was little or no impact on the pandemic. Finally, the Kenyan government implemented an ABC approach. In addition, faith-based groups were mobilized. AIDS education was implemented in schools. Educators and officials emphasized the seriousness of the epidemic, and government officials were told that they must mention AIDS every time they had a public meeting.

As illustrated in Figure 6, which compares Kenya DHS data from 1998 and 2003, there was little change in condom use, especially among men. There was a significant increase in the proportion of unmarried people reporting no sex in the past year, and a roughly 50% decline in the proportion reporting more than two partners in the past year for both men and women.

⁹⁷ Green, 2003.

⁹⁸ Bessinger et al., 2003.

Figure 6: ABC Behaviors in Kenya, 1998 to 2003

Source: Demographic Health Surveys

What impact did this have? Comparisons between population-based and antenatal clinic (ANC) surveys, using sophisticated statistical techniques, “suggest that the epidemic in Kenya peaked in the late 1990s with an overall prevalence of 10% in adults, and declined to 7% by 2003.”⁹⁹ The B component again appears to be the crucial factor associated with national HIV prevalence decline, just as in Uganda. Those reporting two or more partners in the past year in the 2003 DHS were twice as likely to be HIV infected as those reporting one partner. National prevalence is now slightly lower than that of Uganda, which is estimated at 7% using the same population-based method. The fact that 80% of Kenyan men are circumcised likely contributes to lower infections rates in Kenya.

There are also countries like Zimbabwe where A and B interventions seem not to be much emphasized outside of faith-based organizations. Yet, in Zimbabwe, we see A and B behavior changes, and, as in Uganda and Kenya, they seem to

⁹⁹ UNAIDS, 2005a.

be the primary factors associated with prevalence decline. A study in Manicaland in rural eastern Zimbabwe (Gregson et al., 2006) examined these factors as well as possible confounders such as mortality and migration rates. This study found that between 1998 and 2003 there was a decrease in overall adult HIV prevalence (from 23.0% to 20.5%), with steeper reductions of 23% and 49% in young men and women.¹⁰⁰ During this same period, there was an increase in AB behaviors. For instance, the percentage of 17 to 19-year-old men who reported having started sex decreased from 45% to 27%, and the percentage of men who reported having a casual partner in the last month decreased from 26% to 13%.

Similar trends in declining HIV prevalence have been seen in recent local and national surveillance data from ANCs in Zimbabwe.¹⁰¹ A 2005 UNAIDS study that evaluated multiple sources of data also concluded that HIV prevalence had fallen in Zimbabwe over the previous five years. In addition, this study stated that B behaviors—reductions in rates of sexual partner change—contributed to declines in HIV incidence.¹⁰² This study also credited high rates of condom use with nonregular partners, which were already high by 1999.

The data from Zimbabwe are strikingly similar to those of Kenya, shown above. In Zimbabwe, as in Kenya, there were increases in AB behaviors between 1998 and 2003, and little change in condom use over this time period. Mark Dybul, deputy U.S. Global AIDS Coordinator, observed about the evidence from Zimbabwe: “Perhaps one of the most interesting things is that the greatest behaviour change was in abstinence and fidel-

¹⁰⁰ Gregson S, Garnett GP, Nyamukapa CA, et al. HIV Decline Associated with Behavior Change in Eastern Zimbabwe. *Science* 3 Feb 2006; 311: 664–666.

¹⁰¹ Hayes R, Weiss H. Enhanced: Understanding HIV Epidemic Trends in Africa. *Science* 3 Feb 2006; 311: 620–621.

¹⁰² UNAIDS. *Evidence for HIV Decline in Zimbabwe: A Comprehensive Review of the Epidemiological Data*. Geneva: UNAIDS, 2005b. Available at http://data.unaids.org/Publications/IRCpub06/Zimbabwe_Epi_report_Nov05_en.pdf (accessed 2 Mar 2006).

ity. The relative change in condom use was not as remarkable.” Gregson, the primary author of the study in Manicaland, remarked that “it is important to note that all three types of behavior change seem important in Zimbabwe. We need to be promoting all the different prevention possibilities.”¹⁰³

When linking data on behavior change to changes in HIV prevalence, it should be remembered that prevalence is a lagging indicator of incidence, the rate of new infections. Showing changes in prevalence for two points in time and changes in behavior during those same two points in time can be misleading. It would be better to look at antecedent changes in behavior in both Kenya and Zimbabwe somewhat earlier (e.g., between 1994 and 1999) and relate these changes to later prevalence decline.¹⁰⁴ Unfortunately, there is a lack of data on factors such as partner reduction or the proportion of youth 15–19 who had sexual intercourse in the previous 12 months (a better indicator of behavior change than age of sexual debut, which is sometimes used). PEPFAR’s recommended indicators do include A and B behaviors and aim to increase the available data about these behaviors.

In mature epidemics, a large percentage of new HIV infections can occur in discordant couples. How can the ABC approach curb transmission among these couples?

Condom usage rates among married or regular partners are typically low, with less than 5% of regular partners reporting consistent use.¹⁰⁵ Couples’ counseling may increase usage rates among discordant couples, but this usage is often imperfect (inconsistent) and the use of biological markers has shown that

¹⁰³ Check E. HIV Infection in Zimbabwe Falls at Last. *BioEd Online* 2 Feb 2006. Available at <http://www.bioedonline.org/news/news.cfm?art=2318> (accessed 2 Mar 2006).

¹⁰⁴ We thank Jim Shelton of USAID for reminding us to mention this.

¹⁰⁵ Norman Hearst, personal communication, 16 June 2005.

actual usage is not as high as reported usage.¹⁰⁶ Serodiscordant couples report abstinence as well as condom usage as strategies to avoid infection, and research has shown that many HIV-negative females would prefer abstinence had their partners not refused.¹⁰⁷

Discordant couples also clearly need the Be faithful message. Even if every uninfected partner became infected, this would not perpetuate the epidemic unless infected people infected more than one partner. (For epidemics to be sustained, the “reproductive number” must be greater than one.) Thus, the B message, if followed, has a strong protective effect at the broader population level. Even at the individual level, sex with multiple partners can lead to superinfection,¹⁰⁸ making AIDS worse and complicating the prospect of treatment. Therefore, even for serodiscordant couples, A and B messages can have great relevance.

Some observers have suggested that the AB components are no longer as relevant in an era of antiretroviral treatment (ART). The most recent public statement from the Ugandan government—the lead author being the official who ran the Uganda’s national AIDS Control program in the earliest years—is that ABC is needed even more in the era of antiretroviral treatment:

Abstinence, being faithful, and condom use are complementary, synergistic, and inseparable components in the country’s HIV/AIDS national prevention and control programmes, and we need to roll out these prevention messages with extra urgency now, in the era of ART.¹⁰⁹

¹⁰⁶ Allen et al., 2003.

¹⁰⁷ Bunnell et al., 2005.

¹⁰⁸ Superinfection occurs when a person becomes infected by two different strains of the HIV virus.

¹⁰⁹ Okware S, Kinsman J, Onyango S et al. Revisiting the ABC Strategy: HIV Prevention in the Era of Antiretroviral Therapy. *Postgraduate Medical Journal* 2005; 81: 625. Available at <http://pmj.bmjournals.com/cgi/reprint/81/960/625> (accessed 3 Jan 2006).

Conclusion

This paper has focused primarily, although not exclusively, on the AB components of the ABC approach, as they are the least understood components and for many raise the most concerns. Although major organizations and agencies working in HIV prevention have several decades of experience in designing and implementing condom programs, there is far less experience in AB programs. Prior to the adoption of the ABC approach by USAID and PEPFAR in 2002 and 2003, major AIDS organizations had not put significant resources into abstinence or faithfulness interventions anywhere in the world. There is, therefore, a shortage of experience and evidence about how best to implement AB programs, although the data presented in this paper suggest that such interventions can be highly effective in reducing HIV transmission. Yet, many in the international health community continue to express concern over, and resistance to, AB interventions, alleging that they have not proven effective. As evidence accumulates that A and especially B behaviors are critical in reducing HIV transmission, particularly within generalized epidemics, one must question whether the continuing controversy is truly a debate over evidence or ideology.

There has also been resistance to, and misinformation about, condoms. This should be addressed, although condom opponents or skeptics are not normally represented in the major AIDS and reproductive health organizations. Until quite recently, those unwilling to promote condoms, such as Catholic organizations, were simply

excluded from HIV prevention programs that were funded by major donor organizations.

Recently, this bias has been changing, and major donors have come to realize that FBOs must be key partners in confronting AIDS. Some FBOs choose not to promote condoms, but other organizations undoubtedly will, and, by promoting abstinence and faithfulness, FBOs can be part of an overall balanced ABC approach. PEPFAR has been modeled on Uganda's approach, where the government made FBOs key partners as it confronted AIDS. The Ugandan government recognized, for instance, that Catholics represented nearly 40% of the population and were major providers of care and support for PLWAs, orphans, and vulnerable children, and of treatment for PLWAs. Catholics were also willing and able to promote effectively the AB components of HIV prevention, and the government realized they would be less likely to oppose condom promotion if they were working collaboratively with major donors and NGOs in prevention. The Ugandan government, although not necessarily its foreign backers, also felt confident that A and B interventions were central to an effective AIDS prevention effort in Uganda, a confidence supported by later evidence.

The authors agree with the consensus statement published in *The Lancet* and endorsed by over 150 scientists, public health experts, and AIDS activists. This statement says about the ABC approach:

All three elements of this approach are essential to reducing HIV incidence, although the emphasis placed on individual elements needs to vary according to the target population. Although the overall programmatic mix should include an appropriate balance of A, B, and C interventions, it is not essential that every organisation promote all three elements: each can focus on the part(s) they are most comfortable supporting. However, all people should have accurate and complete information about different prevention options, including all three elements of the ABC approach.¹

¹ Halperin, Steiner et al., 2004.

Finally, we wish to stress that we are not arguing for shifting attention and resources away from those at high risk, including the powerless, oppressed, exploited, raped, and abused. We *are* saying that it is inaccurate to characterize all people this way (or all Africans, in the context of this paper), and that we can no longer target the majority of HIV prevention resources to this minority group. It is a tragedy that all-or-nothing thinking and polemics have dominated the AIDS debate to date and have deemed the only compassionate response one that targets the most oppressed and treats everyone as equally high risk. Reducing the risk of HIV infection for all people is the only truly compassionate response. What has been missing in this bitter debate is a calm, even-handed, balanced viewpoint that recognizes that some resources clearly must be targeted to high-risk groups, while some resources must be directed to what survey and epidemiological evidence show are the majority of people. To target only those at high-risk is to effectively ignore most of the population. Targeting both minority (high-risk) and majority populations need not result in diminished quality or even quantity of prevention resources going to either group. It is only catastrophist, polemical, all-or-nothing thinking that would have us believe otherwise. If Uganda, with very few resources in the early years of its response to AIDS, could design and implement a *balanced and targeted* ABC program, surely the major donors with billions of dollars can do the same.

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