COMPREHENSIVE HIV PREVENTION: CONDOMS AND CONTRACEPTIVES COUNT

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GLOSSARY

Antiretroviral Therapy (ART) As related to HIV, treatment with antiretroviral drugs to suppress disease progression. Antiretroviral treatment can refer to HAART (and frequently does), but it can also include any treatment that involves antiretrovirals, such as single-dose nevirapine.

Antiretroviral Drugs (ARVs) A substance that kills or suppresses a retrovirus, such as HIV. Antiretrovirals inhibit the replication of HIV, delaying immune deterioration and improving survival and quality of life.[1]

Correct and Consistent Use of Condoms The use of condoms from start to finish with each act of sexual intercourse. Correct condom use should include using a new condom for each act of intercourse; putting on the condom as soon as erection occurs and before any sexual contact (vaginal, anal or oral); and withdrawing from the partner immediately after ejaculation.[2]

Highly Active Anti-Retroviral Therapy (HAART) The term given to treatment regimens to aggressively suppress viral replication and slow the progress of HIV disease. The usual regimen includes at least three drugs from at least two different drug classes.[3]

HIV Discordance Where one partner is HIV-positive and the other is HIV-negative.

Nevirapine The antiretroviral drug used to reduce mother-to-child transmission of HIV.

Prevention of Mother-to-Child Transmission (PMTCT) Programs designed to prevent the transmission of HIV from a mother to her infant during pregnancy, labor and delivery, or through breastfeeding.

Seroconversion The process by which a newly infected person develops antibodies to HIV, which are then detectable by an HIV test. Seroconversion may occur anywhere from days to weeks or months following HIV infection.[4]

Serostatus As related to HIV infection, the presence or absence of antibodies in the blood.[5]

Voluntary Counseling and Testing (VCT) The process by which an individual undergoes counseling to enable him/her to make an informed choice about being tested for HIV infection. According to UNAIDS, voluntary counseling and testing should be conducted in an institutional environment which has adopted the 'Three Cs': confidentiality, informed consent, and counseling.[6]

EXECUTIVE **SUMMARY**

Prevention is Critical

Prevention must remain a top priority in the continued fight against HIV and AIDS and, as this report shows, both condoms and contraceptives count as key components of comprehensive HIV prevention. In 2007, new HIV infections out-numbered persons receiving treatment by nearly 3 to 1. More than 6,800 people become infected with HIV every day. Because most HIV epidemics are fueled by sexual transmission of the virus, behavior change, including condom use, is critical to steming the number of new infections. At the same time, more than 120 million women say they would prefer to avoid a pregnancy, but are not using any form of contraception. High rates of unintended pregnancies, including among women living with HIV or AIDS, is an urgent health and rights crisis. Preventing unintended pregnancies among women living with HIV and AIDS and those at risk of infection is essential for preventing mother-to-child transmission of HIV.

Expanding Access to and Use of Male and Female Condoms

Male condoms are generally accepted as a cornerstone of comprehensive HIV prevention; yet expanded access to and use of this proven technology is still facing enormous cultural and policy barriers. For female condoms, the barriers are even greater and much more needs to be done to increase their supply and use. Persistent variations in condom use across regions, countries and populations indicate that condom promotion should be targeted to address socio-cultural, political, economic and structural barriers faced by different groups (e.g. youth, married women and men, discordant couples, sex workers, men who have sex with men, and injecting drug users, among other groups).

Successful interventions highlighted in *Comprehensive HIV Prevention: Condoms and Contraceptives Count* demonstrate that programs can increase correct and consistent condom use when they address the barriers and concerns experienced by different people. Understanding the factors that affect individuals' perceptions of their risk and of acceptable risk-reduction strategies is an essential step towards curbing the spread of HIV. Addressing cultural, social and economic barriers faced by various groups in accessing and using male and female condoms is also critical.

Recognizing the Role of Contraceptives in HIV Prevention

Unlike condoms, the role of contraceptives and voluntary family planning services in HIV prevention is not sufficiently recognized, even though preventing unintended pregnancies is one of the four pillars of preventing mother to child transmission (PMTCT). Preventing unintended pregnancies is more cost-effective than providing treatment to prevent perinatal transmission. Family planning services provide clients with critical information about the varying degrees of effectiveness of contraceptive methods for pregnancy prevention, the safety of pregnancy with HIV and contraceptive choices for women living with HIV or AIDS. Family planning services also educate clients on STI prevention and correct and consistent condom use. Many women living with HIV or AIDS want to have more children and are in need of family planning services to provide counseling on reversible contraceptive methods and on how to prevent mother-to-child transmission of HIV, as well as possible transmission to their husband or sexual partner. At the same time, voluntary family planning services are needed for those women who want to prevent or delay pregnancy. It is estimated that current levels of contraceptive

use in sub-Saharan Africa are already preventing 22 percent of unintended HIV-positive births. Highlighting successful interventions, this report shows that integrating family planning with other HIV services can increase contraceptive use and further reduce unintended pregnancies.

Increased Funding for Condoms and Contraceptives is Key

Condoms and contraceptives are inexpensive and cost-effective technologies, yet cost continues to be a barrier to their availability. This report highlights that the growing need for condoms and contraceptives worldwide has been met with long-term stagnant funding on the part of donors and only small increases in numbers of commodities. For female condoms in particular, greater support needs to be devoted to their strategic introduction, marketing and programming in countries. International donors and developing country governments need to give due regard to the indispensable role of condoms and contraceptives in HIV prevention, and commit to providing the necessary resources to implement programs and services. Some promising mechanisms to coordinate and track commodity procurement and distribution are underway and should continue to be supported and expanded.

Creating a Conducive Environment for Scaling Up HIV Prevention

There is no doubt that a comprehensive HIV prevention agenda must include condoms and contraceptives, along with other proven prevention strategies. However, as discussed in this report, successful scale-up of condoms and contraceptives for HIV prevention depends upon strong leadership and coordination—for advocacy and policy dialogue, capacity building and resource mobilization. Scale-up also requires a supportive policy environment—one where policies are based on sound evidence that supports the efficacy of condoms and contraceptives in preventing the transmission of HIV. Likewise, the integration of contraceptives into HIV prevention programs must be supported at all policy levels.

Successful interventions that address barriers to the demand for condoms and promote marketing strategies that are tailored to particular audiences can work. Programs must also be supported by strong management, links with other programs, monitoring and evaluation and high quality services. On the supply side, strong commodity management and logistics systems are a prerequisite for reliable availability of condoms and contraceptives. Distributing condoms and contraceptives across a range of networks can help to reduce costs of service delivery and promotion by maximizing the contribution of existing outlets and programs. By limiting subsidized or free condoms to low-income consumers, market segmentation maximizes government and donor investments, freeing up funds for other strategies. This report details successful public health strategies and a programming framework that incorporates all of these elements and can be applied to address gaps in the provision and use of condoms and contraceptives.

KEY **RECOMMENDATIONS**

1 2 3

Use our 20+ years of research on HIV prevention

There is no one magic bullet for HIV prevention: All prevention technologies and strategies are additive in the fight against HIV and AIDS. Condoms and contraceptives must be promoted as scientifically proven components of comprehensive HIV prevention, in tandem with other evidence-based interventions such as partner reduction and male circumcision – along with continued investigation of microbicides and a vaccine. There is more than 20 years of epidemiological, psychological, programming and marketing data on which to design programs and interventions. It is time to put this research to work on the ground and develop a comprehensive prevention strategy that supports national and local ownership and generates local solutions to affecting the social and gender norms that influence sexual behavior and use of condoms and contraceptives, among other prevention strategies.

Close the gap in funding between prevention and treatment

There is an immense disparity between what is being spent on HIV prevention versus treatment, and yet, tragically, new infections still out-number persons receiving treatment by nearly 3 to 1. Despite 2.5 million new HIV infections last year, donor financing of condoms for HIV prevention has remained relatively stagnant. Donors and country governments must support the indispensable role of condom promotion and family planning services in HIV prevention, and commit to providing the necessary resources. Improved donor coordination—including full accounting of condom procurement by all donors—is necessary to make an accurate assessment of global need and inform investments. Supply of condoms and contraceptives, inexpensive and cost-effective technologies, should no longer be a barrier to HIV prevention.

Eliminate harmful government policies

Government policies must not restrict access to and education about the role contraceptives and condoms play in preventing HIV infection and unintended pregnancies. The U.S. government's "ABC" approach to prevention under the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) has emphasized abstinence until marriage and faithfulness in marriage. This approach ignores the reality that many people face in preventing HIV infection. Instead, policies should be based on scientific evidence of the very high efficacy rates of condoms and contraceptives in preventing the spread of HIV and unintended pregnancies.

4 5 6

Scale-up and integrate condoms and contraceptives into other HIV prevention strategies

Based on the social marketing concept of supply, demand and support, and built on a foundation of leadership and coordination, the Comprehensive Condom Programming (CCP) Framework [see Box 10]– which includes ten steps designed to guide programming to identify and address gaps in provision and use of condoms for HIV prevention and promoting sexual health – can serve as a guide for ensuring the accessibility, acceptability and use of condoms—both male and female. The CCP Framework can also guide the expansion of contraceptive provision as a part of HIV prevention. Stimulating demand for condoms and contraceptives through programming remains critical. These technologies will not prevent against HIV and AIDS and unintended pregnancies unless they are made available and used—consistently and correctly.

Logistics are critical to making sure condoms and contraceptives get where they are needed most

Strong systems are needed for the timely delivery and constant flow of condoms and contraceptives—thereby preventing stock-outs and ensuring that a wide range of contraceptive methods—and condoms—are available in all settings. Condom forecasts must be made well in advance of when the condoms will actually be used. Mechanisms such as the RH Supplies Coalition, global logistics support projects and tools such as the RHInterchange [see Box 11] can help with commodity management and should be expanded.

Put the Contraceptives in Comprehensive Prevention

As with all women and couples, women living with HIV or AIDS have the right to make informed decisions about their sexual and reproductive health and need access to contraception. Many women living with HIV or AIDS want to have more children and are in need of family planning services to provide counseling on reversible contraceptive methods and on how to prevent mother-to-child transmission of HIV, as well as possible transmission to their husband or sexual partner. At the same time, there are high rates of unintended pregnancies among all women, including women living with HIV or AIDS in some settings. Given often low rates of HIV testing, many women who have unintended pregnancies do not know their HIV status. Voluntary family planning services are needed for women who want to prevent or delay pregnancy. For all women and couples, integrating family planning with other HIV services can increase contraceptive use and reduce unintended pregnancies. As HIV and AIDS prevention, treatment and care programs scale-up, they should be part of a continuum of care that includes strong family planning and other integral health services from the onset.

INTRODUCTION

The AIDS epidemic has now spanned nearly three decades. In 2007, 2.5 million people became newly infected with HIV, bringing the total number of people living with HIV or AIDS to 33 million. Recent evidence shows that national HIV prevalence is stabilizing or showing signs of decline in most of sub-Saharan Africa and in some Southeast Asian countries,[7] yet AIDS remains the leading cause of death in sub-Saharan Africa, and generalized epidemics[i] persist. Around the world, most HIV epidemics are fueled by unprotected sex between men and women. Outside of sub-Saharan Africa, a number of HIV epidemics are mostly concentrated among high-risk populations such as men who have sex with men (MSM), sex workers and their clients and injecting drug users (IDUs). Despite advances in treatment, nearly three individuals become infected with HIV for every one person who begins antiretroviral treatment.[8] The global number of persons living with HIV and AIDS is increasing because new infections continue and, thanks to treatment, people living with HIV and AIDS are living longer and healthier lives.

In addition to HIV and AIDS, many of the world's poorest women, particularly in sub-Saharan Africa, continue to contend with another urgent health and rights crisis—high risk of unintended pregnancy. Data from 53 countries show that one in seven married and one in 13 never-married women have an unmet need for contraception and are therefore at risk of unintended pregnancy. Unmet need is even higher in sub-Saharan Africa, the region most affected by HIV and AIDS, where one in four married women have an unmet need for contraception. This unmet need is lower, but still significant in the regions of Latin American and the Caribbean, North Africa, West and Central Asia, and South and Southeast Asia.[9]

It is absolutely critical that, in addition to expanding life-saving treatment, programming and scale-up of HIV prevention programs become a top priority. The lessons of the past decades have taught us that there is no silver bullet to HIV prevention, although there is increasing evidence of what works, and

[i]UNAIDS defines a generalized epidemic as "high-level—where adult HIV prevalence among the general adult population is at least 1% and transmission is mostly heterosexual". A concentrated epidemic is defined as "low-level—where HIV is concentrated in groups with behaviours that expose them to a high risk of HIV infection" (UNAIDS. 2006. Q&A on HIV and AIDS Estimates. Accessed online at: http://data.unaids.org/pub/GlobalReport/2006/2006_Epi_backgrounder_on_methodology_en.pdf on April 25, 2008.)

replicable models exist. Worldwide, almost half of the people living with HIV or AIDS are women, and in sub-Saharan Africa—where heterosexual transmission is highest—**61 percent of those living with HIV or AIDS are women**.[10] Preventing unintended pregnancies among infected women and those at risk of infection is essential for preventing mother-to-child transmission of HIV. In fact, all women and couples, irrespective of their HIV status, need access to voluntary family planning services.

Male and female condoms remain the primary technologies currently available to protect individuals from sexual transmission of HIV. While male condoms are generally accepted as a cornerstone of comprehensive HIV prevention, expanded access and use of this proven technology is still facing enormous cultural and policy barriers, and much more needs to be done to increase the supply and use of female condoms. **Despite 2.5 million new HIV infections occurring every year, overall donor support for condoms in developing countries has remained largely unchanged over the past few years. Similarly, despite a growing demand for modern contraception, including condoms, donor support for contraceptives has increased only minimally, and remains far below the projected need**.

Effective comprehensive prevention strategies must include a range and mix of evidence-based interventions tailored to the needs of various people and their social contexts.[11] With this report, *Comprehensive HIV Prevention: Condoms and Contraceptives Count*, Population Action International (PAI) presents evidence that scaling-up HIV prevention—which is critical to stem new HIV infections—will require much broader access to and use of these proven technologies—namely male and female condoms to prevent primary infection, and contraceptives to prevent mother-to-child transmission by preventing unintended pregnancies.

2 COMPREHENSIVE **PREVENTION**

Much has been written about the components of HIV prevention—with significant attention to the "alphabet" of prevention approaches, including Abstinence, Be faithful and Condoms (ABC), ABC+, Condoms Needles and Negotiation (CNN), and A–Z.[12 13 14 15 16 17] However, the success of any approach—whether it be putting on a condom or taking a contraceptive pill—depends on human behavior.[18]

The three primary behaviors that can prevent sexual transmission of HIV—abstaining from sex, having sex with only one uninfected partner at a time, and using condoms—are well-known as the components of the ABC approach. Originating from early sexually transmitted infection (STI) prevention efforts, the ABC approach has a long, established public health history.[19] Although recent ideological interpretations of the approach remain contentious, the behaviors themselves are the indisputable building blocks of preventing sexual transmission of HIV.

Evidence supports that delaying sexual debut can reduce the number of future partners and therefore, risk of HIV acquisition.[20 21] However, a 2007 review of STD/HIV prevention programs in the U.S. found that there is currently no strong evidence to confirm that abstinence-only programs delay sexual initiation, hasten a return to abstinence, or reduce the number of sexual partners.[22]

Mounting research shows that partner reduction, or the "B" of "be faithful", deserves greater attention in HIV prevention strategies.[23 24 25] Concurrent sexual partnerships (those that overlap in time) can facilitate the spread of HIV significantly faster than serial partnerships (consecutive partnerships that do not overlap in time).[26] Because HIV viral load—and thus HIV transmissibility—is much higher during the initial weeks or months of infection,[27] when one person in the network becomes infected, everyone in that network of concurrent relationships is placed at risk of infection. Partner reduction and increasing monogamy by men has been credited with contributing to declines in HIV prevalence in several countries, including Cambodia, the Dominican Republic, Ethiopia, Thailand, Uganda and Zambia).[28 29] Figure 1 provides an illustration of HIV transmission in two hypothetical populations—one in which long-term concurrency is the norm and one in which serial monogamy is the norm.

However, prevention messages that encourage women to have one partner ignore the social realities facing many women. Research in Kenya and Zambia shows that marriage can actually increase risk of HIV among young women.[30] Marriage increases the frequency of sex and hinders women's ability to negotiate condom use or abstain from sex. For young women in particular, husbands tend to be older and tend to have higher HIV prevalence rates than those found among partners of unmarried girls.[31] Promoting "be faithful" overlooks the possibility that partners in a relationship might unknowingly have different HIV serostatus.[32] Moreover, for monogamy to work it must

BOX 1

COMPONENTS OF COMPREHENSIVE PREVENTION

Preventing Sexual Transmission

- Behavior-change programs (to increase condom use, delay initiation of sexual behavior in young people, and reduce the number of partners)
- Condom promotion
- HIV testing
- Diagnosis and treatment of sexually transmitted infections (STIs)
- Adult male circumcision

Preventing Blood-Borne Transmission

- Provision of clean injection equipment to injection drug users
- Methadone or other substitution therapy for drug dependence
- Blood safety (including routine screening of donated blood)
- Infection control in health care settings (including injection safety, universal precautions, and antiretroviral prophylaxis following potential HIV exposure)

Preventing Mother-to-Child Transmission

- Primary HIV prevention for women of childbearing age
- Antiretroviral drugs
- Prevention of unintended pregnancy in HIV positive women
- Breast feeding alternatives
- Caesarian delivery (in the case of high maternal viral load)

Social Strategies and Supportive Policies

- HIV awareness campaigns (including mass media)
- Anti-stigma measures
- Gender equity and women's empowerment initiatives
- Involvement of communities and HIV-infected individuals
- Visible political leadership
- Engagement of a broad range of sectors in HIV awareness and prevention measures
- Legal reform to create an environment supportive of HIV prevention (such as laws decriminalizing needle possession)

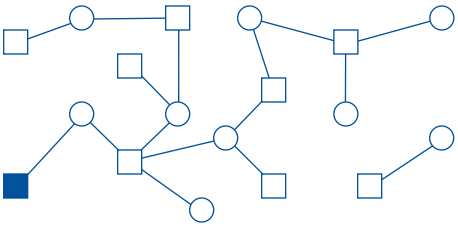
SOURCE: GLOBAL HIV PREVENTION WORKING GROUP. 2007. *BRINGING HIV PREVENTION TO SCALE: AN URGENT GLOBAL PRIORITY.* ACCESSED ONLINE AT WWW.GLOBALHIVPREVENTION.ORG ON FEBRUARY 11, 2008.

FIGURE 1

Sexual Networking and HIV Transmission

SOURCE: STEWART PARKINSON, POPULATION SERVICES INTERNATIONAL. CITED IN: EPSTEIN H. 2007. *THE INVISIBLE CURE: AFRICA, THE WEST, AND THE FIGHT AGAINST AIDS*. NEW YORK: FARRAR, STRAUS AND GIROUX.

Concurrency



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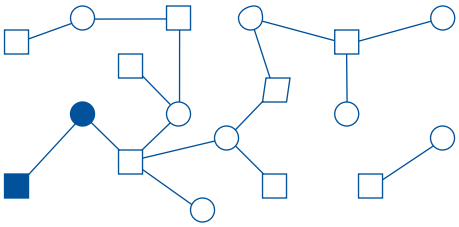

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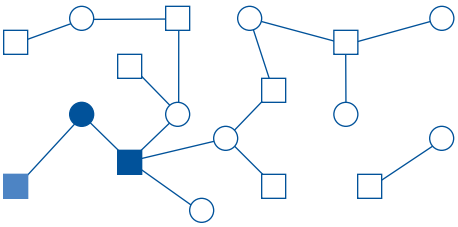

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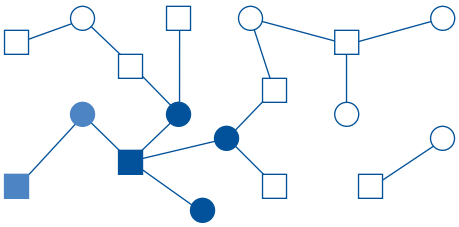

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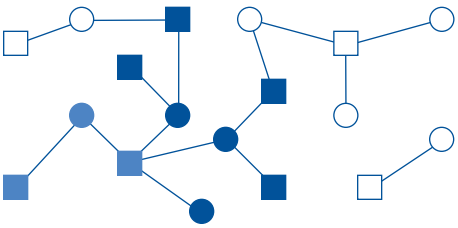

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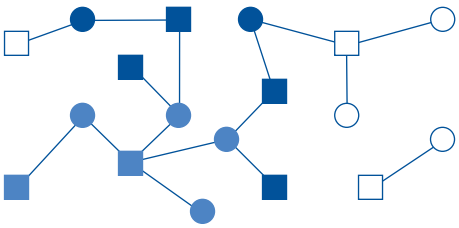

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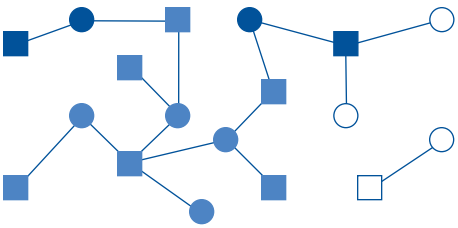

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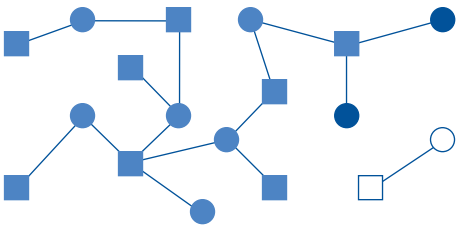
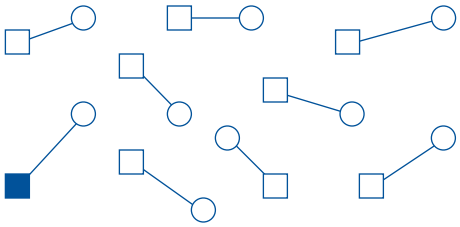


AUGUST

HIV Negative Male
HIV Negative Female
HIV Positive Viremic Male
HIV Positive Viremic Female
HIV Positive Non-Viremic Male
HIV Positive Non-Viremic Female

NOTE: VIREMIA REFERS TO THE PRESENCE OF THE VIRUS IN THE BLOOD. THERE IS A "VIREMIC WINDOW" EARLY IN INFECTION WHEN VIRAL LOADS ARE HIGH AND TRANSMISSION IS PARTICULARLY LIKELY.

Serial Monogamy



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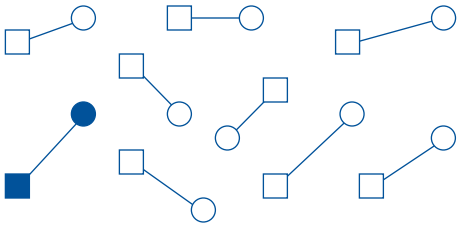

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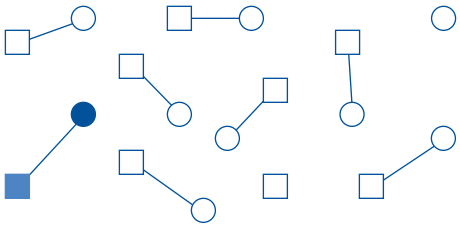

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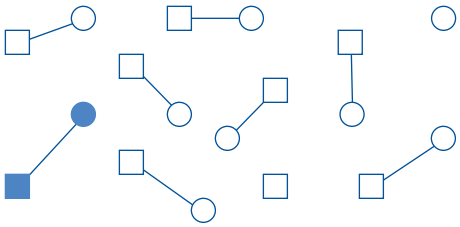

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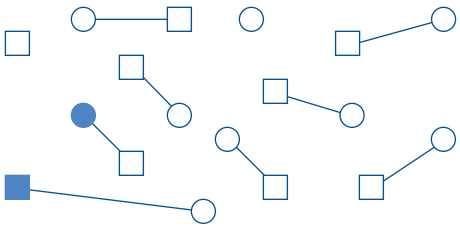

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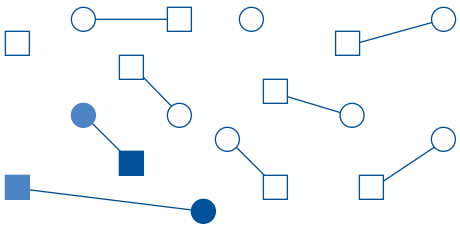

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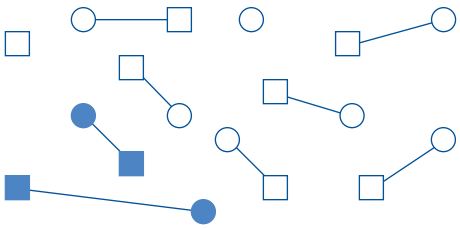

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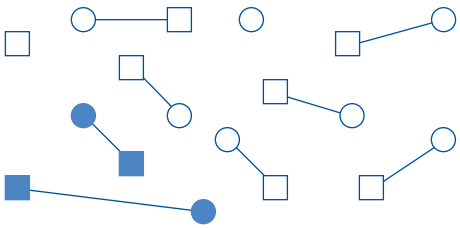


AUGUST

BOX 2

MALE CIRCUMCISION FOR HIV PREVENTION

Three significant, experimental trials recently conducted in South Africa,[33] Kenya[34] and Uganda[35], have led the WHO and UNAIDS to affirm the efficacy of male circumcision in reducing female-to-male transmission of HIV "beyond reasonable doubt".[36] According to these experimental studies, when male circumcision is performed by well-trained medical professionals, men's risk of acquiring HIV infection from an HIV-positive female partner is reduced by approximately 60 percent.[37] Based on a reduced risk of 60 percent, it has been estimated that two million new HIV infections and 300,000 deaths could be averted over the next ten years.[38]

Recent data suggests that there are not major ethnic or cultural barriers to male circumcision in most of sub-Saharan Africa. Thirteen acceptability studies conducted in nine sub-Saharan African countries show that 29 to 81 percent of uncircumcised men wish to be circumcised, 50 to 70 percent of women wanted their partners to be circumcised, and 50 to 90 percent of parents would circumcise their sons.[39] Still, the expansion of male circumcision services must be considerate of ethical and legal issues, and of course respectful of men's sexual and reproductive rights. Further research is needed to better understand perceptions of male circumcision and to develop appropriate education and counseling messages among different groups of people.[40]

Ultimately, promotion of male circumcision should never serve as the sole method of prevention, but rather comprise one component of HIV prevention and reproductive health services. There is no guarantee that circumcision prevents female-to-male transmission on every occasion. Secondly, early research findings demonstrate that circumcision of HIV-positive males does not directly contribute to reducing transmission to negative female partners.[41] However, it is expected that women will benefit in the long-run, particularly those living in high HIV prevalence settings with low male circumcision rates, as an overall reduction of HIV-positive men in the population occurs, and thus a reduced risk of acquiring the virus. Male circumcision will be most effective in preventing the spread of HIV when it is accompanied by HIV counseling and testing, diagnosis and treatment of STIs, condom promotion, behavioral change communication and promotion, as well as other prevention methods as they are proven effective,[42] [43] including access to male and female condoms.

be mutual, and women often have little control over their husbands extra-marital partnering.

Other prevention approaches build on ABC. ABC+, for example, means that no opportunities should be missed to strengthen the skills and empowerment of individuals to practice the three preventive behaviors of abstinence, fidelity/partner reduction and condom use.[44] "CNN," which stands for Condoms, Needles and Negotiation, was proposed to broaden prevention to address HIV transmission from use of unsterile injections, and to recognize that women often do not have the power to negotiate safer sexual practices, including condom use.[45]

In 2007, the Global HIV Prevention Working Group proposed a "Comprehensive Prevention" approach *[See Box 1: Components of Comprehensive Prevention]*, to address the range of interventions needed for people to practice the primary behaviors associated with HIV prevention. The interventions fall under four categories: Preventing sexual transmission, preventing blood-borne transmission, preventing mother-to-child transmission, and social strategies and supportive policies. For

BOX 3

MICROBICIDES

There is great anticipation for the introduction of microbicides—an exciting female initiated technology that promises to broaden the scope of comprehensive HIV prevention. While scientists are currently testing products, no safe and effective microbicide is currently available to the public and experts estimate that a microbicide that is at least 33 percent effective is still five years away.[46] Given this forecast, improved programming and promotion of both male and female condoms must continue.

The term "microbicides" is broad and refers to a variety of products that, when applied topically, will be designed to prevent the sexual transmission of HIV and certain other STIs.[47] Some of these products may provide bi-directional protection, protecting women's sexual partners by disabling HIV in both semen and vaginal secretions. Certain microbicides may also be protective for anal sex, and some products may prevent pregnancy, while others may offer women an HIV prevention option that can be used when trying to conceive. Even if not 100 percent effective, microbicides could offer valuable back-up protection to couples who use them with condoms. Microbicides may take many forms, including gels, creams, suppositories, films, sponges or rings.

The potential of microbicides to provide women with a defense against HIV that they can initiate without the consent of their partners is a crucial innovation—one that does not currently exist. In parts of the world where the status of women makes it difficult for them to refuse sex or negotiate condom use, microbicides would greatly improve the range of protective options available to women.

The total global investment in the research and development of microbicides has been steadily increasing over the past seven years, amounting to US $222 million in 2006.[48] Public agencies and institutions were the largest contributor, accounting for nearly 86 percent of this investment. This growth in funding can be attributed to increased confidence in the eventual success of these products, as well as increased awareness that there is no silver bullet to HIV prevention and expanding the range of available prevention options remains important.[49]

example, prevention programs should utilize a wide array of interventions to address fear of stigma, violence and discrimination from both partners and providers, which make sero-disclosure and requests for condom use difficult and sometimes dangerous.[50]

As this report details, family planning programs can help prevent unintended pregnancies, including among HIV-positive women, thereby contributing to the prevention of mother-to-child transmission of the virus. Male circumcision has been proven to reduce the likelihood of HIV transmission, and needs to be appropriately incorporated into HIV prevention efforts[51] *[See Box 2: Male Circumcision for HIV Prevention]*.

Expanding voluntary counseling and testing services (VCT),[52 53 54] and treating certain STIs may contribute to HIV prevention.[55] In places where HIV is transmitted among IDUs, promoting safe injection practices is critical. And of course, continued commitment is needed to developing microbicides *[See Box 3: Microbicides]* and an effective AIDS vaccine, which will hopefully someday spearhead comprehensive HIV prevention.

3

CONDOMS **COUNT** FOR HIV **PREVENTION**

Male and Female Condoms Can Prevent the Spread of STIs, Including HIV, and Prevent Unintended Pregnancies

Able to block the bodily fluids that carry the HIV virus, condoms are a *highly effective* method of preventing HIV. According to the WHO and the US National Institutes of Health, "intact condoms…are essentially impermeable to particles the size of sexually transmitted disease pathogens, including the smallest sexually transmitted virus."[56] Studies show that condoms are a highly effective method of preventing HIV, with effectiveness rates ranging between 80 to 95 percent, largely depending on how correctly they are used.[57] [58] [59] [60] While no studies have evaluated the specific HIV prevention effectiveness of the female condom, estimates derived from laboratory tests and data on effectiveness for pregnancy prevention indicate that the female condom provides at least the same level of protection as the male condom.[61] *[See Box 4: The Female Condom].*

Condoms are an effective prevention method of many STIs other than HIV. Because some STI infections may increase a person's risk of acquiring HIV, preventing STIs may be effective in reducing HIV incidence.[62] This is particularly true where HIV prevalence is low, but that of other STIs is high.[63] However, trials have shown mixed results in assessing the impact of STI treatment on preventing HIV.[64] Male condoms are most effective in protecting against STIs spread by discharge, such as HIV, gonorrhea, and chlamydia, but also protect against STIs spread by skin-to-skin contact, such as herpes and human papillomavirus (HPV). Male condoms may also protect against conditions caused by STIs, including recurring pelvic inflammatory disease and chronic pelvic pain, cervical cancer and infertility.[65] The female condom is at least as effective as the male condom in reducing the risk of contracting sexually transmitted infections.[66]

Condoms are also an important means of pregnancy prevention and are the mainstay of dual protection (taking measures to prevent both pregnancy and STIs). However, because condoms are less effective for pregnancy prevention than other contraceptive methods *[see Section 4]*, dual method use should be promoted among contraceptive users. As commonly used, male condoms are about 85 percent effective for pregnancy prevention. If used consistently and correctly with every sex act, effectiveness for pregnancy prevention is higher—about 98 percent.[67] As commonly used, the female condom is 79 percent effective for pregnancy prevention, whereas it is 95 percent effective with perfect use.[68]

High rates of incorrect use and condom slippage and breakage need to be addressed. The quality of well manufactured condoms is high and, if used properly, they are unlikely to break, however slippage rates can increase the risk of HIV transmission.[69] Only consistent and correct use of the condom offers effective

prevention against HIV, and only a small percentage of individuals and couples use condoms in this manner. However, consistent use by a small number of vulnerable people may have a greater impact on reducing HIV transmission than a large number of people who use condoms inconsistently.[70] Some studies show that because their behavior may be riskier in other ways, inconsistent condom users can actually be at higher risk of HIV transmission than those who never use condoms.[71 72 73 74 75] Condom education and promotion should therefore be integrated with other HIV prevention strategies to address a range of behaviors.

Programs should not only encourage condom use, but also help people to become effective users of the method.[76 77] Evidence from Botswana, for example, found that a sample of college students needed information on condom use, including timing and method of removal: male partners were not comfortable touching female fluids on the condom; female partners were not comfortable touching male genitalia and one male said he removed the condom before ejaculation.[78 79] Figure 2 provides an illustration of the pregnancy rates and transmission rates of STIs—including HIV—in one hypothetical year of unprotected sex, versus fifty years of sex using condoms consistently and correctly.

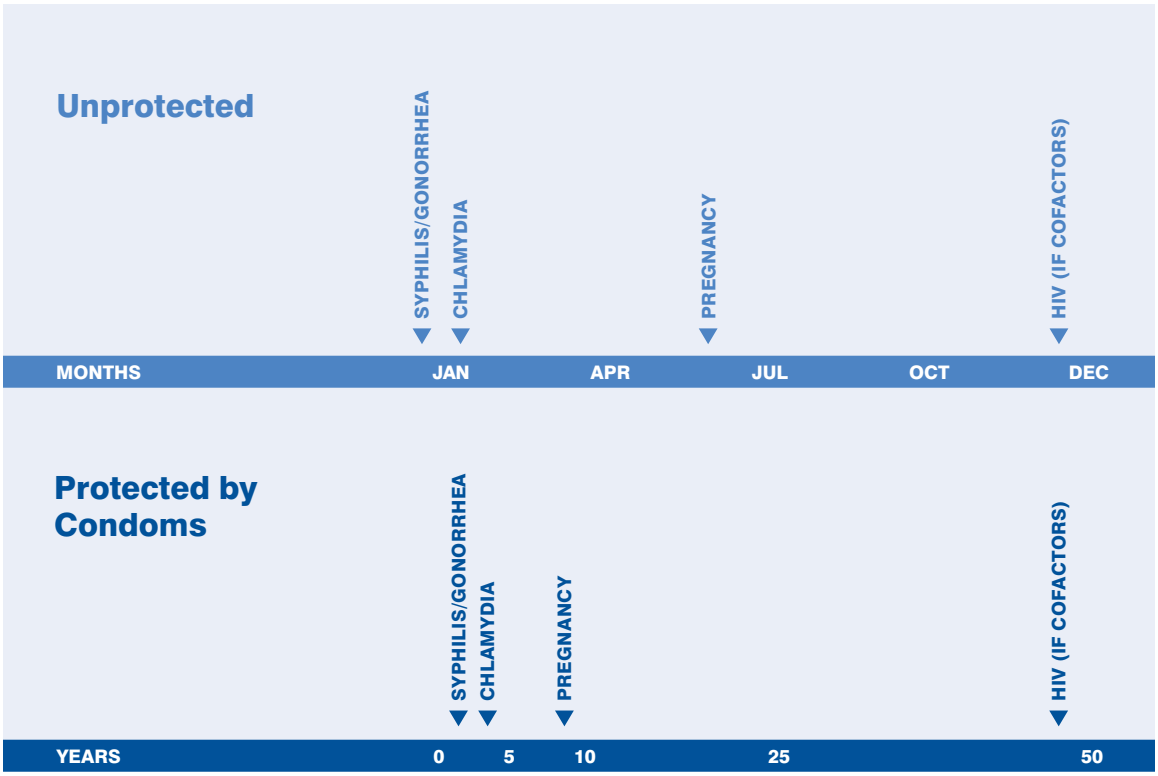
Programs Must Address "Myths, Misperceptions and Fears"[80] Surrounding Condoms and Other Barriers to Use

Although condoms—both male and female—are critical to safer sexual behavior, many factors inhibit peoples' use of condoms. Evidence shows the potential to increase condom use, and the levels of use that can be achieved, are strongly influenced by the type of partnership and peoples' perceptions of their HIV risk.[81] Persistent variations in condom use across

FIGURE 2

HIV and Other STI Transmission and Pregnancy with Unprotected Sex and Protected by Condom Use Twice Weekly Sex

SOURCE: CATES W. 2002. "THE CONDOM FORGIVENESS FACTOR: THE POSITIVE SPIN" [EDITORIAL]. *SEXUALLY TRANSMITTED DISEASES* 29(6): 350–352.



BOX 4

THE FEMALE CONDOM

In 2008, the Center for Health and Gender Equity (CHANGE) published a report on the female condom, titled Saving Lives Now*, as part of the* Prevention Now! *Campaign. Citations in this box are taken from the CHANGE Report.*[82]

The female condom is currently the sole available HIV prevention technology that is designed to be initiated by the woman. Female condom promotion and use has been shown to increase the total number of protected sex acts.[83] [84] [85]

Studies show that some women view use of the female condom as a means of enhancing safe sex bargaining power.[86] [87] [88] [89] **For some male and female users, the female condom has been reported to be more pleasurable than the male condom.**[90] However, acceptability has been varied and more operations research is needed to address barriers to uptake and consistent use in a variety of sexual relationships.[91] Although the female condom is available in 108 countries, in many instances it is not readily accessible at shops and clinics.[92] To generate demand and increase availability, greater support needs to be devoted to the strategic introduction, marketing and programming of female condoms in countries.

The only female condom currently approved for use by the U.S. Food and Drug Administration (FDA) is the polyurethane FC1, manufactured by the Female Health Company (FHC). The FHC has also developed a second generation nitrile female condom, FC2, which performs statistically the same as FC1, and has been designed to mitigate the "rustling" noise that some consumers have attributed to FC1. The nitrile material also allows for significant reductions in female condom pricing because it can be produced with a new manufacturing process that lowers cost as volume increases. The United Nations Population Fund (UNFPA) is now procuring FC2, while the U.S. Agency for International Development (USAID) is awaiting FDA approval.

In countries such as Brazil, South Africa and Zimbabwe, where sustained uptake of female condoms has been achieved, both country governments and donors have been committed to their long-term supply and funding.[93] Costing US$0.60 , female condoms are expensive compared to the US$0.03 cost of male condoms. **However if FC2 were purchased in large volumes—equal to only about 3 percent of the estimated male condom market—the cost per unit could be as little as US$0.22.**[94] Compared to the price of life-long anti-retroviral treatment (ART), use of female condoms for HIV prevention is highly cost effective.[95]

regions, countries and populations indicate that condom promotion should be targeted to address sociocultural, legal and policy, economic and financial and structural barriers faced by different groups (e.g. youth, married women and men, discordant couples, sex workers, MSM, IDUs, etc.)[96] Successful interventions highlighted in this report show that programs can bring about increases in condom use when they address the barriers and concerns experienced by different groups.

For example, programs for youth can emphasize condom use for both pregnancy prevention and protection against STIs including HIV, since sexually active youth tend to be primarily concerned with avoiding pregnancy. Public health campaigns can romanticize condom use as a sign of love and trust among married or long-term partners[97] and as a way of protecting children. Condoms can be promoted to sex workers as both safe and pleasurable. It is critical to promote condom use among various groups without stigma—promoting safe sex can be done in a sex-positive way, rather than through fear-based messages.[98] Programs must also address the misinformation surrounding condoms—including misinformation about effectiveness rates—and design effective condom promotion interventions.[99] **Existing evidence, coupled with market research, can help determine the most appropriate condom promotion and distribution strategies for populations with varying needs.**

Improving Condom Use among Young People, along with other Prevention Strategies, Is Critical

"My namorado says he doesn't want to use a condom with me because he trusts me, and he has never cheated on me. Whenever I suggest condoms he becomes very upset. He starts asking me what I have done, or if I am suspicious of him? I prefer not to suggest condoms because he will stop talking to me. The condom issue just spoils our day."
Paula, age 18, Mozambique (Manuel, 2005: 297).[100]

An analysis of successive survey data in countries worldwide shows that condom use at last sex among young people is increasing,[101] particularly in some sub-Saharan African and industrialized countries. However, young people's use of condoms is generally inconsistent,[102] and the proportion of sexually active adolescents who report condom use remains too low to control the transmission of STIs.[103]

Where condom use is increasing among the young, the primary motivation is pregnancy prevention. Data from three population-based surveys in Zambia show that between 1995 and 2003, the percentage of young urban women who reported using condoms at last intercourse increased from 36 to 57 percent. However, there was limited success in reaching rural and less educated young people.[104] An analysis of survey data from 18 African countries found that use of condoms for pregnancy prevention rose significantly in 13 of 18 countries between 1993 and 2001. Condom use among young African women increased by an average annual rate of 1.4 percent, and more than half of the users (58.5 percent) reporting that they were motivated by a desire to prevent pregnancy.[105] The same shift has been found among young single women in Latin America.[106] In South Africa, condoms have become the most commonly used contraceptive method among female students.[107]

Avoiding pregnancy has also been shown to be of greater concern to young men in steady relationships than disease prevention.[108] For greater impact, condom marketing strategies and family planning services should promote condoms as a youth-friendly technology for contraception and disease prevention. The accessibility and affordability of condoms may make them particularly appealing to young people who have sex less frequently.

The double standard for sexual behavior—where multiple partners are a sign of masculinity for boys and men and virginity is expected of girls and young women—complicates condom behavior.[109] Social and gender norms and economic disparities can increase risky sexual behaviors among girls and young women, and compromise their ability to negotiate safer sexual practices.[110] This is particularly true when sex is transactional, and in cross-generational relationships, in which there are often socioeconomic and power asymmetries between partners.[111] In a study conducted in four sub-Saharan African countries, young men whose partner was less than four years younger were two and half times more likely to use condoms consistently than in relationships where the age gap was larger.[112] Young people who have experienced sexual violence are less likely to use condoms or other contraceptives in the future *[see Box 5: Gender-based Violence is a Barrier to Condom Use]*.[113] Research from sub-Saharan Africa suggests that young married women may be at a higher risk of contracting HIV than their unmarried sexually active counterparts, partly because they are more likely to want to become pregnant and therefore rarely use condoms.[114]

Studies show that young people tend to assess the disease risk of a partner by association, appearance, or other unreliable indicators.[115 116 117 118 119] This falsely low perception of risk hinders consistent condom use.[120] In Ghana, condom use was found to be more

likely among young men who perceived themselves to be at high risk of HIV infection as opposed to those who did not perceive a risk.[121] Among young people ages 15 to 24 in Mozambique, condom use at last sex for both males and females was more than twice as high among those who assessed their risk correctly (30 percent and 16 percent respectively) as among those who did not (14 percent and 6 percent).[122]

Young people commonly cite concerns about the effectiveness and quality of condoms—particularly free condoms—as well as concerns that condom use signifies infidelity or having an STI and that condoms reduce pleasure.[123] [124] [125] Aspects of masculine sexuality, pleasure, eroticism and emotion must be addressed if condoms are to be promoted effectively.[126] In a number of studies, trust in a partner is cited as a reason for non-use and young women may sacrifice condom use if it threatens the development of a relationship.[127]

"If a woman offers me a condom, I won't take her seriously (i.e. marry her). I don't think she would be a good model for my kids."

Unmarried man, Mexico (Castaneda, Brindis and Camey, 2001, cited in Marston and King, 2006: 1583)[128]

Among adolescents in four sub-Saharan African countries, knowledge about correct use of condoms lags significantly behind awareness about the condom.[129] One study found that the strongest predictor of knowledge of correct condom use among adolescents of both sexes is exposure to a condom use demonstration. Communication skills building and involvement of male partners have also been shown to increase condom use. A nationally representative survey of young South African women found that those who discussed condom use with their partners were more likely to use condoms for dual protection, and to use them consistently.[130]

Research shows that school-based sexuality programs for young people do not encourage early sexual activity or increase the number of sexual partners.[131] [132] In fact, a 2007 review of sexual education programs found that more than 60 percent of comprehensive programs—those that supported both abstinence and the use of condoms and contraceptives for sexually active adolescents—reduced unprotected sex, and some programs also delayed sexual initiation.[133] A systematic analysis of curriculum-based sex and HIV education programs in developing and developed countries found that of the 54 studies measuring program impact on condom use, almost half showed increased condom use; none found decreased use.[134] In countries with strong youth-friendly sexual and reproductive health services, including easily accessible condoms, the incidence of teenage pregnancy, abortion and STIs are consistently much lower than in countries where these services are not available, according to a UNAIDS and WHO review.[135]

However, studies from Ethiopia[136] [137] and China[138] have demonstrated that out-of-school status is strongly associated with riskier sexual behaviors and thus greater risk of HIV and unintended pregnancy. An evaluation of an African Youth Alliance (AYA) comprehensive adolescent sexual and reproductive health (ASRH) program in Ghana, Tanzania, and Uganda, which included some activities for out-of-school youth, found that condom and contraceptive use increased substantially for females living in areas where the AYA program was implemented for at least a year.[139] Improving condom use among young people is critical—data shows that if condom use is established during adolescence, it is more likely to be sustained in the long-term.[140] [141]

Promoting Condom Use by Married People and Couples In Union Proves Challenging, but Not Impossible, Particularly Among Discordant Couples

Consistent condom use remains largely uncommon among married couples and regular partners. An analysis of 23 Demographic and Health Surveys (DHS) from low and middle income countries conducted between 1994 and 2000 found that in eight of the 23 countries, fewer than five percent of women aged 15 to 49 used condoms to prevent STIs.[142]

"There is a problem here, because he is your husband and so you can't tell him to use a condom every time he comes home. You will bore him and make him go out to other women."

Woman, nonuser of contraceptives, Kabazi, Kenya (Bauni and Jarabi, 2000: 73)[143]

Condom use within long-term relationships or marriage is commonly perceived as a sign of infidelity, immorality and lack of trust.[144] Among married couples in Nigeria, researchers found that the perceived association of condoms with promiscuity is so strong that women find it difficult, if not impossible, to negotiate condom use.[145] In this context, condom use was dependent on appealing to men's sense of responsibility to their families. In a study conducted among married and cohabitating couples in KwaZulu-Natal, South Africa, only 43 percent of men and 60 percent of women found it acceptable for a married woman to request that her husband use condoms.[146] In a qualitative study conducted in Ethiopia, Tanzania and

BOX 5

GENDER-BASED VIOLENCE IS A BARRIER TO CONDOM USE

Around the world, gender-based violence is the most widespread human rights violation, undermining women's autonomy and safety. It is also closely related to condom behaviors and thus HIV risk. A qualitative study in 15 countries found that sexual coercion most often occurs within consensual unions, by husbands, boyfriends or family members.[147] In a comprehensive review of the literature on intimate partner violence (IPV) and sexual health, IPV was consistently associated with inconsistent condom use, having an unplanned pregnancy or induced abortion, and having an STI, including HIV.[148]

Among 272 South African women surveyed anonymously, 44 percent reported a history of sexual assault and were more likely to fear asking their partner to use condoms compared to women who were not sexually assaulted.[149] Another study in South Africa found that women who experienced forced sex were nearly six times more likely to use condoms inconsistently and 1.6 times more likely to be infected with HIV than women who used condoms consistently.[150] Qualitative studies from Uganda[151] and India[152] indicate that women find it difficult to suggest or insist on condom use when threatened by violence. Studies in Brazil, Jamaica, Papua New Guinea and South Africa have all found that women avoid suggesting condom use for fear of triggering a violent response.[153] [154] [155]

Young people are often more vulnerable to sexual violence. A 2001 survey of 1,753 Kenyan males and females aged 10 to 24 found that 21 percent of females and 11 percent of males had experienced at least one act of sexual coercion.[156] A Tanzanian study found that women living with HIV reported significantly more sexual violence, a greater number of violent partners, and a greater number of violent episodes with their current partner than HIV-negative women.[157] Sex workers are also disproportionately affected by violence. A study conducted among female sex workers in Southwestern China found that 49 percent of women surveyed had experienced sexual violence perpetuated by clients.[158] A qualitative study of 32 sex workers in Moscow, Russia, all respondents reported being arrested and forced to have sex with policemen.[159] Likewise, transgender people, men who have sex with men (MSM) and feminized men are also victims of sexual violence in many societies.[160] To increase condom use, particularly among these vulnerable groups, and to protect people's overall health and rights, greater efforts to address this global crisis of sexual and gender-based violence must be made.

Zambia, respondents reported that the stigma of infidelity and infection associated with condoms inhibits them from using or suggesting use of condoms.[161] In rural Malawi, initiating a discussion of condom use for preventing infection in marriage is compared to "bringing an intruder into the domestic space."[162]

"I do not use a condom with my married partner… I trust her, so there is no need to use a condom with her."

Rural male, South Africa (Maharaj and Cleland, 2004: 120)[163]

Condom use may be compromised if women cannot negotiate their use for pregnancy prevention. Furthermore, in some places, risky behaviors of male partners can place pregnant women at tremendous risk. A survey of 279 husbands of women who had recently delivered in south-eastern Nigeria found that 28 percent of the men engaged in extra marital relationships while their wives were pregnant. A large percentage of the men reported that they believed sex during pregnancy causes miscarriage.[164] Condom use is also particularly uncommon as a form of dual protection with sterilization. In a review of the literature, no studies regarding condom use among men with vasectomies were found.[165] A study conducted in São Paulo, Brazil, showed that women who have undergone sterilization are less likely to use condoms than women using other methods of family planning, and that women who had previously used condoms for contraception stopped after sterilization.[166] Sterilization counseling in settings where HIV is prevalent should include counseling on condom use.[167]

"A man wouldn't agree to use a condom if the woman is already using another family planning method."

Female contraceptive user, Langalanga, Kenya (Bauni and Jarabi, 2000: 75)[168]

However, evidence has shown that condom uptake can be successfully increased among married couples. In a comprehensive review of condom interventions, 11 studies reported on use within regular partnerships, and nine of those studies reported significant increases in condom use, although only two were among low-risk populations.[169] In these two low-risk studies—both conducted among married women in Thailand—one reported five percent consistent condom use at six month follow-up after clinic based-counseling (an increase from two percent consistent use at baseline).[170] The second study found that "more frequent" use of condoms with a spouse rose to 58 percent.[171] While these findings are promising, the level of consistent condom use reported in the first study is still quite low, and despite being a randomized controlled trial, the second study applied a weak measure of condom use.

A qualitative study conducted among 39 married couples in Uganda who reported 100 percent condom use in the last three months provides insight into the negotiation of consistent condom use within marriage.[172] For 22 of the 39 couples, condom use was proposed by the wife; in six cases, use was initiated by the husband and there was disagreement amongst the remaining couples as to which partner initiated discussions. The women reported that they were able to convince their partners to agree to consistent condom use by being insistent and persuasive, refusing sex, or proposing condom use for family planning or to safeguard their children from becoming orphans. Men reported agreeing to condom use to please their wives, to protect their wives and children, to protect themselves, and to be able to maintain other partnerships. Research from rural Malawi has shown that women talk to their husbands about the consequences for their children should both parents die of AIDS in order to encourage protective sexual behaviors.[173]

Findings of a WHO-sponsored study conducted in six African countries suggest that the influence of husbands and wives on condom use is approximately equal in Kenya, Uganda and South Africa.[174] Data from South Africa show that the wife's fear of HIV infection was the most powerful predictor of condom use.[175] These results demonstrate that couples are willing to use condoms at least sometimes if there is a perceived risk of HIV infection. While these results are promising for increasing the acceptability of condom use among married couples, use must be consistent to protect against HIV transmission. Furthermore, a review of 62 studies found that condom use ultimately depends on male cooperation.[176]

"The reason why we decided to use the condom is that when we sat and discussed it, we got scared of getting unwanted pregnancies on top of the children we already have. After that, we talked about the disease (HIV). My wife cautioned me about getting other women since I am a bodaboda rider (bicycle taxi driver) and spend some nights on the streets of Kampala. She developed this feeling I would be tempted to get another woman, use that woman and then come back home then infect her. She then suggested we use the condom on the premise that our children would not be left alone if I were to die. I saw it as easy and continued using the condom."

Ugandan husband, age 25 (Williamson, et al, 2006: 94)[177]

Condom use within partnerships may be rising, but use is not necessarily consistent. In a study conducted among married and cohabitating couples in KwaZulu-Natal, South Africa, about 20 percent of both men and women had tried condoms with their partners, and only around three percent are using condoms 'always' and 12 percent 'occasionally.' A WHO study in three African countries—Kenya, Uganda and South Africa—found that occasional condom use among couples ranged between 10 and 21 percent.[178] Because inconsistent use of condoms does not offer effective prevention, more needs to be done to promote consistent use among couples. Given persistently low rates of consistent condom use in marriage and other civil unions (other than among discordant couples), it may be more effective to target programmatic efforts toward promoting condom use in casual partnerships.

Condom Promotion Works Among Discordant Couples

In countries where sex outside of marriage is common, sex without condoms within marriage is inherently risky. Data from around the world suggest that married women's greatest risk of contracting HIV is through sexual intercourse with their husbands.[179] HIV discordance among married and cohabiting couples in sub-Saharan Africa is high, ranging from three to 20 percent in the general population[180 181 182] and 20 to 35 percent in couples where one partner seeks HIV services.[183 184 185] Because the majority of these couples are not aware of their discordance,[186] promotion of monogamy within marriage without mention of HIV-testing or condom use may actually increase HIV transmission among discordant couples. In mature epidemics, a high proportion of new HIV infections in the region is occurring within married discordant couples,[187 188] but few interventions are currently targeting couples.[189]

> **"I didn't understand how I, as a submissive woman, could be infected, having been faithful to the one man in my life."**
>
> An HIV positive woman, Burkina Faso (ICW, 2004: 13)[190]

A qualitative study conducted among discordant couples in Uganda found condom use to be the most common and preferred method of HIV prevention. Some couples transitioned to condom use after failing to abstain or reduce their frequency of sex.[191] Women living with HIV who want to become pregnant also need counseling on the safest times to forego using condoms (and other contraceptives), such as when they are on Highly Active Anti-Retroviral Therapy (HAART) and with low viral loads, as well as times when they are most likely to conceive *[see Section 4]*.

Discordant couples who have received Voluntary Counseling and Testing (VCT) have lower seroconversion rates.[192] Reported use of condoms increased among men and women living with HIV who underwent VCT in Mozambique.[193] However, seroconversion within discordant couples who receive VCT remains high, ranging between three and eight percent annually, although the desire for children may partially explain persistent incidence.[194 195] A cross-sectional and nationally representative study in Uganda found that only 21 percent of adults knew their HIV status and nine percent knew their partner's. Of cohabiting HIV-infected respondents, 40 percent had an HIV-negative spouse. Respondents who knew their status were three times more likely to use a condom at last sexual encounter, and those who knew their partner's HIV status were 2.3 times more likely to use condoms.[196] **An increase in VCT coverage is urgently needed to make more couples aware of their HIV discordance and thus the greater need for condom use in stable partnerships.** VCT also provides an important opportunity to combat perceptions that seroconversion is inevitable among discordant couples. Box 6 shows that programs targeted to sero-discordant couples can successfully increase condom use.

Condom Use Can be High Among People Living With HIV or AIDS (PLWHA) On Treatment

Treatment with HAART is not associated with higher sexual risk behavior. A comparative study of people living with HIV or AIDS on HAART and those receiving preventative therapy (PT)[ii] in Kenya found participants receiving HAART were more likely to report condom use at last sex and consistent condom use with regular partners than those receiving PT. The study also found fewer multiple and casual partners among PLWHA receiving HAART compared with those receiving PT, consistent with findings from Côte d'Ivoire.[197] However, more than 40 percent of all participants in the study did not know the HIV status of their regular partners. HIV care services need to emphasize partner testing and consistent condom use with all partners.[198]

A 2007 review of evidence for the impact of ART on sexual behavior in developing countries yielded only three studies that met the inclusion criteria.[199] All three studies were conducted in Africa—one in Côte d'Ivoire and two in Uganda. In each study, condom use at last sexual intercourse was significantly higher among ART patients compared to non-ART patients. In the Côte d'Ivoire study, condom use at last sex was 80 percent for ART patients versus 59 percent for non-patients, regardless of partnership type.[200] Bateganya et al

[ii] Preventive therapy (PT) is drug treatment to prevent opportunistic infections among people living with HIV or AIDS with weakened immune systems. In the case of this particular intervention, PT consisted of treatment with the antibiotics cotrimoxazole and isoniazid; the former is used to prevent a variety of bacterial infections and the latter is used to prevent and treat tuberculosis.

(2005) reported 71 percent condom use at last sex with a spouse for ART patients, versus 47 percent for non-patients.[201] Among study participants receiving weekly home-based ART delivery and individual counseling in Uganda, Bunnell et al (2006) found that condom use at last sex increased from 59 to 82 percent among participants with uninfected partners or with partners they did not previously know, and from 58 to 74 percent among participants with HIV-positive partners.[202] While the available evidence indicates that ART is associated with significant behavior changes, there are few rigorous studies and more evidence is needed to guide programs.[203]

Programs Should Pay Special Attention to Promoting Condom Use Among Sex Workers and their Clients

By the nature of their work, sex workers have multiple concurrent sexual partners. Furthermore, male clients who do not use condoms put sex workers and any other partners they might have at high risk of HIV. Therefore, condom use during commercial sex is critical. Condom promotion among sex workers has proven successful in many contexts *[See Box 7: Experience with 100% Condom Use Policies]*. In a systematic review of evidence on the impact of condom interventions between 1998 and 2006, 15 of the 19 studies on condom use in commercial sex reported statistically significant increases.[204] In eight of these, condom use more than doubled and in seven studies—conducted in Côte d'Ivoire, Zimbabwe, India, China, Thailand (2 studies) and Singapore— levels of post-intervention condom use exceeded 70 percent by the measure utilized. Although results were significant, post-intervention levels of condom use remained low in five of the studies (19 to 56 percent use in last sex or last five acts, 41 to 58 percent consistent use). All of these interventions involved some combination of health education (often peer-led), condom provision, and STI testing and treatment.

A qualitative study among sex workers in Mexico and the Dominican Republic found that participants considered condoms to be hygienic, offer disease protection, and provide a sense of security and peace of mind.[205] A study conducted among 450 street sex workers in three settings in Ghana found that consistent condom use was associated with younger age of sex workers (24 years old or younger).[206] This study in Ghana, and other studies conducted among sex workers in Kenya, Tanzania[207] and Trinidad[208] show that higher levels of education are also positively associated with consistent use of condoms by sex workers. However, insufficient condom knowledge can be a barrier to correct use of the method. In Benin, high breakage rates are associated with incorrect use among sex workers.[209] Widespread exposure to violence also undermines the ability of sex workers to negotiate condom use and ensure the correct use of condoms *[see Box 5: Gender-based Violence is a Barrier to Condom Use]*.

Generally, the more commercial the relationship, the easier it is for women to negotiate condom use, or the more willing men are to use condoms.[210] However, for

BOX 6

CONDOM USE INCREASES AMONG SERO-DISCORDANT COUPLES IN INDIA, THAILAND AND UGANDA

An intervention among sero-discordant couples showed promising results in increasing condom use after an HIV diagnosis. The intervention was carried out in India, Thailand and Uganda, and through four group sessions, focused on communication, problem solving and safer sex negotiation skills among 43 couples. Responses indicated an increase in the number of acts in which a condom was used to 100 percent at the different sites by first follow-up at one month, demonstrating the potential of the intervention to affect condom use across cultures and stages of epidemic. Information about correct condom use was considered vital, or as one participant stated, "It helps to know how to use a condom."[211] Another participant stated: "Now I don't feel frightened within sexual relationship."[212] The intervention also significantly increased the proportion of those who felt they could refuse sex if their partner did not use a condom.

many sex workers, the need for income outweighs the perceived consequences of risky sex. In a survey conducted among 200 female sex workers in southwestern China, economic deprivation was most frequently cited by respondents as their reason for acceptance of sex without condoms.[213] As studies have shown, clients are often willing to pay more for unprotected sex.[214]

In some places, a lack of access to free condoms lowers the likelihood of use. Among 450 female street sex workers surveyed in Ghana, 50 percent reported using condoms consistently. However, fewer than 25 percent had access to condoms at no cost, and 69 percent said they would use condoms always if they had access to condoms free of charge.[215] A study in Nicaragua found that making no-cost condoms available in motels resulted in increased condom use during both commercial and non-commercial sex.[216]

Innovative projects that incorporate sex workers' perspectives and their meaningful involvement can improve the lives of women, their children and communities. For example, the Sonagachi Project in Kolkatta, India[217] has expanded over the past 15 years from a health promotion project to teach about AIDS and promote condom use and STI treatment, to a "multifaceted community effort to empower women not only to protect themselves from HIV but to fulfill their broader needs and aspirations."[218] In South Africa, health-seeking behavior and condom use improved when services were made more accessible and "friendly". The program provided a clinic for sex workers located in the same hotel where sex work took place, and providers were trained to be respectful and non-judgmental.[219]

"They treat us as diseases, no? Coming here only to distribute condoms, they don't even look at our faces."

Brazilian sex worker (Cacham, Diniz, Maia, Galati and Mirim, 2007: 115)[220]

Clients of sex workers expose their other sexual partners to risk of HIV transmission, particularly regular partners and wives, with whom they are less likely to have protected sex. Although clients are often difficult to reach, they are important to reach with interventions, both to protect them and to prevent the spread of the disease in otherwise low-risk populations. A study conducted among clients of sex workers in Cambodia found that almost 40 percent of those interviewed reported having sex with women other than sex workers, but rarely used condoms with those partners.[221] Recently, a number of studies have documented high vulnerability to HIV infection among migrant workers in Asian countries.[222] A survey of 3,426 male and female migrants in Thailand found that among sexually active men, 25 percent reported visiting a sex worker in the past year. Male migrants reported high condom use with sex workers (79 percent reported always using condoms) but low condom use with regular partners (only 4 percent reported ever using condoms). Only three percent of women migrants reported ever using a condom with a regular partner. Despite their risky sexual practices, over 90 percent of both male and female migrants did not consider themselves at risk of HIV.[223]

Some interventions targeting male clients of sex workers have successfully increased condom use. For example, in Benin, one program established a confidential, free clinic specifically for men and male clients were targeted by male peer outreach workers at venues where sex work occurs.[224] Condom use at last sex with a sex worker was 62 percent among men who were not exposed to the intervention, as opposed to 74 percent among men who were exposed to the intervention. During the period of the intervention, men's consistent use of condoms with female sex workers increased from 55 percent to 86 percent and consistent condom use with casual partners increased from 25 percent to 65 percent, although these increases cannot be directly attributed to the intervention.[225]

Introducing a peer-mediated education and condom distribution program for male clients of sex workers in Senegal increased consistent condom use among regular, nonmarital partners from 45 to 90 percent. Surveys conducted among sex workers showed that the number of clients who "always" agreed to condom use rose from 30 percent to 54 percent.[226] In India, an intervention targeted male clients with counseling on monogamy and condom use and provided free condoms every three months over a three-year period. Compared to baseline, consistent condom use was 2.8 times more likely at six months, and 3.6 times more likely at 18 months. By 24 months consistent condom use was 4.7 times more likely and monogamy increased from 61 percent at baseline to 84 percent.[227]

Other Socially Marginalized Populations, Including Men Who Have Sex with Men (MSM), Injecting Drug Users (IDUs), Prisoners and Migrants, Need Access to Condoms and Confidential Services, Without Fear of Legal Repercussions

Studies from the Americas, Asia and Africa indicate that men who have sex with men (MSM) are at greater risk of infection than the general population, due to both biological vulnerability (anal sex carries a higher risk of transmission than vaginal sex)[228] and social marginalization. According to UNAIDS, "at least five

to10 percent of all HIV infections worldwide are due to sexual transmission between men" with variation among regions and within countries.[229] In some places, including San Francisco in the United States, condom use quickly became the norm among MSM, dramatically cutting incidence of HIV and other STIs.[230] [231] However, stigma and social marginalization of MSM continues to increase their vulnerability to HIV infection in many settings, for example in Jamaica as described by White and Carr (2005).[232] These problems are exacerbated by inadequate epidemiological data on these populations in most developing countries. In Africa, MSM have received little attention in HIV/AIDS programming and service delivery because of widespread denial and stigmatization of male homosexual behavior and the lack of data on these populations.[233]

While often underground, MSM communities are sizable in many countries. For example, in an Indian cross-sectional population-based survey in 2001, 774 randomly selected residents of 30 slums in Chennai were interviewed for behavioral risk factors. Forty-six (5.9 percent) of them reported having sex with other men.[234] Among these, MSM were eight times more likely to be seropositive for HIV and more than twice as likely to have a history of STIs. Similarly, a risk behavior assessment of 10,785 men attending three STI clinics in Pune, India between 1993 and 2002 indicated that 708 (7 percent) were MSM.[235]

Recent studies also show high HIV prevalence and low consistent use of condoms among MSM populations in Thailand[236] and China.[237] Among 927 MSM in Thailand, HIV prevalence was 17 percent. Thirty-seven percent of respondents reported having unprotected sex with a male partner in the three-month period. Unprotected sex was more common in regular partnerships; however these partnerships were mostly non-monogamous. One in five of the men reported also having sex with a female in the past year. Thirty-four percent of the men were "not at all concerned" about contracting HIV, and 57 percent responded that way about other STIs.[238] In Beijing, China, three serial cross-sectional surveys of MSM revealed that HIV prevalence among MSM rose from less than one percent in 2004 to greater than five percent in 2006. Surveys found no increase in consistent condom use, with 40 percent of respondents reporting unprotected receptive anal sex and more than half reporting unprotected insertive anal sex in the past six months.[239]

UNAIDS' best practice collection, *HIV and Men who have Sex with Men in Asia and the Pacific*, published in 2006, highlights successful programs in Bangladesh, Hong Kong, India, Indonesia, New Zealand and the Philippines. Key components in these programs, together with condom promotion, include working with government and health authorities, working with the larger community to reduce stigma, increasing access to health services, conducting outreach activities, building and mobilizing communities, providing care and support, conducting programmatic research to improve programs, and promoting advocacy. As with all programming, attention to administrative and management issues is paramount.[240]

Interventions are also needed to target men who engage in bisexual behavior and their male and female partners. In many settings, stigma and social norms associated with homosexuality make it more common for MSM to also engage in heterosexual sex. Moreover, the term MSM itself has been criticized for over-simplifying the degree of variation in sexual behavior that exists among people.[241] Among men surveyed in a study conducted in Dakar, Senegal, only 23 percent of respondents reported using a condom for insertive anal sex and 14 percent for receptive anal sex. Condom use among MSM who also have sex with women was low—only 37 percent reported using a condom the last time they had sex with a woman.[242] In St. Petersburg, Russia, among 434 MSM, 126 had had partners of each sex in the last month and 45 percent of men reported recent unprotected anal intercourse with male partners.[243]

The sharing of needles for injecting drug use is one of the most direct transmission pathways, allowing HIV to explosively infect extremely marginalized communities. Interventions to encourage safer sexual practices, including condom use, are an important part of a comprehensive prevention package for injecting drug users (IDUs) and their partners, particularly in settings that lack safe needle exchange.[244] A study in Iran found that half of IDUs are married and one-third reported having extra-marital sex.[245] Another qualitative study conducted in Vietnam found that most wives of IDUs did not use condoms because their husbands objected.[246]

Prison populations are also at high risk of HIV, yet around the world, most efforts to provide condoms in prisons have been met with resistance.[247] Conservative views of homosexuality and the fear that providing condoms will promote same-sex intercourse are often a driving force in the opposition to distribution in prisons.[248] For example, in India, medical recommendations to distribute condoms in prisons are illegal based on India's sodomy laws, which have been criticized for hindering HIV prevention efforts.[249] In Jamaica, efforts to distribute condoms in prisons led to riots and strikes by prison wardens because of the perceived promotion of homosexual activity.[250]

Other critics of distribution in correctional settings express concern that condoms will be used to make "weapons" in prisons, as mechanisms to transport drugs, and that the provision of condoms will lead to an increase in sexual assault among inmates. However, recent evaluations of condom distribution programs in correctional settings indicate that such security concerns are not well founded.[251] With an appreciation for the health benefits of inmates and the general population, condom distribution is being carried out in prisons in Australia, Brazil, Canada, Romania, Ukraine and Western Europe, as well as in a select number of U.S. cities.[252] The need for condoms among prisoners has also been cited in UNGASS reports from Honduras and Romania.[253]

BOX 7

EXPERIENCES WITH 100% CONDOM USE PROGRAMS

In response to increasing HIV and STI prevalence among female sex workers (FSWs) in Thailand, the government initiated the 100% Condom Use Program (CUP) in Ratchaburi province in 1989. The premise of the 100% CUP is to create an environment where condoms must be used in all sex establishments throughout a large geographic area, for all sexual encounters, 100% of the time.[254] The intention of the program is to empower sex workers to practice a policy of "No Condom—No Sex" in all commercial acts. Success of the program has depended upon garnering the support of owners of sex establishments, as well as members from the health, law enforcement and local administrative sectors.[255]

100% CUP was scaled-up nationwide in Thailand and has been credited with averting over five million HIV infections.[256] Building on the Thai model, seven other Asian countries have adapted and implemented versions of the 100% CUP. Cambodia initiated the program in 1998, and became the second country to scale-up nationwide in 2001, contributing to the near halving of HIV prevalence among brothel-based sex workers between 1998 and 2003.[257] Following suit in 1999, the Philippines developed a 100% CUP program, reaching 17 sites by 2005, and is still expanding. In 2000, both China and Viet Nam began to implement 100% CUP. By 2006, the 100% CUP had reached ten of China's 31 provinces and 21 of Viet Nam's 64 provinces. Between 2001 and 2006 the 100% CUP was scaled-up in Myanmar to reach 152 of 324 townships. Data from the pilot sites show that condom use among sex workers increased from 61 percent in 2001 to 91 percent in 2002.[258] Nationwide scale-up of 100% CUP is also currently underway in Mongolia and the Lao People's Democratic Republic. The 100% CUP is also being adapted to settings outside of Asia, for example in Santo Domingo and Puerto Plata in the Dominican Republic.

While sex work remains illegal in all countries in Asia, the 100% CUP program has succeeded in collaborating with authorities to promote condom use in commercial sex as an important means of preventing the spread of HIV into the general population. Still, while advocates, including WHO and UNAIDS, tout the program's ability to empower sex workers and improve their access to health care, some members of the sex worker community have criticized the program for being coercive to FSWs, rather than protective.[259] Also, because programs target FSWs and not the male clients, the 100% CUP has not necessarily affected condom use in non-transactional partnerships. A 2005 study conducted among clients of sex workers in select brothels in Cambodia found that 58.3 percent of men surveyed reported having sex with multiple partners, including their wives. While they reported high condom use at last sex with a sex worker (97 percent), only 14 percent reported always using condoms with their girlfriends or wives.[260]

4

CONTRACEPTIVES **COUNT** FOR HIV **PREVENTION**

Family Planning Can Make a Tremendous Contribution to HIV Prevention

As with all women and couples, women and men living with HIV or AIDS have the right to make informed decisions about their sexual and reproductive health. Research shows that the reproductive patterns of women living with HIV or AIDS are similar to those of HIV-negative women.[261] Many women living with HIV or AIDS want to have more children and need voluntary family planning services to provide counseling on reversible contraceptive methods and on how to prevent vertical transmission of HIV. If they are seronegative, women may also need information on how to reduce the likelihood of transmission to their husband or sexual partner. Family planning services are also needed for women living with HIV or AIDS who decide to prevent or delay pregnancy.

The contribution of family planning toward preventing mother-to-child transmission of HIV (PMTCT) cannot be ignored. **A 2003 study found that by adding family planning to PMTCT services in 14 high prevalence countries, more than 150,000 unintended pregnancies were averted, the number of child infections averted nearly doubled and the number of child deaths averted nearly quadrupled.**[262] For the same cost as treatment with antiretroviral drugs to prevent MTCT, contraceptive use can avert nearly 30 percent more unintended HIV-positive births,[263] as well as much human suffering. It is estimated that current levels of contraceptive use in sub-Saharan Africa are already preventing 22 percent of unintended HIV-positive births.[264] **However, very high levels of unmet need for family planning persist in some of the countries that are most affected by HIV** *[see Table 1: Countries with High HIV Prevalence and High Unmet Need for FP*].

Family planning programs also play a critical role in preventing primary HIV infection. Comprehensive family planning services educate women and men about STI transmission, and consistent and correct condom use. **Research shows that lowering HIV infection rates among sexually active adults by one to five percent can in fact achieve the same reduction in infant HIV infections as nevirapine interventions.**[265] In 2007, an estimated 420,000 children (under 15 years) were newly infected with HIV, amounting to an estimated 2.5 million children living with HIV.[266] The majority of these infections are occurring in sub-Saharan Africa and were acquired from mothers during pregnancy, labor, delivery or breastfeeding. Recognizing the need to identify and strengthen the linkages between family planning and HIV prevention in women and children, United Nations agencies outlined a broad approach for PMTCT in the Glion Call to Action, issued in 2004.[267] *[see Box 8: The Glion Call to Action]*.

Millions of Pregnancies Worldwide Are Unintended

Worldwide, millions of women become pregnant unintentionally each year. In Kenya, a Demographic and Health Survey found that over a five-year period, only 51 percent of births were planned.[268] During a three-year period in Zambia, only 59 percent of births were planned.[269] In South Africa, 84 percent of pregnancies among antenatal care clinics were unplanned.[270] Among adolescents, the range of unplanned pregnancies is highest in Latin America and the Caribbean, and in some sub-Saharan African countries where up to 50 percent of adolescent mothers reported that their pregnancies were unplanned. Notably, the United States has the highest adolescent fertility rate of all developed countries, and 73 percent of young women ages 15 to19 giving birth in the U.S. report that their pregnancies were unplanned.[271]

There is emerging evidence that women living with HIV and AIDS also experience similarly high rates of unintended pregnancies. A study in Côte d'Ivoire of 149 postpartum women living with HIV found that over half of their pregnancies were unwanted and roughly one-third were aborted.[272] Another study of 288 Tanzanian women living with HIV found that more than 55 percent of pregnancies were unintended.[273]

Family Planning Is an Urgent Priority

Today more than 120 million women say they would prefer to avoid a pregnancy, but are not using any form of contraception.[274] If women who rely on traditional methods of family planning are included in the estimate of unmet need, the figure rises to 201 million women.[275] Research shows that most women who are considered to have an unmet need for family planning say they intend to use contraception in the future.[276] **As the number of women in their reproductive years increases and desired family size decreases, the global demand for family planning will increase.** At the same time, the continued threat of HIV and the increasing number of people living with HIV or AIDS—people who are living longer, healthier lives due to expanded access to treatment—is leading to an increased need for condoms and other contraceptives.

Integrating Family Planning and HIV Services Can Help Reduce Unintended Pregnancies

For all women and couples, integrating family planning with other HIV services can increase contraceptive use and reduce unintended pregnancies.[277] Furthermore, HIV-positive clients want to be able to access family planning services at sites offering HIV services.[278] [279] [280] [281] At VCT sites in Haiti, 19 percent of clients present-

TABLE 1

Countries with High HIV Prevalence and High Unmet Need for FP (ranked by HIV prevalence)

	HIV Prevalence (%) 2005	Unmet Need for FP (%)
Botswana	24.1	44.7
Lesotho	23.2	30.9
Zimbabwe	20.1	12.8
Namibia	19.6	25.1
South Africa	18.8	15.0
Zambia	17.0	27.4
Mozambique	16.1	18.4
Malawi	14.1	27.6
Central African Republic	10.7	16.2
Gabon	7.9	28.0
Côte d'Ivoire	7.1	27.7
Uganda	6.7	40.6
Tanzania	6.5	21.8
Kenya	6.1	24.5
Cameroon	5.4	20.2
Congo	5.3	16.2
Nigeria	3.9	16.9
Haiti	3.8	37.5
Chad	3.5	23.3
Togo	3.2	32.3
Djibouti	3.1	26.3
Rwanda	3.1	37.9
Eritrea	2.4	27.0
Ghana	2.3	34.0
Burkina Faso	2.0	28.8
Benin	1.8	27.2
Mali	1.7	28.5
Sudan	1.6	26.0
Guinea	1.5	21.2
Ethiopia	1.4	33.3
Niger	1.1	15.8

SOURCES:

UNAIDS. 2006. *2006 REPORT ON THE GLOBAL AIDS EPIDEMIC*. GENEVA: UNAIDS.

UNITED NATIONS POPULATION DIVISION. 2008. *WORLD CONTRACEPTIVE USE 2007 WALLCHART*. NEW YORK: UN.

NOTE: UNMET NEED FIGURES FROM MOST RECENT SURVEY, RANGING FROM 1992-2006.

BOX 8

THE GLION CALL TO ACTION ON FAMILY PLANNING AND HIV/AIDS IN WOMEN AND CHILDREN

To prevent HIV infection in women and children, the Glion Call to Action recommends a four-pronged approach that includes:

1 preventing primary HIV infection in women;
2 preventing unintended pregnancy among women with HIV infection;
3 preventing transmission of HIV from infected pregnant women to their infants; and
4 providing care, treatment and support to HIV infected women.

Family planning services are essential to the first, second and fourth approaches, and thus are a cornerstone of a comprehensive package for the prevention of mother-to-child HIV transmission (PMTCT).

SOURCE: GLION CALL TO ACTION. ACCESSED ONLINE AT HTTP://WHO.INT/REPRODUCTIVE-HEALTH/STIS/DOCS/GLION_CAL_TO_ACTION.PDF ON MAY 13, 2008.

ing for VCT became new users of a contraceptive method.[282] In a study conducted among 700 women undergoing ART in Uganda, women were counseled on HIV prevention and family planning, but those who expressed interest in family planning services were referred to the nearest provider. While the vast majority of the women (93 to 97 percent) did not wish to become pregnant, 17 percent did become pregnant over the course of the study. Investigators concluded that family planning services should be an integral component of ART provision.[283]

However, family planning is often delivered separately from HIV services. A review of programs in 11 countries in Africa, Asia and Latin America and the Caribbean reported that family planning was not integrated into perinatal transmission programs, and was often not tailored to the needs of women living with HIV and AIDS, resulting in missed opportunities.[284] **As ART programs scale-up, they should be part of a continuum of care that includes strong family planning and other integral health services from the onset.**[285 286] Likewise, in some settings, family planning programs and maternal-child health services can be an efficient way of reaching potential ART users.[287] **Family planning should also be integrated into antenatal and postpartum care, and in abortion and postabortion care settings, emphasizing condom use for both contraception and HIV prevention.** While not all services should be integrated in all instances,[288] integrated approaches can expand access to and coverage of family planning, STI, and HIV and AIDS services.

An analysis of VCT clients in Ethiopia suggests that different types of clients may be attracted to different levels of HIV and FP service integration. Looking at three levels of integration—where HIV and FP services are offered in the same facility, in the same room, or by the same counselor—the study found that different integration settings attract different types of clients. Integrating VCT with family planning may be an effective strategy for expanding VCT service delivery. Likewise, by attracting "atypical" family planning clients—including men—to VCT services, providers may be able to reach more clients with family planning messages.[289]

In a review of field experience on the integration of family planning and PMTCT services, the Population Council found that family planning is a standard component of PMTCT programs, but that many PMTCT sites still miss valuable opportunities for providing FP counseling to clients.[290] Moreover, PMTCT programs themselves are only reaching an estimated five percent of people living with HIV and AIDS.[291] In an evaluation of pilot PMTCT projects in 11 countries, although most sites offered FP services and contraceptive supplies, services were not found to be well-integrated, resulting in relatively little progress made toward addressing prevention of unintended pregnancy in HIV-infected women.[292] For example,

out of 48 family planning counseling sessions at a PMTCT site in Zambia, HIV transmission was only mentioned in 12 of the sessions, MTCT in eight of the sessions and HIV testing was only mentioned in nine sessions. Dual protection through use of condoms was only introduced in 16 sessions. Furthermore, two of the three PMTCT pilot sites surveyed in Rwanda were run by faith-based organizations that offered FP counseling, but did not provide contraceptives.[293] Box 9 illustrates a program to strengthen family planning within PMTCT in Ethiopia.

A Wide Range of Contraceptive Methods Are Needed

All clients should be counseled on the varying degrees of effectiveness of contraceptive methods for pregnancy prevention (spacing or limiting births) *[see Figure 3: Comparing Effectiveness of FP Methods]* and on the importance of protection against pregnancy and HIV and STIs. While no method of contraception other than male and female condoms has been proven to protect from STIs including HIV, clients should be aware that condoms are not the most effective method to prevent pregnancy. Sexually active women who do not wish to become pregnant and who are not in a mutually monogamous relationship with an HIV-negative partner should use condoms, either alone or in conjunction with other contraceptive methods.

Still, **a wide range of pregnancy prevention options are needed for those women who cannot negotiate the use of condoms – and for those who want to use the most effective and appropriate method of contraception, given their circumstances**. Program staff should be aware, however, that while female and male sterilization are the most effective options to prevent unwanted pregnancies, their use can complicate the ability of women to negotiate condom use.

More Research Is Needed to Better Meet the FP Needs of Women Living with HIV and AIDS

Most contraceptive methods can be used irrespective of HIV serostatus. Recent research has affirmed that hormonal contraceptives do not lead to increased risk of HIV acquisition or transmission.[294] Still, because hormonal contraceptives do not protect against HIV transmission or acquisition, reducing the risk of HIV transmission requires reducing the number of sex partners and using condoms correctly and consistently. The relationship between oral contraceptives and acquisition of STIs other than HIV are less certain and need further evaluation.[295] Further research is also needed on the interactions between hormonal contraception and ARV therapy, as well as to determine if pregnancy may affect disease progression. To date, the evidence does not suggest such an effect, at least in the short term.[296] If pregnancy does increase the risk of HIV acquisition or the rate of disease progression, preventing unintended pregnancies will be even more urgent.

BOX 9

INTEGRATING FAMILY PLANNING INTO PREVENTION OF MOTHER TO CHILD TRANSMISSION SERVICES IN ETHIOPIA

In 2004, as part of its *USAID Prevention of Mother-to-Child Transmission Project* in Ethiopia, the NGO IntraHealth began to integrate FP services into PMTCT interventions. Through the Mothers Support Program, a component of the PMTCT intervention, IntraHealth conducted trainings for site coordinators and mother mentors on FP/PMTCT integration and distributed Information Education and Communication (IEC) materials on FP/PMTCT. Just six months after initiation of the integration intervention, 47 percent of HIV-positive mothers were using modern contraceptive methods (80 out of 168). The program was then replicated in nine health centers in Tigray Regional State. Eighty percent (33 out of 41) of HIV-positive mothers in Tigray were using a modern method of contraception after the first six months of the project.[297] [298]

FIGURE 3

Comparing Effectiveness of Family Planning Methods

SOURCE: WORLD HEALTH ORGANIZATION DEPARTMENT OF REPRODUCTIVE HEALTH AND RESEARCH (WHO/RHR) AND JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH/CENTER FOR COMMUNICATIONS PROGRAMS (CCP), INFO PROJECT. 2007. *FAMILY PLANNING: A GLOBAL HANDBOOK FOR PROVIDERS*. BALTIMORE AND GENEVA: CCP AND WHO.

MORE EFFECTIVE
Less than 1 pregnancy
per 100 women in one year

LESS EFFECTIVE
About 30 pregnancies
per 100 women in one year

How to make your method more effective

Implants, IUD, female sterilization:
After procedure, little or nothing to do or remember

Vasectomy:
Use another method for first 3 months

Injectables:
Get repeat injections on time

Lactational Amenorrhea Method (for 6 months):
Breastfeed often, day and night

Pills: Take a pill each day

Patch, ring: Keep in place, change on time

Condoms, diaphragm:
Use correctly every time you have sex

Fertility Awareness Methods:
Abstain or use condoms on fertile days. Newest methods (Standard Days Method and Two Day Method) may be easier to use.

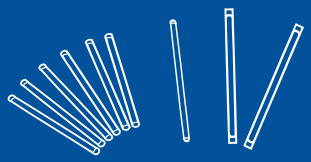
Withdrawal, spermicides:
Use correctly every time you have sex

USAID FROM THE AMERICAN PEOPLE

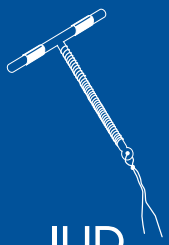
World Health Organization

JOHNS HOPKINS BLOOMBERG SCHOOL of PUBLIC HEALTH

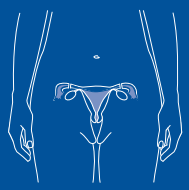
Center for Communication Programs



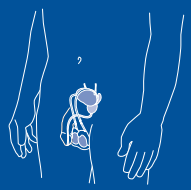
Implants



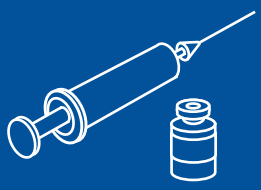
IUD



Female Sterilization

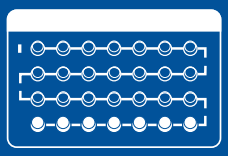


Vasectomy



Injectables

LAM



Pills

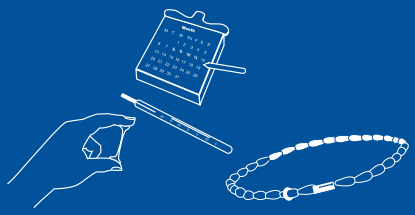
Patch

Vaginal Ring

Male Condoms

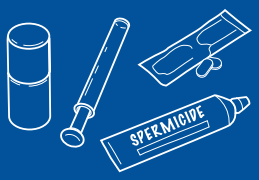
Diaphragm

Female Condoms



Fertility Awareness Methods

Withdrawal



Spermicides

EXPANDING **ACCESS AND** ENSURING **AVAILABILITY**

"In 2007, the number of new HIV infections was 2.5 times higher than the increase in the number of people receiving antiretrovirals, underscoring the pressing need for a stronger commitment to HIV prevention."
(United Nations, report of the Secretary General, 2008)[299]

In the fight against HIV and AIDS, all aspects of comprehensive prevention are critical. Condoms – both male and female – and contraceptives are key technologies in the fight against HIV. According to a 2003 assessment, only 42 percent of people worldwide who wanted to use a condom during sex could obtain one,[300] and unmet need for contraceptives—including among HIV-positive women—remains high. Supportive policies, strong evidenced-based programs and adequate resources are needed to ensure access to and availability of condoms and contraceptives.

The Comprehensive Condom Programming Framework can guide scale up of condom programs—and also applies to contraceptives

In 2007, a coalition of organizations produced a Comprehensive Condom Programming (CCP) framework that includes attention to 1) Leadership and coordination, 2) Demand, 3) Supply, and 4) Support *[See Box 10: Comprehensive Condom Programming Framework]*.[301] The framework provides 10 steps to guide programming in identification and redress of gaps in provision and use of condoms. The framework links barriers to demand for condoms with supply issues and targeted marketing strategies. The framework also stresses the need for strong program management, linkages and integration with other services, monitoring and evaluation, and the need for quality service delivery. UNFPA, WHO and PATH (2007) have produced an operations manual for condom programming for HIV prevention, which is endorsed by UNAIDS.[302]

Leadership and coordination—for advocacy and policy dialogue, resource mobilization and capacity building—provides the foundation for the framework. Donors should support governments in setting and reaching national goals, while involvement of civil society is crucial to the development of effective local and national plans for condom and contraceptive programming. Governments and local authorities must implement their commitments to expanding condom and contraceptive access to their populations, including young people. Strong coordination among governments, donors, and community stakeholders can help maximize the use of available resources and the impact of activities to promote condoms and contraceptives.

The same comprehensive programming framework can apply to the provision of contraceptives as a key aspect of preventing mother-to-child transmission of HIV. The same components are needed for strong programming—beginning with leadership and coordination to ensure strong policies that integrate contraceptives into HIV prevention, to provide adequate

resources for contraceptive provision, and to enhance capacity for policy and program implementation. Determining the demand and ensuring supply of contraceptives are vital, and programs must be supported by strong management, links with other programs, monitoring and evaluation and high quality services.

Policies on condoms and contraceptives set the tone for prevention programs and should be evidence-based

Promotion of condoms has been hotly debated in recent years, particularly in the context of the U.S. government's "ABC" approach to prevention, implemented under the U.S. President's Emergency Plan for AIDS Relief (PEPFAR). The greater emphasis has been placed on abstinence until marriage—an emphasis legislated through the abstinence earmark—and on faithfulness in marriage. Many public health experts claim that the U.S. government approach to prevention ignores the reality of many vulnerable groups, as discussed in this report. Unfortunately, the controversy also obscures the fact that the U.S. government "has purchased more than one billion condoms in the past two years to help prevent HIV infections in the developing world, a significant increase from previous years."[303]

BOX 10

COMPREHENSIVE CONDOM PROGRAMMING FRAMEWORK[304]

Leadership and coordination (at global, regional, national and community levels)

- *advocacy and policy dialogue* for political awareness, government ownership and commitment so as to reduce barriers to male and female condom access and use including ignorance and stigma
- *resource mobilization* for adequate human, financial and technical resources
- *capacity building* and institutional strengthening including national regulatory authorities

Demand

- *social, sexual, behavioral, operations and epidemiological* research to develop a strong evidence base and to guide programme development including more effective policies and intervention design in BCC, IEC and health promotion
- *market research* to understand consumer needs and wants for targeted condom promotion and distribution via public, private and NGO channels and client-centered traditional and non-traditional outlets
- *IEC* including mass media campaigns and interpersonal approaches to raise awareness concerning HIV/AIDS and the importance of behavior change such as partner reduction

Supply

- *social marketing programs* to create demand and expand access to attractive and affordable condoms via commercial channels and outlets
- *community-based distribution* approaches to reach poor and hard-to-reach rural areas
- strengthened public sector capacity to address the needs of individuals not served by private and social marketing approaches
- *logistics management* (including product selection, quality procurement according to ISO standards and the WHO/UNFPA specification, quality assurance during receipt, storage, distribution, LMIS and consumer feedback mechanisms)

Support

- *programme management* including needs assessment, strategic planning, technical cooperation, sustainability, effective coordination mechanisms at all levels and training to strengthen human resources
- *links to or integration with other programme strategies* including VCT, PMTCT, STI treatment, ARV treatment programmes and MCH and family planning to enhance breadth and depth of reach while improving sustainability
- *monitoring and evaluation* as part of the Three Ones
- *service delivery* and quality of care

BOX 11

ADVOCACY FOR REPRODUCTIVE HEALTH SUPPLIES

In 2001, an historic meeting in Istanbul on the issue marked a turning point for the global community by establishing a "Call to Action" to raise awareness, increase support and seek solutions to the crisis in supplies. The Call to Action included an extensive plan for tackling all of the major causes of the crisis as identified at Istanbul: advocacy, national capacity building, financing, and donor coordination.

A number of organizations, including PAI, have been working as advocates, facilitators and watchdogs at the international level for nearly a decade to identify and address the causes of, and solutions to, shortfalls in reproductive health supplies. These partners have capitalized on milestone events, high-level policy dialogues and contacts with decision-makers to bring the issue of supply shortfalls to the forefront of major bilateral and multilateral donor attention.

In recent years, evidence of the success of the resource mobilization and global awareness efforts includes:

- Establishment of a high-level coalition of supply donors and stakeholders, the Reproductive Health Supplies Coalition (www.rhsupplies.org), to focus on increasing resources, strengthening systems and effective partnerships;
- Launch of the RHInterchange (http://rhi.rhsupplies.org), a web-based portal for contraceptive procurement and shipping information that has improved the quality and timeliness of donor data; and
- Increased prominence of RH supplies on the global donor agenda, as illustrated by a steady increase in media coverage of the RH supplies issue; improved participation and investment by key stakeholders and partners; increased numbers of donor governments contributing to RH supplies; and increased volume of funding, such as a contribution of $75 million from the European Union to UNFPA in 2004.

Although the global level dialogue on reproductive health supplies has made great strides in recent years, the need for supplies continually outstrips available funding. Awareness remains low at the country level and recipient country governments have yet to prioritize and gain ownership of causes and solutions to supply shortfalls. PAI and its partners continue to work towards achieving universal access to RH supplies by building civil society knowledge and engaging and partnering with governments and multilateral institutions at the global, regional and country levels.

Further obscuring the important role of the US in condom provision and promotion, PEPFAR's program-level tracking systems do not include indicators on condoms—instead condom promotion activities are subsumed under "other behavior change."[305] In spite of record condom shipments, PEPFAR has greatly inhibited mass media communications around condoms and unnecessary and unfortunate misinformation about condom effectiveness, use, and more continues.

To fully and effectively address HIV and AIDS, policies must be based on sound evidence, which supports the efficacy of condoms in prevention HIV transmission. Policies should reinforce that no conditions should be attached to the promotion of condoms for HIV prevention, including provision of and use by vulnerable groups. Individuals should be able to decide for themselves if condom use is the right prevention method for them and to switch prevention methods as needed.

The Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM), places no restrictions on promotion of condoms for HIV prevention and—recognizing the role of contraceptives in HIV prevention and care—in its most recent request for proposals (Round 8), has reiterated that grant funds can be used to procure contraceptives for relevant grant activities. Still, GFATM relies on countries to request funding for condoms and contraceptives in their country proposals.

Most countries have favorable supportive family planning policies, however in many instances, contraceptive choice is limited by legislation governing the use of certain methods and by government efforts to promote certain methods.[306] Ross et al. (2002) found that full choice of contraceptive methods is possible only in a few countries.[307] Many countries still underestimate the contribution of family planning to PMTCT—an analysis of the national strategic HIV/AIDS policies or plans of 14 African countries found that only half mentioned family planning.[308] Choice is also limited by decreasing donor resources for contraceptives, and restrictions and confusion surrounding source of funding for contraceptives. For example, the reauthorization of the PEPFAR legislation in the U.S. is likely to prohibit procurement of contraceptives, even for PMTCT programs that have prevention of unintended pregnancy as a key pillar—and despite compelling evidence that contraceptives contribute significantly to preventing mother-to-child transmission of the virus.

Strong commodity management and logistics systems are a prerequisite for reliable availability of condoms and contraceptives.

Avoiding shortfalls and stock-outs of condoms and contraceptives is critical to the success of family planning and HIV prevention programs. An article in a Zambian newspaper reported month-long periods when Planned Parenthood clinics were stocked-out of both male and female condoms.[309] Such stock-outs have important implications, as the most common reasons given by married women for not using contraception is lack of access to supplies and services.[310] As a response to funding declines, lack of donor coordination, and shortages of commodities, the international community has been working for the past decade to ensure availability of sufficient reproductive health supplies, including contraceptives and condoms *[see Box 11: Advocacy for Reproductive Health Supplies]*.

The process of financing, procuring, shipping, storage, and distribution of condoms is complex, with challenges facing each step. The time between placement of an order and delivery of commodities is approximately 12 months, even when the funds are readily available. Forecasting condom and contraceptive requirements must take place more than a year before the condoms and contraceptives will actually be used. Condoms logistics are complicated by the fact that exposure to heat and humidity contribute to more rapid deterioration of latex and reduce the shelf life of condoms. Donors, particularly the U.S. government, have worked with countries for years to strengthen commodity logistics systems, both through the USAID-funded DELIVER Project and the Supply Chain Management System (SCMS) Project[iii]. This attention to national commodity management systems is critical to bring together "vertical" logistics systems that have been established for individual programs (e.g. separate logistics systems for family planning, HIV/AIDS, child immunization, etc.).

Condoms don't always need to be free: Segmenting the condom market—with the private sector selling condoms and social marketing programs reaching the poor with free condoms—is cost-effective and can expand condom access

By limiting subsidized or free condoms to low-income consumers, market segmentation maximizes government and donor investments, freeing up funds for other strategies, such as programming to prevent commodity shortages. While some evidence shows that condoms freely distributed to the general public are less likely to be used than purchased condoms[311] research still suggests that free condoms are most effective for vulnerable and marginalized populations.[312] However, other studies suggest that free condoms are welcome and free condoms are needed in STD clinics, HIV treatment facilities, sex worker outreach organizations, and NGOs.[313] A study in South Africa that followed 384 male participants who received a total of 5,528 free condoms at 12 public health facilities found that, after five weeks, 44 percent of the condoms had been used, 22 percent had been given away, nine percent had been lost or discarded and 26 percent were still available for use. Wastage at five weeks was less than 10 percent.[314]

Using a range of points of distribution can maximize the reach of prevention programs.

A variety of distribution outlets, including pharmacies, supermarkets, bars, restrooms, primary health care clinics, family planning clinics, and mobile units can serve population groups with different needs and levels of income. At the same time, distributing condoms and contraceptives across a range of networks can help to reduce costs of service delivery and promotion by maximizing the contribution of existing outlets and programs. Prevention messages can come from

[iii] http://deliver.jsi.com/dhome, http://scms.pfscm.org/scms

BOX 12

SUCCESSFUL MEDIA CAMPAIGNS PROMOTING CONDOM USE

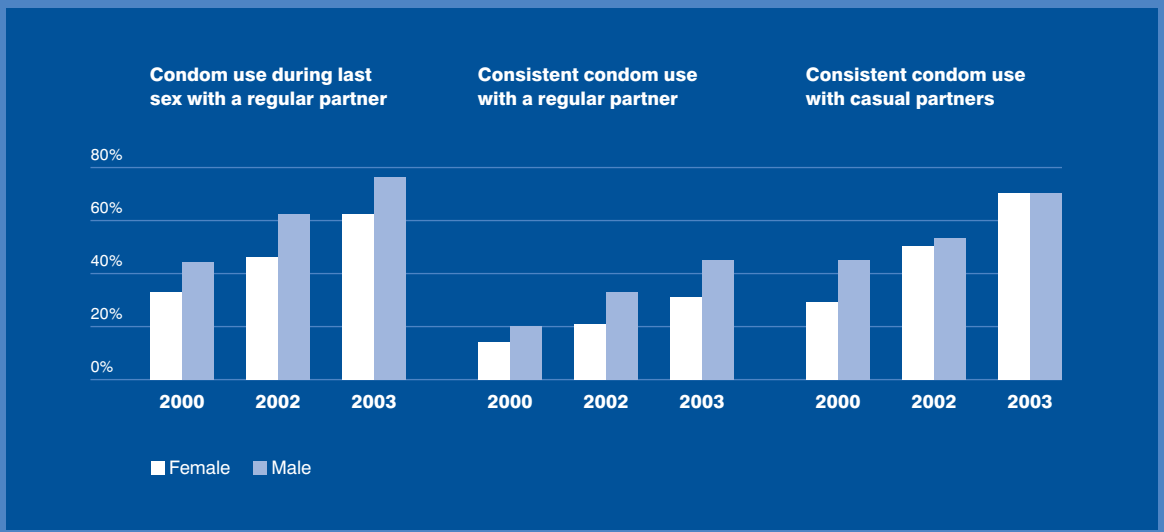
In Cameroon, the *100% Jeune* program targets 14 to 24 year old youth using a combination of mass media and interpersonal communication channels to motivate them to either use condoms consistently or not have sex. The program includes peer education sessions, a weekly radio call-in show, a monthly magazine, integrated television, radio and billboard campaigns, and a network of branded youth-friendly condom outlets. Surveys implemented at 18 month intervals between 2000 and 2003 found that condom use, including consistent use with regular partners among youth of both sexes, increased during the course of the program. Analysis of data on exposure to the program reveals the campaign was a significant determinant of these improved condom behaviors among young people.[315]

Mass media campaigns have had similar successes in positively influencing condom norms among adolescent women in Brazil. In 2003, Brazil's Ministry of Health launched a national campaign promoting the use of condoms among adolescents, called "The Carnival Campaign." Survey data on the Carnival Campaign indicated that higher exposure to campaign messages from billboards and television had a positive and significant effect on young women's perceptions that it is acceptable for women to purchase condoms.[316]

FIGURE 4

Increases in Condom Use Associated with the *100% Jeune* Program

SOURCE: PLAUTZ A AND D MEEKERS. 2007. "EVALUATION OF THE REACH AND IMPACT OF THE *100% JEUNE* YOUTH SOCIAL MARKETING PROGRAM IN CAMEROON: FINDINGS FROM THREE CROSS-SECTIONAL SURVEYS." REPRODUCTIVE HEALTH 4(1).

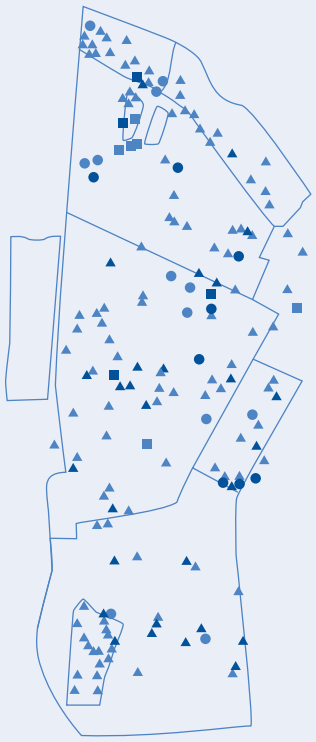


a range of voices, not just health providers, teachers and peer educators, but also hair stylists, taxi drivers, and many others. Making condoms available through such non-traditional outlets is likely to encourage use, especially by young people who may feel uncomfortable obtaining them in traditional locations, such as local shops. Research suggests that social marketing campaigns that have improved availability of condoms through the commercial sector can take much of the credit for the rise in use among young African women.[317]

FIGURE 5

Map from South Africa Showing Condom Availability at Sites—Generated from PLACE Methodology.

SOURCE: MEASURE EVALUATION MANUAL ON PLACE. PART 5: USING RESULTS TO IMPROVE PROGRAMS. ACCESSED ONLINE AT HTTP://WWW.CPC.UNC.EDU/MEASURE/TRAINING/MENTOR/POPULATION_RESEARCH/PLACE/PART5.HTML#4701 ON MAY 23, 2008.



Meet new partners and condoms available

Type of Site	No	Yes
Bar	●	●
Informal Bar	▲	▲
Other	■	■

The USAID-funded AIDSMARK Project[318] was successful in marketing male and female condoms to different groups using innovative distribution and promotion strategies. In Nigeria, pharmacies are the most efficient distribution point for condoms and comprise 90 percent of annual condom sales. However, pharmacies are not open late at night and are typically not located near brothels and bars frequented by sex workers. In response, Population Services International (PSI) worked to include a variety of nontraditional retail outlets—including street hawkers and small shops—in the distribution network of *Gold Circle* condoms. Between 2000 and 2004, sex workers reporting condom availability within 30 minutes of the brothel increased from 68 to 98 percent. Meanwhile, sex workers reported increased consistent condom use rising from 79 to 89 percent between 2002 and 2004.[319]

In the Dominican Republic, PSI worked with sales teams from local NGOs to strengthen social marketing techniques for the *Pante* brand of male condoms. Alternative sales outlets were established in "hot zones" that stayed open late, including pay-by-the-hour motels and small corner stores called "colmados," both convenient sites for sex workers. As of 2006, 72 percent of sex workers in the country reported they were able to find condoms within 100 meters of their workplace.[320]

In Myanmar, teams of peer educators were trained to promote, demonstrate and sell female condoms at drop-in centers for sex workers. To counter stigma, the condoms were branded *feel*—a name shared with other local shampoo, soap and candy products. The project contributed to an increase in the number of sex workers who reported ever using the female condom—from 15.6 to 35.6 percent over a two-year period. A masculine brand of *feel*, was developed for the MSM community.[321] In Zimbabwe, the vast majority of women frequent hair salons at least once a month. Knowing this, PSI trained female hair stylists from more than 500 salons in low-income neighborhoods to promote the *care* female condom as a method of dual-protection. Between 1997 and 2006, annual sales of the *care* condom rose from 120,720 to 1.36 million with more than half of sales made at hair salons.[322]

Media campaigns can influence social norms and promote condom use

Media campaigns have been central to successful efforts to promote condom use. In Malawi, greater exposure to health and family planning radio programs is associated with a significantly higher likeli-

hood of ever using condoms among both men and women[323] *[see Box 12: Successful Media Campaigns Promoting Condom Use]*. Among South African adolescent girls, condom use was found to be positively correlated with mass media exposure.[324]

Expansion of prevention programs, including condom and contraceptive distribution, to rural areas is vital, as HIV has almost everywhere spread into even the most remote regions

Despite industrialization and migration to urban areas, many developing countries still have large rural populations. However, due to limited resources and political priorities, public health facilities tend to be concentrated in urban areas. Evidence from Kenya shows that HIV interventions targeting sex workers need to be expanded in rural areas in order to prevent further generalization of the epidemic.[325] Likewise, research from Angola shows a need to reach the less educated, peri-urban and unemployed young people.[326]

Identifying 'Sexual Geographies' can lead to improvements in programming

According to Hirsch, "Just as the first major anthropological critique of HIV research called attention to risky acts, not risky people, here we are saying that it is time to go beyond an overly individualistic emphasis on preventing risky acts and consider the utility of working in risky spaces."[327] The premise of sexual geographies entails mapping risky spaces and planning spatially specific interventions to modify these risks. The MEASURE Evaluation Project developed the PLACE methodology for the purpose of identifying such places, such as bars, nightclubs, dance halls, etc.[328] PLACE has been used in a number of countries, including, for example, Jamaica,

BOX 13

CONDOM PRODUCTION

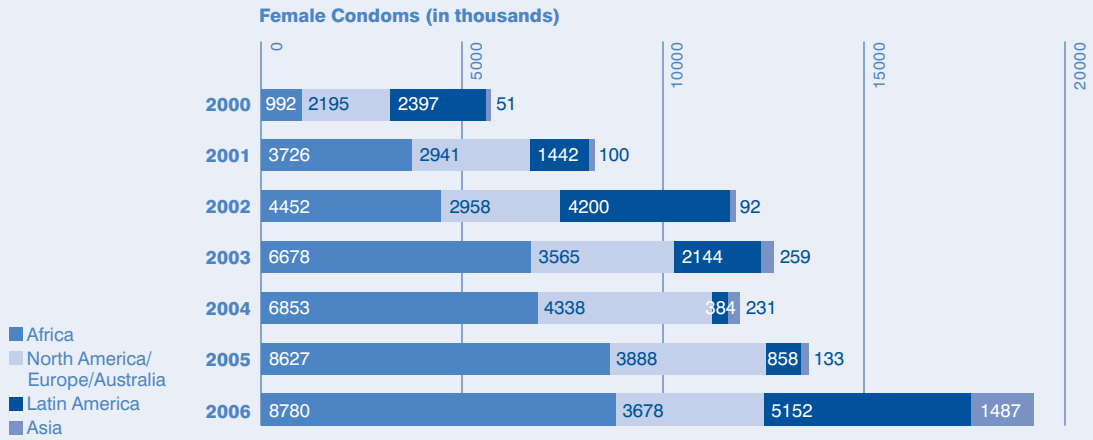
Today, condom production takes place on nearly every continent and in approximately 15 countries across the globe. Most condoms produced are latex, while condoms produced from synthetic rubber account for seven to eight percent of the world's condom market. [329] Led by production efforts in China, India, Thailand and the United States,[330] the world's condom manufacturers are producing an estimated 10 to 12 billion pieces annually.[331] Given the increase in the number of condom manufacturers in the 1990s,[332] today there exists anywhere from 90 to 110 manufacturing plants.[333] The majority of these plants are in areas that can offer competitive labor rates and are home to natural rubber latex plantations, but production efforts have also cropped up in places like South Africa and Iran. Together, these manufacturers supply condoms to an array of private companies, government entities, international donors, and multilateral organizations, as well as producing their own retail brands.

The growing capacity of some developing countries to produce condoms domestically and at low cost, particularly in Asia, plays an important role in meeting global demand. UNFPA has helped to facilitate this growth and improve quality and quantity of production, by providing assistance to condom manufacturing companies in developing countries. In China, Vietnam and India, UNFPA provides equipment to manufacturing companies, and supports condom testing and latex research.[334] Today, some Asian condom producers are even supplying to USAID—a scenario unheard of before 2004 when USAID exercised for the first time its authority to waive a "buy America" law requiring that only American-made condoms could be distributed to its field programs, except under certain circumstances. When U.S. suppliers were unable to meet the demand of the USAID's field programs, the donor agency began procuring additional condoms from companies in Thailand, China, and South Korea.[335]

FIGURE 6

Distribution of Female Condoms by Region, 2000–2006

SOURCE: UNFPA. 2006. DONOR SUPPORT FOR CONTRACEPTIVES AND CONDOMS FOR STI/HIV PREVENTION 2006. NEW YORK: UNFPA.
NOTE: FIGURES DO NOT INCLUDE CONDOMS DISTRIBUTED BY MANUFACTURERS OTHER THAN THE FEMALE HEALTH COMPANY.



Russia and Zimbabwe.[336] Figure 5 shows an example of a program coverage map for condom availability in an area of South Africa.

Social networks are powerful determinants of risk perceptions and protective behaviors

Understanding the factors that affect individuals' perceptions of their risk and of acceptable risk-reduction strategies is an essential step towards curbing the spread of HIV. Social networks are powerful methods of transferring knowledge and information, and can have a major impact on how people perceive and respond to the threat of HIV. Longitudinal survey data from rural Kenya and Malawi shows that social networks have significant and substantial effects on risk perception and the adoption of new behaviors, even after controlling for unobserved factors.[337] Analysis from Likoma Island, Malawi suggests that a substantial proportion of the island's young people are linked in a large and robust sexual network.[338] Evidence from Malawi also shows that increases in condom use among non-marital partners coincides with increased social pressure to report condom use.[339] This evidence suggests that understanding the reach of social networks is important for fostering locally acceptable prevention strategies and for promoting condom use.

International standards need to be maintained to ensure high quality condoms

Most condoms procured and distributed with donor support are manufactured according to international standards *[see Box 13: Condom Production]*. Agencies such as the International Organization for Standardization (ISO), the Comité Européen de Normalisation (CEN), and the American Society for Testing and Materials (ASTM) have established condom manufacturing standards for size, quality, and packaging and labeling.[340] The WHO and UNAIDS also provide guidelines for condom procurement that include these international standards. UNFPA, USAID and other organizations that purchase condoms in large quantities require their suppliers to conform to international standards and test condoms for quality assurance.[341]

Distribution of Female Condoms Needs to Increase Dramatically

"Although the female condom is an effective tool for HIV prevention that is available today, this method is not readily accessible throughout the world due to cost, stigma and a lack of political will"
(Sippel, 2008: 3, cited in CHANGE 2008).[342]

The number of female condoms distributed has been rising steadily—in 2006, the Female Health Company sold roughly 19 million condoms, as shown in Figure 6. Distribution has increased most in Africa, whereas in Asia female condoms remain rare. Compared to the estimated 10 to 12 billion male condoms produced annually, female condoms still only account for about 0.2 percent of the total global supply of condoms. Furthermore, although the female condom is available in 108 countries, in many instances it is not readily accessible.[343] To generate demand and increase availability, greater support needs to be devoted to the strategic introduction, marketing and programming of female condoms in countries.

6 PAYING FOR **CONDOMS AND** CONTRACEPTIVES

Although condoms and contraceptives are inexpensive and cost-effective technologies, cost continues to be a barrier to their availability. International donors and developing country governments need to give due regard to the indispensable role of condoms and contraceptives in HIV prevention, and commit to providing the necessary resources to implement programs and services. The growing need for condoms and contraceptives worldwide has been met with long-term stagnant funding on the part of donors and only small increases in numbers of commodities.

International Donors

Donor support for condoms and contraceptives is channeled bilaterally (directly from one government to another), multilaterally (through international organizations such as the United Nations or the World Bank) and through the Global Fund to Fight AIDS, Tuberculosis and Malaria.

Overall, donor funding for contraceptive commodities has changed little in recent years. Total donor support for all commodities in 2007 is reported by UNFPA as nearly US$223 million. While this is a 5 percent increase over support in 2006, it is still less than total support in 2001. In 2007, bilateral support accounted for 63 percent of total support, multilateral support comprised 29 percent and social marketers and NGOs provided 8 percent[iv]. While social marketing organizations do generate income through cost-recovery activities, the majority of their funding originates from bilateral support. Although the number of donors funding contraceptive commodities has more than doubled over the past two decades, the vast majority of funding continues to be provided by USAID and UNFPA, who together provided over 68 percent of 2007 funding, as shown in Table 2.

The donor support figures shown below reflect only the cost of the commodities themselves and their sampling and quality testing. Costs associated with improving access, logistics and distribution capacity, and raising awareness and promoting use of the commodities are not included. These costs are estimated to be four times the costs of the supplies,[344] and may be even higher for condoms.[345]

Like support for contraceptive commodities overall, there has been little increase in donor provision of condoms in response to the HIV/AIDS epidemic. Indeed, donor funding of these essential commodities has been both erratic and inadequate.[346] Of the estimated 18 billion condoms needed in 2006 (13.5 billion for HIV prevention and 4.4 billion for family planning)[347] donors provided just 2.3 billion.[348] In the ten-year period between 1998 and 2007, donors have provided on average 2.9 billion male condoms per year, peaking at 3.3 billion in 2007, as shown in Figure 7.[349] During the period 2000 to 2006, condoms accounted for approximately 35 percent of total donor support for contraceptive commodities. Africa (47 percent) and Asia Pacific regions

[iii] UNFPA. 2008. *Donor Support for Contraceotives and Condoms for STI/HIV Prevention 2007*. New York

(36.6 percent) received the largest shares of donor support for condoms in 2006.[350]

As shown in Figure 7, annual support from USAID, the largest donor of condoms, averaged US $23.4 million annually over the ten-year period 1998 to 2007. The US is also currently the largest donor of female condoms, peaking at US $9.4 million in 2007, as shown in Figure 10. USAID has two funding streams for condoms—HIV/AIDS funding and population assistance. Population funds can be used to procure other contraceptives, while HIV/AIDS funds cannot. The trend has been for fewer condoms to be procured using population funds—in 2000 65 percent of US funding for condoms came from population assistance, but by 2007 this percentage declined to only one percent.[351] While USAID remains the largest donor of contraceptives and condoms, assistance for family planning and reproductive health overall has fallen dramatically compared to HIV/AIDS funding, as detailed in Box 14.

Support from UNFPA, the second largest donor of condoms, averaged US $12.6 million annually over the ten year period 1998 to 2007. While USAID surpassed UNFPA as the largest donor of female condoms in 2006 and 2007, over the seven year period 2001 to 2007, UNFPA has provided the most support for female condoms, totaling US $12 million. Since 1999, UNFPA has been responsible for procuring condoms for all UN agencies including the WHO. UNFPA funding also includes procurements on behalf of other donors, including the European Union, the Dutch Government and CIDA (the Canadian Government). Because UNAIDS is a joint program and does not run programs on the ground, UNFPA is the lead agency within the United Nations for HIV/AIDS prevention activities and is responsible for all condom promotion and distribution for HIV/AIDS as well as family planning.[352]

TABLE 2

Contraceptive Commodity Support by Donor/Agency 2000–2007 (in US$ (%))

SOURCE: UNFPA. 2007. *DONOR SUPPORT FOR CONTRACEPTIVES AND CONDOMS FOR STI/HIV PREVENTION* 2007. NEW YORK: UNFPA.

NOTE: OTHERS INCLUDES IPPF, DKT, MSI, JAPAN, NETHERLANDS, GFATM, OCEAC, UNDP, CDC, HEWLETT FOUNDATION

Donor	2000	2001	2002	2003	2004	2005	2006	2007	2000-2007
USAID	58.7M 38%	67.9M 30%	49.6M 28%	69.4M 34%	71.2M 35%	65.4M 32%	82.7M 39%	91.9M 41%	556.8M 35%
UNFPA	42.4M 27%	95.9M 43%	43.0M 24%	58.1M 28%	67.3M 33%	82.6M 40%	74.4M 35%	63.9M 29%	527.4M 33%
PSI	0.5M 0.3%	22.4M 10%	30.9M 17%	26.5M 13%	47.8M 23%	28.8M 14%	14.2M 7%	13.4M 6%	184.6M 11%
KfW	35.5M 23%	16.4M 7%	20.1M 11%	26.9M 13%	8.7M 4%	13.1M 6%	23.6M 11%	24.6M 11%	168.9M 11%
DFID	7.3M 5%	6.1M 3%	16.4M 9%	22.3M 11%	6.7M 3%	4.6M 2%	12.1M 6%	22.5M 10%	98.1M 6%
Others	10.4M 7%	15.2M 7%	17.7M 10%	2.9M 1%	3.3M 2%	9.6M 5%	5.1M 2%	6.4M 3%	70.6M 4%
Total	**154.6**M	**223.9**M	**177.8**M	**206.2**M	**205.0**M	**204.2**M	**212.1**M	**222.7**M	**1606.4**M

FIGURE 7

Donor Funding for Male Condoms, 1998–2007 (Leading Donors, Current US$)

SOURCE: UNFPA. 2008. DATABASE FOR DONOR SUPPORT FOR CONTRACEPTIVES AND CONDOMS FOR STI/HIV PREVENTION. NEW YORK: UNFPA.

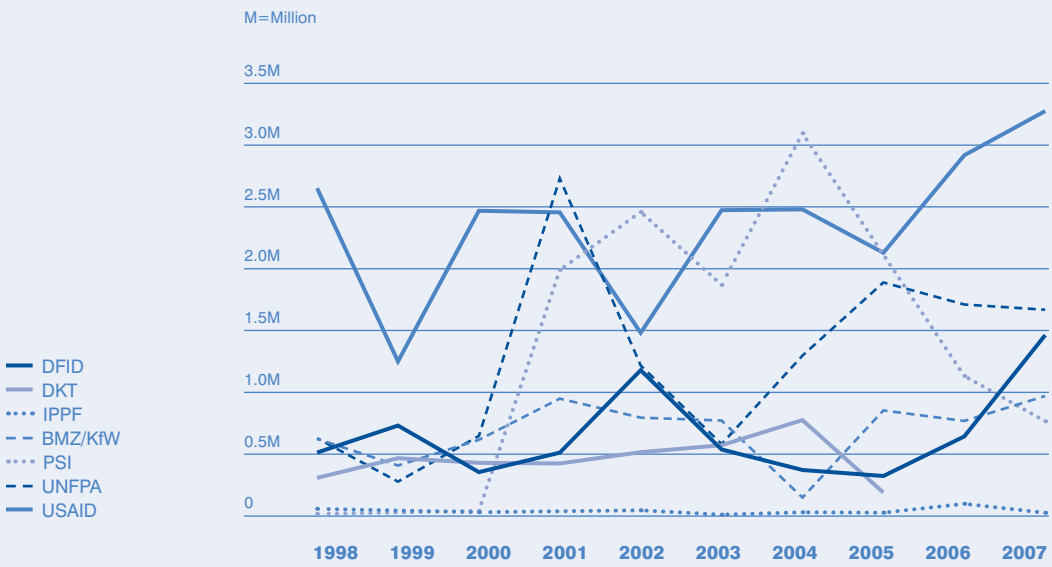
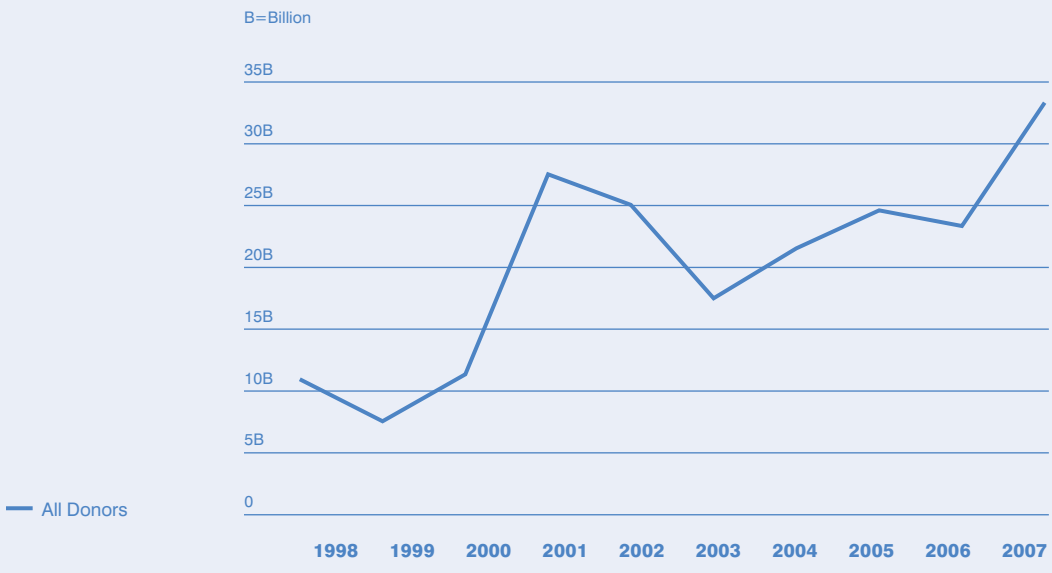


FIGURE 8

Total Donor Support for Male Condoms, 1998–2007 (Number of Condoms)

SOURCE: UNFPA, 2008. DATABASE FOR DONOR SUPPORT FOR CONTRACEPTIVES AND CONDOMS FOR STI/HIV PREVENTION. NEW YORK: UNFPA.



NOTE: THE DOUBLING OF DONOR PROVISION OF CONDOMS IN 2001 IS THE RESULT OF ONE-TIME CONTRIBUTIONS FROM THE BRITISH, CANADIAN AND DUTCH GOVERNMENTS TO UNFPA. THE PEAK IN 2007 IS DUE TO SLIGHT INCREASES IN FUNDING AND DECLINING UNIT COSTS.

BOX 14

U.S. HIV/AIDS AND FAMILY PLANNING/ REPRODUCTIVE HEALTH ASSISTANCE: A GROWING DISPARITY WITHIN THE PRESIDENT'S EMERGENCY PLAN FOR AIDS RELIEF (PEPFAR) FOCUS COUNTRIES

The President's 2008 funding request for HIV programs in the 15 PEPFAR focus countries increased 225 percent beyond the 2006 allocated level. Meanwhile, the funding request for family planning and reproductive health fell by 11 percent. As shown in Figure 9, the sheer scale of HIV funding in the focus countries ($3.6 billion requested for 2008), dwarfs FP/RH funding ($67.5 million requested for 2008, less than two percent the amount requested for HIV programming), despite the fact that nearly all focus countries have high unmet need for family planning—as high as 40.6 percent in Uganda. To enhance PEPFAR's success and ensure its sustainability, greater recognition and financial support must be paid to international family planning and the critical issue of preventing unintended pregnancies.

FIGURE 9

U.S. FP/RH and HIV Funding for Focus Countries, Allocated 2003-2006, Requested 2007-2008

SOURCE: POPULATION ACTION INTERNATIONAL (PAI). 2008. *U.S. HIV/AIDS AND FAMILY PLANNING/REPRODUCTIVE HEALTH ASSISTANCE: A GROWING DISPARITY WITHIN PEPFAR FOCUS COUNTRIES*. WASHINGTON, DC: PAI.

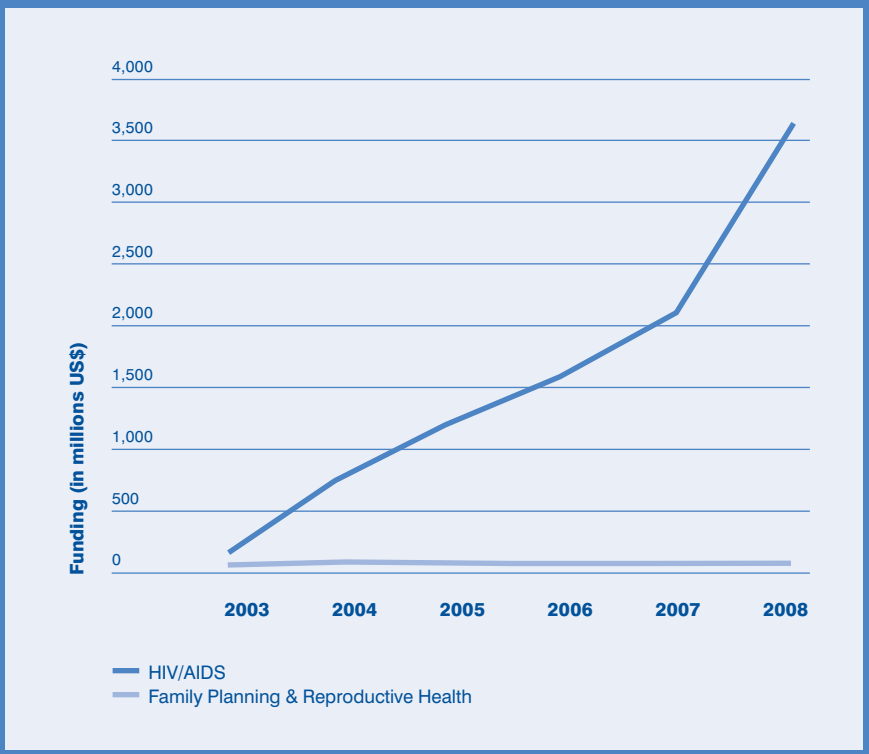
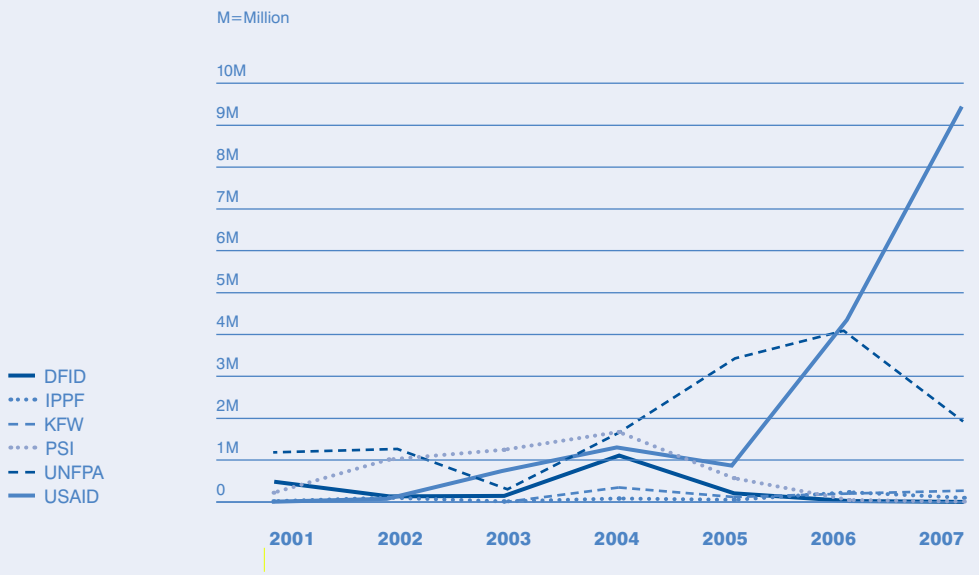


FIGURE 10

Donor Funding for Female Condoms, 2001–2007 (Leading Donors, Current US$)

SOURCE: UNFPA. 2008. DATABASE FOR DONOR SUPPORT FOR CONTRACEPTIVES AND CONDOMS FOR STI/HIV PREVENTION. NEW YORK: UNFPA.



BMZ/KfW (the German Government) and DFID (the United Kingdom) have also become major sources of male condoms, beginning in 1992.[353] Over the ten-year period 1998 to 2007, BMZ/KfW and DFID provided an annual average of US $6.9 million and US $6.6 million, respectively. IPPF has also been a consistent donor of male condoms, giving a yearly average of US $0.5 million over the ten-year period 1998 to 2007. The social marketing organization Population Services International (PSI) is also a significant provider of condoms, but PSI is not a traditional donor in the sense that the majority of its funding originates from bilateral support. Where possible, UNFPA accounting attributes contributions from social marketing organizations such as PSI, DKT and MSI to the original bilateral donor.

The Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM), is a funding mechanism intended to function apart from existing bilateral and multilateral donor funding. Since its establishment in 2001, the Global Fund has already become a significant contributor to condom procurement, as shown in Figure 10, financing about 10 percent of all donated male condoms and 14 percent of donated female condoms for 2005 and 2006.[354] In 2007, US $0.6 million in Global Fund money was spent on male condoms.[355]

While 47 countries have procured male condoms using money from the Global Fund, the bulk of the procurement has been made by only a small number of countries. In fact, Tanzania (28 percent), Namibia (25 percent) and DR Congo (9 percent) are together responsible for 62 percent of the total. Two countries—Namibia (64 percent) and Djibouti (27 percent)—are responsible for over 90 percent of female condoms purchased with Global Fund money.[356]

Starting in the Round 8 request for proposals, GFATM has stated more explicitly that countries can include sexual and reproductive health as part of their proposals on AIDS, tuberculosis and malaria, as long as a justification is provided on the impact of sexual and reproductive health and rights (SRH) on reducing one of the three diseases. As such, countries can use GFATM money to procure contraceptives other than condoms. Advocacy efforts are underway by a coalition of organizations, including Friends of the Global Fund/Africa, Global AIDS Alliance, Interact Worldwide, International AIDS Alliance, International Planned Parenthood Federation/Africa Regional Office and Population Action International, to work with countries to incorporate SRH into their HIV and AIDS proposals. The World Bank seeks to make contraceptive commodities, including male and female condoms, more

available and affordable through loans and grants, as depicted in Table 3. For countries with adequate capacity, the World Bank encourages countries to use Bank loan funds to procure condoms directly from manufacturers, whereas UNFPA does the procurement for countries with less capacity.[357] Because World Bank support consists mainly of loans as well as some grants, these contributions are reported apart from overall donor support as reported by UNFPA.

Developing Country Governments

Some countries with adequate resources and political will are promoting condom use and funding contraceptive supplies with their own contributions. For example, in South Africa and Botswana—two of the wealthiest sub-Saharan Africa countries and two of the countries most affected by HIV and AIDS—the national governments provide the majority of condoms, distributing them through the public sector and social marketing.[358]

The Indian government, like several other Asian nations, has long promoted condom use for family planning. The government is a major manufacturer and exporter of male condoms, mostly through Hindustan Latex Limited, one of largest producers of condoms worldwide.[359] China, too, is essentially not reliant on donor support for contraceptive commodities.[360] In 2005, the government purchased 305 million condoms from the country's largest condom producer, Gaobang Latex Products Manufactory, and distributed the condoms to hotels and public entertainment places through local Centers of Disease Control.[361]

Some developing country governments are even becoming donors of condoms themselves. In 2006, Thailand's Foreign and Health ministries donated 50,000 condoms to fight AIDS in Africa. The condoms were shipped to Burkina Faso, Gabon, Ghana, Kenya, Mali, Nigeria and Uganda.[362]

Still, there is enormous variation in levels of public sector support for condoms and contraceptives between countries. Some developing country governments have consistently failed to prioritize condom purchase in their budgets.[363] Apart from the financial costs, social and political barriers and a lack of programmatic expertise often inhibit governments from promoting condoms and contraceptives.[364]

The Private Commercial Sector

Encouraging commercial products and services for people who can afford them is one strategy for improving services for those who cannot pay.[365] With a strong private sector, public resources can be spent more effectively on lower-income clients. Where there may be substantial demand for certain family planning services and products, the private sector may be the most fit provider and may be the preferred provider among certain clients. Qualitative research conducted among adolescents in Jamaica and urban Cameroon

FIGURE 11

Global Fund Support for Male and Female Condoms, 2005–2007

SOURCE: USAID/DELIVER PROJECT. 2008. "GLOBAL FUND FINANCING OF CONDOMS AND CONTRACEPTIVE SECURITY." *POLICY BRIEF*. WASHINGTON DC: USAID/DELIVER PROJECT.

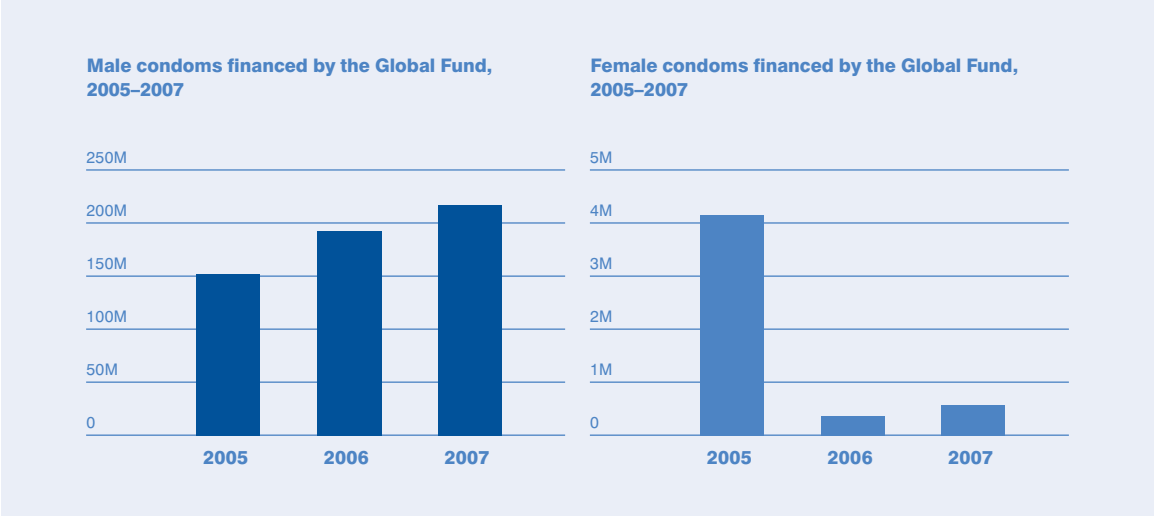


TABLE 3

Table 3: World Bank Funding for Contraceptive Commodities, 2000–2006

SOURCE: THE WORLD BANK 2007. CITED IN UNFPA. 2007. DONOR SUPPORT FOR CONTRACEPTIVES AND CONDOMS 2006. NEW YORK: UNFPA.

Expenditure by Contraceptive Method 2000-2006 using World bank financing (in million US$ and percent of total)														
	2000		2001		2002		2003		2004		2005		2006	
	Million USD	% of Total	Million USD	% of Total	Million USD	% of Total	Million USD	% of Total	Million USD	% of Total	Million USD	% of Total	Million USD	% of Total
Oral Pills	$4.8	34%	$3	6%	$1.0	4%	$3.7	26%	$1.5	7%	$0.0	0%	$12.8	28%
Male/Female Condom	$3.2	23%	$15	31%	$23.8	94%	$2.9	20%	$13.1	65%	$4.6	64%	$10.7	24%
Injectable	$3.9	28%	$23	48%	$0.0	0%	$0.5	3%	$1.3	6%	$1.2	17%	$21.2	47%
All other	$2.2	16%	$7	15%	$0.4	2%	$7.3	51%	$4.4	22%	$1.4	19%	$0.4	1%
Total	**$14.1**		**$48**		**$25.2**		**$14.4**		**$20.3**		**$7.2**		**$45.1**	

suggests a key strength of the private sector is that people perceive it to offer high-quality products.[366] The private commercial sector can ensure that clients who are not eligible for subsidized services in the public sector have affordable, quality alternatives.

The for-profit sector has its strongest presence among countries in Asia and Latin America—in particular, in Brazil, Indonesia, Malaysia, the Philippines, South Korea and Thailand.[367] Because there is less opportunity for profit, the commercial sector plays only a minimal role in condom provision in sub-Saharan Africa, but it is expanding in some countries. For example, in Tanzania public-private partnerships involve the growing commercial sector in serving the low-income market with affordable and quality condoms and contraceptives. T-Marc Company Ltd (Tanzania Marketing and Communications), an independent Tanzanian-led and controlled company is partnering with USAID and Shelys Pharmaceuticals and its sister company Beta Healthcare in marketing subsidized products: Dume brand male condoms, Lady Pepeta brand female condoms, and Flexi P brand oral contraceptives. In 2006, Shelys co-invested over $100,000 in in-kind support for marketing subsidized condoms and pills. The company intends to take ownership of USAID commodity brands as they graduate from USAID support, while also developing markets for its own brands.[368]

In many countries, non-profit organizations and social marketers collaborate with private wholesalers and retailers to expand condom access. In some cases, social marketing organizations use the distribution networks of private companies. For example, in the Dominican Republic, NGOs sell USAID supported condoms to Sterling Products International, a private pharmaceutical firm that then distributes the condoms nationally.[369] The private commercial sector is also increasingly collaborating with NGOs to support programs and interventions that encourage behavior change. For example, SSL International (makers of Durex condoms) is supporting interventions in Brazil and India to promote gender equitable norms and HIV risk-reduction behaviors among young men[370]

Because the private sector is diverse there is no "one size fits all" approach to expanding private sector provision of contraceptives and condoms, which will no doubt be a long-term venture.[371] However, given the gap between the need for condoms and contraceptives and considering the relatively stagnant funding trends from donors, there is potential for greater commercial sector involvement.[372] Governments are also key to encouraging private sector involvement by ensuring that tariffs, regulations and competition with public sector programs do not hinder involvement.[373] Better coordination among donors, country governments and the private sector is needed to improve the supply and distribution of condoms and contraceptives.

BOX 15

SUPPORTIVE COUNTRY GOVERNMENTS: THE BRAZILIAN EXAMPLE

Brazil is one of the few developing countries that is fully committed to ensuring the availability of condoms and contraceptives, and pays for these commodities entirely from national resources. The government's support of condoms and contraceptives is reflective of its overall response to HIV and AIDS, which has garnered strong support from the highest level of government. Although HIV prevalence in Brazil is relatively low at 0.5 percent, because of its large population size, Brazil is home to more than one-third of people living with HIV in Latin America.[374]

Brazil's National AIDS Program procures and promotes both male and female condoms. In 2008, UNAIDS projects that through its National AIDS Program, the Government of Brazil will spend a total of US $32.2 million on condoms. This will support the procurement of 1.2 billion male condoms, along with 7 million female condoms.[375] Some of these condoms will be distributed freely at government-run pharmacies, as well as at national events such as Carnival.

While most condoms are imported, the share of condoms produced domestically in Brazil is growing. This year, in an effort to reduce costs and keep up with condom demand, the Xapuri condom factory was opened in north-western Brazil as the first and only national condom manufacturer. Construction of the US $10.6 million manufacturing site was spearheaded by the Acre state government and the factory is currently operated by a private company.[376] In 2008, the factory is expected to produce 11.7 million pieces, and then greatly expand the following year to produce 100 million condoms annually.[377]

KEY **RECOMMENDATIONS**

1

Use our 20+ years of research on HIV prevention

There is no one magic bullet for HIV prevention: All prevention technologies and strategies are additive in the fight against HIV and AIDS. Condoms and contraceptives must be promoted as scientifically proven components of comprehensive HIV prevention, in tandem with other evidence-based interventions such as partner reduction and male circumcision – along with continued investigation of microbicides and a vaccine. There is more than 20 years of epidemiological, psychological, programming and marketing data on which to design programs and interventions. It is time to put this research to work on the ground and develop a comprehensive prevention strategy that supports national and local ownership and generates local solutions to affecting the social and gender norms that influence sexual behavior and use of condoms and contraceptives, among other prevention strategies.

2

Close the gap in funding between prevention and treatment

There is an immense disparity between what is being spent on HIV prevention versus treatment, and yet, tragically, new infections still out-number persons receiving treatment by nearly 3 to 1. Despite 2.5 million new HIV infections last year, donor financing of condoms for HIV prevention has remained relatively stagnant. Donors and country governments must support the indispensable role of condom promotion and family planning services in HIV prevention, and commit to providing the necessary resources. Improved donor coordination—including full accounting of condom procurement by all donors—is necessary to make an accurate assessment of global need and inform investments. Supply of condoms and contraceptives, inexpensive and cost-effective technologies, should no longer be a barrier to HIV prevention.

3

Eliminate harmful government policies

Government policies must not restrict access to and education about the role contraceptives and condoms play in preventing HIV infection and unintended pregnancies. The U.S. government's "ABC" approach to prevention under the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) has emphasized abstinence until marriage and faithfulness in marriage. This approach ignores the reality that many people face in preventing HIV infection. Instead, policies should be based on scientific evidence of the very high efficacy rates of condoms and contraceptives in preventing the spread of HIV and unintended pregnancies.

4

Scale-up and integrate condoms and contraceptives into other HIV prevention strategies

Based on the social marketing concept of supply, demand and support, and built on a foundation of leadership and coordination, the Comprehensive Condom Programming (CCP) Framework [see Box 10]– which includes ten steps designed to guide programming to identify and address gaps in provision and use of condoms for HIV prevention and promoting sexual health – can serve as a guide for ensuring the accessibility, acceptability and use of condoms—both male and female. The CCP Framework can also guide the expansion of contraceptive provision as a part of HIV prevention. Stimulating demand for condoms and contraceptives through programming remains critical. These technologies will not prevent against HIV and AIDS and unintended pregnancies unless they are made available and used—consistently and correctly.

5

Logistics are critical to making sure condoms and contraceptives get where they are needed most

Strong systems are needed for the timely delivery and constant flow of condoms and contraceptives—thereby preventing stock-outs and ensuring that a wide range of contraceptive methods—and condoms—are available in all settings. Condom forecasts must be made well in advance of when the condoms will actually be used. Mechanisms such as the RH Supplies Coalition, global logistics support projects and tools such as the RHInterchange [see Box 11] can help with commodity management and should be expanded.

6

Put the Contraceptives in Comprehensive Prevention

As with all women and couples, women living with HIV or AIDS have the right to make informed decisions about their sexual and reproductive health and need access to contraception. Many women living with HIV or AIDS want to have more children and are in need of family planning services to provide counseling on reversible contraceptive methods and on how to prevent mother-to-child transmission of HIV, as well as possible transmission to their husband or sexual partner. At the same time, there are high rates of unintended pregnancies among all women, including women living with HIV or AIDS in some settings. Given often low rates of HIV testing, many women who have unintended pregnancies do not know their HIV status. Voluntary family planning services are needed for women who want to prevent or delay pregnancy. For all women and couples, integrating family planning with other HIV services can increase contraceptive use and reduce unintended pregnancies. As HIV and AIDS prevention, treatment and care programs scale-up, they should be part of a continuum of care that includes strong family planning and other integral health services from the onset.

APPENDIX 1

INDICATORS OF **VULNERABILITY** TO HIV/AIDS

	Adults (15-49) living with HIV/AIDS	Adults (15+) living with HIV/AIDS (Estimate, 2005)	Total population (in thousands, 2005)	Life expectancy at birth (2000-2005)	Total fertility (children per woman 2000-2005)	Currently married women or women in a union using any method of contraception (%, most recent year)
Eastern Africa						
Burundi	3.3	130,000	7,859	47.4	6.8	19.7
Comoros	<0.1	<500	798	63.0	4.9	25.7
Djibouti	3.1	14,000	804	53.4	4.5	17.8
Eritrea	2.4	53,000	4,527	55.2	5.5	8.0
Ethiopia	1.4	10,540	78,986	50.7	5.8	14.7
Kenya	6.1	1,200,000	35,599	51.0	5.0	39.3
Madagascar	0.5	47,000	18,643	57.3	5.3	27.1
Malawi	14.1	850,000	13,226	45.0	6.0	41.7
Mauritius	0.6	4,100	1,241	72.0	1.9	75.9
Mozambique	16.1	1,600,000	20,533	44.0	5.5	16.5
Rwanda	3.1	160,000	9,234	43.4	6.0	17.4
Somalia	0.9	40,000	8,196	45.9	6.4	7.9
Tanzania	6.5	1,300,000	38,478	49.7	5.7	26.4
Uganda	6.7	900,000	28,947	47.8	6.7	23.7
Zambia	17.0	1,000,000	11,478	39.2	5.6	34.2
Zimbabwe	20.1	1,500,000	13,120	40.0	3.6	60.2
Middle Africa						
Angola	3.7	280,000	16,095	41.0	6.8	6.2
Cameroon	5.4	470,000	17,795	49.9	4.9	26.0
Central African Republic	10.7	230,000	4,191	43.3	5.0	27.9
Chad	3.5	160,000	10,146	50.5	6.5	2.8
Congo	5.3	100,000	3,610	53.0	4.8	44.3
Dem. Rep. of the Congo	3.2	890,000	58,741	45.0	6.7	31.4
Equatorial Guinea	3.2	8,000	484	49.3	5.6	No Data
Gabon	7.9	56,000	1,291	56.8	3.4	32.7
Sao Tome and Principe	No Data	No Data	153	64.3	4.34	29.3

NOTE: THIS TABLE INCLUDES COUNTRIES IN AFRICA, ASIA (EXCEPT JAPAN AND ISRAEL), LATIN AMERICA AND THE CARIBBEAN, OCEANIA (EXCEPT AUSTRALIA AND NEW ZEALAND), AND EUROPEAN COUNTRIES IN ECONOMIC TRANSITION FOR WHICH DATA IS AVAILABLE FOR 7 OR MORE INDICATORS.

NOTE: SINCE THE 2006 PUBLICATION, UNAIDS HAS REVISED THE GLOBAL ESTIMATE OF THE NUMBER OF PEOPLE LIVING WITH HIV DOWNWARD BY 6.3 MILLION PEOPLE. THE COUNTRY-LEVEL FIGURES PRESENTED IN THIS ANNEX ARE FROM THE 2006 REPORT ON THE GLOBAL AIDS EPIDEMIC AND AS SUCH ARE NOT REPRESENTATIVE OF THE DOWNWARD REVISION. UNAIDS EXPLAINS THE DOWNWARD REVISION AS "LARGELY DUE TO IMPROVED AND EXPANDED SURVEILLANCE, DATA COLLECTION AND METHODOLOGIES... ROUGHLY 70 PERCENT OF THE DIFFERENCE IS EXPLAINED BY REDUCTIONS IN HIV PREVALENCE IN INDIA (WHICH ALONE ACCOUNTS FOR APPROXIMATELY HALF THE REVISION) AND SEVERAL SUB-SAHARAN AFRICAN COUNTRIES, INCLUDING NIGERIA, MOZAMBIQUE, ZIMBABWE, KENYA AND ANGOLA. THE REMAINING 30 PERCENT OF REVISIONS MOSTLY OCCURRED IN A NUMBER OF SUB-SAHARAN AFRICAN COUNTRIES. A DECREASE IN INCIDENCE (THE NUMBER OF NEW HIV INFECTIONS) MAY ALSO BE A FACTOR, BUT IS CURRENTLY DIFFICULT TO QUANTIFY. INFORMATION FROM POPULATION-BASED SURVEYS HAS BEEN USED TO INFORM THE ADJUSTMENTS IN ALL COUNTRIES, HOWEVER, IN SOME COUNTRIES, NOTABLY ZIMBABWE, CÔTE D IVOIRE AND KENYA, THE REDUCTION IN HIV PREVALENCE IS MOSTLY DUE TO ACTUAL DECLINES, RATHER THAN STATISTICAL CORRECTIONS." (UNAIDS. 2007. "Q&A: 2007 AIDS EPIDEMIC UPDATE." ACCESSED ONLINE AT: HTTP://DATA.UNAIDS.ORG/PUB/EPISLIDES/2007/071118_QA_FINAL_EN.PDF ON JUNE 5, 2008.)

NOTE: AVERAGE NUMBER OF MALE CONDOMS DONATED PER MALE AGED 15-49 IS ONLY COMPUTED FOR THOSE COUNTRIES THAT RECEIVED DONOR FUNDING FOR CONDOMS IN 2007.

Currently married women or women in a union using modern method of contraception (%, most recent year)	**Currently married women or women in a union using condoms** (%, most recent year)	**Need for family planning** (% with unmet need, most recent year)	**Gross national income per capita** (PPP, 2006)	**Health expenditures per capita** (US$, 2005)	**Annual average donor support for male condoms** (number of condoms, 1998-2007)	**Average number of male condoms donated per male aged 15-49** (2007)
8.5	0.5	29.4	320	3	4,528,859	No Support
19.3	0.7	34.6	1,140	No Data	764,429	3.9
17.6	0.2	26.3	2,180	No Data	578,967	3.3
5.1	0.6	27.0	680	8	5,658,995	0.0
13.9	0.2	33.8	630	6	115,543,479	0.8
31.5	1.2	24.5	1,470	24	85,879,874	9.4
18.3	1.0	23.6	870	9	17,459,566	2.7
38.9	1.6	27.6	690	19	44,993,734	21.9
40.7	9.1	3.3	10,640	218	1,180,077	0.3
11.8	1.1	18.4	660	14	38,756,456	15.3
10.3	0.9	37.9	730	19	28,454,520	22.7
1.0	0.0	No Data	No Data	No Data	297,140	No Support
20.0	2.0	21.8	980	17	90,060,630	13.9
17.9	1.7	40.6	880	22	74,363,729	10.3
22.6	3.8	27.4	1,140	36	47,076,127	35.8
58.4	1.4	12.8	170	21	137,026,459	81.7
4.5	0.3	No Data	3,890	36	18,829,319	15.8
12.5	7.6	20.2	2,060	49	40,772,037	14.0
6.9	0.9	16.2	690	13	7,191,759	7.3
1.7	0.4	23.3	1,170	22	4,652,507	5.0
12.7	8.9	16.2	2,420	31	20,377,011	31.7
4.4	2.3	No Data	270	5	40,726,626	1.7
No Data	No Data	No Data	16,620	No Data	232,027	No Support
11.8	5.1	28.0	11,180	276	828,375	14.4
27.4	0.1	No Data	1,490	No Data	568,282	14.1

	Adults (15-49) living with HIV/AIDS	Adults (15+) living with HIV/AIDS (Estimate, 2005)	Total population (in thousands, 2005)	Life expectancy at birth (2000-2005)	Total fertility (children per woman 2000-2005)	Currently married women or women in a union using any method of contraception (%, most recent year)
Northern Africa						
Algeria	0.1	19,000	32,854	71.0	2.5	61.4
Egypt	<0.1	5,200	72,850	69.8	3.2	59.2
Libya	No Data	No Data	5,918	72.7	3.0	45.1
Morocco	0.1	19,000	30,495	69.6	2.5	63.0
Sudan	1.6	320,000	36,900	56.4	4.8	7.6
Tunisia	0.1	8,600	10,105	73.0	2.0	62.6
Western Africa						
Benin	1.8	77,000	8,490	54.4	5.9	18.6
Burkina Faso	2.0	140,000	13,933	50.7	6.4	13.8
Cape Verde	No Data	No Data	507	70.2	3.8	52.9
Côte d'Ivoire	7.1	680,000	18,585	46.8	5.1	15.0
Gambia	2.4	19,000	1,617	58.0	5.2	9.6
Ghana	2.3	300,000	22,535	58.5	4.4	25.2
Guinea	1.5	78,000	9,003	53.7	5.8	9.1
Guinea-Bissau	3.8	29,000	1,597	45.5	7.1	7.6
Liberia	No Data	No Data	3,442	43.8	6.8	6.4
Mali	1.7	110,000	11,611	51.8	6.7	8.1
Mauritania	0.7	11,000	2,963	62.2	4.8	8.0
Niger	1.1	71,000	13,264	54.5	7.4	11.2
Nigeria	3.9	2,600,000	141,356	46.6	5.8	12.6
Senegal	0.9	56,000	11,770	61.6	5.2	11.8
Sierra Leone	1.6	43,000	5,586	41.0	6.5	5.3
Togo	3.2	100,000	6,239	57.6	5.4	25.7
Southern Africa						
Botswana	24.1	260,000	1,836	46.6	3.2	44.4
Lesotho	23.2	250,000	1,981	44.6	3.8	37.3
Namibia	19.6	210,000	2,020	51.5	3.6	43.7
South Africa	18.8	5,300,000	47,939	53.4	2.8	60.3
Swaziland	33.4	210,000	1,125	43.9	3.9	46.0
East Asia						
China	0.1	650,000	1,312,979	72.0	1.7	90.2
Dem. Rep. of Korea	No Data	No Data	23,616	66.7	1.9	68.6
Mongolia	<0.1	<500	2,581	65.0	2.1	69.0
Republic of Korea	<0.1	13,000	47,870	77.0	1.2	80.5
South Central Asia						
Afghanistan	<0.1	<1000	25,067	42.1	7.5	10.3
Bangladesh	<0.1	11,000	153,281	62.0	3.2	58.1
Bhutan	<0.1	<500	637	63.5	2.9	30.7
India	0.9	5,600,000	1,134,403	62.9	3.1	56.3
Iran	0.2	66,000	69,421	69.5	2.1	73.8
Kazakhstan	0.1	12,000	15,211	64.9	2.0	66.1
Kyrgyzstan	0.1	4,000	5,204	65.3	2.5	59.5
Maldives	No Data	No Data	295	65.6	2.8	39.0
Nepal	0.5	74,000	27,094	61.3	3.7	48.0
Pakistan	0.1	84,000	158,081	63.6	4.0	27.6
Sri Lanka	<0.1	5,000	19,121	70.8	2.0	70.0
Tajikistan	0.1	4,900	6,550	65.9	3.8	37.9
Turkmenistan	<0.1	<500	4,833	62.4	2.8	61.8
Uzbekistan	0.2	31,000	26,593	66.5	2.7	64.9

Currently married women or women in a union using modern method of contraception (%, most recent year)	**Currently married women or women in a union using condoms** (%, most recent year)	**Need for family planning** (% with unmet need, most recent year)	**Gross national income per capita** (PPP, 2006)	**Health expenditures per capita** (US$, 2005)	**Annual average donor support for male condoms** (number of condoms, 1998-2007)	**Average number of male condoms donated per male aged 15-49** (2007)
52.0	2.3	24.6	5,940	108	2,475,034	No Support
56.5	1.0	10.3	4,940	78	16,315,459	No Support
25.6	No Data	No Data	11,630	223	No Support	No Support
54.8	1.5	10.0	3,860	89	7,613,448	No Support
5.7	0.3	26.0	1,780	29	4,887,101	1.0
53.1	1.6	12.1	6,490	158	2,540,830	No Support
7.2	1.3	27.2	1,250	28	20,951,889	7.8
8.6	2.1	28.8	1,130	27	36,756,113	33.2
46.0	3.0	14.2	2,590	No Data	2,890,564	29.7
7.3	1.8	27.7	1,580	34	61,874,173	0.8
8.9	0.1	No Data	1,110	15	2,041,078	0.1
18.7	3.1	34.0	1,240	30	42,507,593	5.5
5.7	1.1	21.2	1,130	21	12,896,255	0.3
3.6	0.1	No Data	460	10	1,764,999	1.7
5.5	0.0	38.6	260	10	6,616,217	9.8
5.7	0.3	28.5	1,000	28	15,419,092	10.3
5.1	0.8	31.6	1,970	17	1,402,582	1.8
5.0	0.0	15.8	630	9	6,164,034	No Support
8.2	1.9	16.9	1,410	27	256,275,424	16.3
10.3	1.5	31.6	1,560	38	16,176,086	12.7
4.3	0.1	No Data	610	8	5,378,250	2.2
9.3	1.6	32.3	770	18	15,355,230	9.9
42.1	15.5	44.7	11,730	362	1,813,897	13.0
35.2	4.8	30.9	1,810	69	7,091,073	16.2
42.6	5.2	25.1	4,770	165	7,610,656	No Support
60.3	4.7	15.0	8,900	437	35,275,934	7.1
46.0	15.0	No Data	4,700	146	6,760,076	28.7
90.0	5.2	No Data	4,660	81	8,465,026	0.0
58.4	5.8	No Data	No Data	<0.5	1,657,080	No Support
58.4	5.4	4.6	2,810	35	5,862,236	8.4
66.9	15.1	No Data	22,990	973	7,596,408	No Support
8.5	0.6	No Data	No Data	No Data	4,274,104	2.5
47.3	4.2	11.3	1,230	12	285,249,743	0.5
30.7	1.2	No Data	4,000	No Data	2,899,137	33.7
48.5	5.2	12.8	2,460	36	146,551,936	No Support
55.9	5.6	No Data	9,800	212	13,788,300	0.0
52.7	4.5	8.7	8,700	204	3,919,673	0.9
48.9	5.7	11.6	1,790	29	3,524,301	1.0
34.0	9.0	37.0	4,740	No Data	410,160	2.5
44.2	4.8	24.6	1,010	16	60,458,963	1.7
20.2	5.5	37.5	2,410	15	303,159,597	8.9
49.6	3.7	8.0	3,730	51	14,176,377	0.8
33.1	1.4	No Data	1,560	18	3,279,919	5.9
53.1	2.0	10.1	3,990	156	1,353,909	1.4
59.3	2.1	13.7	2,190	26	5,212,368	0.5

	Adults (15-49) living with HIV/AIDS	Adults (15+) living with HIV/AIDS (Estimate, 2005)	Total population (in thousands, 2005)	Life expectancy at birth (2000-2005)	Total fertility (children per woman 2000-2005)	Currently married women or women in a union using any method of contraception (%, most recent year)
South East Asia						
Cambodia	1.6	130,000	13,956	56.8	3.6	40.0
Indonesia	0.1	170,000	226,063	68.6	2.4	60.3
Laos	0.1	3,600	5,664	61.9	3.6	32.2
Malaysia	0.5	67,000	25,653	73.0	2.9	54.5
Myanmar	1.3	350,000	47,967	59.9	2.2	37.0
Philippines	<0.1	12,000	84,566	70.3	3.5	48.9
Singapore	0.3	5,500	4,327	78.8	1.4	62.0
Thailand	1.4	560,000	63,003	68.6	1.8	71.5
Timor-Leste	No Data	No Data	1,067	58.3	7.0	10.0
Viet Nam	0.5	250,000	85,029	73.0	2.3	78.5
Western Asia						
Armenia	0.1	2,900	3,018	71.4	1.3	53.1
Azerbaijan	0.1	5,400	8,352	66.8	1.7	55.4
Bahrain	No Data	No Data	725	74.8	2.5	61.8
Georgia	0.2	5,600	4,473	70.5	1.5	47.3
Iraq	No Data	No Data	27,996	57.0	4.9	49.8
Jordan	No Data	No Data	5,544	71.3	3.5	55.8
Kuwait	No Data	No Data	2,700	76.9	2.3	52.0
Lebanon	0.1	2,900	4,011	71.0	2.3	61.0
Occupied Palestinian Territory	No Data	No Data	3,762	72.4	5.6	50.2
Oman	No Data	No Data	2,507	74.2	3.7	23.7
Saudi Arabia	No Data	No Data	23,612	71.6	3.8	31.8
Syria	No Data	No Data	18,894	73.1	3.5	58.3
Turkey	No Data	No Data	72,970	70.8	2.2	71.0
United Arab Emirates	No Data	No Data	4,104	77.8	2.5	27.5
Yemen	No Data	No Data	21,096	60.3	6.0	23.1
Caribbean						
Bahamas	3.3	6,500	323	71.1	2.1	61.7
Barbados	1.5	2,700	292	76.0	1.5	55.0
Cuba	0.1	4,700	11,260	77.2	1.6	73.3
Dominican Republic	1.1	62,000	9,470	70.8	3.0	69.8
Grenada	No Data	No Data	105	67.7	2.4	54.3
Haiti	3.8	180,000	9,296	58.1	4.0	32.0
Jamaica	1.5	25,000	2,682	72.0	2.6	69.0
Puerto Rico	No Data	No Data	3,947	77.8	1.8	77.7
Saint Lucia	No Data	No Data	161	72.5	2.2	47.3
Saint Vincent and the Grenadines	No Data	No Data	119	70.6	2.3	58.3
Trinidad and Tobago	2.6	26,000	1,324	69.0	1.6	38.2

Currently married women or women in a union using modern method of contraception (%, most recent year)	**Currently married women or women in a union using condoms** (%, most recent year)	**Need for family planning** (% with unmet need, most recent year)	**Gross national income per capita** (PPP, 2006)	**Health expenditures per capita** (US$, 2005)	**Annual average donor support for male condoms** (number of condoms, 1998-2007)	**Average number of male condoms donated per male aged 15-49** (2007)
27.2	2.9	25.1	1,550	29	34,453,983	5.6
56.7	0.9	8.6	3,310	26	29,461,528	No Support
28.9	0.5	39.5	1,740	18	33,430,055	20.1
29.8	5.3	No Data	12,160	222	2,914,043	0.0
32.8	0.3	19.1	No Data	4	38,768,105	6.8
33.4	1.9	17.3	3,430	37	45,674,333	0.0
53.0	22.0	No Data	43,300	944	2,031	No Support
70.1	1.4	23.0	7,440	98	3,563,550	0.0
8.6	0.0	3.8	5,100	45	145,368	2.2
56.7	5.8	4.8	2,310	37	56,287,586	2.2
19.5	8.1	13.3	4,950	88	639,553	No Support
11.9	3.2	11.5	5,430	62	529,800	0.4
30.6	9.6	No Data	19,350	No Data	1,454	No Support
26.6	8.7	16.4	3,880	123	1,523,903	1.3
32.9	1.1	No Data	No Data	No Data	651,573	No Support
41.2	3.4	11.0	4,820	241	3,688,415	0.1
39.3	2.9	No Data	48,310	687	No Support	No Support
37.0	0.0	No Data	9,600	460	566,141	1.5
38.9	No Data	No Data	No Data	No Data	141,821	0.0
18.2	1.5	No Data	19,740	312	212,352	No Support
28.5	0.9	No Data	22,300	448	No Support	No Support
42.6	1.6	30.6	4,110	61	4,759,594	1.6
42.5	10.8	6.0	8,410	383	17,524,735	No Support
23.6	2.0	No Data	31,190	833	No Support	No Support
13.4	0.4	50.9	2,090	39	2,189,817	0.7
60.1	2.3	No Data	No Data	No Data	285,274	1.7
53.2	7.2	No Data	15,150	No Data	66,408	0.4
72.1	5.0	No Data	No Data	310	12,081,591	6.7
65.8	1.3	10.9	5,550	197	15,464,982	1.6
No Data	21.9	No Data	8,770	No Data	105,233	0.1
24.8	5.3	37.5	1,070	28	41,635,401	23.0
66.0	24.0	14.2	7,050	170	5,091,884	2.7
67.7	6.4	No Data	No Data	No Data	430,517	No Support
46.1	5.8	No Data	8,500	No Data	119,477	No Support
54.6	7.4	No Data	6,220	No Data	36,144	No Support
33.2	11.7	32.5	16,800	513	1,829,916	1.9

	Adults (15-49) living with HIV/AIDS	Adults (15+) living with HIV/AIDS (Estimate, 2005)	Total population (in thousands, 2005)	Life expectancy at birth (2000-2005)	Total fertility (children per woman 2000-2005)	Currently married women or women in a union using any method of contraception (%, most recent year)
Central America						
Belize	2.5	3,600	276	75.6	3.4	56.1
Costa Rica	0.3	7,300	4,327	78.1	2.3	80.0
El Salvador	0.9	35,000	6,668	70.7	2.9	67.3
Guatemala	0.9	59,000	12,710	69.0	4.6	43.3
Honduras	1.5	61,000	6,834	68.6	3.7	65.2
Mexico	0.3	180,000	104,266	74.9	2.4	70.9
Nicaragua	0.2	7,200	5,463	70.8	3.0	68.6
Panama	0.9	17,000	3,232	74.7	2.7	No Data
South America						
Argentina	0.6	130,000	38,747	74.3	2.4	65.3
Bolivia	0.1	6,800	9,182	63.9	4.0	58.4
Brazil	0.5	610,000	186,831	71.0	2.3	76.7
Chile	0.3	28,000	16,295	77.9	2.0	60.7
Colombia	0.6	160,000	44,946	71.7	2.5	78.2
Ecuador	0.3	22,000	13,061	74.2	2.8	72.7
Guyana	2.4	11,000	739	63.6	2.4	34.6
Paraguay	0.4	13,000	5,904	70.8	3.5	72.8
Peru	0.6	91,000	27,274	69.9	2.7	71.3
Suriname	1.9	5,100	452	69.1	2.6	42.1
Uruguay	0.5	9,500	3,326	75.3	2.2	77.0
Venezuela	0.7	110,000	26,726	72.8	2.7	70.3
Melanesia						
Fiji	0.1	<1000	828	67.8	3.0	No Data
Papua New Guinea	1.8	57,000	6,070	56.7	4.3	25.9
Eastern Europe						
Belarus	0.3	20,000	9,795	68.4	1.2	50.4
Bulgaria	<0.1	No Data	7,745	72.4	1.3	41.5
Czech Republic	0.1	1,500	10,192	75.4	1.2	72.0
Hungary	0.1	3,200	10,086	72.4	1.3	77.4
Poland	0.1	25,000	38,196	74.6	1.3	49.4
Republic of Moldova	1.1	28,000	3,877	67.9	1.5	67.8
Romania	<0.1	No Data	21,628	71.3	1.3	70.0
Russian Federation	1.1	940,000	143,953	64.8	1.3	65.3
Slovakia	<0.1	<500	5,387	73.8	1.2	74.0
Ukraine	1.4	410,000	46,918	67.6	1.2	67.5
Southern Europe						
Albania	No Data	No Data	3,154	75.7	2.3	75.1
Bosnia and Herzegovina	<0.1	No Data	3,915	74.1	1.3	47.5
Slovenia	<0.1	<500	1,999	76.8	1.2	73.8
TFYR Macedonia	<0.1	<500	2,034	73.4	1.6	13.5
Northern Europe						
Estonia	1.3	10,000	1,344	70.9	1.4	70.3
Latvia	0.8	10,000	2,302	71.3	1.2	48.0
Lithuania	0.2	3,300	3,425	72.1	1.3	46.6

Currently married women or women in a union using modern method of contraception (%, most recent year)	**Currently married women or women in a union using condoms** (%, most recent year)	**Need for family planning** (% with unmet need, most recent year)	**Gross national income per capita** (PPP, 2006)	**Health expenditures per capita** (US$, 2005)	**Annual average donor support for male condoms** (number of condoms, 1998-2007)	**Average number of male condoms donated per male aged 15-49** (2007)
52.6	6.6	20.8	7,080	No Data	309,141	4.1
70.7	10.9	No Data	9,220	327	3,552,549	No Support
61.0	2.9	8.9	5,610	220	10,329,791	6.8
34.4	2.3	23.1	5,120	132	15,755,792	1.5
56.4	2.9	16.9	3,420	91	11,404,313	0.7
66.5	6.4	19.5	11,990	474	31,712,269	0.9
66.1	3.3	14.6	2,720	75	7,263,065	0.1
No Data	No Data	No Data	8,690	351	1,140,317	1.5
No Data	22.3	No Data	11,670	484	474,676	No Support
34.9	3.9	22.7	3,810	71	9,718,962	2.0
70.3	4.4	7.3	8,700	371	57,682,390	0.2
57.9	6.5	No Data	11,300	397	1,441,095	0.1
68.2	7.1	5.8	6,130	201	5,195,681	0.3
58.0	4.3	5.0	6,810	147	5,174,840	1.0
33.6	6.1	No Data	3,410	No Data	1,437,186	5.1
60.5	11.9	6.6	4,040	92	4,293,262	3.0
47.6	8.4	8.1	6,490	125	28,896,684	0.0
40.6	2.5	No Data	7,720	No Data	707,222	No Support
75.0	31.3	No Data	9,940	404	1,748,	2.8
61.7	3.4	18.9	10,970	247	1,587,437	0.5
No Data	No Data	No Data	4,450	No Data	1,813,198	19.0
19.6	0.5	No Data	1,630	34	549,406	0.3
42.1	4.8	No Data	9,700	204	828,552	2.0
25.6	10.9	No Data	10,270	272	1,798,462	No Support
62.6	12.7	8.0	20,920	868	34,565	No Support
68.4	7.8	4.2	16,970	855	176,400	No Support
19.0	9.1	No Data	14,250	495	156,960	No Support
43.8	7.4	6.7	2,660	58	1,062,259	2.7
38.0	12.0	11.9	10,150	250	9,277,718	1.6
47.1	No Data	No Data	12,740	277	3,334,201	0.1
41.0	21.0	No Data	17,060	626	4,565	0.0
37.6	13.5	14.9	6,110	128	2,925,859	1.6
8.0	2.1	1.2	6,000	169	8,000,119	1.0
15.7	3.1	No Data	6,780	243	347,545	1.2
59.1	7.6	No Data	23,970	1,495	No Support	No Support
9.8	4.5	No Data	7,850	224	No Support	No Support
56.4	16.1	No Data	18,090	516	105,682	No Support
39.3	9.6	10.6	14,840	443	211,018	No Support
30.5	13.1	12.1	14,550	448	189,605	No Support

APPENDIX 2

ENDNOTES

1 WHO. 2008. "HIV/AIDS Fact Sheet." Accessed online at: http://www.who.int/hiv/topics/arv/en/ on May 28, 2008.

2 Centers for Disease Control and Prevention. 1993. "Basic Facts About Condoms and Their Use in Preventing HIV Infection and Other STIs." Accessed online at: http://www.thebody.com/content/art17057.html on May 28, 2008.

3 San Francisco AIDS Foundation. Accessed online at http://www.sfaf.org/custom/glossary.aspx?l=en&a=H on May 28, 2008.

4 National Institute of Medicine. 2005. "Glossary of HIV/AIDS-related Terms." 5th Edition. Accessed online at: http://aidsinfo.nih.gov/contentfiles/GlossaryHIV-relatedTerms_FifthEdition_en.pdf on May 28, 2008.

5 UNAIDS. 2008. *UNAIDS' Terminology Guidelines*. Accessed online at: http://data.unaids.org/pub/Manual/2008/20080226_unaids_terminology_guide_en.pdf on May 28, 2008.

6 Ibid.

7 UNAIDS. 2007. *AIDS Epidemic Update December 2007*. Geneva: UNAIDS.

8 United Nations General Assembly. 2008. "Declaration of Commitment on HIV/AIDS and Political Declaration on HIV/AIDS: Midway to the Millennium Development Goals". *Report of the Secretary-General*. New York: United Nations.

9 Sedgh G, R Hussain, A Bankole and S Singh. 2007. "Women with an Unmet Need for Contraception in Developing Countries and Their Reasons for Not Using a Method." *Occasional Report No. 37*. New York: Guttmacher Institute.

10 UNAIDS. 2007. *AIDS Epidemic Update December 2007*. Geneva: UNAIDS.

11 Chaya N, K Amen and M Fox. 2002. *Condoms Count: Meeting the Need in the Era of HIV/AIDS*. Washington, DC: Population Action International.

12 USAID. 2002. *The "ABCs" of HIV Prevention: Report of a USAID Technical Meeting on Behavior Change Approaches to Primary Prevention of HIV/AIDS*. Washington, DC: USAID.

13 Sinding S. 2005. "Does 'CNN' (Condoms, Needles and Negotiation) Work Better than 'ABC' (Abstinence, Being Faithful and Condom Use) in Attacking the AIDS Epidemic?" *International Family Planning Perspectives* (31)1: 38–40.

14 Stulman M. 2007. "The Flawed ABCs of PEPFAR." FPIF Commentary. *Foreign Policy in Focus*. Accessed online at: http://wwww.fpif.org/fpiftxt/4484 on May 15, 2008.

15 Office of the Global AIDS Coordinator. ND. *ABC Guidance #1 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: OGAC.

16 Lamptey P and W Cates, Jr. 1997. "Opinion: An Ounce of Prevention is Worth a Million Lives." *AIDSCaptions*. Accessed online at: www.fhi.org on March 9, 2004.
17 Green E. 2003. "Commentary: ABC or A through Z?" *AIDSLink* 18(1). Accessed online at: http://www.globalhealth.org/publications/contents.php3?id=1&issue=81 on May 19, 2008.
18 Dowsett GW and M Couch. 2007. "Male Circumcision and HIV Prevention: Is There Really Enough of the Right Kind of Evidence?" *Reproductive Health Matters* 15(29): 33–44.
19 Hardee K, J Gribble, S Weber, T Manchester and M Wood. 2008. *The Creation and Evolution of the ABC Approach*. Washington, DC: Population Action International.
20 Holschneider S and C Alezander. 2003. "Social and Psychological Influences on HIV Preventative Behaviors of Youth in Haiti." *Journal of Adolescent Health* 33(1): 31–44.
21 Pettifor A, A van der Straten, M Dunbar, S Shiboski and N Padian. 2004. "Early Age of First Sex: A Risk Factor for HIV Infection among Women in Zimbabwe." *AIDS* 18(10): 1435–1442. Cited in: Gay J, K Hardee, M Wood, C Wingfield, E Kidder, K Fleming, A Hairston, F Cleghorn. 2005. *HIV/AIDS Interventions: What is the Evidence?* (Draft) Washington, DC: The POLICY Project.
22 Kirby D. 2007. *Emerging Answers 2007: Research Findings on Programs to Reduce Teen Pregnancy and Sexually Transmitted Diseases*. Washington, DC: The National Campaign to Prevent Teen and Unplanned Pregnancy.
23 Halperin DT and H Epstein. 2004. "Concurrent sexual partnerships help to explain Africa's high HIV prevalence: implications for prevention." *The Lancet* 364: 4–6.
24 Shelton JD, DT Halperin, V Nantulya, M Potts, HD Gayle, KK Holmes. 2004. "Partner reduction is crucial for balanced "ABC" approach to HIV prevention." *British Journal of Medicine* 328: 891–893.
25 Wilson D. 2004. "Partner reduction and the prevention of HIV/AIDS." *BMJ* 328: 848–849
26 Garnett GP. 1998. "The basic reproductive rate of infection and the course of HIV epidemics." *AIDS Patient Care STDS* 12: 435–449.
27 Quinn T, M Wawer, N Swankambo, D Serwadda, C Li, F Wabwire-Mangen, MO Meehan, T Lutalo, RH Gray. 2000. "Viral load and heterosexual transmission of human immunodeficiency virus type 1." *New England Journal of Medicine*. 342: 921–29. Cited in: Gay J, K Hardee, M Wood, C Wingfield, E Kidder, K Fleming, A Hairston, F Cleghorn. 2005. *HIV/AIDS Interventions: What is the Evidence?* (Draft) Washington, DC: The POLICY Project.

28 Shelton JD, DT Halperin, V Nantulya, M Potts, HD Gayle and KK Holmes. 2004. "Partner reduction is crucial for balanced "ABC" approach to HIV prevention." *British Journal of Medicine* 328: 891–893.
29 Stoneburner RL and D Low-Beer. 2004. "Population-level HIV declines and behavioral risk avoidance in Uganda." *Science* 304: 714–18.
30 Clark S. 2004. "Early marriage and HIV risks in sub-Saharan Africa." *Studies in Family Planning* 35(3): 149–160.
31 Ibid.
32 De Cock K, E Marum and D Mbori-Ngacha. 2003. "A Serostatus-based Approach to HIV/AIDS Prevention and Care in Africa." *The Lancet* 362: 1847–1849.
33 Auvert B, D Taljaard, E Lagarde, J Sobngwi-Tambekou, R Sitta, A Puren. 2005. "Randomized, Controlled Intervention Trial of Male Circumcision for Reduction of HIV Infection Risk: The ANRS 1265 Trial." *PLoS Medicine* 2(11): 1112–1122.
34 Agot KE, JN Kiarie, HQ Nguyen, JO Odhiambo, TM Onyango, NS Weiss. 2007. "Male Circumcision in Siaya and Bondo Districts, Kenya: Prospective Cohort Study to Assess Behavioral Disinhibition Following Circumcision." *Journal of Acquired Immune Deficiency Syndromes* 44: 66–70.
35 Gray R, G Kigozi, D Serwadda, F Makumbi, S Watya, F Nalugoda, N Kiwanuka, LH Moulton, MA Chaudhary, MZ Chen, NK Sewankambo, F Wabwire-Mangen, MC Bacon, CFM Williams, P Opendi, SJ Reynolds, O Laeyendecker, TC Quinn, MJ Wawer. 2007. "Male circumcision for HIV prevention in men in Rakai, Uganda: a randomized trial." *The Lancet* 369: 657–666.
36 WHO and UNAIDS. 2007. "New Data on Male Circumcision and HIV Prevention: Policy and Programme Implications." WHO/UNAIDS Technical Consultation. Male Circumcision and HIV Prevention: Research Implications for Policy and Programming, Conclusions and Recommendations. Montreux, 6–8 March 2007.
37 WHO and UNAIDS. 2007. "Male Circumcision for HIV Prevention: Research Implications for Policy and Programming WHO/UNAIDS Technical Consultation 6–8 March 2007 Conclusions and Recommendations (Excerpts)." *Reproductive Health Matters* 15(29): 11–14.
38 Bailey RC, S Moses, CB Parker, K Agot, I Maclean, JN Krieger, CFM Williams, RT Campbell, JO Ndinya-Achola. 2007. "Male Circumcision for HIV Prevention in Young Men in Kisumu, Kenya: a randomized controlled trial." *The Lancet* 369: 643–656.
39 Westercamp N and RC Bailey. 2007. "Acceptability of male circumcision for prevention of HIV/AIDS in sub-Saharan Africa: a review." *AIDS Behav* 11: 341–355. Cited in: Weiss HA, D Halperin, RC Bailey, RJ Hayes, G Schmid, CA Hankins. 2008. "Male circumcision for HIV prevention: from evidence to action?" *AIDS 22*: 567–574.
40 Weiss HA, D Halperin, RC Bailey, RJ Hayes, G Schmid, CA Hankins. 2008. "Male circumcision for HIV prevention: from evidence to action?" *AIDS 22*: 567–574.
41 Altman L. "Male Circumcision No Aid to Women in Study." *New York Times*, February 4, 2008.
42 Bailey RC, et al. 2007. "Male Circumcision for HIV Prevention in Young Men in Kisumu, Kenya: a randomized controlled trial." *The Lancet* 369: 643–656.
43 WHO and UNAIDS. 2007. "New Data on Male Circumcision and HIV Prevention: Policy and Programme Implications." WHO/UNAIDS Technical Consultation. Male Circumcision and HIV Prevention: Research Implications for Policy and Programming, Conclusions and Recommendations. Montreux, 6–8 March 2007.
44 USAID. 2002. *The "ABCs" of HIV Prevention: Report of a USAID Technical Meeting on Behavior Change Approaches to Primary Prevention of HIV/AIDS.* Washington, DC: USAID.
45 Sinding S. 2005. "Does 'CNN' (Condoms, Needles and Negotiation) Work Better than 'ABC' (Abstinence, Being Faithful and Condom Use) in Attacking the AIDS Epidemic?" *International Family Planning Perspectives* (31)1: 38–40.
46 Black R. 2007. Interview by Jill Gay, Lauren Sission and Serra Sippel. Bethesda, MD., 15 November. Roberta Black is Team Leader for the Topical Microbicide Team at the National Institute of Allergy and Infectious Disease, National Institute of Health. Cited in: CHANGE. 2008. Saving Lives Now: Female Condoms and the Role of U.S. Foreign Aid. Washington DC: CHANGE.
47 Global Campaign for Microbicides. 2007. *Factsheet #2: Frequently Asked Questions About Microbicides*. Accessed online at: http://www.global-campaign.org/EngDownload.htm#fact on May 7, 2008.

48 HIV Vaccines and Microbicides Resource Tracking Working Group (AVAC, AMD, IAVI and UNAIDS). 2007. *Building a Comprehensive Response: Funding for HIV Vaccines, Microbicides and other New Prevention Options: 2000–2006*. Accessed online at: http://www.hivresourcetracking.org/content/RT_Report_Nov2007.pdf on May 15, 2008. Cited in: CHANGE. 2008. *Saving Lives Now: Female Condoms and the Role of U.S. Foreign Aid*. Washington DC: CHANGE. Written by J. Gay, L. Sission and MB Hastings.

49 HIV Vaccines and Microbicides Resource Tracking Working Group (AVAC, AMD, IAVI and UNAIDS). 2007. *Building a Comprehensive Response: Funding for HIV Vaccines, Microbicides and other New Prevention Options: 2000–2006*. Accessed online at: http://www.hivresourcetracking.org/content/RT_Report_Nov2007.pdf on May 15, 2008.

50 Gruskin S, L Ferguson, J O'Malley. 2007. "Ensuring Sexual and reproductive Health for People Living with HIV: An Overview of Key Human Rights, Policy and Health Systems Issues." *Reproductive Health Matters* 15(Suppl 29): 4–26.

51 Weiss HA, D Halperin, RC Bailey, RJ Hayes, G Schmid, CA Hankins. 2008. "Male circumcision for HIV prevention: from evidence to action?" *AIDS* 22: 567–574.

52 Voluntary HIV-1 Counseling and Testing Efficacy Study Group. 2000. "Efficacy of Voluntary HIV-1 Counseling and Testing in Individuals and Couples in Kenya, Tanzania and Trinidad: A Randomized Trial." *The Lancet* 356: 103–112. Cited in: Gay J, K Hardee, M Wood, C Wingfield, E Kidder, K Fleming, A Hairston, F Cleghorn. 2005. *HIV/AIDS Interventions: What is the Evidence?* (Draft) Washington, DC: The POLICY Project.

53 Mertens T and D Low-Beer. 1996. "HIV and AIDS: Where is the Epidemic Going?" *Bulletin of the World Health Organization* 74: 121–129. Cited in: Gay J, K Hardee, M Wood, C Wingfield, E Kidder, K Fleming, A Hairston, F Cleghorn. 2005. HIV/AIDS Interventions: What is the Evidence? (Draft) Washington, DC: The POLICY Project.

54 Mugerwa R, L Marum and D Serwadda. 1996. "Human Immunodeficiency Virus and AIDS in Uganda." East African Medical Journal 73: 20–26. Cited in: Sweat M, S Gregorich, G Sangiwa, C Fulonge, D Balmer, C Kamenga, O Grinstead, T Coates. 2000. "Cost-effectiveness of Voluntary HIV-1 Counseling and testing in Reducing Sexual Transmission of HIV-1 in Kenya and Tanzania." *The Lancet* 356: 113–121. Cited in: Gay J, K Hardee, M Wood, C Wingfield, E Kidder, K Fleming, A Hairston, F Cleghorn. 2005. *HIV/AIDS Interventions: What is the Evidence?* (Draft) Washington, DC: The POLICY Project.

55 Padian N, A Buve, W Cates Jr, J Balkus. 2008. "Biomedical interventions for HIV prevention." *The Lancet* (in press).

56 UNAIDS. 2004. "Making condoms work for HIV prevention: Cutting-edge perspectives." Geneva: UNAIDS.

57 Weller SC and K Davis-Beaty. 2007. "Condom effectiveness in reducing heterosexual HIV transmission." *Cochrane Database of Systematic Reviews* Issue 4. Art. No.: CD003255. DOI: 10.1002/14651858.CD003255.

58 Hearst N and S Chen. 2004. "Condom Promotion for AIDS Prevention in the Developing World: Is It Working?" *Studies in Family Planning* 35(1): 39–47.

59 Pinkerton SD and PR Abramson. 1997. "Effectiveness of condoms in preventing HIV transmission." *Soc Sci Med* 44(9): 1303–1312. Cited in: AMFAR. 2005. "The Effectiveness of Condoms in Preventing HIV Transmission." *Issue Brief No. 1*. New York: AMFAR.

60 Holmes KK, R Levine and M Weaver. 2004. "Effectiveness of condoms in preventing sexually transmitted infections." *Bulletin of the World Health Organization* 82(6): 454–461. Cited in: AMFAR. 2005. "The Effectiveness of Condoms in Preventing HIV Transmission." *Issue Brief No. 1*. New York: AMFAR.

61 PATH and UNFPA. 2006. *Female Condom: A Powerful Tool for Protection*. Seattle: UNFPA, PATH.

62 Cohen MS. 1998. "Sexually transmitted diseases enhance HIV transmission: No longer hypothesis." *The Lancet* (Suppl III): 5–7.

63 Lamptey PR. 2002. "Reducing Heterosexual Transmission of HIV in Poor Countries." *British Medical Journal* 324(7331): 207–211.

64 Padian N, A Buve, W Cates Jr, J Balkus. 2008. "Biomedical interventions for HIV prevention." *The Lancet* (in press).

65 Johns Hopkins Bloomberg School of Public Health (JHBSPH), U.S. Agency for International Development (USAID) and World Health Organization (WHO). 2007. *Family Planning: A Global Handbook for Providers*. Baltimore, MD: INFO Project.
66 PATH and UNFPA. 2006. *Female Condom: A Powerful Tool for Protection*. Seattle: UNFPA, PATH.
67 Johns Hopkins Bloomberg School of Public Health (JHBSPH), U.S. Agency for International Development (USAID) and World Health Organization (WHO). 2007. *Family Planning: A Global Handbook for Providers*. Baltimore, MD: INFO Project.
68 Ibid.
69 Davis K and S Weller. "The Effectiveness of Condoms in Reducing Hetersexual Transmission of HIV." *Family Planning Perspectives* 31(6): 272–279.
70 Bracher M, G Santow, SC Watkins. 2004. "Assessing the Potential of Condom Use to Prevent the Spread of HIV: A Microsimulation Study." *Studies in Family Planning* 35(1): 48–64.
71 Mann JM, N Nzilambi, P Piot, et al. 1988. "HIV infection and associated risk factors in female prostitutes in Kinshasa, Zaire." *AIDS* 2(4): 249–254. Cited in: Hearst N and S Chen. 2004. "Condom Promotion for AIDS Prevention in the Developing World: Is It Working?" *Studies in Family Planning* 35(1): 39–47.
72 Darrow WW. 1989. "Condom use and use-effectiveness in high-risk populations." *Sexually Transmitted Diseases* 16(3): 157–160. Cited in: Hearst N and S Chen. 2004. "Condom Promotion for AIDS Prevention in the Developing World: Is It Working?" *Studies in Family Planning* 35(1): 39–47.
73 Saracco A, M Musicco, A Nicolosi, et al. 1993. "Man-to-woman sexual transmission of HIV: Longitudinal study of 343 steady partners of infected men." *Journal of Acquired Immune Deficiency Syndromes* 6(5): 497–502. Cited in: Hearst N and S Chen. 2004. "Condom Promotion for AIDS Prevention in the Developing World: Is It Working?" *Studies in Family Planning* 35(1): 39–47.
74 Deschamps MM, JW Pape, A Hafner, WD Johnson Jr. 1996. "Heterosexual transmission of HIV in Haiti." *Annals of Internal Medicine* 125(4): 324–330. Cited in: Hearst N and S Chen. 2004. "Condom Promotion for AIDS Prevention in the Developing World: Is It Working?" *Studies in Family Planning* 35(1): 39–47.
75 Taha TE, JK Canner, JD Chiphangwi, et al. 1996. "Reported condom use is not associated with incidence of sexually transmitted diseases in Malawi." *AIDS* 10(2): 207–212. Cited in: Hearst N and S Chen. 2004. "Condom Promotion for AIDS Prevention in the Developing World: Is It Working?" *Studies in Family Planning* 35(1): 39–47.
76 Mukenge-Tshibaka L, M Alary, N Geraldo and CM Lowndes. 2005. "Incorrect Condom Use and Frequent Breakage among Female Sex Workers and their Clients." *International Journal of STD & AIDS* 16: 345–347.
77 Bankole A, FH Ahmed, S Neema, C Ouedraogo, and S Konyani. 2007. "Knowledge of Correct Condom Use and Consistency of Use Among Adolescents in Four Countries in Sub-Saharan Africa." *African Journal of Reproductive Health* 11(3): 197–220.
78 Brown M, M Sebego, N Seboni, E Nstayagae, K Mogobe and M Sabone. 2006. "Using qualitative methods for course evaluation: A case study from Botswana." *Nurse Educator* 31(6): 275–280.
79 Sabone M, E Ntsayagae, M Brown, N Seboni, K Mogove and M Sebego. 2007. "Perceptions of Undergraduate students not participating in HIV/AIDS prevention activities in Botswana." *International Nursing Review* 54: 332–336.
80 International Planned Parenthood Foundation (IPPF) and UNFPA. 2007. *Myths, Misperceptions and Fears: Addressing Condom Use Barriers*. New York: IPPF and UNFPA.
81 Foss A, M Hossain, P Vickerman and C Watts. 2007. "A Systematic Review of Published Evidence on Intervention Impact on Condom Use in sub-Saharan Africa and Asia." *Sex Transm Inf* 83: 510–516.
82 CHANGE. 2008. *Saving Lives Now: Female Condoms and the Role of U.S. Foreign Aid*. Takoma Park, MD: Center for Health and Gender Equity. Written by J. Gay, L. Sission and MB Hastings.
83 Hoke T, P Feldblum, K Van Damme, M Nasution, T Grey, E Wong, L Ralimamonjy, L Raharimalala, A Rasamindrakotroka. 2007. "Temporal Trends in Sexually Transmitted Infection Prevalence and Condom Use Following Introduction of the Female Condom to Madagascar Sex Workers." *International Journal of STD & AIDS* 18: 461–466.
84 Thomsen S, W Ombidi, C Torotich-Ruto, E Wong, H Tucker, R Homan, N Kingola, S Luchters. 2006. "A Prospective Study Assessing the Effects of Introducing the Female Condom in a Sex Worker Population in Mombasa, Kenya." *Sexually Transmitted Infections* 82: 397–402.

85 Vijayakumar G, Z Mabude, J Smit, M Beksinka, M Lurie. 2006. "A Review of Female-condom Effectiveness: Patterns of Use and Impact on Protected Sex Acts and STI Incidence." *International Journal of STD & AIDS* 17: 652–659.
86 Hoffman S, J Mantell, T Exner and Z Stein. 2004. "The Future of the Female Condom." *International Family Planning Perspectives* 30(3): 139–145.
87 Green G, R Pool, S Harrison, G Hart, J Wilkinson, S Nyanzi, J Whitworth. 2001. "Female Control of Sexuality: Illusion or Reality? Use of Vaginal Products in South West Uganda." *Social Science and Medicine* 52: 585–598.
88 Okunlola M, I Morhason-Bello, K Owonkinko, A Adekunle. 2006. "Female Condom Awareness, Use and Concerns among Nigerian Female Undergraduates." *Journal of Obstetrics and Gynecology* 26(4): 353–356.
89 Rivers K, P Aggleton, J Elizondo, G Hernandez, G Herrera, P Mane, C Niang, S Scott, B Setiadi. 1998. "Gender Relations, Sexual Communication and the Female Condom." *Critical Issues in Public Health* 8(4): 273–290.
90 Dias P, K Souto and K Page-Shafer. 2006. "Long Term Female Condom Use among Vulnerable Populations in Brazil." *AIDS and Behavior* 10(1): 67–75.
91 Feldblum P, 2007. Interview by Jill Gay. Research Triangle Park, NC, October 1. Paul Feldblum is Senior Epidemiologist for Family Health International. Cited in: CHANGE. 2008. Saving Lives *Now: Female Condoms and the Role of U.S. Foreign Aid*. Takoma Park, MD: Center for Health and Gender Equity. Written by J. Gay, L. Sission and MB Hastings.
92 Oxfam Novib, The William and Flora Hewlett Foundation and World Population Fund (WPF). 2007. *A Matter of Choice Rather than Noise: Report of an International Meeting on the Female Condom, 12–14 September, 2007*. Netherlands: Oxfam Novib and World Population Fund.
93 Brown G, V Raghavendran and S Walker. 2007. *Planning for Microbicide Access in Developing Countries: Lessons from the Introduction of Contraceptive Technologies*. Silver Spring, MD: International Partnership for Microbicides.
94 The Female Health Company. Press Release, November 21, 2005. Accessed online: http://www.femalehealth.com/InvestorRelations/investor_pressreleases/press_2005_09_21_2ndGenerationFC_Announcement.pdf
95 Dowdy D, M Sweat and D Holtgrave. 2006. "Country-Wide Distribution of the Nitrile Female Condom (FC2) in Brazil and South Africa: A Cost-Effectiveness Analysis." *AIDS* 20(16): 2091–2098.
96 Drezin J, MA Torres and K Daly. 2007. "Barriers to Condom Access: Setting an Agenda." *ICASO Advocacy Briefing*. International Council of AIDS Service Organizations (ICASO).
97 Juarez F and T Martin. 2006. "Safe Sex Versus Safe Love? Relationship Context and Condom Use among Male Adolescents in the Favelas of Recife, Brazil." *Archives of Sexual Behavior* 35(1): 25–35.
98 Shapiro K and S Ray. 2007. "Sexual Health for People Living with HIV." *Reproductive Health Matters* 15(Suppl 29): 67–92.
99 International Planned Parenthood Foundation (IPPF) and the UNFPA. 2007. *Myths, Misperceptions and Fears: Addressing Condom Use Barriers*. New York: IPPF and UNFPA.
100 Manuel S. 2005. "Culture, Sex $ Sexuality." *International Journal for Research, Intervention and Care* 7(3): 293–302.
101 Wellings K, M Collumbien, E Slaymaker, S Singh, Z Hodges, D Patel and N Bajos. 2006. "Sexual Behavior in Context: A Global Perspective." *The Lancet* 368: 1706–1728.
102 Minkin MJ and CV Wright. 2005. "Sexually Transmitted Diseases." In *A Women's Guide to Sexual Health*. London: Yale University: 154–193. Cited in: East L, D Jackson, L O'Brien and K Peters. 2007. "Use of the Male Condom by Heterosexual Adolescents and Young People: Literature Review." *Journal of Advanced Nursing* 59(2): 103–110.
103 Dehne KL and G Riedner. 2005. *Sexually Transmitted Infections among Adolescents: The Need for Adeqate Health Services*. Geneva: World Health Organization. Cited in: Bearinger LH, RE Sieving, J Ferguson and V Sharma. 2007. "Global Perspectives on the Sexual and Reproductive Health of Adolescents: Patterns, Prevention, and Potential." *The Lancet* 369: 1220–1231.
104 Sandøy I, C Michelo, S Siziya and K Fylkesnes. 2007. "Associations between Sexual Behavior Change in Young People and Decline in HIV Prevalence in Zambia." *BMC Public Health* 7(60).
105 Cleland J, MM Ali and I Shah. 2006. "Trends in Protective Behavior among Single vs Married Young Women in Sub-Saharan Africa: The Big Picture." *Reproductive Health Matters* 14(28): 17–22.

106 Ali MM and Cleland J. 2005. "Sexual and reproductive behaviour among single women aged 15–24 in eight Latin American countries: a comparative analysis. *Soc Sci Med* 60: 1175–1185.
107 Maharaj P and J Cleland. 2006. "Condoms Become the Norm in the Sexual Culture of College Students in Durban, South Africa." *Reproductive Health Matters* 14(28): 104–112.
108 Juarez F and T Martin. 2006. "Safe Sex Versus Safe Love? Relationship Context and Condom Use among Male Adolescents in the Favelas of Recife, Brazil." *Archives of Sexual Behavior* 35(1): 25–35.
109 Wellings K, M Collumbien, E Slaymaker, S Singh, Z Hodges, D Patel and N Bajos. 2006. "Sexual Behavior in Context: A Global Perspective." *The Lancet* 368: 1706–1728.
110 Hope R. 2007. *Addressing Cross-Generational Sex: A Desk Review of Research and Programs*. Washington, D.C.: Population Reference Bureau.
111 Ibid.
112 Bankole A, FH Ahmed, S Neema, C Ouedraogo and S Konyani. 2007. "Knowledge of Correct Condom Use and Consistency of Use Among Adolescents in Four Countries in Sub-Saharan Africa." *African Journal of Reproductive Health* 11(3): 197–220.
113 Geary CW, M Wedderburn, D McCarraher, C Cuthbertson and A Pottinger. 2006. "Sexual Violence and Reproductive Health Among Young People in Three Communities in Jamaica." *Journal of Interpersonal Violence* 21(11): 1512–1533.
114 Clark S. 2004. "Early Marriage and HIV Risks in Sub-Saharan Africa." *Studies in Family Planning* 35(3): 149–160.
115 Harrison A, N Xaba and P Kunene. 2001. "Understanding safer sex : gender narratives of HIV and pregnancy prevention by rural South African school-going youth." *Reproductive Health Matters* 9: 63–71. Cited in: Marston C and E King. 2006. "Factors that shape young people's sexual behavior: a systematic review." *The Lancet* 368: 1581–1586.
116 Swart-Krugar J and LM Richter. 1997. "AIDS-related knowledge attitudes and behaviour amogn South African street youth: reflections on power, sexuality and the autonomous self." *Soc Sci Med* 45: 957–966. Cited in: Marston C and E King. 2006. "Factors that shape young people's sexual behavior: a systematic review." *The Lancet* 368: 1581–1586.
117 Belk RW, P Ostergaard P, R Groves. 1998. "Sexual consumption in the time of AIDS: A study of prostitute patronage in Thailand." *J Pub Pol Market* 17: 197–214. Cited in: Marston C and E King. 2006. "Factors that shape young people's sexual behavior: a systematic review." *The Lancet* 368: 1581–1586.
118 Smith DJ. 2004. "Youth, sin and sex in Nigeria: Christianity and HIV/AIDS-related beliefs and behaviour amogn rural-urban migrants." *Cult Health Sex* 6:425–437. Cited in: Marston C and E King. 2006. "Factors that shape young people's sexual behavior: a systematic review." *The Lancet* 368: 1581–1586.
119 Waldby C, S Kippax, J Crawford. "Cordon Sanitaire: 'clean' and 'unclean' women in the AIDS discourse of young heterosexual men." In: Aggleton P, P Davies, G Hart, eds. 1993. *AIDS: facing the second decade*. London: Falmer Press: 29–39. Cited in: Marston C and E King. 2006. "Factors that shape young people's sexual behavior: a systematic review. " *The Lancet* 368: 1581–1586.
120 Garside R , R Ayres, M Owen, V A H Pearson and J Roizen. 2001. " 'They Never Tell You About the Consequences': Young People's Awareness of Sexually Transmitted Infections." *International Journal of STD & AIDS* 12(9): 582–588. Cited in: East L, D Jackson, L O'Brien and K Peters. 2007. "Use of the Male Condom by Heterosexual Adolescents and Young People: Literature Review." *Journal of Advanced Nursing* 59(2): 103–110.
121 Awusabo-Asare K. 1995. "Living with AIDS: Perceptions, attitudes and post-diagnosis behavior of HIV/AIDS patients in Ghana." *Health Transition Review Supply* (Suppl 5): 265–268. Cited in: Adu-Oppong A, R Grimes, M Ross, J Risser and G Kessie. 2007. "Social and Behavioral Determinants of Consistent Condom Use among Female Commercial Sex Workers in Ghana." *AIDS Education and Prevention* 19(2): 160–172.
122 Prata N, L Morris, E Mazive, F Vahidnia and M Stehr. 2006. "Relationship Between HIV Risk Perception And Condom Use: Evidence from a Population-Based Survey in Mozambique." *International Family Planning Perspectives* 32(4): 192–200.
123 Skidmore, D and E Hayter. 2000. "Risk and Sex: Ego-Centricity and Sexaul Behavior in Young Adults." *Health, Risk & Society* 2(1): 23–32.
124 Flood M. 2003. "Lust, Trust and Latex: Why Young Heterosexual Men Do Not Use Condoms." *Culture, Health & Sexuality* 5(4): 353–369.

125 Crosby R, WL Yarber, SA Sanders and CA Graham. 2005. "Condom Discomfort and Associated Problems with their Use among University Students." *Journal of American College Health* 54(3): 143–147. Cited in: East L, D Jackson, L O'Brien and K Peters. 2007. "Use of the Male Condom by Heterosexual Adolescents and Young People: Literature Review." *Journal of Advanced Nursing* 59(2): 103–110.

126 Khan SI, N Hudson-Rodd, S Saggers, MI Bhuiyan, A Bhuiya. 2004. "Safer sex or pleasureable sex? Rethinking condom use in the AIDS era." *Sex Health* 1: 217–225. Cited in: Philpott A, W Knerr and D Maher. 2006. "Promoting protection and pleasure: amplifying the effectiveness of barriers against sexually transmitted infections and pregnancy." Viewpoint. *The Lancet* 368: 2028–2031.

127 Rosenthal D, S Gifford and S Moore. 1998. "Safe Sex or Safe Love: Competing Discourses?" *AIDS Care* 15(4): 505–512. Cited in: East L, D Jackson, L O'Brien and K Peters. 2007. "Use of the Male Condom by Heterosexual Adolescents and Young People: Literature Review." *Journal of Advanced Nursing* 59(2): 103–110.

128 Castaneda X, C Brindis and IC Camey. 2001. "Nebulous margins: sexuality and social constructions of risks in rural areas of Central Mexico." *Cult Health Sex* 3: 203–219. Cited in: Marston C and E King. 2006. "Factors that Shape Young People's Sexual Behavior: A Systematic Review." *The Lancet* 368: 1583.

129 Bankole A, F H Ahmed, S Neema, C Ouedraogo and S Konyani. 2007. "Knowledge of Correct Condom Use and Consistency of Use Among Adolescents in Four Countries in Sub-Saharan Africa." *African Journal of Reproductive Health* 11(3): 197–220.

130 MacPhail C, A Pettifor, S Pascoe and H Rees. 2007. "Predictors of Dual Method Use for Pregnancy and HIV Prevention among Adolescent South African Women." *Contraception* 75: 383–389.

131 Kirby D. 2001. *Emerging Answers: Research Findings on Programmes to Reduce Teen Pregnancy*. Washington DC: National Campaign to Prevent Teen Pregnancy. Cited in: Shapiro K and S Ray. 2007. "Sexual Health for People Living with HIV." *Reproductive Health Matters* 15(Suppl 29): 67–92.

132 Manlove J, A Romano Papillio, E Ikramullah. 2004. *Not Yet: Programmes to Delay First Sex Among Teens*. Washington DC: National Campaign to Prevent Teen Pregnancy. Cited in: Shapiro K and S Ray. 2007. "Sexual Health for People Living with HIV." *Reproductive Health Matters* 15(Suppl 29): 67–92.

133 Kirby, D. 2007. *Emerging Answers 2007: Research Findings on Programs to Reduce Teen Pregnancy and Sexually Transmitted Diseases*. Washington, DC: The National Campaign to Prevent Teen and Unplanned Pregnancy.

134 Kirby D, B.A. Laris and Lori Rolleri. 2005. "Impact of Sex and HIV Education Programs on Sexual Behaviors of Youth in Developing Countries and Developed Countries." *Youth Research Working Paper No. 2*. Research Triangle Park, NC: Family Health International.

135 Grunseit A. 1997. *Impact of HIV and Sexual Health Education on the Sexual Behaviour of Young People: A Review Update*. UNAIDS Best Practice Collection. Geneva: UNAIDS.

136 Kebede D, A Alem, G Mitike, F Enquselassie, F Berhane, Y Abebe, R Ayele, W Lemma, T Assefa, T Gebremichael. 2005. "Khat and alcohol use and risky sex behavior among in-school and out-of-school youth in Ethiopia." *BMC Public Health* 5:109. Cited in: Wang B, X Li, B Stanton, V Kamali, S Naar-King, I Shah, R Thomas. 2007. "Sexual attitudes, pattern of communication, and sexual behavior among unmarried out-of-school youth in China." *BMC Public Health* 7: 189.

137 Taffa N, G Bjune, J Sundby, P Gaustad, A Alestrom. 2002. "Prevalence of gonococcal and chlamydial infections and sexual risk behavior among youth in Addis Ababa, Ethiopia." *Sexually Transmitted Diseases* 29: 828–833. Cited in: Wang B, X Li, B Stanton, V Kamali, S Naar-King, I Shah, R Thomas. 2007. "Sexual attitudes, pattern of communication, and sexual behavior among unmarried out-of-school youth in China." *BMC Public Health* 7: 189.

138 Wang B, X Li, B Stanton, V Kamali, S Naar-King, I Shah, R Thomas. 2007. "Sexual attitudes, pattern of communication, and sexual behavior among unmarried out-of-school youth in China." *BMC Public Health* 7: 189.

139 Williams, T, S Mullen, A Karim, J Posner. 2007. *Evaluation of the Africa Youth Alliance Program in Ghana, Tanzania and Uganda: Impact on Sexual and Reproductive Health Behavior Among Young People*. Arlington, VA: JSI Research and Training Institute.

140 Schutt-Aine J and M Maddaleno. 2003. *Sexual health and development of adolescents and youth in the Americas: Program and policy implications*. Washington DC: Pan American Health Organization. Cited in: Juarez F and TC Martín. 2006. "Safe Sex Versus Safe Love? Relationship Context and Condom Use Among Male Adolescents in the Favelas of Recife, Brazil." *Archives of Sexual Behavior* 35(1): 25–35.

141 Burt M. 1998. *Why should we invest in adolscents?* Washington DC: Pan American Health Organization, Program of Health, Family and Population & W.K. Kellogg Foundation. Cited in: Juarez F and TC Martín. 2006. "Safe Sex Versus Safe Love? Relationship Context and Condom Use Among Male Adolescents in the Favelas of Recife, Brazil." *Archives of Sexual Behavior* 35(1): 25–35.

142 Snelling D, DWR Omariba, S Hong, K Georgiades, Y Racine, MH Boyle. 2006. "HIV/AIDS Knowledge, Women's Education, Epidemic Severity and Protective Sexual Behavior in Low- and Middle-Income Countries." *Journal of Biosocial Science* 39: 421–442.

143 Bauni EK and BO Jarabi. 2000. "Family Planning and Sexual Behavior in the Era of HIV/AIDS: The Case of Nakuru District, Kenya." *Studies in Family Planning* 31(1): 69–80.

144 Drezin J, MA Torres and K Daly. 2007. "Barriers to Condom Access: Setting an Agenda." *ICASO Advocacy Briefing*. International Council of AIDS Service Organizations (ICASO).

145 Smith D. 2007. "Modern Marriage, Men's Extramarital Sex, and HIV Risk in Southeastern and HIV Risk in Southeastern Nigeria." *American Journal of Public Health* 97(6): 997–1005.

146 Maharaj P and J Cleland. 2004. "Condom Use Within Marital and Cohabitating Partnerships in KwaZulu-Natal, South Africa." *Studies in Family Planning* 35: 116–124.

147 Heise L, M Ellsberg, M Gottmoeller. 2002. "A Global Overview of Gender-Based Violence." *International Journal of Gyneocology and Obstetrics* 78(Suppl 1): S5-S14. Cited in: Gay J, K Hardee, M Wood, C Wingfield, E Kidder, K Fleming, A Hairston, F Cleghorn. 2005. *HIV/AIDS Interventions: What is the Evidence?* (Draft) Washington, DC: The POLICY Project.

148 Coker A. 2007. "Does Physical Intimate Partner Violence Affect Sexual Health?: A Systematic Review." *Trauma, Violence, & Abuse* 8(2): 149–177.

149 Kalichman S and L Simbayi. 2004. "Sexual Assault History and Risks for Sexually Transmitted Infections among Women in an African Township in cape Town, South Africa." *AIDS Care* 16(6): 681–689. Cited in: Gay J, K Hardee, M Wood, C Wingfield, E Kidder, K Fleming, A Hairston, F Cleghorn. 2005. *HIV/AIDS Interventions: What is the Evidence?* (Draft) Washington, DC: The POLICY Project.

150 Pettifor AE, D Measham, HV Rees and NS Padian. 2004. "Sexual Power and HIV Risk, South Africa." *Emerging Infectious Diseases* 10(11): 1996–2004. Cited in: World Health Organization. 2004. "Violence Against Women and HIV/AIDS: Critical Intersections. Intimate Partner Violence and HIV/AIDS." *Information Bulletin Series* (1). Geneva: WHO. Accessed online at: http://www.who.int/gender/violence/en/vawinformationbrief.pdf on May 19, 2008.

151 Human Rights Watch. 2003. *Just die quietly: Domestic Violence and Women's Vulnerability to HIV in Uganda* 15(15A). New York: Human Rights Watch. Cited in: World Health Organization. 2004. "Violence Against Women and HIV/AIDS: Critical Intersections. Intimate Partner Violence and HIV/AIDS." *Information Bulletin Series* (1). Geneva: WHO. Accessed online at: http://www.who.int/gender/violence/en/vawinformationbrief.pdf on May 19, 2008.

152 Go V, Sethulakshmi CJ, Bentley ME, et al.. 2003. "When HIV Prevention Messages and Gender Norms Clash: The Impact of Domestic Violence on Women's HIV Risk in Slums of Chennai, India." *AIDS and Behavior* 7(3): 263–272. Cited in: World Health Organization. 2004. "Violence Against Women and HIV/AIDS: Critical Intersections. Intimate Partner Violence and HIV/AIDS." *Information Bulletin Series* (1). Geneva: WHO. Accessed online at: http://www.who.int/gender/violence/en/vawinformationbrief.pdf on May 19, 2008.

153 Goldstein DM. 1995. "The Cultural, Class, and Gender Politics of a Modern Disease: Women and AIDS in Brazil." *Women and AIDS Research Program No. 16*. Washington, DC: ICRW. Cited in: Gay J, K Hardee, M Wood, C Wingfield, E Kidder, K Fleming, A Hairston, F Cleghorn. 2005. *HIV/AIDS Interventions: What is the Evidence?* (Draft) Washington, DC: The POLICY Project.

154 Wyatt G, MB Tucker, D Eldemire, B Bain, E Le Franc, D Simeon, C Chambers. 1995. "Female Low Income Workers and AIDS in Jamaica." *Women and AIDS Research Program No. 14*. Washington, DC: ICRW. Cited in: Gay J, K Hardee, M Wood, C Wingfield, E Kidder, K Fleming, A Hairston, F Cleghorn. 2005. *HIV/AIDS Interventions: What is the Evidence?* (Draft) Washington, DC: The POLICY Project.

155 Jenkins C and National Sex and Reproduction Research Team. 1995. "Women and the Risk of AIDS: A Study of Sexual and Reproductive Knowledge and Behavior in Papua New Guinea." *Women and AIDS Research Program No. 10*. Washington, DC: ICRW. Cited in: Gay J, K Hardee, M Wood, C Wingfield, E Kidder, K Fleming, A Hairston, F Cleghorn. 2005. *HIV/AIDS Interventions: What is the Evidence?* (Draft) Washington, DC: The POLICY Project.

156 Erulkar A. 2004. "The Experience of Sexual Coercion among Young People in Kenya." *International Family Planning Perspectives* 30(4): 182–189. Cited in: Gay J, K Hardee, M Wood, C Wingfield, E Kidder, K Fleming, A Hairston, F Cleghorn. 2005. *HIV/AIDS Interventions: What is the Evidence?* (Draft) Washington, DC: The POLICY Project.

157 Maman S, JK Mbwambo, NM Hogan, GP Kilonzo, JC Campbell, E Weiss, MD Sweat. 2002. "HIV-Positive Women Report More Lifetime Partner Violence: Findings From a Voluntary Counseling and Testing Clinic in Dar es Salaam, Tanzania." *American Journal of Public Health* 92(8): 1331–1337.

158 Choi SYP, KL Chen and ZQ Jiang. 2008. "Client-Perpetrated Violence and Condom Failure Among Female Sex Workers in Southwestern China." *Sexually Transmitted Diseases* 35(2): 141–146.

159 Stachowiak J, A Peryshkina, I Kruzhkova, A Konakova, S Sherman, C Beyrer. 2004. "Unmet Program Needs of Moscow Sex Workers." Abstract MoPeD3904. XV International AIDS Conference. Bangkok, Thailand. Cited in: Gay J, K Hardee, M Wood, C Wingfield, E Kidder, K Fleming, A Hairston, F Cleghorn. 2005. *HIV/AIDS Interventions: What is the Evidence?* (Draft) Washington, DC: The POLICY Project.

160 NAZ Foundation International. 2005. *The impact of social, legal and judicial impediments to sexual health promotion, and HIV and AIDS related care and support for males who have sex with males in Bangladesh and India*. Cited in: Drezin J, MA Torres and K Daly. 2007. "Barriers to Condom Access: Setting an Agenda." ICASO Advocacy Briefing. International Council of AIDS Service Organizations (ICASO).

161 Nyblade L, R Pande, S Mathur, K MacQuarrie, R Kidd, H Banteyerga, A Kidanu, G Kilonzo, J Mbwambo, V Bond. 2003. *Disentangling HIV and AIDS Stigma in Ethiopia, Tanzania and Zambia*. Washington, DC: International Center for Research on Women.

162 Chimbiri AM. 2007. "The condom is an 'intruder' in marriage: Evidence from rural Malawi." *Social Science & Medicine* 64: 1102–1115.

163 Maharaj P and J Cleland. 2004. "Condom Use Within Marital and Cohabitating Partnerships in KwaZulu-Natal, South Africa." *Studies in Family Planning* 35: 116–124.

164 Onah H, G Hoabachie, S Obi, F Ezugwu and J Eze. 2002. "Nigerian Male Sexual Activity During Pregnancy." *International Journal of Gynecology and Obstetrics* 76(2): 219–223.

165 Berer M. 2006. "Dual Protection: More Needed than Practiced or Understood." *Reproductive Health Matters* 14(28): 162–170.

166 Barbosa RM and WV Villela. 1995. "Sterilisation and Sexual Behavior Among Women in São Paulo, Brazil." *Reproductive Health Matters* 5: 37–46.

167 Ibid.

168 Bauni EK and BO Jarabi. 2000. "Family Planning and Sexual Behavior in the Era of HIV/AIDS: The Case of Nakuru District, Kenya." *Studies in Family Planning* 31(1): 75.

169 Foss, A, M Hossain, P Vickerman and C Watts. 2007. "A Systematic Review of Published Evidence on Intervention Impact on Condom Use in sub-Saharan Africa and Asia." *Sex Transm Inf* 83: 510–516.

170 Xu F, P Kilmarx, S Supawitkul, C Manopaiboon, S Yanpaisarn, K Limpakarnjanarat, S Chaikummao, PA Mock, NL Young, TD Mastro. 2002. "Incidence of HIV-1 infection and effects of clinic-based counseling on HIV preventive behaviors among married women in northern Thailand." *J Acquir Immune Defic Syndr* 29: 284–288. Cited in: Foss A, M Hossain, P Vickerman and C Watts. 2007. "A Systematic Review of Published Evidence on Intervention Impact on Condom Use in sub-Saharan Africa and Asia." *Sex Transm Inf* 83: 510–516.

171 Tripiboon D. 2001. "A HIV/AIDS prevention program for married women in rural northern Thailand." *Aust J Primary Health Interchange* 7: 83–91. Cited in: Foss A, M Hossain, P Vickerman and C Watts. 2007. "A Systematic Review of Published Evidence on Intervention Impact on Condom Use in sub-Saharan Africa and Asia." *Sex Transm Inf* 83: 510–516.

172 Williamson N, J Liku, K McLoughlin, I Nyamongo and F Nakayima. 2006. "A Qualitative Study of Condom Use among Married Couples in Kampala, Uganda." *Reproductive Health Matters* 14(28): 89–98.

173 Smith KP and S Watkins. 2004. "Perceptions of risk and strategies for prevention: responses to HIV/AIDS in rural Malawi." *Social Science & Medicine* 60: 649–660.

174 Pullum T, J Cleland and I Shah. 2005. "Consensus, power and trust in the use of family planning and condoms by couples in Eastern and Southern Africa." Paper presented at XXV International Conference of the IUSSP, Session 124, Tours, 18–23 July. Cited in: Cleland J, MM Ali and I Shah. 2006. "Trends in Protective Behavior among Single vs Married Young Women in Sub-Saharan Africa: The Big Picture." *Reproductive Health Matters* 14(28): 17–22.

175 Maharaj P and J Cleland. 2005. "Risk Perception and Condom Use Among Married Or Cohabitating Couples in KwaZulu-Natal, South Africa." *International Family Planning Perspectives* 31(1): 24–29.

176 Foss A, M Hossain, P Vickerman and C Watts. 2007. "A Systematic Review of Published Evidence on Intervention Impact on Condom Use in sub-Saharan Africa and Asia." *Sex Transm Inf* 83: 510–516.

177 Williamson N, J Liku, K McLoughlin, I Nyamongo and F Nakayima. 2006. "A Qualitative Study of Condom Use Among Married Couples in Kampala, Uganda." *Reproductive Health Matters* 14(28): 89–98.

178 Pullum T, J Cleland and I Shah. 2004. "Factors affecting condom use in primary sexual relationships in sub-Saharan Africa." Paper presented at Annual Meeting of the Population Association of America, Boston. Cited in: Cleland J, MM Ali and I Shah. 2006. "Trends in Protective Behavior among Single vs Married Young Women in Sub-Saharan Africa: The Big Picture." *Reproductive Health Matters* 14(28): 17–22.

179 Smith D. 2007. "Modern Marriage, Men's Extramarital Sex, and HIV Risk in Southeastern and HIV Risk in Southeastern Nigeria." *American Journal of Public Health* 97(6): 997–1005.

180 Carpenter LM, A Kamali, A Ruberantwari, S Malamba, JAG Whitworth. 1999. "Rates of HIV-1 transmission within marriage in rural Uganda in relation to the HIV ser-status of the partners." *AIDS* 13: 1083–1089. Cited in: Bunnell RE, J Nassozi, E Marum, J Mubangizi, S Malamba, B Dillon, J Kalule, J Bahizi, N Musoke, JH Mermin. 2005. "Living with Discordance: Knowledge, Challenges, and Prevention Strategies of HIV-Discordant Couples in Uganda." *AIDS Care* 17(8): 999–1012.

181 Lurie MN, BG Williams, K Zuma, D Mkaya-Mwamburi, GP Garnett, MD Sweat, et al. 2003. "Who infects whom? HIV-1 concordance and discordance among migrant and on-migrant couples in South Africa." *AIDS* 17: 2245–2252. Cited in: Bunnell RE, J Nassozi, E Marum, J Mubangizi, S Malamba, B Dillon, J Kalule, J Bahizi, N Musoke, JH Mermin. 2005. "Living with Discordance: Knowledge, Challenges, and Prevention Strategies of HIV-Discordant Couples in Uganda." *AIDS Care* 17(8): 999–1012.

182 McKenna SL, GK Muyinda, D Roth, M Mwali, N Ng'Andu, A Myrick, et al. 1997. "Rapid HIV testing and counseling for voluntary testing centers in Africa." *AIDS* 11: S103–S110. Cited in: Bunnell RE, J Nassozi, E Marum, J Mubangizi, S Malamba, B Dillon, J Kalule, J Bahizi, N Musoke, JH Mermin. 2005. "Living with Discordance: Knowledge, Challenges, and Prevention Strategies of HIV-Discordant Couples in Uganda." *AIDS Care* 17(8): 999–1012.

183 Kabatesi D, R Ransom, JR Lule, A Coutinho, F Baryarama, RE Bunnell. 2002. "HIV prevalence among household members of persons living with HIV in rural Uganda." XIV International AIDS Conference. Barcelona abstract TuPeD4910. Cited in: Bunnell RE, J Nassozi, E Marum, J Mubangizi, S Malamba, B Dillon, J Kalule, J Bahizi, N Musoke, JH Mermin. 2005. "Living with Discordance: Knowledge, Challenges, and Prevention Strategies of HIV-Discordant Couples in Uganda." *AIDS Care* 17(8): 999–1012.

184 White J, D Melvin, C Moore, S Crowley. 1997. "Parental HIV discordancy and its impact on the family." *AIDS Care* 9: 609–614. Cited in: Bunnell RE, J Nassozi, E Marum, J Mubangizi, S Malamba, B Dillon, J Kalule, J Bahizi, N Musoke, JH Mermin. 2005. "Living with Discordance: Knowledge, Challenges, and Prevention Strategies of HIV-Discordant Couples in Uganda." *AIDS Care* 17(8): 999–1012.

185 N'Gbichi JM, KM DeCock, V Batter, K Yeboue, A Ackah, F Zadi, et al. 1995. "HIV status of female sex partners of men reactive to HIV-1, HIV-2 or both viruses in Abidjan, Cote d'Ivoire." *AIDS* 9: 951–954. Cited in: Bunnell RE, J Nassozi, E Marum, J Mubangizi, S Malamba, B Dillon, J Kalule, J Bahizi, N Musoke, JH Mermin. 2005. "Living with Discordance: Knowledge, Challenges, and Prevention Strategies of HIV-Discordant Couples in Uganda." *AIDS Care* 17(8): 999–1012.

186 Bunnell RE, J Nassozi, E Marum, J Mubangizi, S Malamba, B Dillon, J Kalule, J Bahizi, N Musoke, JH Mermin. 2005. "Living with Discordance: Knowledge, Challenges, and Prevention Strategies of HIV-Discordant Couples in Uganda." *AIDS Care* 17(8): 999–1012

187 Hudson C P. 1996. "The Importance of Transmission of HIV-1 in Discordant Couples in the Population Dynamics of HIV-1 Infection in Rural Africa." *International Journal of STD & AIDS* 7: 302–304. Cited in: Bunnell RE, J Nassozi, E Marum, J Mubangizi, S Malamba, B Dillon, J Kalule, J Bahizi, N Musoke, JH Mermin. 2005. "Living with Discordance: Knowledge, Challenges, and Prevention Strategies of HIV-Discordant Couples in Uganda." *AIDS Care* 17(8): 999–1012.

188 Robinson NJ, V Mulder, B Auvert, AG Whiworth and RJ Hayes. 1999. "Type of Partnership and Heterosexual Spread of HIV Infection in Rural Uganda: Results from Simulation Modelling." *International Journal of STD & AIDS* 10: 718–725. Cited in: Bunnell RE, J Nassozi, E Marum, J Mubangizi, S Malamba, B Dillon, J Kalule, J Bahizi, N Musoke, JH Mermin. 2005. "Living with Discordance: Knowledge, Challenges, and Prevention Strategies of HIV-Discordant Couples in Uganda." *AIDS Care* 17(8): 999–1012.

189 Painter TM. 2001. "Voluntary Counseling and Testing for Couples: A High-Leverage Intervention for HIV/AIDS Prevention in Sub-Saharan Africa." *Social Science and Medicine* 53: 1397–1411. Cited in: Bunnell RE, J Nassozi, E Marum, J Mubangizi, S Malamba, B Dillon, J Kalule, J Bahizi, N Musoke, JH Mermin. 2005. "Living with Discordance: Knowledge, Challenges, and Prevention Strategies of HIV-Discordant Couples in Uganda." *AIDS Care* 17(8): 999–1012.

190 International Community of Women Living with HIV/AIDS (ICW). 2004. *Visibility, Voices and Visions: A Call for Action from HIV-Positive Women to Policy-Makers*. London: ICW, 13.

191 Bunnell RE, J Nassozi, E Marum, J Mubangizi, S Malamba, B Dillon, J Kalule, J Bahizi, M Musoke, JH Mermin. 2005. "Living with Discordance: Knowledge, Challenges, and Prevention Strategies of HIV-Discordant Couples in Uganda." *AIDS Care* 17(8): 999–1012.

192 Allen S, J Meinzen-Derr, M Kautzman, I Zulu, S Trask, U Fideli, et al. 2003. "Sexual Behavior of HIV Discordant Couples after HIV Counseling and Testing." *AIDS* 17(5): 733–740. Cited in: Gay J, K Hardee, M Wood, C Wingfield, E Kidder, K Fleming, A Hairston, F Cleghorn. 2005. *HIV/AIDS Interventions: What is the Evidence?* (Draft) Washington, DC: The POLICY Project.

193 Mola OD, MA Mercer, RJ Asghar, KH Gimbel-Sherr, MA Micek, SS Gloyd. 2006. "Condom Use After Voluntary Counselling and Testing in Central Mozambique." *Tropical Medicine and International Health* 11(2): 176–181.

194 Allen S, et al. 2003. "Sexual Behavior of HIV Discordant Couples After HIV Counseling and Testing." *AIDS* 17: 733–740. Cited in: Bunnell RE, J Nassozi, E Marum, J Mubangizi, S Malamba, B Dillon, J Kalule, J Bahizi, N Musoke, JH Mermin. 2005. "Living with Discordance: Knowledge, Challenges, and Prevention Strategies of HIV-Discordant Couples in Uganda." *AIDS Care* 17(8): 999–1012.

195 Vandevanter N, PD Cleary, J Moore, AS Thacker and TR O'Brien. 1998. "Reproductive Behavior in HIV-Discordant Heterosexual Couples: Implications for Counseling." *AIDS Patient and STDS* 12: 43–49. Cited in: Bunnell RE, J Nassozi, E Marum, J Mubangizi, S Malamba, B Dillon, J Kalule, J Bahizi, N Musoke, JH Mermin. 2005. "Living with Discordance: Knowledge, Challenges, and Prevention Strategies of HIV-Discordant Couples in Uganda." *AIDS Care* 17(8): 999–1012.

196 Bunnell R, A Opio, J Musinguzi, W Kirungi, P Ekwaru, V Mishra, W Hladik, J Kafuko, E Madraa, J Mermin. 2008. "HIV transmission risk behavior among HIV-infected adults in Uganda: results of a nationally representative survey." *AIDS* 22: 617–624.

197 Moatti JP, J Prudhomme, CD Traore, et al. 2003. "Access to Antiretroviral Therapy and Sexual Behaviors of HIV-Infected Persons Aware of their HIV-Status in Cote d'Ivoire." *AIDS* 17: S69–77. Cited in: Sarna, A, S M F Luchters, S Geibel, S Kaai, P Munyao, K S Shikely, K Mandaliya, J van Dam and M Temmerman. 2008. "Sexual Risk Behavior and HAART: A Comparative Study of HIV-Infected Persons on HAART and on Preventive Therapy in Kenya." *International Journal of STD & AIDS* 19: 85–89.

198 Sarna, A, S M F Luchters, S Geibel, S Kaai, P Munyao, K S Shikely, K Mandaliya, J van Dam and M Temmerman. 2008. "Sexual Risk Behavior and HAART: A Comparative Study of HIV-Infected Persons on HAART and on Preventive Therapy in Kenya." *International Journal of STD & AIDS* 19: 85–89.

199 Kennedy C, K O'Reilly, A Medley, M Sweat. 2007. "The impact of HIV treatment on risk behaviour in developing countries: A systematic review." *AIDS Care* 19(6): 707–720.

200 Moatti JP, J Prudhomme, DC Traore, et al. 2003. "Access to Antiretroviral Therapy and Sexual Behaviors of HIV-Infected Persons Aware of their HIV-Status in Cote d'Ivoire." *AIDS* 17: S69–77. Cited in: Kennedy C, K O'Reilly, A Medley, M Sweat. 2007. "The impact of HIV treatment on risk behaviour in developing countries: A systematic review." *AIDS Care* 19(6): 707–720.

201 Bateganya M, G Colfax, LA Shafer, et al. 2005. "Antiretroviral therapy and sexual behavior: a comparative study between antiretroviral–naïve and –experienced patients at an urban HIV/AIDS care and research center in Kampala, Uganda." *AIDS Patient Care and STDs* 19(11): 760–68. Cited in: Kennedy C, K O'Reilly, A Medley, M Sweat. 2007. "The impact of HIV treatment on risk behaviour in developing countries: A systematic review." *AIDS Care* 19(6): 707–720.

202 Bunnell R, JP Ekwaru, P Solberg, et al. 2006. "Changes in sexual behavior and risk of HIV transmission after antiretroviral therapy and prevention interventions in rural Uganda." *AIDS* 20(1): 85–92. Cited in: Kennedy C, K O'Reilly, A Medley, M Sweat. 2007. "The impact of HIV treatment on risk behaviour in developing countries: A systematic review." *AIDS Care* 19(6): 707–720.

203 Kennedy C, K O'Reilly, A Medley, M Sweat. 2007. "The impact of HIV treatment on risk behaviour in developing countries: A systematic review." *AIDS Care* 19(6): 707–720.

204 Foss A, M Hossain, P Vickerman and C Watts. 2007. "A Systematic Review of Published Evidence on Intervention Impact on Condom Use in sub-Saharan Africa and Asia." *Sex Transm Inf* 83: 510–516.

205 Garcia, S G, E A Yam and M Firestone. 2006. ""No Party Hat, No Party": Successful Condom Use in Sex Work in Mexico and the Dominican Republic." *Reproductive Health Matters* 14(28): 53–62.

206 Adu-Oppong A, RM Grimes, MW Ross, J Risser, G Kessie. 2007. "Social and Behavioral Determinants of Consistent Condom Use among Female Commercial Sex Workers in Ghana." *AIDS Education and Prevention* 19(2): 160–172.

207 Ao T, N Sam, R Mannongi, G Seage, S Kapiga. 2003. "Social and behavioral determinants of consistent condom use among hotel and bar workers in Northern Tanzania." *International Journal of STD and AIDS* 14: 688–696. Cited in: Adu-Oppong A, RM Grimes, MW Ross, J Risser, G Kessie. 2007. "Social and Behavioral Determinants of Consistent Condom Use among Female Commercial Sex Workers in Ghana." *AIDS Education and Prevention* 19(2): 160–172.

208 Norman LR. 2003, "Predictors of consistent condom use: A hierarchical analysis of adults from Kenya, Tanzania and Trinidad." *International Journal of STD and AIDS* 14: 584–590. Cited in: Adu-Oppong A, RM Grimes, MW Ross, J Risser, G Kessie. 2007. "Social and Behavioral Determinants of Consistent Condom Use among Female Commercial Sex Workers in Ghana." *AIDS Education and Prevention* 19(2): 160–172.

209 Mukenge-Tshibaka L, M Alary, N Geraldo and C M Lowndes. 2005. "Incorrect Condom Use and Frequent Breakage among Female Sex Workers and their Clients." *International Journal of STD & AIDS* 16: 345–347.

210 Douthwaite MR and L Sareoun. 2006. "Psychological and Socio-medical Aspects of AIDS/HIV." *AIDS Care* 18(5): 505–513.

211 McGrath JW, DD Celentano, SE Chard, A Fullem, M Kamya, RR Gangakhedar, C Khamboonruang, N Joglekar, R Malhotra-Kohli, A Kiwanuka, B Sirirojn. 2007. "A Group-based Intervention to Increase Condom Use among Serodiscordant Couples in India, Thailand and Uganda." *AIDS Care* 19(3): 422.

212 Ibid.
213 Choi S and E Holroyd. 2007. "The influence of Power, Poverty and Agency in the Negotiation of Condom Use for Female Sex Workers in Mainland China." *Culture, Health & Sexuality* 9(5): 489–505.
214 Bucardo J, SJ Semple, M Fraga-Vallejo, et al. 2004. "A qualitative exploration of female sex work in Tijuana, Mexico." *Archives of Sexual Behavior* 33: 343–351. Cited in: Garcia SG, EA Yam and M Firestone. 2006. "'No Party Hat, No Party': Successful Condom Use in Sex Work in Mexico and the Dominican Republic." *Reproductive Health Matters* 14(28): 53–62.
215 Adu-Oppong A, R Grimes, M Ross, J Risser and G Kessie. 2007. "Social and Behavioral Determinants of Consistent Condom Use among Female Commercial Sex Workers in Ghana." *AIDS Education and Prevention* 19(2): 160–172.
216 Egger M, J Pauw, A Lopatatzidis, D Medrano, F Peccaud, GD Smith. 2000. "Promotion of condom use in a high-risk setting in Nicaragua: a randomized controlled trial." *The Lancet* 355: 2102–2105.
217 Chacham A, S Diniz, M Maia, A Galati and L Mirim. 2007. "Sexual and Reproductive Health Needs of Sex Workers: Two Feminist Projects in Brazil." *Reproductive Health Matters* 15(29): 108–118.
218 Population Council, Horizons Program. 2002. "The Sonagachi Project: A Global Model for Community Development." *Horizons Report*: 7.
219 Stadler J and S Delany. 2006. "The 'Healthy Brothel': The Context of Clinical Services for Sex Workers in Hillbrow, South Africa." *Culture, Health & Sexuality* 8(5): 451–463.
220 Chacham A, S Diniz, M Maia, A Galati and L Mirim. 2007. "Sexual and Reproductive Health Needs of Sex Workers: Two Feminist Projects in Brazil." *Reproductive Health Matters* 15(29): 115.
221 Bun Hor L, R Detels, S Heng and P Mun. 2005. "The Role of Sex Worker Clients in Transmission of HIV in Cambodia." *International Journal of STD & AIDS* 15: 170–174.
222 Ford K and A Chamrathrithirong. 2007. "Sexual Partners and Condom Use of Migrant Workers in Thailand." *AIDS Behavior* 11: 905–914.
223 Ibid.
224 Lowndes CM, M Alary, A-C Labbé, C Gnintoungbè, M Belleau, L Mukenge, H Meda, M Ndour, S Anagonou, A Gbaguidi. 2007. "Interventions among male clients of female sex workers in Benin, West Africa: an essential component of targeted HIV preventive interventions." *Sexually Transmitted Infections* 83: 577–581.
225 Ibid.
226 Leonard L, I Ndiaye, A Kapadia, G Eisen, O Diop, S Mboup, P Kanki. 2000. "HIV prevention among male clients of female sex workers in Kaolack, Senegal: results of a peer education program." *AIDS Education and Prevention* 12(1): 21–37. Cited in: Gay J, K Hardee, M Wood, C Wingfield, E Kidder, K Fleming, A Hairston, F Cleghorn. 2005. *HIV/AIDS Interventions: What is the Evidence?* (Draft) Washington, DC: The POLICY Project.
227 Bentley M, K Spratt, M Shepherd, R Gangakhedkar, S Thilikavathi, R Bollinger, S Mehendale. 1998. "HIV Testing and Counseling among Men Attending Sexually Transmitted Diseases Clinics in Pune, India: Changes in Condom Use and Sexual Behavior over Time." AIDS 12: 1869–1877. Cited in: Gay J, K Hardee, M Wood, C Wingfield, E Kidder, K Fleming, A Hairston, F Cleghorn. 2005. *HIV/AIDS Interventions: What is the Evidence?* (Draft) Washington, DC: The POLICY Project.
228 Baral S, F Sifakis, F Cleghorn and C Beyrer. 2007. "Elevated Risk for HIV Infection Among Men Who Have Sex with Men in Low-and Middle-Income Countries 2000–2006: A Systematic Review." *PLoS Med*, December: 4(12): .
229 UNAIDS. 2007. *December 2006 AIDS Epidemic Update*. Geneva: UNAIDS, 9.
230 Hessol N, AR Lifson, PM O'Malley, LS Doll, HW Jaffe, GW Rutherford. 1989. "Prevalence, Incidence, and Progression of Human Immunodeficiency Virus Infection in Homosexual and Bisexual Men in Hepatitis B Vaccine Trials, 1978–1988." *American Journal of Epidemiology* 130(6): 1, 167–1175. Cited in: Hearst N and S Chen. 2004. "Condom Promotion for AIDS Prevention in the Developing World: Is It Working?" *Studies in Family Planning* 35(1): 39–47.
231 Catania J, TJ Coates and R Stall. 1991. "Changes in Condom Use among Homosexual Men in San Francisco." *Health Psychology* 10(3): 190–199. Cited in: Hearst N and S Chen. 2004. "Condom Promotion for AIDS Prevention in the Developing World: Is It Working?" *Studies in Family Planning* 35(1): 39–47.
232 White R and R Carr. 2005. "Homosexuality and HIV/AIDS Stigma in Jamaica." *Culture, Health & Sexuality*. 7(4): 347–359.
233 Niang, C I, P Tapsoba, E Weiss, M Diagne, Y Niang, A M Moreau, D Gomis, A S Wade, K Seck and C Castle. 2003. "It's Raining Stones': Stigma, Violence and HIV Vulnerability among Men Who Have Sex with Men in Dakar, Senegal." *Culture, Health & Sexuality* 5(6): 499–512.

234 Go VF, S Johnson, M Bentley, S Sivaram, AK Srikrishnan, C Latkin, S Solomon, D Celentano. 2003. "When HIV Prevention Messages and Gender Norms Clash: The Impact of Domestic Violence on Women's HIV Risk in Slums of Chennai, India." *AIDS and Behavior* 7(3): 263–272. Cited in: Godbole S and S Mehendale. 2005. "HIV/AIDS epidemic in India: Risk Factors, Risk Behavior & Strategies for Prevention & Control." *Indian J Med Res* 121: 356–368.

235 Godbole S and S Mehendale. 2005. "HIV/AIDS epidemic in India: Risk Factors, Risk Behavior & Strategies for Prevention & Control." *Indian J Med Res* 121: 356–368.

236 Mansergh G, S Naorat, R Jommaroeng, RA Jenkins, R Stall, S Jeeyapant, P Phanuphak, JW Tappero, F van Griensven. 2006. "Inconsistent Condom Use with Steady and Casual Partners and Associated Factors among Sexually-Active Men who Have Sex with Men in Bangkok, Thailand." *AIDS Behavior* 10: 743–751.

237 Ma X, Q Zhang, X He, W Sun, H Yue, S Chen, F Raymond, Y Li, M Xu, H Du, W McFarland. 2007. "Trends in Prevalence of HIV, Syphilis, Hepatitis C, Hepatitis B, and Sexual Risk Behavior Among Men Who Have Sex With Men." *J Acquir Immune Defic Syndr* 45(5): 581–587.

238 Mansergh G, S Naorat, R Jommaroeng, RA Jenkins, R Stall, S Jeeyapant, P Phanuphak, JW Tappero, F van Griensven. 2006. "Inconsistent Condom Use with Steady and Casual Partners and Associated Factors among Sexually-Active Men who Have Sex with Men in Bangkok, Thailand." *AIDS Behavior* 10: 743–751.

239 Ma X, Q Zhang, X He, W Sun, H Yue, S Chen, F Raymond, Y Li, M Xu, H Du, W McFarland. 2007. "Trends in Prevalence of HIV, Syphilis, Hepatitis C, Hepatitis B, and Sexual Risk Behavior Among Men Who Have Sex With Men." *J Acquir Immune Defic Syndr* 45(5): 581–587.

240 UNAIDS. 2006. *HIV and Men who have Sex with Men in Asia and the Pacific: UNAIDS Best Practice Collection*. Geneva: UNAIDS.

241 Young, R and I Meyer. 2005. "The Trouble With 'MSM' and 'WSW': Erasure of the Sexual-Minority Person in Public Health Discourse." *American Journal of Public Health* 95(7): 1144–1149.

242 Niang CI, P Tapsoba, E Weiss, M Diagne, Y Niang, AM Moreau, D Gomis, AS Wade, K Seck, C Castle. 2003. "It's Raining Stones': Stigma, Violence and HIV Vulnerability among Men Who Have Sex with Men in Dakar, Senegal." *Culture, Health & Sexuality* 5(6): 499–512.

243 Kelly J, Y Amirkhanian, T McAuliffe, J Granskaya, O Borodkina, R Dyaltlov, A Kukharsky, A Kozlov. 2002. "HIV Characteristics and Prevention Needs in a Community Sample of Bisexual Men in St. Petersburg, Russia." *AIDS Care* 14(1): 63–76. Cited in: Gay J, K Hardee, M Wood, C Wingfield, E Kidder, K Fleming, A Hairston, F Cleghorn. 2005. *HIV/AIDS Interventions: What is the Evidence?* (Draft) Washington, DC: The POLICY Project.

244 Gruskin S, L Ferguson and J O'Malley. 2007. "Ensuring Sexual and Reproductive Health for People Living with HIV: An Overview of Key Human Rights, Policy and Health Systems Issues." *Reproductive Health Matters* 15(Suppl 29): 4–26.

245 UNAIDS, UNFPA and UNIFEM. 2004. *Women and HIV/AIDS: Confronting the Crisis*. Geneva: UNAIDS. Cited in: Gay J, K Hardee, M Wood, C Wingfield, E Kidder, K Fleming, A Hairston, F Cleghorn. 2005. *HIV/AIDS Interventions: What is the Evidence?* (Draft) Washington, DC: The POLICY Project.

246 United Nations Office on Drugs and Crime. 2003. "Men Fly to Heaven, Women Go to Hell: Gender Implications of Drug Abuse, Findings of Qualitative Research in Hai Phong, November 2002." Hanoi, Vietnam. Cited in: Gay J, K Hardee, M Wood, C Wingfield, E Kidder, K Fleming, A Hairston, F Cleghorn. 2005. *HIV/AIDS Interventions: What is the Evidence?* (Draft) Washington, DC: The POLICY Project.

247 United Nations Office on Drugs and Crime. 2006. *HIV/AIDS Prevention, Care, Treatment and Support in Prison Settings: A Framework for an Effective National Response*. New York: UNODC, UNAIDS, WHO.

248 Dolan K, D Lowe and J Shearer. 2004. "Evaluation of the Condom Distribution Program in New South Wales Prisons, Australia." *Journal of Law, Medicine & Ethics* 32: 124–128.

249 Singh N. 2007. "HIV in Prison and Consequences Outside: The Butterfly Effect." Letter to the Editor. *Sexually Transmitted Diseases* 34(5): 317.

250 InterPress. 1997. *Jamaica—Population: Condom Distribution Proposal Sparks Riot*, August 22. Accessed online at: http://www.aegis.org/news/ips/1997/IP970807.html on May 22, 2008.

251 Human Rights Watch. 2007. *Correctional Policy and Condom Distribution*. New York: Human Rights Watch. Accessed online at: http://hrw.org/backgrounder/hivaids/condoms0307/3.htm on April 30, 2008.

252 Ibid.
253 Drezin J, MA Torres and K Daly. 2007. "Barriers to Condom Access: Setting an Agenda." *ICASO Advocacy Briefing*. International Council of AIDS Service Organizations (ICASO).
254 World Health Organization Regional Office for the Western Pacific. 2004. *Experiences of 100% Condom Use Programme in Selected Countries of Asia*. Manila: WHO WPRO.
255 Rojanapithayakorn W. 2006. "The 100% Condom Use Programme in Asia." *Reproductive Health Matters* 14(28): 41–52.
256 Shinawatra, Dr. Thaksin, Prime Minister of Thailand. Cited in: Rojanapithayakorn, W. 2006. "The 100% Condom Use Programme in Asia." *Reproductive Health Matters* 14(28): 41–52.
257 HIV Sentinel Surveillance (HSS): Results, Trends and Estimates. 2003. *Surveillance Unit National Center for HIV/AIDS, Dermatology and STDS (NCHADS)*. Presented at the Sun Way Hotel on December 3, 2004. Cited in: Chaya N. 2006. "Cambodia and HIV: Winning Round Two in a Preventative Fight." *Research Commentary* 1(7). Washington DC: Population Action International.
258 Myanmar Department of Health. 2005. Cited in: Rojanapithayakorn W. 2006. "The 100% Condom Use Programme in Asia." *Reproductive Health Matters* 14(28): 41–52.
259 Network of Sex Work Projects (NSWP). 2003. *The 100% Condom Use Policy: a Sex Workers' Rights Perspective*. Accessed online at: http://www.nswp.org/safety/100percent.html on May 15, 2008.
260 Bun Hor L, R Detels, S Heng and P Mun. 2005. "The Role of Sex Worker Clients in Transmission of HIV in Cambodia." *International Journal of STD & AIDS* 15: 170–174.
261 Stanwood N, S Cohn, J Heiser, M Pugliese. 2007. "Contraception and fertility plans in a cohort of HIV-positive women in care." *Contraception* 75(4): 294–298.
262 Stover J, N Fuchs, D Halperin, A Gibbons, D Gillespie. "Adding family planning to PMTCT sites increases the benefits of PMTCT." *USAID Issues in Brief*. Washington DC: USAID, Bureau for Global Health.
263 Reynolds H, B Janowitz, R Homan, L Johnson. 2006. "The Value of Contraception to Prevent Perinatal HIV Transmission." *Sexually Transmitted Diseases* 33(6): 350–356.
264 Reynolds H, M Steiner, W Cates, Jr. 2005. "Contraception's proved potential to fight HIV." *Sexually Transmitted Infections* 81: 184–185.
265 Sweat MD, KR O'Reilly, GP Schmid, J Denison, I de Zoysa. 2004. "Cost effectiveness of nevirapine to prevent mother-to-child HIV transmission in eight African countries." *AIDS* 18: 1661–71.
266 UNAIDS. 2007. *AIDS Epidemic Update: December 2007*. Geneva: UNAIDS.
267 Glion Call to Action. Accessed online at http://who.int/reproductive-health/stis/docs/glion_cal_to_action.pdf on May 13, 2008.
268 National Council for Population and Development, Central Bureau of Statistics (Office of the Vice President and Ministry of Planning and National Development) [Kenya], and Macro International. 1999. Kenya *Demographic and Health Survey 1998*. Calverton, MD: Macro International. Cited in: Duerr A, S Hurst, AP Kourtis, N Rutenberg, DJ Jamieson. 2005. "Integrating family planning and prevention of mother-to-child HIV transmission in resource-limited settings." Viewpoint. *The Lancet* 366: 261–263.
269 Central Statistical Office [Zambia], Central Board of Health [Zambia], and ORC Macro. 2003. Zambia *Demographic and Health Survey 2001–2002*. Calverton, MD: ORC Macro. Cited in: Duerr A, S Hurst, AP Kourtis, N Rutenberg, DJ Jamieson. 2005. "Integrating family planning and prevention of mother-to-child HIV transmission in resource-limited settings." Viewpoint. *The Lancet* 366: 261–263.
270 Rochat TJ, LM Richter, HA Doll, NP Buthelezi, A Tomkins, A Stein. 2006. "Depression among pregnant rural South African women undergoing HIV testing." *JAMA* 295: 1376–1378.
271 WHO. 2007. *Adolescent pregnancy—Unmet needs and undone deeds: A review of the literature and programs*. Geneva: WHO.
272 Desgrees-Du-Lou A, P Msellati, I Viho, et al. 2002. "Contraceptive use, protected sexual intercourse and incidence of pregnancies among African HIV-infected women." *Int J STD AIDS* 13: 462–468. Cited in: Duerr A, S Hurst, AP Kourtis, N Rutenberg, DJ Jamieson. 2005. "Integrating family planning and prevention of mother-to-child HIV transmission in resource-limited settings." Viewpoint. *The Lancet* 366: 261–263.
273 Kilewo C, A Massawe, E Lyamuya, I Semali, F Kalokola, E Urassa, M Giattas, F Temu, K Karlsson, F Mhalu, G Biberfeld. 2001. "HIV counseling and testing of pregnant women in sub-Saharan Africa: experiences from a study on prevention of mother-to-child HIV-1 transmission in Dar es Salaam, Tanzania." *J Acquir Immune Defic Syndr* 28: 458–462.

274 Ross J and W Winfrey. 2002. "Unmet Need for Contraception in the Developing World and the Former Soviet Union: An Updated Estimate." *International Family Planning Perspectives* 28(3): 138–143.
275 Singh S, JE Darroch, M Vlassoff, J Nadeau. 2003. *Adding It Up: The Benefits of Investing in Sexual and Reproductive Health Care*. Washington, DC: The Allan Guttmacher Institute and UNFPA.
276 Sedgh G, R Hussain, A Bankole and S Singh. 2007. "Women with an Unmet Need for Contraception in Developing Countries and Their Reasons for Not Using a Method." *Occasional Report No. 37*. New York: Guttmacher Institute.
277 Duerr A, S Hurst, AP Kourtis, N Rutenberg, DJ Jamieson. 2005. "Integrating family planning and prevention of mother-to-child HIV transmission in resource-limited settings." Viewpoint. *The Lancet* 366: 261–263.
278 Asiimwe D, R Kibombo, J Matsiko and K Hardee. 2005. *Study of the Integration of Family Planning and VCT/PMTCT/ART Programs in Uganda*. Washington DC: USAID Policy Project.
279 Ferrell B and N Rajani. 2007. "Integrating Family Planning with Anteretroviral Therapy Services in Uganda." *Acquiring Knowledge*. No. 5. New York: The Acquire Project for USAID.
280 EngenderHealth and International Community of Women Living with HIV/AIDS (ICW). 2006. *Sexual and reproductive health for HIV-positive women and adolescent girls: Manual for trainers and programme managers*. New York and London: Engenderhealth and ICW.
281 Bradley H, A Bedada, A Tsui, H Brahmbhatt, D Gillespie, A Kidanu. 2008. "HIV and Family Planning Service Integration and Voluntary HIV Counselling and Testing Client Composition in Ethiopia." *AIDS Care*, 20(1): 61–71.
282 Peck R, DW Fitzgerald, B Liautaud, et al. 2003. "The feasibility, demand and effect of integrating primary care services with HIV voluntary counseling and testing: evaluation of a 15-year experience in Haiti, 1985–2000." *J Acquir Immune Defic Syndr* 33: 470–475. Cited in: Duerr A, S Hurst, AP Kourtis, N Rutenberg, DJ Jamieson. 2005. "Integrating family planning and prevention of mother-to-child HIV transmission in resource-limited settings." Viewpoint. *The Lancet* 366: 261–263.
283 Homsy J, et al. 2008. *Incidence and determinants of pregnancy among women receiving ART in rural Uganda*. Fifteenth Conference on Retroviruses and Opportunistic Infections, Boston, abstract 74.
284 Duerr A, S Hurst, AP Kourtis, N Rutenberg, DJ Jamieson. 2005. "Integrating family planning and prevention of mother-to-child HIV transmission in resource-limited settings." Viewpoint. *The Lancet* 366: 261–263.
285 Shelton JD and AE Peterson. 2004. "The imperative for family planning in ART in Africa." *The Lancet* 364: 1916–1918.
286 Ferrell B. 2007. *Family Planning-Integrated HIV Services: A Framework for Integrating Family Planning and Antiretrovial Therapy Services*. New York: The Acquire Project for USAID.
287 WHO. 2003. *Entry points to antiretroviral treatment*. Geneva: WHO.
288 Foreit KGF, K Hardee and K Agarwal. 2002. "When Does It Make Sense to Consider Integrating STI and HIV Services with Family Planning Services?" *International Family Planning Perspectives*. 28(2): 105–107.
289 Bradley H, A Bedada, A Tsui, H Brahmbhatt, D Gillespie, A Kidanu. 2008. "HIV and Family Planning Service Integration and Voluntary HIV Counselling and Testing Client Composition in Ethiopia." *AIDS Care* 20(1): 61–71.
290 Rutenberg N, C Baek, S Kalibala, J Rosen. 2003. *Evaluation of United Nations-Supported Pilot Projects for the Prevention of Mother-to-Child Transmission of HIV* [unpublished]. New York: United Nations Children's Fund (UNICEF) and Population Council. Cited in: Best K. 2004. *Family Planning and the Prevention of Mother-to-Child Transmission of HIV: A Literature Review*. Research Triangle Park, NC: Family Health International.
291 USAID. 2004. *Coverage of selected services for HIV/AIDS prevention, care and support in low and middle income countries in 2003*. Washington, D.C.: The Policy Project
292 Rutenberg N, C Baek, S Kalibala, J Rosen. 2003. *Evaluation of United Nations-Supported Pilot Projects for the Prevention of Mother-to-Child Transmission of HIV* [unpublished]. New York: United Nations Children's Fund (UNICEF) and Population Council. Cited in: Best K. 2004. *Family Planning and the Prevention of Mother-to-Child Transmission of HIV: A Literature Review*. Research Triangle Park, NC: Family Health International.
293 Ibid.
294 Cates W and C Morrison. 2007. "Hormonal Contraception and HIV." *Family Health International Network* 24(1): 3.
295 Morrison CS, J Wang, B Van Der Pol , N Padian, RA Salata, BA Richardson. 2007. "Pregnancy and the risk of HIV-1 acquisition among women in Uganda and Zimbabwe." *AIDS* 21: 1027–1034.

296 Watts H. 2005. "Effect of pregnancy." *J Acquir Immune Defic Syndr* 38(Suppl 1): 36–37. Cited in: Shears KH. 2007. "Does Pregnancy Speed HIV Progression?" Family Health International Network 24(1): 16.
297 Johns Hopkins University. 2006. Linking Reproductive Health, Family Planning and HIV/AIDS in Africa Conference Summary. UN Conference Center. Addis Ababa, Ethiopia, 9–10 October.
298 Sadik M. 2006. "A Promising Start: Integration of Family Planning into PMTCT Interventions in Ethiopia." Presented at Linking Reproductive Health, Family Planning and HIV/AIDS in Africa Conference, 9–10 October.
299 United Nations General Assembly. 2008. "Declaration of Commitment on HIV/AIDS and Political Declaration on HIV/AIDS: Midway to the Millennium Development Goals". *Report of the Secretary-General*. New York: United Nations.
300 Global HIV Prevention Working Group. 2003. *Access to HIV Prevention: Closing the Gap*. Accessed online at: www.gatesfoundation.org on May 14, 2008.
301 UNFPA. 2007. Planning Framework of the 1st Interagency Core Group on Comprehensive Condom Programming. Report from Workshop on "Scaling Up Comprehensive Male and Female Condom Programming for SRH and HIV Prevention." New York, 2–4 October.
302 UNFPA, WHO and PATH. 2007. *Condom Programming for HIV Prevention: An Operations Manual for Programme Managers.* New York: UNFPA.
303 Donnelly, J. 2005. "*Key Groups in Anti-AIDS Fight AIM for Unity.*" *Boston Globe*, May 25.
304 Personal communication with Bidia Deperthes, Technical Advisor, Condom Programming, United Nations Population Fund (UNFPA) on May 2, 2008.
305 Office of the United States Global AIDS Coordinator. 2007. *The President's Emergency Plan for AIDS Relief: Indicators, Reporting Requirements, and Guidelines Indicators Reference Guide Revised for FY2007 Reporting*. Washington, DC: US Department of State.
306 Cleland J, S Bernstein, A Ezeh, A Faundes, A Glasier, J Innis. 2006. "Family planning: The unfinished agenda." *The Lancet*, Sexual and Reproductive Health Series.
307 Ross, J, K Hardee, E Mumford and S Eid. 2002. "Contraceptive Method Choice in Developing Countries. *International Family Planning Perspectives*. 28(1).
308 Strachan M, A Kwateng-Addo, K Hardee, S Subramaniam, N Judice, and K Agarwal. 2004. "An Analysis of Family Planning Content in HIV/AIDS, VCT, and PMTCT Policies in 16 Countries." *Policy Working Paper Series No. 9*. Washington DC: Policy Project, Futures Group.
309 *Times of Zambia*. 2000. PPFZ office runs out of condoms, February 3. Cited in: Chikamata DM, et al. 2002. "Dual Needs: Contraceptive and Sexually Transmitted infection Protection in Lusaka, Zambia." *International Family Planning Perspectives* 28(2): 96–104.
310 Sedgh G, R Hussain, A Bankole and S Singh. 2007. "Women with an Unmet Need for Contraception in Developing Countries and Their Reasons for Not Using a Method." *Occasional Report No. 37*. New York: Guttmacher Institute.
311 Hughes V, RD Stall, C Klouri, DC Barrett, EI Arevalo, N Hearst. 1995. "AIDS risk-taking behavior during Carnival in São Paulo, Brazil." *AIDS* 9(Suppl 1): S39–S44. Cited in: Hearst N and S Chen. 2004. "Condom Promotion for AIDS Prevention in the Developing World: Is It Working?" *Studies in Family Planning* 35(1): 39–47.
312 Hearst N and S Chen. 2004. "Condom Promotion for AIDS Prevention in the Developing World: Is It Working?" *Studies in Family Planning* 35(1): 39–47.
313 Adu-Oppong A, R Grimes, M Ross, J Risser, and G Kessie. 2007. "Social and Behavioral Determinants of Consistent Condom Use among Female Commercial Sex Workers in Ghana." *AIDS Education and Prevention* 19(2): 160–172.
314 Mayer L, C Matthews, F Little and S Karim. 2001. "The Fate of Condoms Distributed to the Public in South Africa." *AIDS*. 15(6): 789–793.
315 Plautz A and D Meekers. 2007. "Evaluation of the reach and impact of the *100% Jeune* youth social marketing program in Cameroon: findings from three cross-sectional surveys." *Reproductive Health* 4(1).
316 Porto MP. 2007. "Fighting AIDS Among Adolescent Women: Effects of a Public Communication Campaign in Brazil." *Journal of Health Communication* 12: 121–132.
317 Cleland J and MM Ali. 2006. "Sexual abstinence, contraception and condom use by young African women: a secondary analysis of survey data." *The Lancet* 386: 1788–1793.
318 Population Services International (PSI). 2007. *AIDSMark A Decade of Innovative Marketing for Health: Lessons Learned*. Washington, DC: PSI.
319 Ibid.
320 Ibid.
321 Ibid.

322 Ibid.
323 Meekers D, R Van Rossem, M Silva, A Koleros. 2007. "The Reach and Effect of Radio Communication Campaigns on Condom Use in Malawi." *Studies in Family Planning* 38(2): 113–120.
324 Katz I. 2006. "Explaining the Increase in Condom Use Among South African Young Females." *Journal of Health Communication* 11: 737–753.
325 Sopheab H, PM Gorbach, S Gloyd, HB Leng. 2003. "Rural sex work in Cambodia: work characteristics, risk behaviours, HIV and syphilis." *Sexually Transmitted Infections* 79: e2. Cited in: Voeten HACM, OB Egesah, CM Varkevisser, JDF Habbema. 2007. "Female sex workers and unsafe sex in urban and rural Nyanza, Kenya: regular partners may contribute more to HIV transmission than clients." *Tropical Medicine and International Health* 12(2): 174–182.
326 Prata N, F Vahidnia and A Fraser. 2005. "Gender and Relationship Differences in Condom Use Among 15–24-Year-Olds in Angola." *International Family Planning Perspectives*. 31(4): 192–199.
327 Hirsch J, S Meneses, B Thompson, M Negroni, B Pelcastre, C del Rio. 2007. "The Inevitability of Infidelity: Sexual Reputation, Social Geographies, and Marital HIV Risk in Rural Mexico." *American Journal of Public Health* 97(6): 986–996.
328 Weir SS, JE Tate, B Zhusupov and JT Boerma. 2004. "Where the action is: monitoring local trends in sexual behaviour." *Sex Transm Infect*. 80(Suppl II): ii63–ii68.
329 Mansor N, N Hasniah Kasim and Y Lu. 2005. "Malaysia: Labeling Regulations on Natural Rubber Condoms and the WTO TBT Agreement." In *Managing the Challenges of WTO Participation: 45 Case Studies*, edited by P Gallagher, P Low and A Stoler, 337–348. New York: Cambridge University Press.
330 Personal communication with W. Howe, PolyTech Synergies LLC on March 26, 2008.
331 UNFPA. 2007. *Donor Support for Contraceptives and Condoms for STI/HIV Prevention 2006*. New York: UNFPA.
332 Gardner R, RD Blackburn and UD Upadhyay. 1999. "Closing the condom gap." *Population Reports* Series H(9): 35. Johns Hopkins University School of Public Health, Population Information Program.
333 Howe W. 2005. "Global Trends in the Condom Industry." *Rubber Asia*. Accessed online at: http://www.polytechsynergies.com/images/Global_Trends_in_the_Condom_Industry.doc on May 19, 2008.
334 UNFPA. 1995. "Local Production of Contraceptives." *Evaluation Findings: Office of Oversight and Evaluation*." Issue 5. Accessed online at: http://www.unfpa.org/monitoring/pdf/n-issue5.pdf on March 20, 2008.
335 Personal communication with USAID, Bureau of Global Health, Office of Population and Reproductive Health on March 12, 2008.
336 MEASURE Evaluation. Accessed online at: http://www.cpc.unc.edu/measure/publications/index.php?searchterm=PLACE on April 26, 2008.
337 Behrman J, HP Kohler, SC Watkins. 2003. "Social Networks, HIV/AIDS and Risk Perceptions." *PIER Working Paper* No. 03–007. Accessed online at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=382844 on May 19, 2008.
338 Helleringer S and HP Kohler. 2007. "Sexual Network Structure and the Spread of HIV in Africa: Evidence from Likoma Island, Malawi." *AIDS* 21: 2323–2332.
339 Smith K and S Watkins. 2005. "Perceptions of risk and strategies for prevention: responses to HIV/AIDS in rural Malawi." *Social Science & Medicine* 60: 649–660.
340 Gardner R, RD Blackburn and UD Upadhyay. 1999. "Closing the condom gap." *Population Reports* Series H(9): 35. Johns Hopkins University School of Public Health, Population Information Program.
341 Ibid.
342 CHANGE. 2008. *Saving Lives Now: Female Condoms and the Role of U.S. Foreign Aid*. Takoma Park, MD: Center for Health and Gender Equity. Written by J. Gay, L. Sission and MB Hastings.
343 Oxfam Novib, The William and Flora Hewlett Foundation and World Population Fund (WPF). 2007. *A Matter of Choice Rather than noise: Report of an International Meeting on the Female Condom*, 12–14 September, 2007. Netherlands: Oxfam Novib and World Population Fund.
344 UNFPA. 2002. *Global Estimates of Contraceptive Commodities and Condoms for STI/HIV Prevention*. 2000–2015. New York: UNFPA. Cited in: Chaya N, K Amen and M Fox. 2002. *Condoms Count: Meeting the Need in the Era of HIV/AIDS*. Washington DC: Population Action International.
345 Chaya N, K Amen, M Fox. 2002. *Condoms Count: Meeting the Need in the Era of HIV/AIDS*. Washington DC: Population Action International.
346 Chaya N, K Amen, M Fox. 2002. *Condoms Count: Meeting the Need in the Era of HIV/AIDS*. Washington DC: Population Action International.

347 UNFPA. 2007. *Donor Support for Contraceptives and Condoms for STI/HIV Prevention 2006*. New York: UNFPA.
348 UNFPA. 2008. Database for Donor Support for Contraceptives and Condoms for STI/HIV Prevention. New York: UNFPA.
349 UNFPA. 2008. Database for Donor Support for Contraceptives and Condoms for STI/HIV Prevention. New York: UNFPA.
350 UNFPA. 2007. *Donor Support for Contraceptives and Condoms for STI/HIV Prevention 2006*. New York: UNFPA.
351 USAID/DELIVER PROJECT. 2008. "Global Fund Financing of Condoms and Contraceptive Security." *Policy Brief*. Washington DC: USAID/DELIVER PROJECT.
352 Chaya N, K Amen, M Fox. 2002. *Condoms Count: Meeting the Need in the Era of HIV/AIDS*. Washington DC: Population Action International.
353 Chaya N, K Amen, M Fox. 2002. *Condoms Count: Meeting the Need in the Era of HIV/AIDS*. Washington DC: Population Action International.
354 USAID/DELIVER PROJECT. 2008. "Global Fund Financing of Condoms and Contraceptive Security." *Policy Brief*. Washington DC: USAID/DELIVER PROJECT.
355 UNFPA. 2008. Database for Donor Support for Contraceptives and Condoms for STI/HIV Prevention. New York: UNFPA.
356 USAID/DELIVER PROJECT. 2008. "Global Fund Financing of Condoms and Contraceptive Security." *Policy Brief*. Washington DC: USAID/DELIVER PROJECT.
357 Chaya N, K Amen, M Fox. 2002. *Condoms Count: Meeting the Need in the Era of HIV/AIDS*. Washington DC: Population Action International.
358 Chaya N, K Amen, M Fox. 2002. *Condoms Count: Meeting the Need in the Era of HIV/AIDS*. Washington DC: Population Action International.
359 National AIDS Control Organization (NACO). 2006. *National AIDS Control Programme Phase III 2006–2011 Strategy of Implementation*. New Delhi: Ministry of Health and Family Welfare, Government of India.
360 UNFPA. 2007. *Donor Support for Contraceptives and Condoms for STI/HIV Prevention 2006*. New York: UNFPA.
361 *People's Daily Online*. 2005. China sends millions of condoms to hotels, entertainment places for free, September 15. Accessed online at: http://english.people.com.cn/200509/14/eng20050914_208482.html on May 19, 2008
362 *Deutsche Presse-Agentur*. 2006. Thailand Sends 50,000 Condoms to Africa, January 20. Accessed online at: http://www.thebody.com/content/art23892.html?ts=pf on March 26, 2008.
363 Interact Worldwide. 2006. *Condom shortage: counting the cost in lives*. London: Interact Worldwide. Cited in: Drezin J, MA Torres and K Daly. 2007. "Barriers to Condom Access: Setting an Agenda." *ICASO Advocacy Briefing*. International Council of AIDS Service Organizations (ICASO).
364 Chaya N, K Amen, M Fox. 2002. *Condoms Count: Meeting the Need in the Era of HIV/AIDS*. Washington DC: Population Action International
365 Finger W. 1998. "Commercial sector can improve access convenience and quality are among reasons people are attracted to private physicians, clinics or pharmacies." *Network* 18(2). Accessed online at: http://www.fhi.org/NR/Shared/enFHI/PrinterFriendly.asp on May 20, 2008.
366 Berg R and S Zellner. 2004. *Determinants of Commercial-Sector Condom Source Choice Among Adolescents: Jamaica and Urban Cameroon*. Washington DC: USAID/Commercial Market Strategies Project.
367 Chaya N, K Amen, M Fox. 2002. *Condoms Count: Meeting the Need in the Era of HIV/AIDS*. Washington DC: Population Action International.
368 AED. 2005. "Full Market Impact: What We've Achieved." Accessed online at https://pshi.aed.org/fmi/htm on May 28, 2008.
369 Lamptey P. 2008. "Opinion: Expanding the Partnership—The Private Sector's Role in HIV/AIDS Prevention." Accessed online at: http://www.FHI.org/en/HIVAIDS/pub/Archive/articles/AIDScaptions/volume3no2/privatesector.htm on May 20, 2008.
370 Clarke A and E Weiss. 2004. "'What's a 'Real Man'?" *Horizons Report*. Accessed online at: http://www.popcouncil.org/pdfs/horizons/hrptdec04.pdf on May 20, 2008.
371 USAID. No date. *Contraceptive Security Ready Lessons: Taking a Whole Market Approach*. Washington DC: USAID.
372 Chaya N, K Amen, M Fox. 2002. *Condoms Count: Meeting the Need in the Era of HIV/AIDS*. Washington DC: Population Action International.
373 Finger W. 1998. "Commercial sector can improve access convenience and quality are among reasons people are attracted to private physicians, clinics or pharmacies." *Network* 18(2). Accessed online at: http://www.fhi.org/NR/Shared/enFHI/PrinterFriendly.asp on May 20, 2008.

374 National Programme STD and AIDS/Brazilian Ministry of Health. 2008. *UNGASS—Brazilian Response 2005–2007 Country Progress Report*. Accessed online at: http://www.unaids.org/en/CountryResponses/Countries/brazil.asp on April 3, 2008.

375 Personal communication with Dr. Pedro Chequer, UNAIDS National Country Coordinator, Brazil, on April 1, 2008.

376 Hamilton R. 2006. "Contraception goes organic: A new income source for rubber tappers will add value to the natural forest." *Magazine of the Inter-American Development Bank*. Accessed online at: http://www.iadb.org/idbamerica/index.cfm?thisid=3861 on April 3, 2008.

377 Personal communication with Dr. Pedro Chequer, UNAIDS National Country Coordinator, Brazil, on April 1, 2008.

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