



SCALING UP EVIDENCE-INFORMED HIV PREVENTION FOR ADOLESCENT GIRLS AND YOUNG WOMEN

Brief

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I. Introduction

Today's adolescents have never known a world without AIDS.¹ People born with HIV and those becoming sexually active in an era of HIV and AIDS face complicated risks and challenges that were unknown to previous generations. Today, 1.8 billion young people ages 10–24 comprise 26 percent of the world's population and as much as 32 percent in some regions, such as sub-Saharan Africa.² Many countries with the highest HIV prevalence are experiencing a massive “youth bulge” in population, so even with decreasing HIV prevalence, the absolute number of young people living with HIV or at risk of acquiring HIV will grow in the next five years. There is also growing evidence that many high-risk behaviors among key populations begin during adolescence.³ Therefore, adolescents are a critical priority in HIV prevention programming. Young women are especially vulnerable, with HIV infection rates nearly twice as high as those for young men.⁴ At the end of 2012, approximately two-thirds of new HIV infections in adolescents ages 15–19 years were among girls.⁵

About this brief

This brief offers priority interventions for programmers based on evidence from successful programming for women and girls; though a number of the interventions listed also benefit men and boys. The brief is divided into three parts: evidence-informed priority areas for programming; implementation and research gaps that must be addressed; and considerations for scaling up successful programming for girls and young women. For more information on these and other interventions, see www.whatworksforwomen.org. The interventions described here are based on a thorough review of global evidence; however, each country and community response must be tailored to meet the specific opportunities and challenges faced locally.

An AIDS-free generation is not possible without addressing the specific needs of adolescents—especially girls—that put them at risk for HIV acquisition.

Methodology

Evidence of effective and promising HIV prevention interventions for women and girls was gathered through a review of the literature in *What Works for Women and Girls: Evidence for HIV/AIDS Interventions* (www.whatworksforwomen.org) through January 2012. The findings were based on meetings with leading experts in adolescent research, policy, and programming as well as searches conducted using SCOPUS, Medline, and Popline for 2005 to 2011, using the search words “HIV,” “AIDS,” “wom*n,” and other specific terms. The gray literature was captured through a review of key websites, including United Nations agencies, the World Health Organization, The Cochrane Collaboration; Open Society Institute; International Council for Research on Women; Population Services International; The Population Council; International Community of Women with HIV/AIDS; World Bank; FHI 360; AIDStar I and II, and the Guttmacher Institute; and experts were consulted on each topic to ensure evidence was fully captured (see www.whatworksforwomen.org for more detail on methodology, including the total number of articles and reports screened and the full list of complete references).

The strength of the evidence was rated using a modified version of the Gray Scale (see Table 1), which was developed for systematic reviews under

The Cochrane Collaboration of systematic reviews (<http://www.cochrane.org/>) and lent itself to the variety of interventions in this review. The methodology incorporates three dimensions to categorize interventions as “Works” and “Promising”:

1. The depth of evidence (how many evaluations/studies support the intervention);
2. The breadth of evidence (how many countries contribute evidence to support the intervention); and
3. The strength of the evidence (Gray Scale), where “Works” consists of Gray I, II, or IIIa studies for at least two countries and/or five Gray IIIb, IV, or V studies across more than one country and “Promising” consists of Gray I, II, or IIIa studies in only one setting or at least two studies rated Gray IIIb, IV, or V in one country or region.

The evidence was categorized using a social-ecological model (see Figure 1) and further organized by different adolescent and young adult populations. The categories are somewhat fluid; for example, gender norms may be addressed at the community or societal level; educational initiatives aimed at individuals may be addressed at the society or community level, etc. Therefore, this framing is for illustrative purposes.

Table 1. Gray Scale of the Strength of Evidence

Type	Strength of Evidence
I	Strong evidence from at least one systematic review of multiple well-designed, randomized controlled trials.
II	Strong evidence from at least one well-designed, randomized, controlled trial of appropriate size.
IIIa	Evidence from well-designed trials/studies without randomization that include a control group (e.g., quasi-experimental, matched case-control studies, pre-post with control group).
IIIb	Evidence from well-designed trials/studies without randomization that do not include a control group (e.g., single group pre-post, cohort, time series/interrupted time series).
IV	Evidence from well-designed, non-experimental studies from more than one center or research group.
V	Opinions of respected authorities, based on clinical evidence, descriptive studies, or reports of expert committees.

Note: Gray includes five types of evidence.⁶ For *What Works*, level III has been subdivided to differentiate between studies and evaluations that include control groups (IIIa) and those that do not (IIIb). Qualitative studies can fall in both levels IV and V, depending on number of study participants, among other factors.⁷

Guiding Principles for Adolescent Programming

Given that adolescence is such a formative period, a *gender transformative approach*—one that seeks to transform gender relations to promote equity as a means to reach health outcomes⁸—is critical to programming for adolescents, as it can address the harmful gender norms that put young women at risk of acquiring HIV.

Programming for adolescents must also *adhere to human rights principles*, as outlined in human rights conventions and treaties, including the Convention on the Rights of the Child, among others.⁹

It is important to note that most evidence cited here has emerged from studies that have been carried out among those who did not need parental consent to participate in a study, which is age 18 in many countries but may vary—the age of consent is determined by each country’s research institutional review board. Nonetheless, much of the work done with adults, such as increasing counseling and testing, has life-saving potential for adolescents. While not all of the studies cited were conducted among adolescents (age groups are noted), some findings could be adapted and, with rigorous evaluation, applied to an adolescent population. Likewise, the evidence on

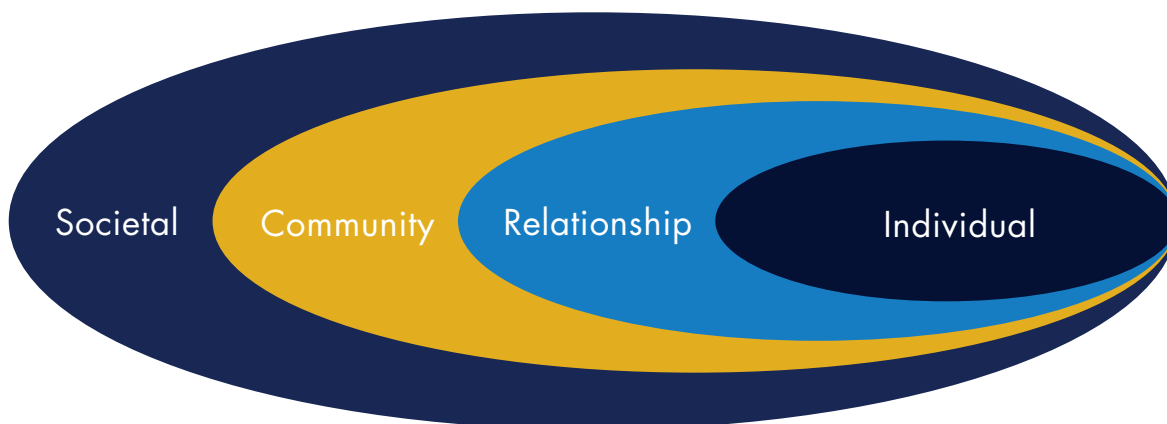
scaling up interventions is based on experiences with scaling up programming for all ages, although youth- and adolescent-specific experience is still emerging.¹⁰ Continued evaluation of bringing youth programming to scale will help fill the gaps in evidence on adolescent HIV prevention programming.

II. Priority Interventions

Given the available evidence to date, the interventions listed below should be considered priority areas for HIV prevention among adolescents. Key components of the interventions are *italicized* and the supporting citations noted. Though there are many promising programs, there remain few strongly evaluated interventions for adolescents to justify recommendations for national scale-up. The two notable exceptions are increasing educational attainment for adolescents and the provision of high-quality, comprehensive sexuality education.

Note on age: The needs of younger adolescents (10–14 years old) differ greatly from those of older adolescents (15–18 years old) and young adults (19–24 years old), so the following interventions and their components must be implemented in age-appropriate ways. However, adolescent sexual behavior does not follow age restrictions: some adolescents may experience early sexual debut, others may remain abstinent until they are older.

Figure 1. A Social-Ecological Model



Dahlberg LL, Krug EG. Violence—a global public health problem. In: Krug E, Dahlberg LL, Mercy JA, Zwi AB, Lozano R, eds. World Report on Violence and Health. Geneva, Switzerland: World Health Organization; 2002:1–56.



Photo by: Star for Life

Societal Level

Works: Increase Educational Attainment for All Adolescents

Increasing educational attainment for boys and girls can help reduce HIV risk. There is strong evidence of an increasingly lower risk of HIV among the most educated—particularly for girls.¹¹ Interventions that succeeded in increasing educational attainment and are linked to reduced HIV acquisition include *abolishing school fees* to enable girls to attend (or stay in) school¹² and *providing educational support for orphans*.¹³

Conditional cash transfers are a promising strategy that can enable girls to stay in school and may result in reduced incidence of HIV.¹⁴

HIV strategies should promote schooling for girls. Increasing educational attainment requires collaboration among the health and education sectors, as well as HIV program coordinating bodies, to coordinate implementation, monitoring, and evaluation. Globally, progress has been made in increasing primary school completion, but ensuring that all adolescents complete secondary school is an ongoing challenge. This goal is important in and of itself, and should also be pursued due to the links with various positive health outcomes, including decreased HIV incidence.

Works: Provide Quality Comprehensive Sex Education for All Adolescents

Substantial evidence exists that *sex and HIV education* with certain characteristics (e.g., a clear focus on HIV prevention; addressing situations that might lead to unwanted or unprotected intercourse, how to avoid these, and how to get out of them; a focus on knowledge, values, norms, attitudes, and skills; employment of participatory teaching methods, etc.)¹⁵ prior to the onset of sexual activity may be effective in reducing stigma and preventing transmission of HIV by increasing age at first sex and, for those who are sexually active, increasing condom use and HIV testing, and reducing the number of sexual partners.¹⁶ It is important to note that school-based interventions alone have not shown an impact in reducing HIV incidence, but they have shown beneficial effects on knowledge and reported behaviors,¹⁷ suggesting that sex education is necessary for effective HIV prevention but needs to be combined with other interventions, including accessible and youth-friendly health services.¹⁸

The *quality of sex education* is as important as its provision; fidelity to the successful components of pilot programs must be maintained. *Training for teachers* to conduct age-appropriate, participatory sex education that can improve students' knowledge and skills, is essential.¹⁹

For more information, see *Comprehensive Sexuality Education: The Challenges and Opportunities of Scaling Up* (UNESCO, 2012).

Community Level

Promising: Ensure Access to Health Services and Testing for All Adolescents and Young Adults

Young people's service needs are frequently overlooked in HIV programming that is not specifically designed for adolescents. Providing *clinic services that are acceptable and accessible to youth, conveniently located, affordable, confidential and nonjudgmental* is a promising way to increase the use of clinic reproductive health services, including HIV testing and counseling (HTC).²⁰ Policies that require parental consent for HTC may impede access to services for adolescents. Evidence has shown that provision of *HIV testing and counseling* can help women learn their HIV status and increase their protective behaviors, particularly among those who test positive (*works among adults*),²¹ yet many testing studies are not adolescent-focused. Providing *HIV testing and counseling together with other health services* has been shown to increase the number of adults accessing HTC (*works among adults*).²² For adolescents living with HIV, *provision of ARV therapy* can reduce (but does not eliminate) the risk of HIV transmission and is an additional HIV prevention strategy.²³ Establishing *comprehensive post-rape care protocols*, which include post-exposure prophylaxis (PEP) and emergency contraception, can improve services for all.²⁴

Promising: Use Mass Media and Social Marketing Campaigns as a Tool to Reach Adolescents

Mass media and social marketing campaigns have been useful tools to achieve a number of aims and, if used in a focused and coordinated way with other interventions, can effectively reach large numbers of young people to increase the number of individuals and couples accessing HIV testing and counseling.^{25,26} Such campaigns have been modestly effective in persuading both female and male adolescents to change high-risk behaviors.²⁷ Evidence among adults has shown that *community-based interventions (including media) that provide accurate information about HIV transmission* can significantly reduce HIV stigma and discrimination (*works among adults*);²⁸ *mass media campaigns concerning gender equality* as part of comprehensive and integrated interventions can increase HIV-related protective

behaviors (*promising among adults*);²⁹ and *public health promotion can increase awareness of violence against women (promising among adults)*.³⁰

Relationship Level

Promising: Focus on Gender Equity for All Adolescents and Young Adults

Harmful gender norms are a risk factor for violence and can increase the risk of acquiring HIV. Experts in development and gender increasingly agree that interventions to address gender norms and reduce HIV need to work with "men and women, boys and girls, in an intentionally and mutually reinforcing way that challenges gender norms, catalyzes the achievement of gender equality and improves health."³¹ Addressing gender equity during the formative period of adolescence can transform attitudes for a lifetime.

Training teachers about gender-based violence is a promising strategy to change norms about acceptance of it.³² For older adolescents and young adults (ages 16–24) *community-based participatory learning approaches involving men and women* can create more gender-equitable relationships, thereby decreasing violence (*works among adults*).³³ Evidence has shown that addressing gender equality, particularly among men (age unspecified), with *training, peer and partner discussions, and community-based education* that question harmful gender norms can improve HIV prevention, testing, treatment, and care (*works among adults*).³⁴ Among adults, *couple dialogue and counseling*, including techniques to avert gender-based violence, may also increase the number of couples who receive and disclose their test results (*works among adults*).³⁵ This could also be tested as a strategy for married adolescents and those in relationships.

Individual Level

Promising/Works: Improve Knowledge and Encourage Protective Behavior Among Younger Adolescents

National efforts to decrease or delay sexual activity, increase condom use, and reduce numbers of sexual partners may be effective in preventing HIV acquisition.³⁶ Successful interventions include *comprehensive programs for youth*, such as those that use multiple components (e.g., policy/advocacy coordination and integration of health services, livelihood skills training, seminars,

sports, etc.) can improve adolescent's HIV knowledge and encourage protective behavior (*works*).³⁷ *Counseling* may reduce risk behaviors and HIV acquisition among adults,³⁸ and incorporating *discussions of alcohol use* into HTC may increase protective behaviors such as condom use, partner reduction, and reduction of alcohol use (*works among adults*),³⁹ though these studies were not specifically tested among adolescents. Promising interventions such as *encouraging communication between adults and young people* about reproductive health information, can increase protective behaviors among adolescents,⁴⁰ and *providing HIV prevention education by people living with HIV* (who wish to sero-disclose) to youth can reinforce messages about protective behavior.⁴¹

Promising: Focus on Condoms for Sexually Active Adolescents

Condom use is a critical prevention method, reducing the chance of HIV acquisition by more than 95 percent,⁴² with comparable effectiveness between male and female condoms when used consistently and correctly.⁴³ Beginning at sexual debut, *promoting condoms, either in individual or group sessions, along with skills training, provision of condoms, and motivational education* can increase condom use (*works among adults*).⁴⁴ *Increasing the accessibility and availability of condoms* can increase condom use (*promising among adults*).⁴⁵ Similarly, *expanding distribution of female condoms* may increase female condom use, thus increasing the number of protected sex acts, and preventing HIV acquisition and transmission (*works among adults*).⁴⁶ *Promoting the dual use of condoms* as a contraceptive and for HIV prevention may make use more acceptable and easier to negotiate (*works among adults*),^{47, 48} particularly for young people (*promising among adolescents*).⁴⁹ Additionally, *youth-friendly condom distribution* can help adolescents feel more comfortable accessing condoms (*promising among adolescents*)⁵⁰ and *promoting pleasure in male and female condom use* can increase the practice of safer sex (*promising among adults*).⁵¹ For older adolescents, effective interventions also include increasing *couple communication about HIV risk*, which can increase preventive behaviors, including condom use (*works among adults*).⁵² In general, promoting the *acceptability of condom use* by both women and men as the norm in sexual intercourse is a promising strategy to decrease national HIV prevalence.⁵³



Photo by: hodag

Promising: Facilitate Employment for Older Adolescents and Young Adults

Although there is a need for better indicators and carefully designed programming to measure the HIV- and AIDS-related impact of economic empowerment on women and girls, studies have consistently shown that increasing women's access to information, skills, technologies, services, social support, and income increased their ability to protect themselves from HIV.⁵⁴ For young men, as well, increased access to employment facilitates greater human and social development and eradication of poverty. *Increased employment opportunities, microfinance, or small-scale income-generating activities* can also reduce behavior that increases HIV risk, particularly among adults, and may be promising among adolescents and young adults, if carefully evaluated.^{55, 56} The availability of *HIV testing and counseling on-site at workplaces* may increase uptake of HTC.⁵⁷

Works: Support Orphans and Vulnerable Children (OVC)

Orphans and vulnerable children are a key population at risk for HIV acquisition. Girls who have been orphaned by HIV and AIDS face an intersection of vulnerabilities: As children, they lack the legal rights (e.g., inheritance and property), maturity, and skills to care and provide for themselves. As girl children, they often do not have equal access to household resources for schooling, nutrition, or healthcare. When a catastrophic event hits the family, girls are frequently the ones who must leave school and take on a greater burden within the home.

Successful interventions for orphans and vulnerable children include *psychological counseling and mentoring*, which may improve their psychological well-being.⁵⁸ Programs that offer *family-centered integrated economic, health and social support* can also result in improved health and education outcomes for orphans.⁵⁹ Since orphans face particular HIV risk,⁶⁰ programs that provide community-wide cash transfers, microenterprise opportunities, old age pensions or other *targeted financial and livelihood assistance* can be effective in supporting orphans.⁶¹ Promising strategies for orphans and vulnerable children include creating *community development projects*, rather than a narrowly defined HIV and AIDS program, to reduce the stigma against those orphaned by AIDS.⁶²

Promising/Works: Help Young Women Involved in Sex Work Protect Themselves

Although young women may enter into sex work at an early age, “the UN restricts its definition of ‘sex workers’ to adults over 18 years of age and affirms that the involvement of children (under age 18) in transactional sex/sex work and other forms of exploitation and abuse contravenes United Nations conventions and international human rights law. Children under age 18 who sell sex are victims and cannot be viewed as sex workers.”⁶³ HIV prevention interventions for exploited and trafficked children were beyond the scope of this review.

For women over age 18 who are engaged in sex work, some programmatic interventions have demonstrated success, including *comprehensive prevention programs* that include components such as peer education, medical services and supplies, and support groups. These can

be effective in enabling sex workers to adopt safer sex practices (*works among adults*).⁶⁴ *Peer education among sex workers*⁶⁵ (*works among adults*) and *policies that involve sex workers, brothel owners, and clients* in development and implementation of condom use can increase reported condom use (*promising among adults*).^{66,67}

Additional successful interventions include *clinic-based interventions with outreach workers*, which can be effective in increasing condom use and HIV testing among sex workers (*works among adults*);⁶⁸ providing *routine, high-quality, voluntary and confidential sexually transmitted infection (STI) clinical services* that include condom promotion can reduce HIV risk among sex workers (*promising among adults*);⁶⁹ and *creating a sense of community, empowerment, and leadership* among sex workers can help support effective HIV prevention (*works among adults*).⁷⁰ *Targeting male clients* is a promising intervention that can increase condom use and reduce HIV risk for sex workers.⁷¹

Promising: Encourage Protective Behavior for Young People Who Inject Drugs

In areas where drug use contributes to the HIV epidemic, particularly among older adolescents and young adults, *opioid agonist therapy*, particularly maintenance programs with methadone and buprenorphine, leads to reductions in drug use, HIV acquisition, and risk behavior among people who inject drugs and is safe and effective for use by pregnant women (*works among adults*).⁷² *Comprehensive harm-reduction programs*, including needle exchange programs, condom distribution, agonist therapy and outreach, peer-driven interventions, and nonjudgmental risk-reduction counseling can reduce HIV risk behaviors and prevalence among people who inject drugs (*works among adults*).⁷³

Encouraging condom use and other protective behavior is important for young people who use drugs. Interventions that increase protective behavior include *peer education among women who use drugs and female partners of men who use drugs* (*works among adults*).⁷⁴ *Gender-sensitive sex-segregated group sessions for couples* that use drugs can also result in increased condom use and safer injection practices (*works among adults*).⁷⁵ *Offering no-cost HIV testing and counseling* to women who use drugs is a promising intervention that can help reduce HIV-risk behaviors.⁷⁶

III. Implementation and Research Gaps in the Evidence for Adolescents

Interventions that create a positive environment and provide adequate and accessible services allow adolescents the knowledge and resources to protect themselves and their partners. However, a number of research and implementation gaps remain and, overall, effective programs must be expanded to reach many more adolescents, especially those who are the most neglected such as younger adolescents, out-of-school youth, young people living with HIV, and homeless and rural youth.⁷⁷ The following gaps have emerged from the comprehensive review of the literature.

Societal level...

Clear policies and legislation supporting access to information and services are needed to reduce the risk of HIV transmission among young people.⁷⁸ Laws and practices that obstruct adolescents' access to services, such as parental consent, age, and marital status requirements, must be reviewed and revised.⁷⁹ Laws prohibiting marriage at a young age need to be enacted and enforced.⁸⁰ Successful efforts to increase educational attainment for girls, particularly to secondary school, must be scaled up.⁸¹

Community level...

Interventions are needed to reduce cross-generational sex and marriage,⁸² as well as those to eliminate sexual coercion and rape of women, girls, boys, and men. Efforts are needed to create awareness in communities that violence against adults and children is unacceptable, strengthen adult and child statutory protection systems, and conceptualize and implement appropriate adult and child protection services in developing countries,⁸³ linking HIV and AIDS programs with programs to address gender-based violence, including child sexual abuse and post-exposure prophylaxis (PEP).⁸⁴

In areas with high rates of intravenous drug use, interventions are needed to scale up and increase access to methadone and buprenorphine—effective agonist therapy for the treatment of drug dependence—as well as needle exchange/distribution programs.⁸⁵ Efforts are also needed to eliminate compulsory drug detention and instead provide people who inject drugs (PWID)

with HIV prevention and testing services and effective drug dependency treatment by medical professionals.⁸⁶ Adolescent girls who inject drugs require risk-reduction programs to meet their needs,⁸⁷ and HIV prevention information and confidential services should be available for PWID receiving treatment for substance use.⁸⁸ Interventions are needed to provide women and their partners with a better understanding of the risk of acquiring HIV through sexual practices as well as through injecting drug use.⁸⁹ Women who inject drugs must be able to access services for violence against women, dual method use, effective contraception, and reproductive health.⁹⁰ Many of these gaps have been noted among adults but are also gaps among adolescents.

Sex education and condom promotion programs must take into account the different motivations among young men and women for engaging in unsafe sex,⁹¹ and HIV programming must be more effective in creating meaningful involvement for both male and female partners and increasing focus on gender equality.⁹² Increased training for teachers and clear educational policies regarding sexuality education to provide effective AIDS education are also required.⁹³

Actions should be taken to increase adolescents' knowledge of when and where to access health services, including access to contraception services and condoms.⁹⁴ Tailored interventions are urgently needed to provide greater availability of and access to female condoms, along with education and training on their use as an additional condom option.⁹⁵ Providers should receive training to promote the use of female condoms⁹⁶ and discuss sexuality and pleasure with adolescents who use reproductive health services.⁹⁷

Programs must continue to promote protective behavior, such as condom use, in addition to male circumcision.⁹⁸ Programs for male circumcision should provide women and girls, as well as men and boys, with detailed factual knowledge of the benefits and risks of voluntary medical male circumcision⁹⁹ and incorporate gender training for young men.

Further efforts are needed to make HIV testing and counseling (HTC) available and accessible to adolescents¹⁰⁰ and to guarantee the confidentiality of HIV test results.¹⁰¹ Steps must also be taken to ensure optimal HTC counseling strategies and topics, with detailed information about accessing treatment and risk reduction.¹⁰² Enforcement of standard protocols is

needed to reduce the risk of provider coercion in HIV testing, particularly in provider-initiated testing and counseling.¹⁰³

Relationship level...

Changing the gender norms that can lead to increased risk of HIV acquisition, such as those dictating multiple sexual partners, the use of violence, or drinking heavily for men and sexual ignorance, submissiveness, and dependency for women and girls is a challenge.^{104, 105} Further well-evaluated interventions are needed and existing interventions must be scaled up. Interventions are required to reduce homophobia, which can lead men who have sex with men to have sexual partnerships with women¹⁰⁶—a particular concern for youth, because sexual identity and exploration develops during childhood and adolescence. The expansion and scale-up of interventions promoting economic opportunities for women and girls are necessary to increase their ability to refuse unsafe sex that is motivated by economic needs.¹⁰⁷ Interventions that reduce commute times and/or ensure easy and safe access to safe public transportation may lessen the risk of sexual violence among adolescent girls.¹⁰⁸

Evaluated interventions are urgently needed to reduce multiple and concurrent partnerships—particularly where perceived HIV risk is low, women are subjected to gender norms of faithfulness, and men are subjected to gender norms of having multiple sexual partners.¹⁰⁹

Individual level...

Greater efforts are required to help young people personalize HIV risks¹¹⁰ and for adolescents to reduce acceptance of gender-based violence and stigma against people living with HIV.¹¹¹

Interventions are needed to educate girls ages 8 to 14 about menses, puberty, and basic HIV knowledge.¹¹²

Further interventions are needed to help female orphans and vulnerable children reduce high-risk sexual behaviors and protect them from sexual violence.¹¹³ Support programs, including counseling, are needed for children orphaned by AIDS and their caregivers to combat depression, social isolation, and stigma;¹¹⁴ and programs should encourage male involvement in children's treatment and orphan care.¹¹⁵

For young adults engaged in sex work (see the UN definition), basic information about HIV-related services, such as where to access condoms and confidential HIV testing, is still needed.¹¹⁶

Attention to these research and implementation gaps is vital to the development of a comprehensive evidence base of effective HIV prevention strategies for young people.



Photo by: Dietmar Temps

IV. The Way Forward: Considerations for Scaling Up Successful Programming for Adolescents

Scaling up prevention for adolescents is important to reach larger numbers of young people. There are numerous proven small-scale efforts to reach youth, but unless these are scaled up, they will not have an impact on the incidence and prevalence of HIV. In a review of HIV prevention research over the past 25 years, Rotheram-Borus, et al. (2009) reflected that “effective HIV prevention requires a combination of behavioral, biomedical, and structural intervention strategies,” yet scale-up of proven interventions has been insufficient. They note that the current challenge for prevention researchers is to “reconceptualize how cost-effective, useful, realistic, and sustainable prevention programs will be designed, delivered, tested, and diffused.”¹¹⁷

Globally, there is tremendous variation among adolescents and successful programming will necessarily be context-specific. However, the literature shows that preventing HIV among adolescents in general requires a comprehensive, multisectoral response with consistent messages repeated numerous times from multiple sources. A number of key factors are needed for scaling up effective interventions (see Box 1).

A number of constraints have also been identified at the policy, program, service delivery, and community levels that can impede progress in scaling up.¹¹⁹ Both facilitating factors and constraints must be taken into account in scaling up programming for adolescents. For example, barriers for adolescents at the household/community level include the need for parental permission for HIV testing; barriers at the health service delivery level include a lack of adolescent-focused infrastructure and privacy—adolescents are often overlooked in government bureaucracy and the information needs of young people are a low priority.

As noted by Mavedzenge, et al. (2013) in their systematic review of systematic reviews, strong evidence exists for HIV interventions that are primarily designed for adults, but there is only modest evidence on how adolescents could access these interventions.¹²⁰ However, some evidence-informed programming can be scaled up to reach larger numbers of adolescents, especially girls.

Box 1. 10 Key Facilitating Factors for Scale-Up¹¹⁸

1. Technical simplicity of the intervention
2. Felt demand for the intervention
3. Resources available to bring promising pilots to scale
4. Adaptable to different environments
5. Systems that are ready for scale-up
6. Political commitment
7. Reinforced by policies
8. Includes all stakeholders
9. Accountability mechanisms in place/developed
10. Gender and human rights considerations addressed

There is strong evidence that increasing educational attainment, especially through secondary school, helps reduce HIV risk among girls and is associated with other positive health and economic benefits. Proven interventions that facilitate keeping girls in school, such as cash-transfers and waiving of school fees, should be brought to scale as part of national HIV strategies to target girls who are most at risk for poor HIV-related outcomes. High-quality, comprehensive sexuality education is an intervention with extensive evidence demonstrating its readiness to be brought to scale in every country, with additional efforts needed for out-of-school youth.

Other promising approaches for scale-up include ensuring access to health services and information, improving age-appropriate knowledge about HIV/AIDS among younger adolescents, efforts that focus on condom information and provision for sexually active adolescents, and employment opportunities for older adolescents. Attention to gender equity for all adolescents during their formative years can also have a critical impact on gender equality in the near future. Promising interventions have been implemented for particularly vulnerable groups such as orphans and vulnerable children, people who inject drugs, or are engaged in sex work.

Large gaps remain in research, programming, and evaluating the experience of scaling up programming for girls. A successful program for adult women may not be appropriate for adolescent girls. Rigorous evaluations are required, particularly for successful approaches carried out among adults that may be considered for scale-up to reach adolescents. Additional information is also needed on costs and cost-effectiveness. The evidence presented here offers useful guidance on potential interventions that, with close evaluation, could be scaled up to reach the increasing number of adolescents, especially girls, living with or at risk of acquiring HIV.

For more information on adolescents, a detailed description of the methodology, and full references for the citations, see www.whatworksforwomen.org.

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WHAT WORKS FOR WOMEN AND GIRLS

*Evidence for
HIV/AIDS
Interventions*

- ▶ Women and girls are uniquely affected by HIV and AIDS.
- ▶ Addressing HIV/AIDS in women and girls requires evidence of successful interventions.

That evidence is in one place ▶ www.whatworksforwomen.org

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13. Zimbabwe: Hallfors et al., 2011, Gray II; Kenya: Cho et al., 2011, Gray II; Zambia: Chatterji et al., 2010: 139, Gray IIIb
14. Malawi: Baird et al., 2012, Gray II
15. See UNESCO, 2009b; Pulerwitz et al., 2006; Barker et al., 2010b; Peacock, 2009
16. Multi-country: Johnson et al., 2011, Gray I; UNESCO, 2009b, Gray I; Kirby et al., 2007a; Kirby et al., 2007b; Kirby et al., 2006; Kirby, 2009, Gray I; Sub-Saharan Africa: Michielsen et al., 2010, Gray I; Mavedzenge et al., 2010, Gray I; Swaziland: Burnett et al., 2011, Gray II; Tanzania: Ross et al., 2007a: 1952, Gray II; Bahamas: Chen et al., 2010b, Gray II; South Africa: Reddy and James, 2003, Gray IIIa; Uganda: Aggleton et al., 2000, Gray IIIa; Kenya: Maticka-Tyndale, 2010, Gray IIIa; Agbemenu and Schlenk, 2011, Gray IIIb; Thailand: Ishikawa et al., 2011a, Gray IIIa; Brazil: Andrade et al., 2009, Gray IIIb; Gauri et al., 2007, Gray IV; Mexico: Pick et al., 2007, Gray IV
17. Mavedzenge, Doyle and Ross, 2010
18. Comprehensive Sexuality Education: The Challenges and Opportunities of Scaling Up, UNESCO, 2012
19. Multi-country: UNESCO, 2009b, Gray I; Uganda: Shuey et al., 1999 cited in James-Traore et al., 2004, Gray IIIa; Yemen: Al-Iryani et al., 2011, Gray IIIa; Cameroon: Arcand & Wouabe 2010, Gray IV
20. 80 country review: Ross et al., 2006, Gray IIIb; Mozambique: Melo et al., 2008, Gray IIIb; Madagascar: Neukom and Ashford, 2003, Gray IIIb
21. Multi-country review: Kennedy et al., 2010b, Gray I; Tanzania, Kenya, Trinidad: Voluntary HIV-1 Counseling and Testing Efficacy Study Group, 2000, Gray II; Rwanda, Kenya, Tanzania, Trinidad, Uganda: Denison et al., 2008, Gray II; Bunnell et al., 2008, Gray IIIb; Zimbabwe: Cremin et al., 2010, Gray IIIa; Gregson et al., 2002, Gray IIIb; Mozambique: Mola et al., 2006, Gray IIIa; South Africa: Leon et al., 2010a, Gray IIIa; Pettifor et al., 2010, Gray IIIb; Kenya: Huchko et al., 2011, Gray IIIb; Dominican Republic: Sears et al., 2008, Gray IIIb; Rwanda: Allen et al., 2003, Gray IIIb; Tanzania: Maman et al., 2001b: 597, Gray IIIb; Botswana: Creek et al., 2006, Gray IV
22. Ethiopia: Bradley et al., 2008a, Gray IIIb; Haiti: Peck et al., 2003, Gray IIIb; Kenya: Liambila et al., 2009, Gray IIIb; South Africa: Kharsany et al., 2010a, Gray IV
23. Botswana, Kenya, Malawi, South Africa, Zimbabwe, Brazil, India, Thailand, United States: Cohen et al., 2011, Gray II; Botswana, Kenya, Rwanda, South Africa, Tanzania, Uganda, Zambia: Donnell et al., 2010, Gray IIIa; Sub-Saharan Africa: Attia et al., 2009: 1401, Gray V; Switzerland: Cohen et al., 2009, Gray V
24. South Africa: Kim et al., 2007a; Kim et al., 2009a, Gray IIIb; Kenya: Kilonzo et al., 2009a, Gray IIIb; Siika et al., 2009, Gray IIIb; Malawi, Zambia: Keesbury and Askew, 2010, Gray V
25. Cochrane review: Vidanapathirana et al., 2005, Gray I; Tanzania: Mossdorf et al., 2010, Gray IIIb; Kenya: Marum et al., 2008, Gray IIIb
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27. Multi-country: Bertrand et al., 2006, Gray I; Rwanda: Neukom and Ashford, 2003, Gray IIIa; Cameroon: Neukom and Ashford, 2003, Gray IIIa; Zimbabwe: Kim et al., 2001, Gray IIIa; Zambia: Underwood et al., 2001; Gray IIIb; Nepal, Brazil, Senegal: Geary et al., 2007, Gray IV; Uganda: Adamchack et al., 2007, Gray V
28. Thailand: Apinundecha et al., 2007, Gray IIIa; UNAIDS, 2007b; Viravaidya et al., 2008, Gray IIIb; Vietnam: Nyblade et al., 2008, Gray IIIb; China: Yang and Zhang, 2004, Gray IIIb; Nigeria: Fakolade et al., 2010; Babaloba et al., 2009, Gray IIIb; Malawi: Berendes and Rimal, 2011:224, Gray IIIb; Ghana: Boneh and Jaganath, 2011, Gray IV
29. Nicaragua: Solarzano et al., 2008, Gray IIIa; Brazil: Pulerwitz et al. 2006, Gray IIIb
30. Zambia: Morel-Seytoux et al., 2010, Gray IIIb; South Africa: Usdin et al., 2005, cited in Rottach et al., 2009, Gray IV; India: Pelto and Singh, 2010, Gray IIIb
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33. South Africa: Jewkes et al., 2006b; Gray II; Colvin, 2009, Gray IIIb; Jewkes et al., 2010c, Gray IV; Ethiopia: Pulerwitz et al., 2010a; Gray IIIa;
34. South Africa: Jewkes et al., 2006b, Gray II; Colvin, 2009, Gray IIIb; India: Verma et al., 2008, Gray IIIa; Tanzania: Maganja et al., 2007, Gray IIIa; Botswana: Norr et al., 2004; Gray IIIa; Brazil: Pulerwitz et al., 2006, Gray IIIb
35. Uganda: Kairania et al., 2010, Gray IIIb; Tanzania: Maman et al., 2001a, Gray IV; Maman et al., 2001b, Gray IV; Rwanda, Zambia: Allen et al., 2007b, Gray V; Kenya: Sarna et al., 2009, Gray V
36. Malawi: Bello et al., 2011a, Gray IIIb; Uganda: Slaymaker et al., 2009, Gray IIIb; Zambia: Sandøy et al., 2007, Gray IV; Zimbabwe: Gregson et al., 2006, Gray IV
37. Uganda, Tanzania, Ghana, Botswana: African Youth Alliance, 2007, Gray IIIa; Zimbabwe: Terry et al., 2006, Gray IIIa
38. Tanzania: Kamenga et al., 2001, Gray II; Zimbabwe: Cremin et al., 2010, Gray IIIa; India: Solomon et al., 2006, Gray IIIb
39. South Africa: Kalichman et al., 2008, Gray II; Wechsberg et al., 2006, Gray IIIa; Kenya: Mackenzie et al., 2008, Gray IIIa; Luseno and Wechsberg, 2009, Gray IIIb
40. South Africa: Phetla et al., 2008, Gray IIIb; Ghana: Wolf and Pulerwitz, 2003, Gray IIIb; Uganda: Damalie, 2001, Gray IV
41. Australia: Paxton, 2002, Gray IV; South Africa: Phetla et al., 2008, Gray V
42. IOM, NAS, 2001; Cochrane Collaborative Review Group on HIV Infection and AIDS, 2004, Gray I; Multi-country: Davis and Weller, 1999, Gray I; Eastern and Southern Africa: Hughes et al., 2012, Gray IIIb; Brazil: UNAIDS, 2008, Gray V
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44. Meta-analysis: Scott-Sheldon et al., 2011b, Gray I;
45. Tanzania, Cameroon, Ghana, China, Indonesia, Thailand, Caribbean, Mexico, Central America: Charania et al., 2011, Gray IIIa; Kenya: Papo et al., 2011, Gray IIIb
46. Brazil: Barbosa et al., 2007: 265, Gray IIIb; Kenya: Thomsen et al., 2006, Gray IIIb; Brazil, South Africa: Dowdy et al., 2006, Gray IIIb; Madagascar: Hoke et al., 2007, Gray IIIb; China: Liao et al., 2011a and b, Gray IIIb; Zimbabwe: Napierala et al., 2008, Gray IIIb
47. Zambia: Mark et al., 2007, Gray II; Ethiopia: Aklilu et al., 2001, Gray IIIa
48. South Africa: Wechsberg et al., 2010, Gray IIIb; Zimbabwe: Callegari et al., 2008, Gray IIIb
49. 18 African countries: Cleland et al., 2006b, Gray IV; South Africa: Maharaj and Cleland, 2006, Gray V; Africa: Cleland et al., 2006a, Gray V; Brazil: Juarez and Martin, 2006, Gray V
50. Mexico: Zellner et al., 2006, Gray IIIb; Cameroon, Rwanda: Neukom and Ashford, 2003, Gray IV
51. Brazil, North America, New Zealand: Knerr et al., 2009, Gray IV; Cambodia, Namibia, South Africa, Senegal, Zimbabwe, Sri Lanka, Mongolia, India and the UK: Philpott et al., 2006, Gray V
52. Malawi: Zulu and Chepngeno, 2003, Gray IIIb; South Africa: MacPhail et al., 2007, Gray IV; Uganda: Williamson et al., 2006, Gray IV; India, Thailand, Uganda: McGrath et al., 2007, Gray V
53. Uganda: Singh et al., 2003a, Gray IIIb; Ethiopia, Tanzania, Zambia: Nyblade et al., 2003, Gray IIIb; Zimbabwe: Feldman and Masopere, 2003: 165, Gray IIIb; 18 countries in Sub-Saharan Africa: Cleland et al., 2006a, Gray V
54. Weiss et al., 1996 cited in Weiss and Gupta, 1998; Kaufman et al., 2002
55. Note: In some cases, microcredit can increase violence against women if the intervention is not carefully designed and appropriate to the local context (Schuler et al., 1998; Gupta et al., 2008a; Dunbar et al. 2010).
56. South Africa: Pronyk et al., 2008a, Gray II; Kaufman et al., 2002, Gray IV; Haiti: Longuet et al., 2009, Gray IIIb; Republic of Congo: Boungou, 2007, Gray V
57. Zimbabwe: Corbett et al., 2006, Gray II; Democratic Republic of Congo, Rwanda, Burundi, Republic of Congo, Nigeria: Van der Borgh et al., 2010, Gray IV
58. Uganda: Kumakech et al., 2009, Gray II; Rwanda: Brown et al., 2009, Gray IIIa; Kenya, Tanzania: Nyangara et al., 2009a, Gray IV
59. China: Zhao et al., 2010b, Gray IIIb; South Africa: Boon et al., 2009, Gray IV; Rwanda: Irwin et al., 2009: 49 citing Binagwaho et al., 2008, Gray V; Botswana: Kidman et al., 2007, Gray V; Zimbabwe: Miller et al., 2011a: 37, Gray V; Kenya: Thurman et al., 2012, Gray IIIb
60. Chatterji et al., 2005; Ayieko, 1998; HRW, 2003c; Birdthistle et al., 2008; Gregson et al., 2005
61. Uganda: Ssewamala et al., 2009, Gray II; Ssewamala et al., 2010, Gray IV; Kenya: Skovdal et al., 2010a: 7, Gray V; South Africa: Adato and Bassett, 2008 citing Samson et al., 2004, Gray IV; Freeman et al., 2006, Gray V; Malawi, Zambia: Adato and Bassett, 2008 citing Schubert et al., 2007, Gray IV
62. Kenya, Tanzania: Nyangara et al., 2009b, Gray IV; Tanzania: Wallis et al., 2010, Gray IV
63. UNICEF, 2013, Experiences from the Field: HIV Prevention among Most at Risk Adolescents in Central and Eastern Europe and the Commonwealth of Independent States, page v.
64. India: Halli et al., 2006, Gray II; Swendeman et al., 2009, Gray IIIa based on Basu et al., 2004 and Saha, 2008; Ramesh et al., 2010, Ng et al., 2011, Pickles et al., 2010, Gray IIIb; China: Lau et al., 2007a, Gray IIIa; Wu et al., 2007b, Gray IIIb
65. Meta-analysis in Sub-Saharan Africa, East and Central Asia, Latin America: Medley et al., 2009a, Gray I
66. Implementation of policies varies in practice. Recent documentation with 100% condom use policies, for example in Cambodia (Lowe, 2002), suggest that some aspects of 100% condom use policies can be disempowering to sex workers and violate human rights. Some have suggested that the Kerrigan 2004 and 2006 studies, along with the Pisey, 2008 study and Morisky and Tiglaio, 2010 should not be instituted for this reason. The 100% condom campaign in Thailand “may have adversely impacted marginalized sex workers through increased corruption, police raids and mandatory HIV testing” (Shannon et al., 2009: 659). “It is critical that all programmes follow a sex worker led approach and enable sex workers to collectively determine what role brothel owners should play in HIV/AIDS intervention programmes” (UNAIDS, 2011f: 12).
67. Dominican Republic: Kerrigan et al., 2006; Kerrigan et al., 2004, Gray IIIa; Philippines: Morisky and Tiglaio, 2010; Morisky et al., 2010; Chiao et al., 2009; Ang and Morksy, 2011, Gray IIIb; China: Hong et al., 2008, Gray IV
68. Mexico: Patterson et al., 2008, Gray IIIa; China: Rou et al., 2007, Gray IIIb; Guatemala: Sabido et al., 2009, Gray IIIb; Mozambique: Lafort et al., 2010: 146, Gray IIIb; Brazil: Lippman et al., 2010, Gray V
69. China: Li et al., 2006, Gray IIIa; Kenya: Ngugi et al., 2007, Gray V; South Africa: Stadler and Delany, 2006, Gray V
70. Armenia: Markosyan et al., 2010, Gray II; Kenya: Bandewar et al., 2010, Gray IIIb; India: Gooptu and Banyopadhyay, 2007, Gray V; Pillai et al., 2008, Gray V; Argento et al., 2011; Gray V; Systematic review: Shahmanesh et al., 2008; Padian et al., 2011b, Gray V
71. Senegal: Leonard et al., 2000, Gray IIIb; India: Lipovsek et al., 2010, Gray IIIb
72. Metzger and Navaline, 2003 cited in Strathdee et al., 2006; Demaan et al., 2002 cited in Strathdee et al., 2006; Metzger et al., 2003 cited in Strathdee et al., 2006; Ball et al., 1988 cited in Strathdee et al., 2006; Bruce, 2010; Roberts et al., 2010, Additional evidence: Multi-country: Kimber et al., 2010, Gray I; Moses et al., 1994 cited in IOM 2007; Serpellini and Carriere, 1994 cited in IOM, 2007, Gray IIIa; Larney and Dolan, 2009, Gray IIIb; Cochrane review: Mattick et al., 2008, Gray I; Mattick et al., 2009, Gray I; Gowing et al., 2011; Gray IIIb; Jurgens et al., 2009b, Gray IIIb; Malaysia: Schottenfeld et al., 2008, Gray I; United States: McCarthy et al., 2005, Gray IIIb; United States, Europe, Australia: Beusekom and Iguchi, 2006, Gray IV; Ukraine, Pakistan, Kenya: Strathdee et al., 2010, Gray IIIb; Taiwan: CDC, Taiwan cited in Tsai et al., 2010, Gray IIIb
73. United States, Canada, Europe, Nepal, Russia: Wodak and Cooney, 2006: 802. Gray I; China: Wu et al., 2007a, Gray II; Chen et al., 2007c, Gray IIIb; Chawarski et al., 2011, Gray IIIa; India: Sharma et al., 2009, Gray IIIb; Australia: Topp et al., 2011, Gray IIIb; Canada: Kerr et al., 2010b, Gray IIIb; Bangladesh: Guinness et al., 2009, Gray IIIb; Brazil: PHR, 2007b, Gray IIIb; Meta-analysis: Palmateer et al., 2010, Gray IIIb; Smyrnov, P., Broadhead, R.S., Datsenko, O., Matiyash, O. (2012). Rejuvenating harm reduction projects for injection drug users: Ukraine’s nationwide introduction of peer-driven interventions. *International Journal of Drug Policy*, 23, 141-147.
74. Meta-analysis in Sub-Saharan Africa, East and Central Asia, Latin America: Medley et al., 2009a, Gray I; Vietnam: Hammett et al., 2012, Gray IIIb
75. Cochrane review: Meader et al., 2010, Gray IIIb; Kazakhstan: Gilbert et al., 2010, Gray IIIa; Russia: OSF, 2012, Gray IIIb
76. Ukraine: Booth et al., 2009, Gray IIIb; South Africa: Needle et al., 2008; Parry et al., 2008; Parry et al., 2009, Gray IIIb; Estonia: Wilson et al., 2007, Gray V

77. Gap noted globally for girls 15 to 19, as the proportion of these girls in school is quite low (Haberland and Rogow, 2007). Gap also noted, for example, in Lao PDR (Sychareun et al. 2011); Pakistan (Farid-ul-Hasnain and Krantz, 2011); Cameroon (Tsala Dimbuene and Kuate Defo, 2011); Jamaica (Ishida et al., 2011); Yemen (Al-Serouri et al., 2010); Zambia (Carnevale et al., 2011); Nepal (Upreti et al., 2009); Nicaragua (Manji et al., 2007); Ethiopia (Alemu et al., 2007; Erulkar et al., 2006); over 30 countries in Africa and four countries in Asia (Dixon-Mueller, 2009).
78. Gap noted, for example, in Antigua and Barbados; Bahamas; Bolivia; Columbia; Costa Rica; Chile; Dominica; Ecuador; El Salvador; Guyana; Haiti; Honduras; Jamaica; Mexico; Nicaragua; Panama; Paraguay; Peru; Venezuela; Dominican Republic; Santa Lucia; Suriname; Trinidad y Tobago; and Uruguay (DeMaria et al., 2009); India (McManus and Dhar, 2008).
79. Gap noted, for example, in Kenya (Agbemenu and Schlenk, 2011); Zimbabwe (Ferrand et al., 2011); Tanzania (Ferrand et al., 2010); India, Botswana, Kenya, Malawi, Mozambique, Rwanda, Tanzania, Thailand, Trinidad, Uganda, Zambia and Zimbabwe (McCauley, 2004) and South Africa (HRW, 2003a).
80. Gap noted globally (Malhotra et al., 2011; CHANGE, 2009, Ezer et al., 2006).
81. Gap noted, for example, in 11 DHS countries (Hargreaves and Glenn, 2002; World Bank, 2002 cited in Global Campaign for Education, 2004).
82. Gap noted, for example, in a review of 45 quantitative and qualitative studies in Sub-Saharan Africa (Hope, 2007); Liberia (Atwood et al., 2011); Botswana, Namibia and Swaziland (Cockcroft et al., 2010); Botswana, Malawi and Mozambique (Underwood et al., 2001); Tanzania (UNICEF, Tanzania et al., 2011a; Silberschmidt and Rasch, 2001); Zimbabwe (Munjomu et al., 2010); Peru (Sandoval et al., 2009); Cameroon (Hattori and DeRose, 2008); Uganda (Nobelius et al., 2011; Samara, 2010); South Africa (Ott et al., 2011; Jewkes et al., 2002 cited in Jejeebhoy and Bott, 2003); South Africa and Uganda (Geary et al., 2008; Katz and Low-Beer, 2008); Burkina Faso, Ghana, Malawi and Uganda (Bankole et al., 2007); Botswana (PHR, 2007a); Kenya (Longfield et al., 2004); Ghana (Goparaju et al., 2003); Zimbabwe (Gregson et al., 2002).
83. Gap noted, for example, in South Africa (Jewkes et al., 2010b); Egypt (Nada and Suliman, 2010); India (Bal et al., 2010); Namibia, Swaziland, Uganda, Zambia and Zimbabwe (Brown et al., 2009).
84. Gap noted, for example, in Ethiopia, Kenya, Malawi, Zambia and South Africa (Keesbury and Askew, 2010); Philippines (Ramiro et al., 2010); South Africa (HRW, 2003a).
85. Gap noted, for example, in Iran (Claeson, 2011); Ukraine (Izenberg and Altice, 2010); Vietnam (Nguyen et al., 2012, Abstract); Indonesia (Afriandi et al., 2010); Thailand (Kerr et al., 2010c); China, Russia, Vietnam, Ukraine and Malaysia (Wolfe et al., 2010); Mexico (Moreno et al., 2010); Thailand, Indonesia, Bangladesh, Myanmar, India and Nepal (Sharma et al., 2009); and generally (Piot et al., 2008, Mattick et al., 2003; Gowing et al., 2005 cited in IOM, 2007).
86. Gap noted, for example, Azerbaijan, Georgia, Kyrgyzstan, Russia and the Ukraine (OSI, 2009); Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan (UNODC, 2010a); China (Jia et al., 2010; HRW, 2010b; Sullivan and Wu, 2007: 121; Liu et al., 2006a: 119); Cambodia (HRW, 2010a); Ukraine (Strathdee et al., 2010); South Africa (Parry et al., 2010); Thailand (Hayashi et al., 2009); Vietnam (Thanh et al., 2009a); and generally (Wolfe et al., 2010; Jurgens et al., 2010; Gowan et al., 2008); Cambodia, China, Malaysia and Vietnam (WHO et al., 2011b).
87. Gap noted, for example, in Ukraine (Busza et al., 2010; Teltschik et al., 2008).
88. Gap noted, for example, in Hungary (Gyarmathy et al., 2011b); Russia (Niccolai et al., 2010); South Africa (Scheibe et al., 2011, Parry et al., 2010) and Central Asia (Thorne et al., 2010).
89. Gap noted, for example, in Vietnam (Hammett et al., 2010); China (Jiang et al., 2010); India (Solomon et al., 2010a); Brazil (Nappo et al., 2011); globally (Roberts et al., 2010); Russia (Toussova et al., 2009); Vietnam (Nguyen and Scannapieco, 2008, Go et al., 2006); Brazil (Oliveira, 2007); Ukraine (Strathdee et al., 2010); South Africa (Parry et al., 2010); and generally (IOM, 2007, Roberts et al., 2010).
90. Gap noted, for example, for Russia (Abdala et al., 2011, Sarang et al., 2010); Cambodia (Human Rights Watch, 2010); Kyrgyzstan, Kazakhstan, and Tajikistan (Shapoval and Pinkham, 2011); South Africa (Weschberg et al., 2008 cited in El-Bassel et al., 2010; Parry et al., 2009) and Kenya and Tanzania (Nieburg and Carty, 2011).
91. Gap noted, for example, in Thailand (Vuttanont et al., 2006); Brazil (Mane et al., 2001, Juarez and Martin, 2006); South Africa (Moyo et al., 2008); Mozambique (Machel, 2001).
92. Gap noted, for example, globally (Bruce et al., 2011).
93. Gap noted, for example, in Kenya (Njue et al., 2009).
94. Gap noted in Sub-Saharan Africa (Fatusi and Hindin, 2010); Ethiopia (Lindstrom et al., 2010); numerous countries (UNESCO, 2009b).
95. Gap noted, for example, in Mozambique (Hayford and Agadjanian, 2010); South Africa (Scorgie et al., 2011; Mqhayi et al., 2003 cited in Mantell et al., 2005); Kenya (Brady et al., 2009); Brazil (Dias et al., 2006); Uganda (Wanyenze et al., 2011a; Green et al., 2001); generally (Hoffman et al., 2004; Green et al., 2001; Okunlola et al., 2006; Mathews and Harrison, 2006).
96. Gap noted, for example, in Kenya (Mung'ala et al., 2006); South Africa, the US, and Nigeria (Mantell et al., 2001).
97. Gap noted, for example, in Senegal, Burkina Faso, Nigeria, Kenya, Namibia and Swaziland (Winskell et al., 2011a).
98. Gap noted, for example, in Uganda (Wawer et al., 2009); sub-Saharan Africa (Hallett et al., 2008a); Kenya (Agot et al., 2007); South Africa (Taljaard et al., 2008); Uganda and Zimbabwe (Matovu et al., 2007); Kenya, Rwanda, South Africa, and Zambia (Baeten et al., 2010).
99. Gap noted, for example, in Kenya, Namibia, South Africa, Swaziland and Uganda (AVAC et al., 2010); and South Africa and Zimbabwe (Mavedzenge et al., 2011b).
100. Gap noted, for example, in Zimbabwe (Ferrand et al., 2011).
101. Gap noted, for example, in Zambia (Bond, 2010); Cameroon (Njozing et al., 2010); Vietnam (Nam et al., 2010); Malawi (Namakhoma et al., 2010).
102. Gap noted, for example, globally (Jurgens, 2007a); South Africa (Venkatesh et al., 2011a); Pakistan (Hussain et al., 2011); Tanzania (Mmbaga et al., 2009); and Zimbabwe (Sherr et al., 2007).
103. Gap noted, for example, in 22 countries in the Eastern Mediterranean region (Hermez et al., 2010); Zimbabwe (Sambisa et al., 2010); India (Joseph et al., 2010); Kenya (Karau et al., 2010); South Africa (Groves et al., 2009); Botswana (PHR, 2007a and Weiser et al., 2006a); China (Li et al., 2007); and Ukraine (Yaremenko et al., 2004).
104. Gap noted, for example, in South Africa (Kelvin et al., 2008; Ngema et al., 2008; Harrison, 2008); Chile (Cianelli et al., 2008); China (Zhou, 2008); Latin America (Parodi and Lyra, 2008); and Zimbabwe (Feldman and Masopha, 2003).
105. Gap noted, for example, in 29 countries in Africa and Latin America (Clark et al., 2006); a review of more than 150 studies (Collins and Rau, 2000; Gupta et al., 2003 cited in Gillespie and Kadiyala, 2005); South Africa (Bhana and Pattman, 2011); Zimbabwe (Feldman and

- Masosphere, 2003); Ethiopia, Malawi, and Haiti (Mathur et al., 2003); and Tanzania (Silberschmidt and Rasch, 2001).
106. Gap noted, for example, in Nigeria (Etiebel et al., 2012); Malawi, Namibia and Botswana (Beyrer et al., 2010b); China (Zhou, 2006); India (Gutierrez et al., 2010; Hernandez et al., 2006); and Nicaragua (Beyrer et al., 2010 cited in WHO et al., 2011b).
 107. Gap noted, for example, in Uganda (Miller et al., 2011b); Haiti (Fawzi et al., 2010); Vietnam (Phinney, 2008); Brazil (Hebling and Guimaraes, 2004); Serbia (Bernays et al., 2010) and South Africa (Susser and Stein, 2000).
 108. Gap noted, for example, in Zambia (Chimuka, 2002).
 109. Gap noted, for example, in Uganda (Wawer et al., 2012; Kajubi et al., 2011); India (Solomon et al., 2010a); China (Li et al., 2011a; Yun et al., 2011); South Africa and Zimbabwe (Mavedzenge et al., 2011); South Africa (Mah, 2010); Nigeria (Adebayo et al., 2011; Oydiran et al., 2010); Botswana (Thomas and Lungu, 2010; Foster et al., 2010a); South Africa (Tanser et al., 2011); Mozambique (Noden et al., 2009); Tanzania (Exavery et al., 2011); Ethiopia (Molla et al., 2008); India (Chatterjee and Hosain, 2006). Zimbabwe (Callegari et al., 2008; Feldman and Masosphere, 2003); Mexico (Hirsch et al., 2007; Pulerwitz et al., 2001); Kenya and Zambia (Glynn et al., 2001; Glynn et al., 2003); Kenya (Kaiser et al., 2011); Zambia (Clark, 2004) and globally (Green et al., 2009) and from HPTN 052 sites (Eshelman et al., 2011).
 110. Gap noted, for example, in Zimbabwe (Ferrand et al., 2011); Uganda (Kayiki and Forste 2011); Taiwan (Tung et al., 2010); Malaysia (Anwar et al., 2010); South Africa (Tenkorang et al., 2011; Anderson et al., 2007, Stadler et al., 2007); and Burkina Faso, Ghana, Malawi and Uganda (Biddlecom et al., 2007).
 111. Gap noted, for example, in the Cameroon (Arcand & Wouabe 2010); Tanzania (UNICEF, Tanzania et al, 2011a); Thailand (Ishikawa et al., 2011a); Bolivia, Chile and Mexico (Lopez Torres et al., 2010).
 112. Gap noted, for example, in Sub-Saharan Africa (Sommer, 2011); Tanzania (Sommer, 2010) and Pakistan (Ali and Rizvi, 2010).
 113. Gap noted, for example in South Africa (Cluver et al., 2011).
 114. Gap noted, for example, in Cambodia, India, Kenya, Tanzania and Ethiopia (Messer et al., 2010); Haiti (Surkan et al., 2010); Zimbabwe (Kembo, 2010; Nyamukapa et al., 2010); Rwanda (Betancourt et al., 2011); Rwanda (Thurman et al., 2008a); South Africa (Van der Heijden and Swartz, 2010; Cluver et al., 2007, Cluver and Gardner, 2007); China (Xu et al., 2010a and b; Zhao et al., 2010a; Zhang et al., 2009a; He and Ji, 2007).
 115. Gap noted, for example, in a systematic review (Sherr, 2008); South Africa (Hill et al., 2008; and Zimbabwe (Nyamukapa and Gregson, 2005).
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