Chapter 13. Structuring Health Services to Meet Women's Needs

> *"I feel like mothers benefiting from PMTCT must be assisted quickly at the antenatal clinic, unlike what we see today. We keep waiting from early in the morning to late in the evening without being attended to. We remain hungry all day long and our children keep crying out of hunger as well. At the ANC there is not even a place to lay down and rest."*
>
> —Woman attending PMTCT program, Malawi (Bwirire et al., 2008: 1997)

The manner in which health services are structured has an impact on HIV prevention, treatment and care services for women and girls. Women often need multiple reproductive health services such as family planning in addition to HIV prevention, treatment and care, but most health care facilities are not structured to provide integrated services. Integration can be defined broadly as "1) co-location of different services within the same facility, even if those specific services remain separately staffed; 2) training of personnel to provide multiple services; 3) provision of tools, processes and training to better link separate services; 4) strengthening of linkages, referral and follow up between facility levels; and 5) harmonization of logistics systems, such as data collection, drug and material distribution, transport and supervision across services" (Pfeiffer et al., 2010: 3). Integration of services, especially HIV and family planning, provides a way to capture the missed opportunities to counsel women and couples on contraceptives and other sexuality issues as well as provide HIV services.

Sexual and reproductive health services are also excellent locations for providing HIV services and reaching potential ART users (WHO, 2003a; Interact Worldwide et al., 2008). If family planning is offered separately or if HIV service providers cannot counsel about contraceptives and sexuality issues, women may not be getting the full range of services they need. Consideration must be given, however, to the woman's experience when integrating services (Stevens, 2008). For example, when women initiate antiretroviral therapy, they may be overwhelmed with information on disclosure and adherence and therefore this may not be the ideal time to address issues of contraception. But once treatment is initiated, ongoing counseling on contraceptive options may be warranted (King et al., 2011). A key question for women is how can services be offered to best ensure full respect for women's autonomy in decision-making (Luciano et al., 2011), at the same time providing the ability to involve partners or family members

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should the woman so desire. In some countries, the private health sector provides over 50% of care (Rao et al., 2011), and therefore the private sector must be engaged and regulated to structure services to meet women's needs.

Integration of Services is Key To Ensuring Women Receive Comprehensive Health Care
"Women are willing to use sexual and reproductive health clinics and outreach services because they do not attract the stigma" (Titus and Moodley, 2009: 138) often attached to HIV services such as HIV testing. "Women already attend clinics or community-based distribution programs for contraceptive advice, and when pregnant, millions of women in under-resourced countries make at least one visit to a prenatal clinic and a significant proportion make at least one postnatal clinic visit" (Titus and Moodley, 2009: 138). Recent studies in Kenya and Zambia found that family planning providers, antenatal care and family planning clients, and women living with HIV identified the need for family planning in a context of high HIV prevalence (Banda et al., 2004; Gichuhi et al., 2004). However, in some sites, no changes in contraceptive use were seen following integration of family planning into ART services (McCarraher et al., 2011), as many providers focus only on condom use for HIV-positive women (Mwaikambo et al., 2011; Orner et al., 2011b).

A recent review of PMTCT program failures in developing countries concluded that key factors include "the lack of linkages between prevention of mother-to-child transmission programs and primary prevention, family planning, and most importantly, the provision of care and treatment" (McIntyre and Lallemant, 2008a: 139). However, it is critical that policymakers and program managers know and understand the client population before deciding whether service integration is likely to be effective (Gillespie et al., 2009).

TB screening as part of antenatal and postpartum care is also important due to the increased risk of maternal and infant mortality associated with TB and HIV co-infection during pregnancy and postpartum (Mofenson and Laughton, 2007).
However, in much of rural sub-Saharan Africa, maternal child health clinics are the primary health care facilities, with HIV testing and care introduced largely through these clinics, resulting in a strain on limited resources and overworked staff (Hayford and Agadjanian, 2010).

Women should be viewed as individuals with health care needs. Access to antiretroviral treatment for pregnant women in ANC clinics should not be seen to emphasize prevention of perinatal transmission at the expense of the women's own health (Eyakuze et al., 2008). Focus on HIV for women only during pregnancy often shifts services to only preventing HIV transmission to the babies and neglects the health needs of the women themselves. Importantly, health care providers must practice in a respectful, non-discriminatory manner.

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Health Care Providers' Needs Must Also Be Met

Nurses occupy a pivotal position in relation to the HIV/AIDS epidemic, especially in Africa, where they face a disproportionate risk of infection, the largest burden of caring for sick family or orphans, and as health care workers, risk of occupational exposure (Zelnick and O'Donnell, 2005). Many health care workers are themselves living with HIV, suffer from stigma and cannot afford the services or treatment they prescribe for others.

> *"Where workers have the potential to encounter blood or other body fluids in the course of their work, employers have an obligation to train them in infection control and to ensure ready access to protective equipment and post-exposure prophylaxis"* (UNAIDS, ND).

In order to provide quality care, health care workers must have access to the means of universal precautions (e.g. gloves, masks and other protective equipment) so they can protect themselves from HIV transmission. Health care workers must be assured of the use of this personal protective equipment, which can reduce fear of treating people with HIV and thus reduce stigma and discrimination against women living with HIV who access health services. [See also *Strengthening the Enabling Environment: Reducing Stigma and Discrimination*]

"All national HIV prevention programmes must promote adherence to sound infection control practices in healthcare settings. Risk of HIV infection can be significantly lowered through workers' adherence to universal precautions, the routine use of gloves and other protective equipment to prevent occupational exposures, safe disposal of needles and other sharp instruments, and timely administration of a four-week prophylactic course of antiretroviral drugs" (UNAIDS, ND). Importantly, in case of needle stick injuries, post-exposure prophylaxis should be used. Post-exposure prophylaxis guidelines can be found at: http://whqlibdoc.who.int/publications/2007/9789241596374_eng.pdf. The following WHO and ILO documents provide information on standards in health care services in the context of HIV: http://www.who.int/hiv/pub/priority_interventions_web.pdf and http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---ilo_aids/documents/publication/wcms_116563.pdf.

More Health Care Workers Are Needed

Health personnel are a critical component to effective health services and are in extremely limited numbers in many parts of the world. Only 5 of 49 low-income countries have the minimum of 23 doctors per 10,000 inhabitants recommended by WHO (WHO, 2010 cited in IOM, 2011: 107). Africa bears 25 percent of the world's burden of disease but is home to only 1.3 percent of the world's health workforce (IOM, 2011: 107). Malawi has nurse vacancy rates of 55% and only 1.7 physicians per 100,000

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population (Massaquoi et al., 2008b). Additionally, in order to provide adequate care, health care workers need to be equitably distributed within the country, in both urban and rural areas. The shortage of health personnel increases the waiting time and reduces the quality of service for women.

While human resources is beyond the scope of this website, it is critical to recognize the role of people living with HIV not just as patients but also as health providers, and in providing social support for adherence as well as in reducing transmission. As authors Odetoyingo Morolake, David Stephens and Alice Welbourn stated: "We invite [you] to come on a journey of what it means to be living with HIV and …to experience to know that we have so much to offer our communities; how it feels for that offer to be ignored, forgotten or rejected; and how it feels to be stigmatized and criminalized as 'carriers of HIV' or treated as vectors of transmission…Official recruitment of HIV-positive people into the health system is limited, and where it does happen, HIV-positive people are mainly employed as peer supporters and counselors. These jobs are important, but the lack of …recruiting and supporting staff in more senior positions…reinforces stigma and discrimination" (Morolake et al., 2009: background, para 1 and HIV and the health system crises, para 2).

Health Care Systems Must Be Strengthened

Considerable controversy exists on whether AIDS programs have strengthened health care systems or led to increased fragmentation, with different viewpoints presented (Sidibe and Buve, 2010; Biesma et al., 2009; Amico et al., 2010; Atun and Bataringaya, 2011; Shiffman et al., 2009; Accorsi et al., 2010; Duber et al., 2011; Bruga et al., 2010; Grepin, 2011; El-Sadr et al., 2011b). Addressing the HIV/AIDS pandemic will impact many of the other Millennium Development Goals, such as poverty, education, gender, child mortality, maternal health and the environment (Kim et al., 2011). However, "the success of each field is dependent on continued progress in the other. An HIV-infected woman who receives PMTCT care but suffers an emergency obstetric complication will only survive if she has access to an appropriately equipped clinic…Similarly, an HIV-infected woman who receives high quality maternal health services is …not offered appropriate HIV services may die of avoidable HIV complications…" (McNairy et al., 2011: S83). Task shifting of non-medical tasks to less highly trained staff, is one way the human resources crises in health care has been addressed. Although this approach can improve access to services and increase uptake of antiretroviral and other treatments, this can also increase the burden on community and lay health workers who are predominantly women. Identifying a full range of solutions to resolve the human resources crisis is beyond the scope of this resource but other organizations such as Physicians for Human Rights (www.physiciansforhumanrights.org) have thoroughly reviewed this topic.

Strong service delivery systems, such as supportive supervision, training programs, and logistics systems to ensure supplies are also essential for structuring health services in a

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way that meets women's needs, but interventions addressing these issues are also beyond the scope of this document. Further information on this topic can be found at http://www.who.int/healthsystems/topics/en/.

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What Works in Structuring Health Services to Meet Women's Needs

13. What Works—Structuring Health Services to Meet Women's Needs

1. Integrating HIV services with family planning, maternal health care or within primary care facilities can increase uptake of HIV testing and other reproductive health services.
2. Promoting family planning counseling and voluntary contraceptive use as part of routine HIV services (and vice versa) can increase contraceptive use, including dual method use, thus averting unintended pregnancies and transmission among women living with HIV.
3. Providing HIV testing and counseling together with other health services can increase the number of people accessing HTC.
4. Scaling up PMTCT programs increases the number of women who know their serostatus, and improves HIV knowledge.
5. Clinic-based interventions with outreach workers can be effective in increasing condom use and HIV testing among sex workers.
6. Home testing, consented to by household members, can increase the number of people who learn their serostatus.
7. Community outreach and mobilization can increase uptake of HIV testing and counseling by reaching clients who may not present at a hospital or clinic.
8. Training for providers, along with access to the means of universal precautions, can reduce provider discrimination against people with HIV/AIDS**.**
9. Early postpartum visits, especially with on-site contraceptive services, can result in increased condom use, contraceptive use, HIV testing and treatment.
10. Instituting harm reduction programs for PWID in prisons can reduce HIV prevalence in female prison populations.
11. Provider-initiated HIV testing and counseling can be acceptable, feasible and lead to high uptake of HIV testing among TB patients.
12. Incorporating discussions of alcohol use into HIV testing and counseling may increase protective behaviors such as condom use, partner reduction and reduction of alcohol use.
13. Routine screening and treatment of TB and HIV patients in endemic countries can increase detection of co-infection and increase patient survival.

Promising Strategies:

14. Decentralization of health services may increase adherence and early access to ART.
15. Infection control of TB within health care settings can reduce the incidence of TB among

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health care workers, particularly nurses.

16. Providing accessible, routine, high quality, voluntary and confidential STI clinical services that include condom promotion can be successful in reducing HIV risk among sex workers.
17. Integrating CD4 count service with VCT or primary health clinics can increase access to CD4 measurement, hastening initiation of treatment.
18. Cervical cancer screening and treatment integrated into HIV care can reduce morbidity and mortality in women living with HIV.
19. Providing clinic services that are youth-friendly, conveniently located, affordable, confidential and non-judgmental can increase use of clinic reproductive health services, including HIV testing and counseling.
20. Establishing comprehensive post-rape care protocols, which include PEP, can improve services for women.
21. Testing for and treating syphilis in conjunction with HIV testing for pregnant women will reduce congenital syphilis and can reduce perinatal transmission of HIV.
22. Conducting HIV testing and counseling for women who bring their children for immunization can increase the number of women accessing testing and treatment services.
23. Availability of HIV testing and counseling on-site at workplaces may increase uptake of HTC.
24. Screening for TB during routine antenatal care in high HIV prevalent settings may result in increased TB detection rates in women and is acceptable to most women, although stigma may be a barrier.
25. Screening for and treating STIs syndromatically on a continuous, accessible basis improves overall health and has been associated with reducing the risks of HIV acquisition in a setting with high STI prevalence.
26. Integrating legal services into health care can help ensure that women retain their property.
27. Postnatal home visits by trained lay counselors may reduce mixed feeding.
28. Outside assistance for home- and community-based care programs with household care can be effective in meeting the needs of HIV/AIDS-affected families.
29. Home-based antiretroviral treatment may be effective.

13. Evidence

1. **Integrating HIV services with family planning, maternal health care or within primary care facilities can increase uptake of HIV testing and treatment and other**

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reproductive health services. *[See also Safe Motherhood and Preventing Vertical Transmission: Antenatal Care – Treatment]*

- A study of linked responses between HIV/AIDS, STIs, maternal health and contraceptive services with two demonstration projects covering five districts piloted in **Cambodia** from 2007 to 2009 found that STI, maternal health and HIV indicators improved dramatically. The proportion of pregnant women tested for HIV increased from 6% (1,261 of 21,376) in 2007 to 86% (18,394 of 21,478) in 2009. Syphilis testing, introduced in 2009, reached 85% coverage in 2009. Antenatal coverage of at least one visit increased from 80% to 100%; public health facility delivery rates increased from 26% to 46% and contraceptive prevalence increased from 24% to 28%. Half of the HIV-positive women who participated in the demonstration PMTCT programs were referred through HIV care centers or community based activities. Of the 62 HIV-positive women, 89% (55 women) delivered at a health facility. Of the 62 HIV-positive women who delivered by 2009, 60% received antiretroviral treatment and 24% received prophylaxis. Routine data was also collected in an area with similar characteristics to the intervention area, where HIV testing among pregnant women increased from 3% in 2007 to 34% in 2009. Contraceptive prevalence increased both in the intervention area and in the comparison area, with similar increases. Nationally, in 2008, only 29% of pregnant women had been tested for HIV. In 2005, 44% of births were assisted by skilled personnel and only 22% of women gave birth in public health facilities. Since 2007, the government provides a $10 financial incentive to midwives to promote deliveries with skilled attendance. Linked responses were formalized with Standard Operating Procedures between the National Center for HIV/AIDS and the National Maternal and Child Health Center. Linked responses established strong referral and follow up between health centers with ANC, delivery care and HIV testing and hospitals with a full range of services, as well as between community based organizations and health facilities. Additional training, supervision and monitoring was provided. Prior to the intervention, only one site in each demonstration area provided HIV testing and ARV prophylaxis. Following implementation, 38 health facilities provided delivery services, with a number of additional buildings and labs constructed. In 2007, women with CD4 counts under 250 received antiretroviral treatment, changing to 350 as of 2009; in 2007, those with CD4 counts above 250 received antiretroviral prophylaxis, which in 2009 was changed to CD4 counts above 350 (Delvaux et al., 2011). (Gray IIIa) *(pregnancy, treatment, health facilities, Cambodia)*

- Integration of family planning with one stop, same day appointments into HIV care in **Kenya** resulted in increased use of more effective family planning methods and condoms by HIV-positive women. For those receiving integrated family planning and HIV care, all contraceptive methods except sterilization were available. A retrospective cohort study was conducted between 2005 and 2009 by reviewing records of HIV-positive women. Among those women who received integrated HIV care and family planning, there was an increase of 16.7% in condom use, a 12.9% increase in effective contraception that included condoms; and a decrease of 3.8% of contraception that excluded condoms. For those who did not receive integrated care, they had to access contraception by scheduling an appointment at a MCH or family planning clinic which is independently run from HIV care and required a co-payment from the woman as compared to no cost HIV care. New condom use among clients without access to integrated contraceptive services was 36.9% compared to 53.4 % in the integrated clinic, new family planning use including condoms was 58.1% . Compared to 44.7% in routine care; new contraception that excluded condoms was 4.8% for integrated care but 7.8% in standard care (Kosgei et al., 2011). (Gray IIIb) *(condom use, contraception, health facilities, Kenya)*

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- A study in **Mozambique** which assessed the changes between 2004, when HIV care was delivered through a vertical hospital to when HIV care was integrated into primary health care and evaluated in 2008, found that integration of HIV/AIDS services into primary care can increase the numbers of those who access HIV testing and counseling, place more patients on antiretroviral therapy more quickly and efficiently, reduce loss to follow-up, and achieve greater geographic coverage compared to the vertical model. In 2004, freestanding HIV treatment hospitals were constructed in urban centers with their own pharmacies, data systems, health workforce, waiting areas and receptions. Patients identified as HIV-positive from other sectors of the health system, such as PMTCT or HTC, were referred to HIV hospitals to register for HIV care. But in 2005, only 78% of HIV-positive patients referred to HIV hospitals returned for CD4 testing, and only 46% of those who returned for the results of their CD4 tests were found to be eligible to start antiretroviral therapy. In 2005, only 59% of those testing positive at VCT sites managed to enroll in HIV care in HIV hospitals and only 5% of TB patients had been tested for HIV. By 2008, antiretroviral treatment was provided in 67 sites (out of 222 health facilities), distributed throughout all 23 districts in the two provinces with the highest prevalence of HIV. Pharmacies for HIV care were integrated by national policy into existing pharmacies. HTC was routinely provided in TB services as well as in maternal health services, increasing the numbers of those tested from 20,000 in 2004 in 19 separate VCT sites to 100,000 tested in 2007 in 103 sites. Nearly 180,000 HIV-positive patients were registered for care. Nearly 30,000 had initiated antiretroviral therapy out of an estimated 60,000 determined to be ART eligible through CD4 counts. Compared to 2004, in 2008 a significantly greater percentage of patients initiated ART in less than 90 days. By the end of 2008, HIV-related resources had contributed to the rehabilitation or construction of 40 staff house, 22 labs, 11 pharmacies, 100 refrigerators for cold chain, and dozens of maternities (Pfeiffer et al., 2010). [For steps to bring ART services from the hospital to the primary care clinic level, please refer to (Decroo et al., 2009)] (Gray IIIb) *(treatment, CD4 counts, TB, health facilities, Mozambique)*

- In **Zambia** from 2007 to 2008, 581 HIV-positive pregnant women were successfully identified and initiated on HAART in primary health centers. Of 14,815 HIV-positive pregnant women registered in the 60 primary health care centers, 1,660 had their CD4 counts available at primary health care clinics. Of these, 796 had CD4 counts under 350 and were eligible for treatment and 581 of them were initiated on HAART at the primary care level (Mandala et al., 2009). (Gray IIIb) *(pregnancy, treatment, health facilities, Zambia)*

- Integration of family planning and HIV services in **Nigeria**, in 71 health facilities with strengthened referral links, provider training, co-located services, same staff and parallel supply chain management systems, resulted in the mean attendance at family planning clinics increased significantly from 67.6 pre-integration to 87 post-integration. The mean couple years of protection increased significantly from 32.3 pre-integration to 38.2 post-integration (Chabikuli et al., 2009). (Gray IIIb) *(family planning, health facilities, Nigeria)*

- A study in **Tanzania** found that a two-part referral form, a transportation allowance, and a community escort increased referral uptake at HIV clinics and reduced delays in seeking care. Of referred patients, 72% of men and 66% of women registered at the HIV treatment clinic within six months. Transport allowances of US$ 2 roundtrip were provided. The cost of covering transport to the HIV treatment clinic was US$ 25 to 30 per year, a small fraction of the total costs for an HIV-positive patient. Patients also reported that the referral system facilitated their arrival at the HIV clinic. The study also included in-depth interviews with 11 health care workers and 42 patients, as well as four focus group discussions with referred patients. The benefits of an escort included physical support, encouragement, and familiarity

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by the escort of the city and the hospital to which they had to go to get HIV treatment. Referral forms allowed patients who had already received their HIV test results to avoid retesting at the HIV treatment center. Providers at the HIV treatment center found the referral forms helpful as they signaled patient willingness to access and adhere to treatment, as well as providing useful information. Patients who tested HIV-positive but did not access HIV treatment clinics were follow up by counselors to discuss treatment options. The referral form had two detachable parts, with matching unique numbers to facilitate reconciliation of the two parts. One side had basic socio-demographic information on the patient and the referral date and was given to the patient to present at the HIV treatment clinic. The second part was retained by the referring party (Nsigaye et al., 2009). (Gray IIIb) (treatment, testing, Tanzania)

- A pre-post intervention study in 23 public sector hospitals, health centers and dispensaries in two districts in one province in **Kenya** found that provider-initiated testing and counseling was feasible and acceptable in family planning services, did not adversely affect the quality of the family planning consultation and increased access and use of HIV testing in a population which benefited from knowing their serostatus. All clients were female. 538 pre-intervention and 520 post-intervention were randomly selected to be observed and interviewed. The policy environment in Kenya has been conducive to linking HIV/AIDS services with reproductive health service, with a Reproductive Health and HIV/AIDS strategy. Counseling guidelines were updated for providers to discuss HIV transmission and prevention, conduct risk assessment, discus dual promotion and offer HTC. Staff received training on contraceptive methods, HIV, reproductive rights, informed choice and consent, safe sex, values clarification, risk assessment and reduction, record keeping and logistics management. One group of 28 family planning providers were trained for nine days in the integrated family planning and HIV counseling intervention and in providing HIV testing and counseling to family planning clients requesting a test during the consultation. Another group of 47 family planning providers were trained for five days in the intervention and referred clients interested in an HIV tests. Implementing the intervention added two to three minutes per consultation for those who wanted a referral and seven minutes for those wanting on-site rapid testing. The incremental cost per family client ranged from $5.60 in hospitals to $9.53 in dispensaries. Dual method use increased from 1% to 6%. For those who were tested on site, 35% of clients were tested; for those referred, 20% were tested for HIV. One-third of the family planning clients who chose to have an HIV test had never had an HIV test before (Liambila et al., 2009). (Gray IIIb) *(family planning, HIV testing, contraception, health facilities, Kenya)*

- A 2001-2002 study of 706 women in **Tanzania** who accessed post-abortion services found that most accepted HIV testing and condoms. In Tanzania, abortion is illegal and women have unsafe abortions to terminate unplanned pregnancies. Women were offered HIV testing and counseling about contraception and HIV and, 407 (58%) accepted HIV testing. Prior to the study, condom use during the past six months before hospital admittance was low, with 61% never using condoms. Among women who accepted being tested for HIV, 73% accepted to use condoms either alone or in combination with hormonal contraception after having been provided with contraceptive counseling. Of the 407 women who accepted HIV testing, 14% were HIV-positive. "… Women who have an unsafe abortion comprise a vulnerable group who are at high risk of repeated unsafe abortion and HIV infection" (Rasch et al., 2006: 703). (Gray IIIb) *(HIV testing, abortion, condom use, health facilities, Tanzania)*

- A study in **South Africa** found that providing HAART at primary care clinics with adequate support for health facilities resulted in a four-fold increase in new HAART initiations with a high rate of viral load suppression of over 85% and a twenty fold increase in CD4 cell count

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testing in HIV-positive adults. Systems improvements included immediate CD4 cell count determination if HIV test results are positive, with multiple processes at the same visit, such as counseling, lab testing, clinic staging, etc.; nurses designated to follow-up on basis of CD4 cell counts; increased reliance on clinical judgment of health workers who know the clients well, such as deferring home visits based on logistics; patients are referred back from secondary and tertiary HAART initiation sites to primary care clinics for care (Barker et al., 2007a). (Gray IV) *(HAART, health facilities, HIV testing, South Africa)*

2. **Promoting family planning counseling and voluntary contraceptive use as part of routine HIV services (and vice versa) can increase contraceptive use, including dual method use, thus averting unintended pregnancies and transmission among women living with HIV.** *[See also above and Meeting the Sexual and Reproductive Health Needs of Women Living with HIV]*

   - In **Uganda**, a project from 2006 to 2007 integrated family planning and HIV treatment, resulting in a three-fold increase in the number of HIV treatment patients accessing family planning. Evaluation data included 105 client exit interviews, 30 provider client observations, 37 self-administered provider questionnaires, six key informant interviews with program staff, three group discussions with people living with HIV and three group discussions with providers showed that two-thirds of clients interviewed in exit surveys reported that they used condoms every time they had intercourse in the past six months. Four contraceptive methods were provided: condoms, oral contraceptives, injectables and emergency contraceptive pills. Referrals were made for long acting and permanent contraceptive methods to the hospital a few yards from the TASO clinic. A performance needs assessment and an integrated training curriculum to provide family planning and antiretroviral therapy were developed and utilized. Prior to the intervention, only 16% of HIV-positive women were counseled on their family planning needs because providers were concerned that providing family planning would encourage women living with HIV to have sex. Condoms were provided for HIV prevention but not for family planning and HIV-positive men were excluded from family planning activities. By the end of the project, 62% of providers reported that adding family planning services did not adversely affect the provision of antiretroviral therapy while 35% of clients reported that adding family planning services improved the provision of antiretroviral therapy and 41% experienced no change. In Uganda, approximately one million people live with HIV and adult HIV prevalence is 6.7%, with the highest levels among women in urban areas. Nearly 25% of all new HIV infections result from perinatal transmission. Although the mean ideal number of children is 5.3, the total fertility rate is 6.7 lifetime births per woman. Only 18% of married women use a modern effective family planning method. (Searing et al., 2008). (Gray V) *(PMTCT, family planning, condom use, treatment, Uganda)*

   - Focus group discussions with four HIV-positive women and four HIV-positive men at a public health facility in Cape Town, **South Africa** found that they felt that HIV/AIDS services provided good non-judgmental, respectful, informative and confidential care as compared to facilities that provided reproductive health services and contraception where, as one woman noted, "that crew make you feel scared to go to the clinic" (Orner et al., 2008: 1218). In addition, "integrating services would mean not having to repeatedly explain themselves to others, thus decreasing instances of stigma and prejudice directed towards them. For women who needed to access contraceptives, access to 'everything you need under one roof' was unambiguously desired" (Orner et al., 2008: 1220). (Gray V) *(HIV testing, treatment, contraception, South Africa)*

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3. **Providing HIV testing and counseling together with other health services can increase the number of people accessing HTC.** *[See above and HIV Testing and Counseling for Women]*

4. **Scaling up PMTCT programs increases the number of women who know their serostatus and improves HIV knowledge.**

    - A study in **Côte d'Ivoire** from 2004 to 2005 showed that implementation of a comprehensive PMTCT program in urban health facilities significantly increased HIV testing, PMTCT and also improved the quality of some antenatal and delivery health services. Before implementation of the PMTCT intervention, five urban health facilities underwent renovation, or new buildings were constructed in order to meet PMTCT program standards that included adequate room for individual counseling and group sessions. Additionally, a standard set of equipment was supplied to each facility and all maternity care staff was provided PMTCT training. After PMTCT program implementation the number of pregnant women offered HIV testing increased from 0% to 63%, 83% of HIV-positive mothers and 78% of infants received nevirapine, health facility staff in favor of recommending HIV testing increased from 82% to 98% and the proportion of staff who would be willing to be tested during their own pregnancy increased from 59% to 86%. Further, interpersonal communication improved significantly with women receiving a friendly greeting increasing from 44% to 70% and an invitation to sit from 69% to 99%. Confidentiality also improved with the number of women asked questions individually without another patient present increasing from 63% to 81%. Individual counseling showed an increase in family planning counseling from 3% to 28% and prevention of STI counseling from 7% to 36%. The number of women participating in information sessions where prevention of STIs, HIV and HIV testing was addressed increased from 39% to 75%. Washing of hands before or after an examination by clinic staff increased from 3% to only 11%. During the medical interview at first antenatal care, the frequency of retrieving a history of previous pregnancies increased from 44% to 58%, history of cesarean sections from 35% to 55% and last menstrual period from 38% to 55%. During the antenatal care clinical examination, checking of uterine height increased from 95% to 98%, checking of fetal heart rate from 67% to 79% and checking of fetal position from 67% to 81%. Inter-personal relationships improved significantly with women receiving information on labor progression from 8% to 41%, having someone present for support from 19% to 27% and delivering privately without being visible to other patients from 65% to 81%. Safe obstetric procedures demonstrated a marked decrease in episiotomies from 24% to 14% for all women and 64% to 25% in primiparous women. Infection prevention showed that washing the perineum before delivery increased from 9% to 27% and sterile instruments available for each delivery increased from 57% to 69%. At the first exam checking of blood pressure, pulse and conjunctiva all increased (41% to 65%, 3% to 16% and 47% to 61% respectively) and during examination at admission for delivery checking women's antenatal card increased from 91% to 98%, asking about onset of labor pain from 27% to 50%, asking if uterine membranes had ruptured from 33% to 43%, determining uterine height from 65% to 80%, determining position of the fetus from 53% to 84% and measure of fetal heart rate from 60% to 80%. After delivery the use of oxytocics increased from 83% to 90% and checking for uterine retraction increased from 28% to 50%. However, several indicators appear to be negatively impacted by the PMTCT intervention. Information sessions addressing family planning decreased from 30% to 10%, professional attendance at delivery by both doctors and midwives decreased (2% to 1% and 86% to 79% respectively) and manual exploration of the uterus after delivery

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increased from 32% to 64%. Overall the marked improvement in quality of maternal care after implementation of the PMTCT program was attributed to intensive staff training, supervision and adequate equipment (Delvaux et al., 2008). (Gray IV) *(PMTCT, HIV testing, treatment, Côte d'Ivoire)*

- A study reviewed quantitative and semi-qualitative national level PMTCT and pediatric HIV care and treatment data in **71 countries** in 2005 and 58 in 2004 to track progress in scaling up interventions to prevent mother-to-child transmission of HIV in maternal and child health services. The near universal acceptance (90%) of HIV testing among pregnant women who received counseling for PMTCT illustrates that women desire this important bridge to HIV treatment and prevention services. The fact that only 11% (10.3 million) of the women in 71 countries in 2005 were counseled on PMTCT demonstrates the many missed opportunities for ensuring necessary services for healthy mothers and newborns. In countries with generalized epidemics, rapid expansion of provider-initiated HIV testing and counseling in maternal-newborn-child health (MNCH) settings and particularly antenatal care has been an effective way to increase uptake of PMTCT services. Botswana introduced routine offer of HIV testing in 2004. Within three months, the proportion of pregnant women tested for HIV increased from 75% to 90%. Scaling up efforts for PMTCT has started to show an impact. The proportion of HIV-positive pregnant women receiving antiretroviral treatment for PMTCT increased from 7% in 2004 to 11% in 2005, a more than 50% increase (Luo et al., 2007). (Gray IV) *(PMTCT, antenatal care, HIV testing, treatment)*

- The **Cameroon** Baptist Convention Health Board implemented a program to prevent mother-to-child transmission of HIV-1 (PMTCT) as part of its routine antenatal care, with single-dose maternal and infant peripartum nevirapine (NVP) prophylaxis of HIV-positive mothers and their babies. Nurses, midwives, nurse aides, and trained birth attendants counseled pregnant women, obtained risk factor data, and offered free HIV testing with same-day results. From February 2000 through December 2004, this program rapidly expanded to 115 facilities in 6 of Cameroon's 10 provinces, not only to large hospitals but also to remote health centers staffed by trained birth attendants. Staff trained 690 health workers in PMTCT and counseled 68,635 women, 91.9% of whom accepted HIV testing. Of 63,094 women tested, 8.7% were HIV-1-positive. Independent risk factors for HIV-1 infection included young age at first sexual intercourse, multiple sex partners, and positive syphilis serology. Staff counseled 98.7% of positive and negative mothers on a posttest basis. Of 5,550 HIV-positive mothers, 5,433 (97.9%) received single-dose NVP prophylaxis. Consistent training and programmatic support contributed to rapid upscaling and high uptake and counseling rates (Welty et al., 2005). (Gray V) *(PMTCT, treatment, antenatal care, Cameroon)*

5. **Clinic-based interventions with outreach workers can be effective in increasing condom use and HIV testing among sex workers.** *[See Prevention for Key Affected Populations: Female Sex Workers]*

6. **Home testing, consented to by household members, can increase the number of people who learn their serostatus.** *[See HIV Testing and Counseling for Women]*

7. **Community outreach and mobilization can increase uptake of HIV testing and counseling by reaching clients who may not present at a hospital or clinic.** *[See HIV Testing and Counseling for Women]*

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8. **Training for providers, along with access to the means of universal precautions, can reduce provider discrimination against people with HIV/AIDS.** *[See Strengthening the Enabling Environment: Reducing Stigma and Discrimination]*

9. **Early postpartum visits, especially with on-site contraceptive services, can result in increased condom use, contraceptive use, HIV testing and treatment.** *[See Safe Motherhood and Prevention of Vertical Transmission: Postpartum]*

10. **Instituting harm reduction programs for PWID in prisons can reduce HIV prevalence in female prison populations.** *[See Prevention for Key Affected Populations: Women Who Use Drugs and Female Partners of Men Who Use Drugs]*

11. **Provider-initiated HIV testing and counseling can be acceptable, feasible and lead to high uptake of HIV testing among TB patients.** *[See Preventing, Detecting and Treating Critical Co-Infections: Tuberculosis]*

12. **Incorporating discussions of alcohol use into HIV testing and counseling may increase protective behaviors such as condom use, partner reduction and reduction of alcohol use.** *[See HIV Testing and Counseling for Women]*

13. **Routine screening and treatment of TB and HIV patients in endemic countries can increase detection of co-infection and increase patient survival.** *[See Preventing, Detecting and Treating Critical Co-Infections: Tuberculosis]*

Promising Strategies:

14. **Decentralization of health services may increase adherence and early access to ART.**

- A cross-sectional survey was conducted in **Cameroon** from 2006 to 2007 using a random sample of 3,151 patients who had been diagnosed as HIV-positive for at least 3 months and were attending HIV services. The impact of the Cameroon's decentralized health care system on HIV was assessed and the survey indicated that adherence to ART was significantly higher at the provincial and district level, as was patient satisfaction. The delay between a HIV diagnosis and consultation was shorter at the district level and CD4 counts were higher when initiating treatment. Additionally, ART coverage among females was 62% which was significantly higher compared to the male coverage rate at 51.1% (Boyer et al., 2010) (Gray IIIb) *(treatment, adherence, health facilities, Cameroon)*

- As study in rural **Malawi** of 8,093 patients (63% women) from 2004 to 2008 of whom 43% who received their HIV care in decentralized HIV centers found that those patients managed at health centers had lower mortality and lower loss to follow-up, i.e. defaulted from treatment. Services in this area are provided at one central hospital and 33 health centers. During the first ten months of follow-up, those decentralized to health centers were approximately 60% less likely to default than those not decentralized even when adjusted for

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sex, age, clinical stage at initiation, type of regiment and duration of treatment and follow-up. Receiving HIV treatment and care at decentralized HIV centers was significantly associated with a reduced risk of death through 25 months of follow-up. However, those who received HIV care at decentralized HIV centers were stable patients and complicated cases were referred. The tertiary hospital clinic was located far from the majority of rural poor. Decentralized health centers were chosen if they had medical assistants or nurses who then received ongoing supportive supervision; testing and counseling services; adequate counseling and consulting rooms; and were capable of safely storing drugs. Staff was trained. ART follow-up was integrated with primary outpatient care services at health centers. To qualify for services in decentralized HIV centers, patients had to stable on first line ART for at least three months with no active opportunistic infections and who lived closer to the center than to the hospital (Chan et al., 2010). (Gray IIIb) *(treatment, adherence, health facilities, Malawi)*

- A study in rural **South Africa** that reviewed data from 2004 to 2008 found that outcomes were not affected by rapid expansion of decentralized HIV treatment. HIV treatment and care was provided through a network of 16 primary health care clinics. Data included all adults who initiated ART between 2004 and 2008 and were analyzed by whether they received care in a 1) hospital-based setting; 2) an urban setting; 3) a rural setting with more than 200 patients on ART; and 4) a small rural clinic with under 200 patients on ART. A total of 5,719 adult patients were initiated on ART between 2004 and 2008; of these 2,509 patients were eligible for ART, with a ten-fold increase in the number of patients initiating ART. Females constituted 67.9% of all patients initiated on ART and men had a lower median CD4 cell count at initiation of 91 than females at 128. More men (29.6%) than women (18.2%) initiated ART with a CD4 count below 50. Of 3,010 patients included in analysis, retention in treatment was 84% at 12 months and mortality was 10.9%. The mortality rate peaked in the first three months of ART initiation. The decentralized program of ART delivered through primary care has led to rapid scale-up with 5,179 patients initiated on ART in four years. "Success in scale-up may be partly attributed to growth in the programme's financial and human resources, which increased by about 20-fold in the first four years as a result of PEPFAR support" (Mutvedzi et al., 2012: 595). Active tracking with phone contact, including home visits may have increased the success of keeping patients on ART (Mutevedzi et al., 2010). (Gray IIIb) *(treatment, CD4 counts, health facilities, South Africa)*

15. Infection control of TB within health care settings can reduce the incidence of TB among health care workers, particularly nurses.

- A cross-sectional study from **Brazil** found that mask use by health care workers, HEPA filters and biosafety cabinets in lab areas, isolation of TB patients with respirators and a negative pressure isolation room, along with rapid diagnosis and treatment of TB patients, resulted in a significantly lower rate of the incidence of LTBI in initially tuberculin-negative health care workers. The study compared two hospitals with infection control with two hospitals with no TB control measures in place. The incidence of LTBI in hospitals without prevention measures was 16 per 1,000 person months; and with prevention measures 7.75 per 1,000 person-months, a statistically significant rate (Roth et al., 2005 cited in Joshi et al., 2006). (Gray IIIa) *(TB, health facilities, Brazil)*

16. Providing accessible, routine, high quality, voluntary and confidential STI clinical services that include condom promotion can be successful in reducing HIV risk

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among sex workers. *[See Prevention for Key Affected Populations: Female Sex Workers]*

17. **Integrating CD4 count service with VCT or primary health clinics can increase access to CD4 measurement, hastening initiation of treatment.** *[See Treatment: Provision and Access]*

18. **Cervical cancer screening and treatment integrated into HIV care can reduce morbidity and mortality in women living with HIV.** *[See Meeting the Sexual and Reproductive Health Needs of Women Living with HIV]*

19. **Providing clinic services that are youth-friendly, conveniently located, affordable, confidential and non-judgmental can increase use of clinic reproductive health services, including HIV testing and counseling.** *[See Prevention for Young People: Increasing Access to Services]*

20. **Establishing comprehensive post-rape care protocols, which include PEP, can improve services for women.** *[See Strengthening the Enabling Environment: Addressing Violence Against Women]*

21. **Testing for and treating syphilis in conjunction with HIV testing for pregnant women will reduce congenital syphilis and can reduce perinatal transmission of HIV.** *[See Safe Motherhood and Prevention of Vertical Transmission: Testing and Counseling]*

22. **Conducting HIV testing and counseling for women who bring their children for immunization can increase the number of women accessing testing and treatment services.** *[See above and Safe Motherhood and Prevention of Vertical Transmission: Postpartum]*

23. **Availability of HIV testing and counseling on-site at workplaces may increase uptake of HTC.** *[See HIV Testing and Counseling for Women]*

24. **Screening for TB during routine antenatal care in high HIV prevalent settings may result in increased TB detection rates in women and is acceptable to most women, although stigma may be a barrier.** *[See Preventing, Detecting and Treating Critical Co-Infections: Tuberculosis]*

25. **Screening for and treating STIs syndromatically on a continuous, accessible basis improves overall health, and has been associated with reducing the risks of HIV acquisition in a setting with high STI prevalence.** *[See Prevention for Women: Treating Sexually Transmitted Infections]*

26. **Integrating legal services into health care can help ensure that women retain their property.** *[See Strengthening the Enabling Environment: Transforming Legal Norms to Empower Women, including Marriage, Inheritance and Property Rights]*

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27. **Postnatal home visits by trained lay counselors may reduce mixed feeding.** *[See Safe Motherhood and Prevention of Vertical Transmission: Postpartum]*

28. **Outside assistance for home- and community-based care programs with household care can be effective in meeting the needs of HIV/AIDS-affected families.** *[See Care and Support: Women and Girls]*

29. **Home-based antiretroviral treatment may be effective.** *[See Treatment: Provision and Access]*

13. Gaps in Programming—Structuring Health Services to Meet Women's Needs

1. Improved integration is needed between maternal, sexual and reproductive health services and HIV treatment services.
2. Health care providers must have access to personal protective equipment such as gowns, gloves, needle-less systems and eye protection to decrease the risk of occupational exposure.
3. Ongoing efforts are needed for safe needle disposal.
4. Improved record keeping on HIV counseling, serostatus, and treatment is needed to improve referrals and linkages with other health care services.
5. Health care provider training is needed to increase confidentiality and decrease discrimination against sex workers seeking health services.
6. Interventions are needed to scale up CD4 count screening, especially for pregnant women.
7. Providers and those living with HIV need accurate information on how HIV is transmitted and how most effectively to reduce the likelihood of transmission among serodiscordant couples or between those who do not know their sero-status, including those who wish to become pregnant.
8. Providers need training on meeting the contraceptive needs of women and couples with HIV, including providing non-directive, informed choice counseling and reducing stigma and discrimination for women living with HIV.
9. Health service providers must make additional efforts to ensure confidentiality regarding patient's serostatus.
10. Health care settings must address the needs of transgendered people and reduce barriers to services.
11. Health care settings need to offer appropriate, non-discriminatory services—and be attentive to HIV risk behaviors—to meet the sexual and reproductive health needs of

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12. Interventions are needed to improve quality of HIV treatment and care within health services.
13. Interventions are needed to screen and treat both male and female sexual partners for STIs.
14. Programs for male circumcision need to provide women, as well as men, with detailed factual knowledge of the benefits and risks of voluntary medical male circumcision.
15. Efforts are needed to ensure that providing family-focused HIV care within maternal and child health programs doesn't discourage men from seeking HIV services.
16. Policy guidelines, including in service delivery guidelines, need to specify how family planning should be addressed in HIV prevention, treatment and care.
17. Additional efforts are needed to provide postpartum women with contraception information and methods so they may space or prevent their next pregnancy and use condoms to reduce the likelihood of HIV transmission upon resumption of sexual activity.
18. Additional efforts are needed to reduce the risk of TB transmission in high risk, low resource settings.
19. A combination of infection control strategies may significantly reduce the rate of TB transmission, including drug-resistant TB, in high-risk, low-resourced health care settings.

1. **Improved integration is needed between maternal, sexual and reproductive health services and HIV treatment services.** A study found that even though 11.6% of 1,369 pregnant women were eligible for ARV treatment based on their low CD4 counts prior to delivery and 6 % were eligible postpartum, these women were not integrated into ARV treatment programs; another study found high rates of HIV in STI patients.

    - Gap noted, for example, in **South Africa** (Smit et al., 2011; Lebon et al., 2007; Mhlongo et al., 2010) and **Burkina Faso** (Windisch et al., 2011).

2. **Health care providers must have access to gowns, gloves, needle-less systems and eye protection to decrease the risk of occupational exposure to HIV.** *[See also Safe Motherhood and Prevention of Vertical Transmission: Delivery]* Studies noted that gowns, gloves and eye protection should be used in all deliveries and in examinations or procedures likely to generate the splashing of blood or amniotic fluid.

    - Gap noted, for example, in **Malawi** (Namakhoma et al., 2010); generally (Anderson, 2005).

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3. **Ongoing efforts are needed for safe needle disposal.** Studies found that used sharp needles were observed inside and outside facilities and that neither adequate disposal methods nor separation of medical waste from domestic waster occurred in health facilities.

    - Gap noted, for example, in **South Africa** (Mulumba et al., 2008).

4. **Improved record keeping on HIV counseling, serostatus, and treatment is needed to improve referrals and linkages with other health care services.** *[See Safe Motherhood and Prevention of Vertical Transmission: Testing and Counseling]*

5. **Health care provider training is needed to increase confidentiality and decrease discrimination against sex workers seeking health services.** *[See Prevention for Key Affected Populations: Female Sex Workers]*

6. **Interventions are needed to scale up CD4 count screening, especially for pregnant women.** *[See Safe Motherhood and Prevention of Vertical Transmission: Postpartum]*

7. **Providers and those living with HIV need accurate information on how HIV is transmitted and how most effectively to reduce the likelihood of transmission among serodiscordant couples or between those who do not know their sero-status, including those who wish to become pregnant.** *[See Treatment: Staying Healthy and Reducing Transmission]*

8. **Providers need training on meeting the contraceptive needs of women and couples with HIV, including providing non-directive, informed choice counseling and reducing stigma and discrimination for women living with HIV.** *[See Meeting the Sexual and Reproductive Health Needs of Women Living With HIV]*

9. **Health service providers must make additional efforts to ensure confidentiality regarding patient's serostatus.** *[See also HIV Testing and Counseling for Women, Meeting the Sexual and Reproductive Health Needs of Women Living With HIV, Safe Motherhood and Prevention of Vertical Transmission, and Strengthening the Enabling Environment: Reducing Stigma and Discrimination]* Numerous studies found that health workers and the structure of health services, such as services that are only for HIV-positive patients in physically separate parts of hospitals, violate patient confidentiality. In addition, health providers who brought services to women's homes also violated their confidentiality.

    - Gap noted, for example, in **Malawi** (Chinkonde et al., 2009); **Dominican Republic** (CHANGE, 2009); a study in five countries – **South Africa, Malawi, Swaziland, Lesotho and Tanzania** (Greeff et al., 2008); and a review in **Argentina, Mexico, Peru, Poland, Botswana, Kenya, Lesotho, Namibia, Nigeria, South Africa and Swaziland** (de Bruyn, 2006a).

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10. **Health care settings must address the needs of transgendered people and reduce barriers to services.** *[See Prevention for Key Affected Populations: Transgendered Women and Men]*

11. **Health care settings need to offer appropriate, non-discriminatory services—and be attentive to HIV risk behaviors—to meet the sexual and reproductive health needs of WSW.** *[See Prevention for Key Affected Populations: Women Who Have Sex with Women]*

12. **Interventions are needed to improve quality of HIV treatment and care within health services.** Studies found that guidelines for counseling were missing from facilities and that clients were referred for HIV testing and counseling in geographically distant locations based on donor preference.

    - Gap noted, for example, in **India** (Sogarwal et al., 2008); **Vietnam** (Nguyen et al., 2008b); **South Africa** (Orner et al., 2008); and **Zambia** (HRW, 2007).

13. **Interventions are needed to screen and treat both male and female sexual partners for STIs.** *[See Prevention for Women: Treating Sexually Transmitted Infections]*

14. **Programs for male circumcision need to provide women, as well as men, with detailed factual knowledge of the benefits and risks of voluntary medical male circumcision.** *[See Prevention for Women: Voluntary Male Medical Circumcision]*

15. **Efforts are needed to ensure that providing family-focused HIV care within maternal and child health programs doesn't discourage men from seeking HIV services.** A study found that men were excluded from PMTCT programs.

    - Gap noted, for example, in **Côte d'Ivoire** (Tonwe-Gold et al., 2009) and **Zimbabwe** (Skovdal et al., 2011b).

16. **Policy guidelines, including service delivery guidelines, need to specify how contraception should be addressed in HIV prevention, treatment and care.** *[See Meeting the Sexual and Reproductive Health Needs of Women Living With HIV]*

17. **Additional efforts are needed to provide postpartum women with contraception information and methods so they may space or prevent their next pregnancy and use condoms to reduce the likelihood of HIV transmission upon resumption of sexual activity.** *[See Safe Motherhood and Prevention of Vertical Transmission: Postpartum and Meeting the Sexual and Reproductive Health Needs of Women Living With HIV]*

18. **Additional efforts are needed to reduce the risk of TB transmission in high risk, low resource settings.** Studies found that significant TB transmission occurs in health care settings, particularly among nurses.

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- Gap noted, for example, in **a global review (**Joshi et al., 2006); **Kenya** (Galgalo et al., 2008); **South Africa** (Naidoo and Jinabhai, 2006); **Romania** (Sotgiu et al., 2008); **Russia** (Dimitrova et al., 2005); **South Korea** (Jo et al., 2008).

19. **A combination of infection control strategies may significantly reduce the rate of TB transmission, including drug-resistant TB, in high-risk, low-resourced health care settings.** A mathematical model was created to simulate TB transmission in high TB/HIV prevalent settings. The model showed that masks alone would prevent 10% of new transmission in an overall epidemic, but could prevent a large proportion of XDR-TB cases among hospital staff. The combination of mask and reduced hospitalization with a shift to outpatient treatment could prevent nearly one-third of XDR-TB cases. Approximately 48% of XDR-TB cases could be averted by the end of 2012, if a combination of mask, reduced hospitalization with shift to outpatient treatment, improved ventilation, rapid drug resistance testing, HIV treatment and TB isolation facilities for highly infectious patients were implemented.

    - Gap noted, for example, in **South Africa** (Basu et al., 2007).

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