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Preventing Mother-To-Child Transmission of HIV within HIV Proposals Funded by the Global Fund to Fight AIDS, Tuberculosis and Malaria

Manjula Lusti-Narasimhan*, Rhea Bright, Francis Ndowa and Susana Salgado Pires

Department of Reproductive Health and Research, WHO, Switzerland

Abstract

Objectives: To analyse interventions for the prevention of mother-to-child-transmission of HIV (PMTCT) included in HIV proposals approved for funding by the Global Fund to fight AIDS, Tuberculosis and Malaria (Global Fund).

Methods: The global strategy for PMTCT outlines four main components. Individual approved HIV proposals submitted to the Global Fund were analysed for these components.

Results: In total, 345 original HIV proposals approved for funding from Rounds 1 to 9 were reviewed. The four components of the global PMTCT strategy do not feature equally. In particular, prevention of unintended pregnancies in HIV infected women (component 2) was the least represented, appearing in 34% of the proposals. On the other hand, preventing HIV transmission from a woman living with HIV to her infant (component 3) was present in approximately 90%. However, component 2 represents the only component that consistently increased throughout the Rounds, with signs of the greatest increase between Rounds 3 and 7.

Conclusions: The global community has committed itself to accelerate progress towards the prevention of mother-to-child HIV transmission (MTCT) by 2015 through the initiative to eliminate new paediatric HIV infections. Given this commitment, it is important for countries to support comprehensive PMTCT interventions that are balanced across the four components. The Global Fund is one of the largest donors and this study shows interventions that countries could capitalize on to scale-up PMTCT efforts as well as synergize efforts in linking with other global and national initiatives in maternal, reproductive, and child health.

Keywords: HIV; PMTCT; Reproductive health; Health financing

Introduction

The prevalence of HIV infection in women has steadily increased since the early 1990s, primarily through heterosexual transmission and is now the leading cause of mortality among women of reproductive age worldwide [1]. In southern Africa, HIV is also estimated to be directly responsible for 12-15% of all child mortality. Furthermore, the risk of death for children of mothers living with HIV is not only due to becoming HIV-infected themselves, but also indirectly increased by the effect of HIV on mothers who become unable to care for their infants and families. When a mother's CD4 count drops below 200cells/ml, then all of her children are 3.5 times more likely to die, and when a mother dies her children are 4.2 times more likely to die [2]. A comprehensive approach to preventing mother-to-child transmission (PMTCT) of HIV is designed not only to save infants becoming infected with HIV, but preventing HIV among women and young girls, and preventing unintended pregnancies among women living with HIV. Comprehensive PMTCT interventions therefore provide an important opportunity for improving maternal, newborn and child health and survival.

PMTCT interventions are guided by a comprehensive strategic approach [3] which includes four components:

Primary prevention of HIV infection among women of childbearing age

Preventing unintended pregnancies among HIV infected women

Preventing HIV transmission from a woman living with HIV to her infant

Provision of appropriate treatment, care and support to mothers living with HIV and their children and families

There has been uneven progress to date in implementing these four programming areas. Offering family planning services, for instance, is critical for component 2 and is an underutilized component in PMTCT services, where provision of antiretrovirals (ARVs) has remained the main PMTCT intervention since 2000 [4]. In sub-Saharan Africa, where HIV prevalence is highest, one in four women who wish to delay or stop childbearing do not use or have access to family planning methods. Strengthening linkages between sexual and reproductive health and HIV prevention and care services, in this instance through strengthened family planning, offers opportunities to scale-up PMTCT services.

The Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) is one of the largest donors for HIV/AIDS programmes worldwide and as of March 2010 the Global Fund had committed US$ 10.8 billion (Approved Grant Amount) in 140 countries out of US$ 17.4 billion (Total Lifetime Budget) [5]. The adoption and implementation of the Global Fund Gender Equality Strategy [6] supports integration of HIV with maternal, newborn an child health that includes scaling up

***Corresponding author:** Manjula Lusti-Narasimhan, Department of Reproductive Health and Research, World Health Organization 20, Avenue Appia CH-1211, Geneva 27, Switzerland, Tel: + 41 22 791 1414; Fax: + 41 22 791 41 71; E-mail: lustinarasimhanm@who.int

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of PMTCT [7] and promoting gender equality in response to all three diseases, as well as addressing the needs of women and girls.

The first comprehensive analysis of sexual and reproductive health components in HIV proposals funded through the Global Fund has shown that an average of 25% of all HIV proposals include interventions related to PMTCT [8]. In light of the priority by many partners including UNAIDS [9] to scale up PMTCT services and for the elimination of paediatric HIV in newborn, an in-depth analysis of the four components of the global PMTCT strategy in funded HIV proposals was conducted. A particular focus was to assess whether the interventions included comprehensive PMTCT services where a balance between the different components was apparent. It is hoped that this study can benefit countries to avail of funding opportunities to strengthen reproductive health and HIV services for women living with HIV.

Methodology

This analysis was carried out with a focus on each of the four components of PMTCT outlined in Table 1 and build upon the previous methodology for the analysis of the sexual and reproductive health components [10]. All proposals were accessed on the website of the Global Fund [11] and analysis was carried out of Section 4 of the proposals which includes national planned programmes and interventions, objectives, priorities, and service delivery areas.

Results

The process of submitting yearly proposals to the Global Fund began in 2002 (referred to as Round 1), with subsequent yearly proposals referred to as Rounds 2-9. In total, 345 original HIV proposals submitted to the Global Fund and approved for funding from Rounds 1 to 9 were analysed for the four components of PMTCT. When more than one proposal existed for the same country in one Round, the analyses of the different proposals were integrated into a single set of results for that given country.

The percentage of each component through Rounds 1-9 is shown in Figure 1 and the average value was 51.4% for Component 1; 34% for Component 2; 94.7% for Component 3; and 84.8% for Component 4. Between 80-100% of proposals from Rounds 1-9 that included interventions related to PMTCT referred particularly to component 3 on preventing HIV transmission from a woman living with HIV to her infant and component 4 on the provision of appropriate treatment, care and support to mothers living with HIV and their children and families. Only Round 3 showed a decrease to 52.9% in proposals including component 4, while approximately 90 to 100% of proposals in Rounds 1-9 contained component 3. In four out of the nine Rounds, 100% of proposals contained requests for component 3.

Interventions for component 1 on primary prevention of HIV infection among women of childbearing age were present in about 50% of all proposals, and those for components 2 on preventing unintended pregnancies among HIV infected women were mentioned in varying percentages, from as low as 11% in Round 3 to 60% in Round 7. However, component 2 represented the only component that consistently increased throughout the Rounds, with signs of the greatest increase at about 50% between Rounds 3 and 7.

Figures 2-5 show in greater detail the subcomponents of each main component as outlined within Table 1. Figure 2 shows that behaviour change communication (BCC) and information, education and communication (IEC) regarding HIV prevention and safe sex negotiation is the principal subcomponent of primary prevention featuring in the proposals. By contrast, the promotion and provision of male and female condoms for preventing HIV and other sexually transmitted infections is low.

Figure 3 shows an encouraging, steady increase for family planning for the prevention of unintended pregnancy that is present on average in 27.5 % of proposals from Rounds 1-9. Requests for promotion and provision of condoms, however, are not featured high enough for preventing unintended pregnancy and for primary prevention of HIV. This may not reflect a lower provision of condoms as such, but missed opportunities in linking with other programmes. For instance, within the context of PMTCT, programme managers may need to capitalize more on linkages with programmes targeting sexually transmitted infections and HIV reinfection.

The key components of preventing HIV transmission from a woman living with HIV to her infant (Figure 4, Component 3) is present at a consistently high rate throughout the Rounds. This inclusion was also based upon evidence and advocacy which emphasized that without treatment, around 15-30% of babies born to HIV positive women will become infected with HIV during pregnancy and delivery. A further 5-20% will become infected through breastfeeding [12].The most recent progress report from United Nations agencies [13] shows that 53% of women living in low and middle-income countries are receiving

Four components of the PMTCT global strategy	Subcomponents of the four main PMTCT components
1. Primary prevention of HIV infection among women of childbearing age	• Male and female condom promotion and distribution • Behaviour change communication (BCC) and information, education and communication (IEC) regarding HIV prevention and safe sex negotiation • Counselling on safe sex to couples including sero-discordant couples • Screening and treatment for sexually transmitted infections • Voluntary testing and counselling/provider-initiated testing and counselling (VCT/PITC)
2. Preventing unintended pregnancies among HIV infected women	• Family planning services and counselling to people living with HIV • Male and female condom promotion and distribution to people living with HIV • Safer sex counselling to people living with HIV • Services for termination of pregnancy and post-abortion care
3. Preventing HIV transmission from a woman living with HIV to her infant	• Voluntary counselling and testing services in antenatal care • Antiretroviral therapy and treatment for opportunistic infections • Infant feeding counselling and support
4. Provision of appropriate treatment, care and support to mothers living with HIV and their children and families.	• Care and support to HIV-positive women and their families • Strengthened referral systems to provide care and support to women living with HIV and their families • Training of health care providers

Table 1: Table of key PMTCT components analysed within HIV proposals approved for funding by the Global Fund.

antiretrovirals for PMTCT in 2009, an increase from 15% in 2005 and 45% in 2008. This analysis confirms that targeted yearly funding has taken place and with similar evidence based support for the other components it should be possible to make more significant progress.

For countries with high HIV/AIDS prevalence, HIV/AIDS has become a leading cause of death during pregnancy and the postpartum period. In order to improve the health in women and children due to reduced new paediatric HIV infections as well as provide appropriate care and treatment for women, children living with HIV, and their families, Component 4 would require more than funding interventions for training health care workers (Figure 5). Strengthening referral systems that include building synergies within regional and national initiatives for comprehensive PMTCT interventions is currently present on average in 30% of the proposals.

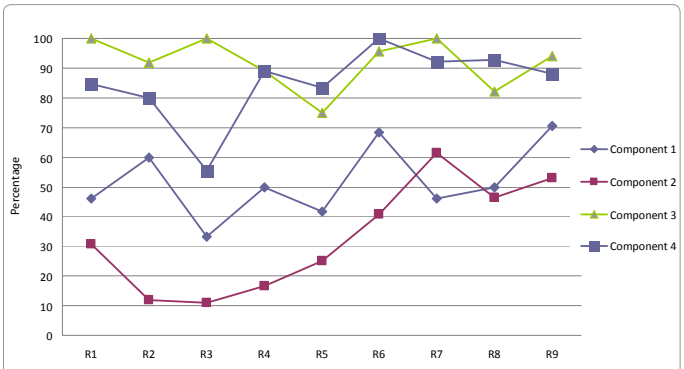

Figure 1: Percentage of PMTCT components 1-4 included in approved Global Fund HIV proposals from Rounds 1-9. Component 1-Primary prevention of HIV infection among women living with HIV; Component 2- Preventing unintended pregnancies among HIV infected women; Component 3- Preventing HIV transmission from a woman living with HIV to her infant and Component 4- Provision of appropriate treatment, care and support to mothers living with HIV and their children and families..

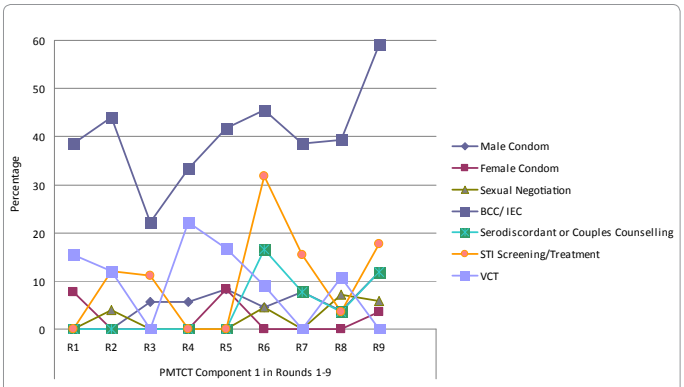

Figure 2: Percentage of approved Global Fund HIV proposals from Rounds 1-9 that include interventions for primary prevention for women living with HIV (Component 1).

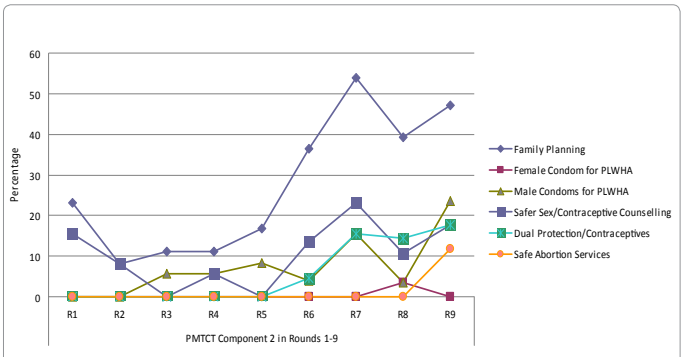

Figure 3: Percentage of approved Global Fund HIV proposals from Rounds 1-9 that include interventions for preventing unintended pregnancy among women living with HIV (Component 2).

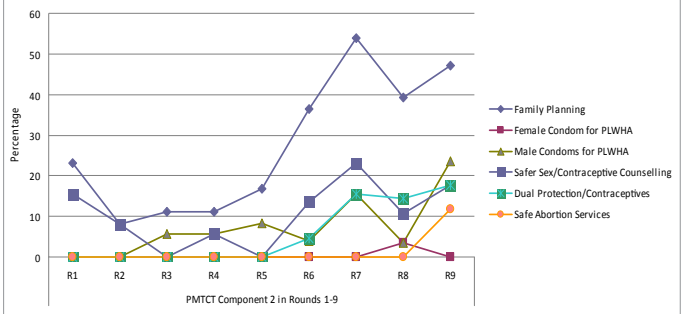

Figure 4: Percentage of approved Global Fund HIV proposals from Rounds 1-9 that include interventions for preventing HIV infection from a woman living with HIV to her infant (Component 3).

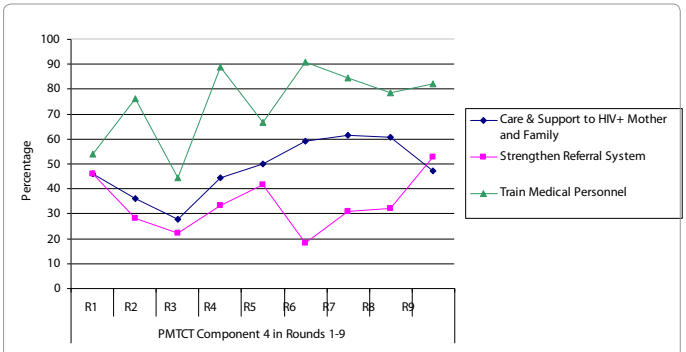

Figure 5: Percentage of approved Global Fund HIV proposals from Rounds 1-9 that include interventions for treatment, care and support to HIV-positive mothers and their families (Component 4).

Discussion

HIV is now the leading cause of mortality among women of reproductive age. HIV infection in childbearing women is the main cause of HIV infection in children, as more than 90% of infant and young child infections occur through mother-to-child transmission, either during pregnancy, labour and delivery, or breastfeeding. Without any intervention, about one in three children born to HIV-infected mothers will be infected. In southern Africa, HIV is estimated to be directly responsible for about 15% of all child mortality and in some high burden countries up to 35% of child mortality is attributable to HIV. In addition, it is estimated that about 120 million couples have an unmet need for safe and effective contraception, resulting in as many as 80 million unwanted pregnancies yearly [14]. Sub-Saharan Africa, where HIV prevalence is highest, has the lowest levels of contraceptive use, with only 22% of reproductive age women, who are married or in union, using any family planning method. By contrast, mother-to-child transmission of HIV has been virtually eliminated in

high-income countries through HIV testing and counselling, access to effective antiretroviral prophylaxis and treatment, safer delivery practices, family planning, and safe use of breast-milk substitute. In high-burden countries, however, PMTCT does not sufficiently incorporate an integrated approach to sexual and reproductive health that would include the improvement of antenatal, delivery, post-natal care and family planning services. The focus of PMTCT programmes have been, for the most part, on providing antiretroviral treatment to pregnant women, but comprehensive PMTCT interventions that include primary prevention and prevention of unintended pregnancy among women living with HIV provides an opportunity for improving maternal, newborn and child health and survival.

The global community has now committed itself to accelerate progress towards the prevention of mother-to-child HIV transmission (MTCT) by 2015 [15,16] through the initiative to eliminate new paediatric HIV infections (eMTCT defined as less than 5% transmission of HIV from mother to child at a population level or 90% reduction of infections among young children by 2015, from a baseline of 2009) [17]. The United Nations Secretary General's Global Strategy for Women's and Children's Health [18] further supports the international commitments in favour of the importance of preventing HIV infection and promoting better health for women and children. In the context of PMTCT, maximizing on every available opportunity for supporting initiatives at country level becomes critical to accelerate impact across the Millennium Development Goals (MDGs) 4, 5 and 6 on child and maternal health and HIV. This can be done by improving communication between different programmes in terms of commodities that serve a common purpose, such as dual protection against unintended pregnancy and sexually transmitted infection. This analysis shows that the Global Fund has demonstrated commitment and consistent financial support for PMTCT programmes. The 21st Global Fund Board meeting in 2010 adopted a decision point to support countries towards integrating maternal and child health within their programmes [19]. Similarly, countries can also utilize other Global Fund initiatives, such as the Global Fund/GAVI/World Bank Health Systems Funding Platform, the Global Fund PMTCT Scale-Up Initiative, and the National Strategy Applications, which can enable countries to access resources for scaling up comprehensive PMTCT interventions.

However, this analysis demonstrates that not all HIV proposals approved by the Global Fund are making the best use of these new opportunities to scale-up comprehensive PMTCT interventions. Technical guidance is available to countries, such as WHO updated guidelines on antiretroviral therapy for treating pregnant women living with HIV and preventing HIV infection in infants, infant-feeding in the context of maternal HIV, and antiretroviral therapy for HIV in infants and children [20]. The interagency task team (IATT) on PMTCT is also elaborating a framework for strengthening components 1 and 2 which articulates strategies and interventions that are delivered through integrated sexual and reproductive health and HIV services and community programmes. This and other available technical guidance can assist countries in future Rounds to include broader PMTCT interventions that would bring the support for all four components of the global PMTCT strategy to the current level of component 3. This analysis shows that countries are a long way away from this, as the data show that the average percentage of proposals containing requests for component 3 is approximately three times greater than component 2, and two times greater than component 1. It can be expected that the new Treatment 2.0 initiative [21] based on the key principles of simplified earlier treatment, lower cost, less monitoring and decentralized access, will directly benefit PMTCT interventions and the ability to achieve some of the eMTCT goals.

Outside of the context of PMTCT, however, other interventions exist that offer opportunities for strengthening linked intervention for HIV proposals such as the promotion and distribution of condoms. Interventions addressing prevention and care of sexually transmitted infections show that over 80% of proposals from Rounds 1 to 9 include the promotion and distribution of male condoms [22]. Such separate programmes should be linked together to benefit the individual, through comprehensive PMTCT interventions. Although only a small number of countries specifically included procurement of female condoms, linking dual prevention of unintended pregnancy and sexually transmitted infections in the context of antenatal care and other PMTCT-linked services offer possibilities to strengthen components 1 and 2. However, it should be noted that the Global Fund is one among many partners working with countries and other agencies or initiatives could be equally accessed to deliver PMTCT programmes comprehensively.

Countries and international partners now acknowledge that sexual and reproductive health services provide a platform upon which interventions for HIV prevention, care and treatment can be solidly built, and vice versa. Consequently, building upon the global momentum and efforts by international partners to fund and support national level initiatives for comprehensive PMTCT, the public health community has an important window of opportunity to obtain resources and provide treatment and care for women, their infants and their partners.

In order for countries to achieve the goal of elimination of new paediatric HIV infections, all four components of comprehensive PMTCT need to be implemented proportionately to make an impact. If delivered appropriately, these services can also help women with their ability to negotiate safer sex, have improved access to SRH services and utilization of contraceptive methods, and support women in disclosure of their HIV status. Accomplishing these ends requires that every opportunity which exists within the Global Fund and other donor mechanisms be targeted.

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