# Global plan to eliminate new hiv infections

Abstract

The study assessed the progress of 20 priority sub-Saharan African countries in the attainment of the targets outlined in the ‘ *Global Plan for the Elimination of New HIV Infections among Children by 2015 and Keeping their Mothers Alive’* .

The 2012 progress reports of the countries were extracted from the UNAIDS online database. The global and Prong 1, 3, and 4 targets were analysed with respect to the May 2013 targets and milestones. The 2009 to 2012 and the 2005 to 2010 mid – point estimates were analysed respectively for global target 1 – Reduce *number of new infections among children by 90%* and global target 2- Reduce *AIDS-related deaths during pregnancy or within 42 days of the end of pregnancy by 50%* . Estimates were calculated using Spectrum version 4. 6 and Wilcoxon ranked test was used for data analysis. Between 2009 and 2012, there was 38% total reduction in global target 1 while between2005 to 2012 there was 25% total reduction in global target 2 for the 20 priority countries. Ghana and South Africa recorded the most significant reduction for global target 1 with 72% and 63% respectively while Nigeria, Chad, Congo Democratic Republic and Lesotho recorded less than 20% reduction. Only Botswana and Ethiopia recorded over 50% reduction in global target 2. There has been significant progress however; the global milestones have not been attained. More effort is needed in Nigeria, Congo Democratic Republic and Angola and sustained momentum in other priority countries to achieve the Global Plan goals and milestones.

HIV infection remains one of the major cause of death in children and their mothers in Sub Saharan African (SSA) countries [1, 2, 3]. Transmission of HIV infection from mothers to their unborn children and infants is mostly during pregnancy, labour and post – natally during breastfeeding period. [4, 5]. There has been gradual reduction in new HIV infections among children of HIV infected mothers since the commencement of prevention of mother to child transmission programme (PMTCT) but as at 2009, a staggering 370, 000 children were recorded to have became newly infected with HIV worldwide and an estimated 42, 000 – 60, 000 pregnant women also died due to HIV infection and its complications. [6, 7]. Over 90% of the countries responsible for this high burden of HIV infection and high mother to child transmission (MTCT) rates are located in SSA. India, which is located in Asia is another country which also contribute significantly to this burden. These countries account for the bulk of the HIV infected women requiring antiretroviral therapy (ART) in order to prevent MTCT. They also account for over 90% of the paediatric HIV infected children who need ART [7]. The case of MTCT presents a big disparity globally with high income countries recording almost zero new HIV infections among children and maternal and infant mortalities due to HIV infection. However; most of the low and middle countries especially those located in SSA record new infections because the number of women accessing HIV prevention and treatment services is considerably very low. The same situation applies to their children and this exposes them to new infections and death [7]. The success recorded in reducing MTCT to almost zero and keeping their mothers alive is possible globally. However, this can only be a reality if all involved will ensure that all pregnant women living with HIV and their children have easy access to

antiretroviral drugs and other necessary care as indicated during pregnancy, delivery and breastfeeding. These measures will go a long way in preventing new infections among the children and take care of the health of the mothers as well. Provision and appropriate usage of ARVs as prophylaxis has been proven to reduce HIV MTCT to less than 5% [9]. Other measures that targets HIV infection prevention among women at increased risk of HIV and the unmet family planning needs of women living with HIV will contribute significantly to reduction for subsequent antiretroviral prophylaxis and treatment need [12]. In May 2009, the Joint United Nations Programme on HIV/AIDS (UNAIDS) made a call for the virtual elimination of MTCT globally. This call was supported by many other multilateral and bilateral agencies, regional coordinating bodies, national governments and their HIV/AIDS control agencies . In furtherance of this noble course, the World Health Organisation (WHO) in 2010 published new guidelines which included the best available scientific and programmatic tools to accelerate the reduction of MTCT and achieve the virtual elimination of MTCT. These guidelines also included advice for safer infant feeding. [6, 7]

The call for the virtual elimination of new paediatric HIV infection led to the launching of an initiative known as *" Global Plan Towards the Elimination of New HIV Infections among Children by 2015 and Keeping their Mothers Alive "* in July 2011 at the United Nations General Assembly High Level Meeting on AIDS. The Global Plan was developed through a consultative process by a Global Task Team convened by UNAIDS. The Global Task Team included experts and policy makers from 25 countries and 30 civil society organisations, private sector, networks of people living with HIV and

international organisations. This plan was designed to provide the foundation for country-led movement towards the elimination of new HIV infections among children and keeping their mothers alive.

The Global Plan covers all low- and middle-income countries, but with a particular focus on the 22 countries with the highest estimated numbers of pregnant women living with HIV. These countries are Angola, Botswana, Burundi, Cameroon, Chad, Côte d’Ivoire, Democratic Republic of the Congo, Ethiopia, Ghana, India, Kenya, Lesotho, Malawi, Mozambique, Namibia, Nigeria, South Africa, Swaziland, Uganda, United Republic of Tanzania, Zambia and Zimbabwe. These countries were selected based on the fact that they account for nearly 90% of pregnant women living with HIV in need of services. These countries also need exceptional efforts to achieve this goal. The Global Plan also supports and reinforces the development of country-driven HIV national plans [7].

The Global Plan focuses on reaching pregnant women living with HIV and their children prior to pregnancy, through the time of pregnancy until stoppage of breastfeeding. The HIV prevention and treatment needs of mothers and children will be met within the existing comprehensive HIV care programmes. The implementation framework for the Global Plan is based on two global targets and broader four-pronged strategy. The strategy provides the foundation for national plans development and implementation. It encompasses ranges of HIV prevention and treatment indicators for mothers and their children, essential maternal, newborn and child health services and family planning, and as a crucial aspect of efforts to achieve Millennium Development Goals 4, 5 and 6 [10, 11].

Global Target #1: Reduce the number of new HIV infections among children by 90% .

Global Target #2: Reduce the number of AIDS-related maternal deaths by 50%.

Prong 1: Prevention of HIV among women of reproductive age within services related to reproductive health such as antenatal care, postpartum and postnatal care and other health and HIV service delivery points.

Target: Reduce HIV incidence in women 15-49 by 50%.

Prong 2: Providing appropriate counselling and support, and contraceptives, to women living with HIV to meet their unmet needs for family planning and spacing of births, and to optimize health outcomes for these women and their children.

Target: Reduce unmet need for family planning to zero (Millennium Development Goal).

Prong 3: For pregnant women living with HIV, ensure HIV testing and counselling and access to the antiretroviral drugs needed to prevent HIV infection from being passed on to their babies during pregnancy, delivery and breastfeeding [9].

Target: Reduce mother-to-child transmission of HIV to 5%.

90% of mothers receive perinatal antiretroviral therapy or prophylaxis.

90% of breastfeeding infant-mother pairs receive antiretroviral therapy or prophylaxis.

Prong 4: HIV care, treatment and support for women, children living with HIV and their families.

Target : Provide 90% of pregnant women in need of antiretroviral therapy for their own health with life-long antiretroviral therapy.

By the end of 2015, the estimated number of new HIV infections in children is expected to have been reduced by at least 85% in each of the 22 priority countries, the estimated number of HIV-associated pregnancy-related deaths reduced by 50% and all countries will have met the targets for elimination of new HIV infections among children and keeping their mothers alive. There is however need to measure the progress made by these countries and to address gaps and challenges identified.

This study aimed to assess the progress made by twenty of the priority countries involved in the Global Plan in sub Saharan Africa. This is coming two years after the formal launching of the Global Plan with the countries making commitment towards the elimination of new HIV infections in children and keeping their mothers alive.

This study looked at the progress made so far in meeting some of the targets and milestones set to be met by May 2013. We searched the UNAIDS online database of the 2012 progress reports submitted by the priority countries. The 2009 – 2012 mid – point estimates were analysed for 20 of the sub-Saharan African Global Plan priority countries. The estimates were calculated

using Spectrum version 4. 6. The Spectrum files were developed by country teams and compiled by UNAIDS in 2013. However, the estimates from AIDS related deaths during pregnancy or within 42 days of the end of pregnancy was from 2005 to 2010 [8]. Only 20 of the Global Plan priority countries data were analysed due to non availability of country – specific data for Uganda and India. .

In order assess the progress made, the global targets and Prong 1, 3, and 4 targets were quantitatively analysed with respect to the May 2013 targets and milestones.

Some of the global and country targets and milestones assessed were :

The estimated number of new HIV infections in children is reduced by 50% from 2010 levels in at least 10 high-burden countries. (Country target and milestone).

The estimated number of new HIV infections in children is reduced by 50%. (Global target and milestone).

The data was analysed using statistical package Stata version 12. 1.

*Overall Targets*

Between 2009 and 2012, the number of new infections among children in the 20 Global Plan priority countries in sub-Saharan Africa countries with country-specific data was estimated to have reduced from 315570 to 197170. ( Wilcoxon ranked test ; P = 0. 0001; Table 1 and 5). The total reduction in the estimated number of new HIV infections among children was

38% from 2009 levels in the high-burden countries. AIDS-related deaths during pregnancy or within 42 days of the end of pregnancy among the 20 Global Plan priority countries in sub-Saharan Africa countries with country-specific data reduced from 36000 in 2005 to 29030 in 2010. *Prong 1 Target*

The new HIV infections among women 15–49 years old among the 20 Global Plan priority countries in sub-Saharan Africa countries with country-specific data reduced from 687900 in 2009 to 606000 in 2012 (Wilcoxon ranked test ; P = 0. 0001; Table 2 and 5 ). *Prong 3 Targets*

The final Mother to Child Transmission rate (%) among the 20 priority countries with country-specific data reduced from 27% in 2009 to 19% in 2012 (Wilcoxon ranked test ; P = 0. 0001; Table 3 and 5 ).

The percentage of women receiving antiretroviral medicines (excluding single-dose nevirapine) to prevent MTCT increased from 34% in 2009 to 63% in 2012 (Wilcoxon ranked test ; P = 0. 0001; Table 3 and 5).

The percentage of women or infants receiving antiretroviral medicines during breastfeeding to prevent MTCT increased from 11% in 2009 to 43% in 2012 (Wilcoxon ranked test ; P = 0. 0001; Table 3 and 5). *Prong 4 Targets* The percentage of antiretroviral therapy coverage among children 0–14 years old increased appreciably from 22% to 35% in all the Global Plan priority countriesIn SSA, the percentage of pregnant women living with HIV receiving antiretroviral therapy for their own health increased from 23% in 2009 to 57% in 2012 (Wilcoxon ranked test ; P = 0. 0001; Table 4 and 5).

Two countries namely Ghana and South Africa have done tremendously well in achieving the highest reduction in the numbers of new HIV infections among children from 2009 to 2012 with 72% and 63% reduction respectively [8]. Others like Botswana, Malawi, Ethiopia, Zambia and Namibia had also achieved remarkable reduction with Zimbabwe, Kenya, Mozambique and Tanzania almost reaching the 50% reduction.

Angola, Nigeria, Chad, Congo Democratic Republic and Lesotho are still lagging behind in the aspect of reduction of new infection in children. The case of Nigeria is really a concern considering the fact that she has the highest number and about one third of all new paediatric infection in sub Saharan Africa. Angola is also a case for concern, there has been increase in new infections rather than reduction since 2009.

Furthermore , there has been reduction in the AIDS-related deaths during pregnancy or within 42 days of the end of pregnancy from 2005 to 2010, although with some exceptions like Mozambique and South Africa. There has been some reduction in new HIV infections among women 15–49 years old in the priority countries but with some exceptions such as Angola, Cameroun, Chad, Cote D’Ivoire, Mozambique, Namibia and Zimbabwe.

There was reduction in the final Mother to Child Transmission rate with Botswana and South Africa leading the pack. These two countries have already reached the 5% target for the reduction in transmission rate [8]. More women are now able to access antiretroviral medicines and thereby reducing the risk of new HIV transmission to their children compared to 2009. Four countries had already surpassed the 90% target for the increase

in percentage of women receiving antiretroviral medicines (excluding single-dose nevirapine) to prevent MTCT, however, Angola, Chad, Nigeria and Congo DR did poorly in this area of maternal antiretroviral coverage. The increase in the percentage of women or infants receiving antiretroviral medicines during breastfeeding to prevent MTCT among the priority countries is a commendable step because some of the countries do not have this programme in place as of 2009. There was a significant increase in antiretroviral therapy coverage for pregnant women living with HIV in the priority countries. Botwsana and Namibia had achieved above 90% antiretroviral therapy coverage for pregnant women living with HIV . These increased coverage levels of antiretroviral medicines is expected to translate into lower mother-to-child transmission rates.

Over the years, there has been an increase in the number of children who are on antiretroviral therapy but this increase is still not the desired expectation with two third of eligible children been denied the needed medication in most of the priority countries. It is noteworthy that Botswana was already having above 95% paediatric antiretroviral coverage as at 2009.

A major limitation of this study is the non availability of Uganda and India country – specific data . Another challenge was in measuring the progress of the initiative because most of the priority countries do not have a direct measurement of the number of new HIV infections among children [8]. There has been a significant progress among most of the sub Saharan African priority countries in the bid to eliminate new HIV infections in children as seen by the reduction in the percentage of final mother to child transmission of HIV. The success story so far include reduced number of children newly

acquiring HIV infection, improved and increased access to HIV treatment for eligible women and their children, increased coverage of antiretroviral medicines for pregnant women living with HIV to prevent mother-to-child transmission from and reduction in AIDS-related deaths during pregnancy or within 42 days of the end of pregnancy.

However, only seven countries has been able to achieve the 50% reduction in estimated number of new HIV infections among children thereby falling short of the expected ten countries target by May 2012 [7]. Also the number of new HIV infections in the countries declined by only 38% against the target of 50%. More effort is needed in certain countries like Nigeria, Congo Democratic Republic and Angola and sustained momentum in other priority countries in order to achieve the Global Plan goals.