

Cost-effectiveness of Integrating HIV/STI Prevention in Maternal Health Programmes



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Background

- Each year, an estimated 200 million women in the world become pregnant.
- Approximately 2.5 million of these women are HIV-positive.
- Opportunity to enable the nearly 99% of women who become pregnant each year and who have not acquired HIV to remain HIV-negative.
- Women are more vulnerable to HIV infection during pregnancy and post-partum.
- The risk of MTCT is also higher when HIV-positive women give birth or are breastfeeding.
- Primary prevention is one of the four key components of a comprehensive PMTCT strategy

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- Strengthening the integration of HIV prevention in maternal health services.
- Increasing the capacity of MCH program managers and health providers to undertake HIV prevention interventions for HIV-negative pregnant and post-partum.
- Increasing access for prevention, treatment, care, and support services for HIV-positive women and adolescent girls.

Cost Analysis

- **The costs were calculated for the following prevention interventions:**
 - BCC materials
 - Group education sessions
 - HIV/STI prevention counselling (condom demonstration/distribution and counselling on dual protection)
 - VCT
- **Calculations of direct costs were based on staff time and service/clinical procedure-specific supplies for the above interventions.**
- **Calculations of indirect costs, including in-service training, renovations, meetings, and space, were based on dividing indirect costs among clients.**

Total Costs Per User in Initial Year

Cost	Ethiopia	Ukraine
Direct cost of staff time for counselling ANC clients	US \$ 1.13	US \$ 0.98
Service or clinical-procedure-specific supplies	US \$ 2.04	US \$ 1.58
Indirect costs	US \$ 21.26	US \$ 5.38
Total costs per user	US \$ 23.43	US \$ 7.94

Total Costs Per User in Subsequent Years

Cost	Ethiopia	Ukraine
Direct cost of staff time for counselling ANC clients	US \$ 1.13	US \$ 0.98
Service or clinical-procedure-specific supplies	US \$ 2.04	US \$ 1.58
Indirect costs	US \$ 3.13	US \$ 3.13
Total costs per user	US \$ 6.30	US \$ 5.69

Methods for Calculating Average Savings

- Average cost of providing HIV prevention services was calculated by multiplying the total costs for subsequent years, by the total number of pregnant women who accepted VCT.
- Average savings in ARV treatment costs were calculated by multiplying the estimated percentage of HIV infections averted through VCT (22%)^[1] by the estimated mid-range of programme costs. (\$672/user)^[2] in low-resource settings for provision of ARV treatment.
- Average savings in PMTCT treatment and OVC support were calculated by multiplying the total number of HIV-positive births averted through VCT by the estimated cost per PMTCT user (\$50/user).^[3]
- This was added to the estimate of future treatment costs of not having to treat a child (\$3,500/user)^[4] plus the estimate of annual cost of comprehensive support for orphans (\$438/user).^[5]

Average Costs and Savings

Country	Average cost of providing HIV prevention services to MCH clients at pilot sites (\$US)	Average savings in ARV treatment costs for averted infections in mothers (\$US)	Average savings in PMTCT treatment and OVC support for averted infections in mothers and infants (\$US)	Average net savings (\$US)
Ethiopia	\$ 2,016	\$ 60,480	\$ 21,398	\$ 73,362
Ukraine	\$ 13,087	\$ 120,096	\$ 43,227	\$ 103,523

Findings

- In Ethiopia providing HIV prevention in MCH services resulted in savings of approximately \$34 for every dollar spent while in the Ukraine savings of \$10 for every dollar spent.
- HIV prevention used fewer resources than PMTCT and treatment combined in both countries.
- Highlights the need to include a diversified portfolio of prevention interventions as part of comprehensive PMTCT and treatment and care programmes.

Limitations

- Due to difficulties in obtaining country specific cost estimates the calculations of cost savings were based on estimates from other studies.
- The effectiveness of HIV prevention in MCH will depend on when and where pregnant women seek MCH care.
- This analysis examined the implementation of only BBC, group education sessions, HIV/STI prevention counselling, and VCT.

Conclusions

- Findings provide evidence to support the inclusion of primary HIV prevention in comprehensive PMTCT programmes.
- Depending on the HIV prevalence rate and antenatal attendance rate integration will save costs and contribute to improved health outcomes.
- Combining effective prevention efforts with treatment reduces the resource needs for PMTCT, treatment, and care.

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