



Cost of ART HIV Therapy to Reduce the Risk of HIV in Infants

Overview

Antiretroviral therapy (ART) is the cornerstone intervention for reducing the risk of mother-to-child transmission (MTCT) of HIV. The costs associated with ART for this purpose can vary significantly depending on the country, specific drug regimens, and healthcare infrastructure.

Estimated Costs by Setting

- **Low- and Middle-Income Countries**

- In Uganda, the annual cost of providing ART to a pregnant woman for 18 months was estimated at approximately **\$470 (USD)** per year as of 2011, with lifetime ART costing about **\$6,883** per patient^[1].
- Simpler regimens, such as a single dose of nevirapine, cost as little as **\$0.06** per dose, while dual therapy regimens (zidovudine and lamivudine for 7 weeks) were about **\$15.63**^[1].
- The cost per HIV infection averted through ART for prevention of mother-to-child transmission (PMTCT) programs ranges widely, from **\$150–\$300** for the simplest regimens to up to **\$11,444** for more comprehensive approaches, depending on the drugs used and program complexity^[2].

- **High-Income Countries (e.g., United States)**

- The cost of ART is substantially higher. Estimates for ART medications alone range from **\$1,800 to \$4,500 per month** per person, with about 60% of the total HIV care costs attributable to ART^{[3] [4]}.
- The annual cost of ART in some analyses is around **\$600 per person per year** in certain contexts, but this figure is typically lower than what is seen in the U.S. market^[5].

Cost-Effectiveness

- ART for PMTCT is considered highly cost-effective, especially in resource-limited settings, due to its significant impact on reducing infant HIV infections and associated long-term healthcare costs^{[2] [1]}.
- The incremental cost per disability-adjusted life year (DALY) averted by ART for PMTCT can be less than **\$200** in some analyses, underscoring the value of investment in these programs^{[5] [1]}.

Key Points

- **ART for pregnant women** to prevent infant HIV transmission can cost as little as **\$470 per year** in low-income settings, but may exceed **\$20,000–\$50,000 per year** in high-income countries depending on regimen and healthcare costs^{[1] [3] [4]}.

- **Simpler regimens** (e.g., single-dose nevirapine) are much less expensive but less effective than full ART^{[1] [2]}.
- **The cost per HIV infection averted** through ART-based PMTCT programs can range from a few hundred to several thousand dollars, depending on the drugs and program scope^[2].
- **Financial assistance programs** and generics can reduce out-of-pocket costs for patients in many settings^{[4] [3]}.

Summary Table: ART Cost Estimates for PMTCT

Setting	Annual ART Cost (per person)	Lifetime ART Cost (per person)	Cost per Infection Averted
Low-income (Uganda)	\$470	\$6,883	\$150–\$300 (simple)
High-income (U.S.)	\$21,600–\$54,000	\$326,500 (lifetime, all care)	Up to \$11,444

Conclusion

The cost of ART to reduce the risk of HIV in infants varies widely by country and regimen, but it is a highly cost-effective intervention for preventing mother-to-child transmission of HIV. In low-resource settings, annual ART costs for pregnant women are typically several hundred dollars, while in high-income countries, costs can be much higher. Simpler regimens are less expensive but not as effective as full ART^{[1] [3] [2] [4]}.

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1. <https://pmc.ncbi.nlm.nih.gov/articles/PMC3417786/>
2. <https://www.givewell.org/international/technical/programs/PMTCT>
3. <https://www.webmd.com/hiv-aids/hiv-treatment-cost>
4. <https://clinicalinfo.hiv.gov/en/guidelines/hiv-clinical-guidelines-adult-and-adolescent-arv/antiretroviral-therapy-cost-considerations>
5. <https://pmc.ncbi.nlm.nih.gov/articles/PMC3529401/>