**Assessing the cost of prevention of mother-to-child transmission of HIV/AIDS service in Ethiopia: urban-rural health facilities setting**

Elias Asfaw, Josue Mobnigaba, Sylvia Kayes, Benjamin John

**Background**: While local context costing evidence is relevant for health care planning, budgeting and cost-effectiveness analysis, it continues to be scarce in Ethiopia. This study assesses the cost of providing prevention of mother-to-child transmission of HIV/AIDS service across heterogeneous prevalence (high, low) and socio-economic (urban, rural) contexts.

**Methods**: A total of twelve health facilities from six regions (Amhara, South Nations and Nationality Peoples (SNNP), Harrar, Dire Dawa, Oromia and Addis Ababa) were purposively selected from the latest 2012 ANC sentinel HIV prevalence report (EPHI, 2014). Six health facilities of the highest HIV prevalence (8.1% to 17.3%) were chosen in urban setting and six health facilities with lowest prevalence rate (0.0% to 0.1%) were selected from the rural setting. We applied a micro-costing approach to identify, measure and value resource used for the provision of comprehensive PMTCT service. The analysis was conducted across different PMTCT service packages and resource ingredients. We also estimated the national cost in urban-rural contexts for PMTCT. We applied a 3% discount rate, and inflation-adjusted to the base year (2014).

**Results**: The unit cost per pregnant women-infant pair per year (PPY) ranged from 6,280.39 ETB (319.28 USD) to 21,620.19 ETB (1,099.12 USD) in urban highly HIV prevalent health facilities. In rural low HIV prevalent health facilities, the cost ranged from 4,322.62 ETB (219.75 USD) to 7,538.46 ETB (383.24 USD). PMTCT service provision in the urban health facilities costs more than twice the cost in rural health facilities PPY. Consumables (including antiretroviral drugs) and infrastructure are the major cost drivers in both the urban and rural health facilities. Among PMTCT service components, anti-retroviral treatment option B+ follow-up and counseling service accounted for the highest proportion of costs, which ranged from 58% to 72%. Nationally, at the current coverage level, national cost of the PMTCT service was 6.21 million USD and 2.67 million USD in urban and rural settings, respectively.

**Conclusion**: The analysis suggests that resource used for PMTCT service packages varied across health facilities and HIV prevalence settings. Providing PMTCT service in the high HIV prevalent urban health facility settings cost more than the rural. Context specific costing is vital to provide locally relevant evidence for health service management and priority setting.