

## **ABSTRACT**

### Implementation of Repeat HIV Testing among Pregnant Women in Kenya

Pregnancy, delivery, and the postpartum period are crucial times to intervene on mother-to-child transmission (MTCT) of HIV and reduce risk of HIV-related maternal deaths. Annually, an estimated 110,000 children acquire HIV perinatally and 289,000 mothers die from HIV-related causes. While the last decade has seen a tremendous global increase in the availability of antiretroviral therapy, which can reduce MTCT rates to as low as 1.2% and protects maternal health, 15% of HIV-positive women in Kenya still experience MTCT and 52% are unaware of their status. Thus, while the virtual elimination of MTCT is within our grasp, we have yet to achieve widespread success in fully implementing guidelines to identify, link, treat, and retain HIV-infected mothers in HIV care. Testing for HIV – along with retesting at predefined intervals in high-incidence populations – is the first critical step to identifying women living with HIV. The goal of this dissertation is to use a three-pronged approach and an established implementation science framework to comprehensively examine the barriers and enablers, current rates, and cost-effectiveness of repeat HIV testing during pregnancy in a setting of high HIV incidence. Using data that I gathered from three health facilities in southwestern Kenya, my specific aims are: (1) to explore key informant perspectives on the multi-level factors that influence successful implementation of perinatal HIV testing guidelines by conducting in-depth interviews with clinicians and program managers; (2) to identify the current rates and factors associated with receiving HIV testing through the retrospective analysis of antenatal clinic records; and (3) to examine the cost and cost-effectiveness of repeat HIV testing during the pregnancy, delivery, and postpartum periods. The results of this dissertation are expected to yield findings and principles with relevance far beyond Kenya, ultimately informing the successful implementation of perinatal HIV testing guidelines to eliminate MTCT and protect maternal health.