**Supplemental Figure 1. Decision tree.** Pregnant women in sub-Saharan Africa determined to be HIV-negative at first antenatal visit are either provided PrEP or no PrEP (standard care). In each scenario, women can be infected with HIV in pregnancy or breastfeeding or remain uninfected. Those infected in pregnancy or breastfeeding can then transmit the virus to the fetus/neonate. Women infected in pregnancy who do not transmit HIV in pregnancy then have the possibility of transmitting HIV during breastfeeding. Each pregnancy can either result in term or preterm birth (PTB), and each neonate can survive or suffer neonatal death. Differential survival between HIV-uninfected infants based on exposure to HIV and survival among HIV-infected infants and children based on antiretroviral coverage are also modeled but omitted from this schematic. PrEP, pre-exposure HIV prophylaxis; mHIV+, incident maternal HIV infection; MTCT, mother-to-child transmission of HIV; PTB, preterm birth; BF, breastfeeding.
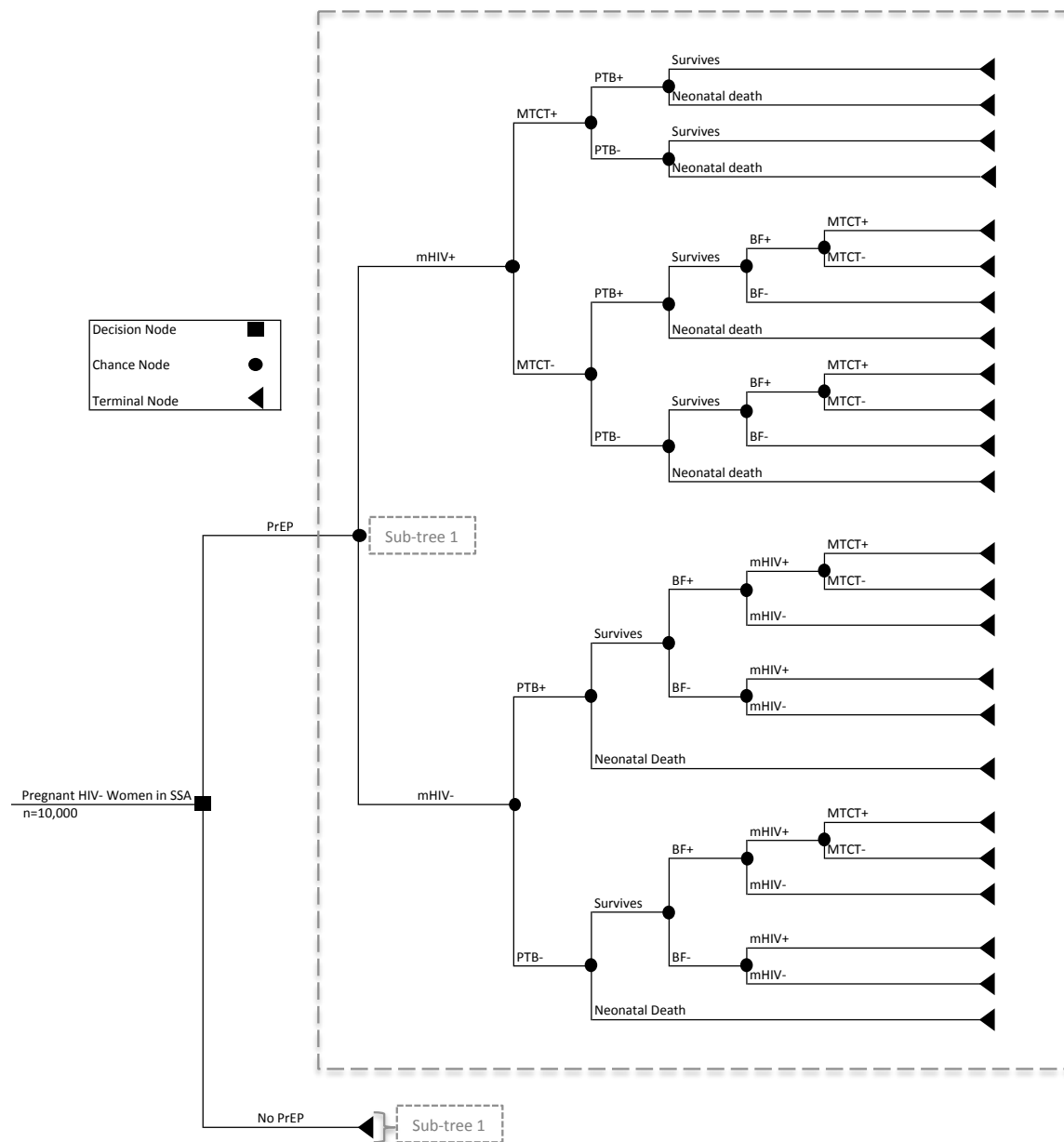
Supplemental Figure 2. Acceptability curve by willingness to pay. For each willingness-to-pay value on the horizontal axis, the graph plots a point for the percent of iterations (of 1,000) that demonstrated cost-effectiveness for each strategy. At a willingness-to-pay threshold of $2154, or equal to the regional per capita GDP and representing a very cost-effective strategy, PrEP was cost-effective in approximately 79% of the iterations.