

Microsimulation of HIV Progression and Transmission in Vietnam.

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This project will build on prior success of the Microsimulated AIDS Costs and Outcomes (MACO) model developed by the investigators (Bishai, Colchero et al. 2007). The MACO model simulates the progression of HIV disease in a virtual population of 10,000 individually modeled subjects who receive antiretroviral treatment (ART) of various intensities and with variable adherence. For now, the virtual inhabitants of the MACO model have no sexual or drug use behavior and do not spread disease—they just progress through various stages of HIV and AIDS. The proposed project will expand the MACO model to depict disease transmission from the infected individuals to a susceptible population via sexual contact and needle sharing. The model will be calibrated to modern Vietnam because of the remarkable availability of detailed survey data from Vietnam on risk behaviors of injection drug users (IDU), commercial sex workers (CSW), heterosexuals and soon to be released data on men who have sex with men (MSM). By integrating ART, disease progression, and disease transmission, the proposed model can offer new understanding of how HIV prevention policies interact with treatment policies