

## **Controlling HIV/AIDS in an “African Context”**

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We analyze a mathematical model for the infectious disease, HIV/AIDS, that progress through distinct stages within infected individuals. We prove that the global dynamics are completely determined by the basic reproduction number  $R_0$ . That is, if  $R_0 < 1$ , then the disease-free equilibrium  $\varepsilon_0$  is globally asymptotically stable and the disease always dies out. On the contrary, if  $R_0 > 1$ , then  $\varepsilon_0$  is unstable, and the unique endemic equilibrium  $\varepsilon^*$  is globally asymptotically stable, and the disease persists at the endemic equilibrium.