7/31/2025

P1: HIV epidemic

* The widespread availability of effective antiretroviral therapy (ART) has increased the life expectancy of people with human immunodeficiency virus (HIV) in the United States, such that over half of individuals with diagnosed HIV were aged 50 years or older by the end of 2022.
* Life span varies according to race, mode of HIV acquisition, and CD4+ T-cell count at onset of ART.

P2: Aging

* As the population with HIV ages, healthcare systems will need to prepare to manage the increasing burden of age-related comorbidities.
* HIV-positive patients are at increased risk for chronic conditions related to normal aging, HIV infection, and even certain ART treatment regimens. They are more likely to acquire multiple comorbidities and
* HIV-positive patients develop comorbidities at younger ages and at higher rates than their HIV-negative peers, possibly due to chronic immune activation and inflammation caused by HIV.

P3: Method and objective

* ART has increased the life expectancy of people with HIV in the U.S.
* This has led to an increase in prevalence \_\_\_; \_\_% over age 55 and \_\_% over age 65
* Regional disparities in life expectancy persist
  + South vs. North?
  + Urban vs. Rural?
* As the population with HIV ages, healthcare systems will need to prepare to manage the increasing burden of age-related comorbidities.
* Example: STIs a more common comorbidity among younger individuals, diabetes/cancer/cardiovascular disease more common among older individuals?
* Impact on funding systems?
* Mathematical modeling can help project future demographic patterns (or rather “future course of diseases”)
* Objective: We use the JHEEM to …

[Address HIV-Associated Comorbidities, Coinfections, & Complications | National Institutes of Health](https://www.oar.nih.gov/hiv-policy-and-research/research-priorities-overview/address-hiv-associated-comorbidities-coinfections-complications)