NATIONAL CENTER FOR HIV, VIRAL HEPATITIS, STD, AND TB PREVENTION

Lifetime Productivity Loss Due to HIV Mortality in the United States

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BACKGROUND

- HIV related mortality has declined over time, improving the life expectancy among people with HIV (PWH).
- Our goal is to update the estimates of the lifetime productivity loss per HIV infection to help quantify the economic burden of HIV and inform cost-effectiveness analyses.

METHODS

- We developed a method based on the human capital approach to estimate mortality related lifetime productivity loss (LPL) per HIV infection in the United States.
- We incorporated published data on
  - Average annual productivity (P)
    - ✓ Market and nonmarket productivity
  - Remaining life expectancy at HIV diagnosis (E)
  - Number of life years lost (L) due to premature death among PWH
  - Number of years from HIV infection to diagnosis (M)
  - Percentage of deaths in PWH attributable to HIV (Z)
- Base case used 2018 population-based life expectancy data at the median age of HIV diagnosis among all PWH in the US.
- We also examined other life expectancy data sources:
  - Data from all PWH in 2010
  - Data from cohorts on antiretroviral therapy (ART)
- We used 2022 USD and 3% annual discount rate (r) in calculation of discounted LPL.

METHODS (CONTINUED)

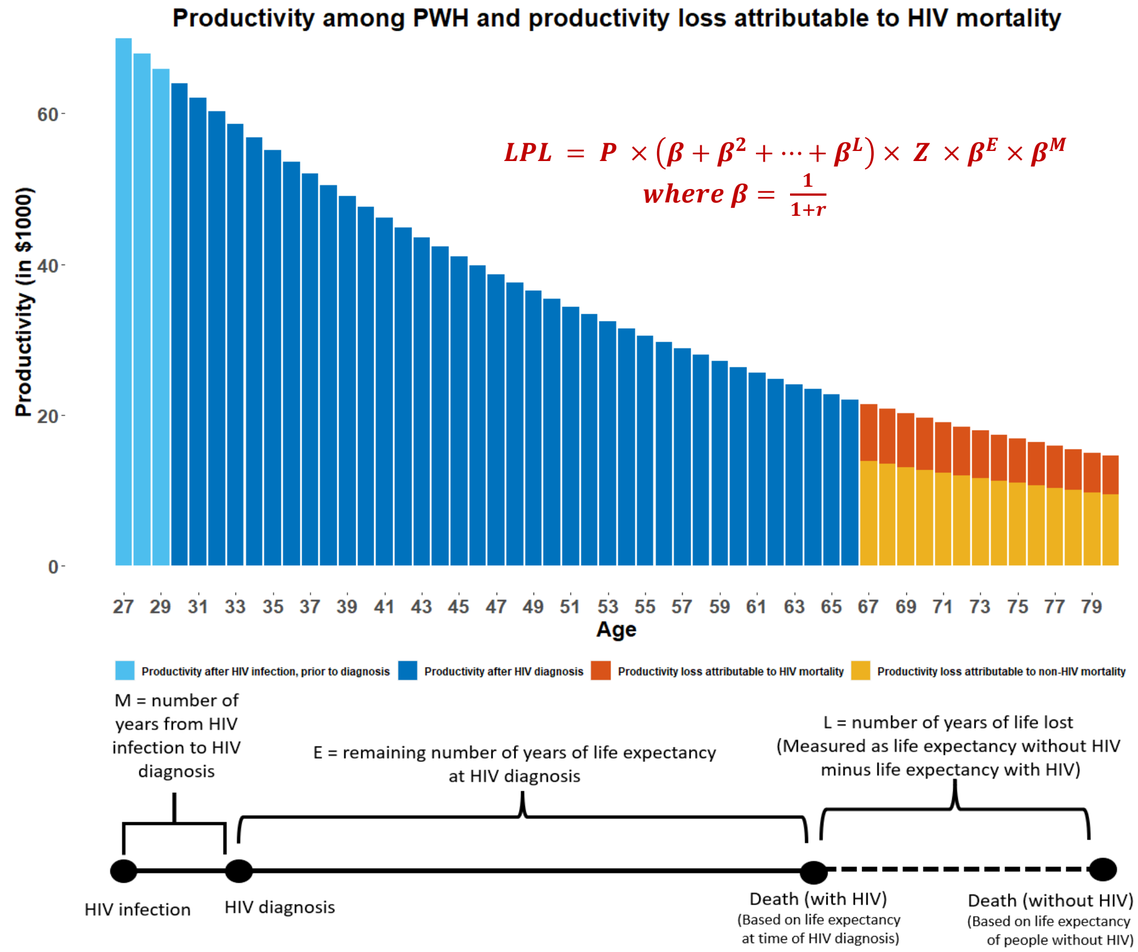

Figure 1 : A schematic of the calculation and year by year representation of the lifetime discounted productivity and productivity loss

RESULTS

Scenario		Productivity loss per HIV infection*		
		All	Male	Female
PWH 2018 vs 2010	PWH in 2018 (Base case)	$84,000	$82,900	$85,200
	PWH in 2010	$126,300	$121,400	$130,700
Current vs Early ART	Cohorts on ART (ART initiated 2015-2019)	$18,200	$13,900	$21,000
	Cohorts on ART (ART initiated 1996-2014)	$37,100	$33,900	$40,000

*Rounded to the nearest 100 and reported in 2022 USD

CONCLUSIONS

- Our study provides a useful update of the estimated lifetime productivity loss per HIV infection associated with HIV mortality.
- We estimated a 33% reduction in the lifetime discounted productivity loss per HIV infection due to HIV mortality over the past decade, comparing 2018 vs 2010 estimates.
- Modern ART treatment, including immediate ART initiation, has contributed to declines in HIV-mortality related productivity losses.

LIMITATIONS

- We used population averages to estimate productivity losses for persons with HIV in general, thus they are not specific to age, disease stage at diagnosis or transmission group.
- Our study was limited to mortality-related productivity loss of HIV and did not include productivity loss of HIV morbidity.

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