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BACKGROUND

- Improved understanding of how HIV prevalence and HIV care cascades at a population level change over time may provide insights into changes in the HIV epidemic and effectiveness of HIV program activities.
- We sought to understand how the HIV epidemic is evolving over time by evaluating HIV prevalence and changes in status awareness and antiretroviral therapy (ART) use over 10 years in two high-prevalence, rural regions in East Africa

METHODS

- In 2013-14 and 2023-24 in rural communities (~5,000 adults/community) in western Kenya and southwestern Uganda, we conducted universal HIV screening of adult (≥15 years) residents at enrollment in two SEARCH population-level cluster randomized trials (NCT01864603 and NCT05768763).
- **In 2013-14:** SEARCH offered universal HIV testing via multi-disease community health campaigns followed by home-based testing of campaign non-attendees, in 22 communities in Western Kenya (12 communities) and Southwestern Uganda (10 communities).
- **In 2023-24**: SEARCH offered universal HIV testing via community health worker (CHW)-led home-based testing, as well as in-reaches to clinics (antenatal and outpatient department) and inpatient wards and outreach testing to adults at alcohol-serving venues, in 8 different communities from the same regions (4 in Western Kenya and 4 in Southwestern Uganda)
- Using TMLE and accounting for clustering by community, we estimated age- and sex-specific HIV prevalence, status awareness among persons with HIV, and ART use if living with HIV and aware of status.

Images: Multi-disease health campaigns in 2013-14 (left) and community health worker led home-based testing in 2023-24 (right)

Over the last decade, HIV prevention and treatment interventions led to substantial reductions in HIV incidence and prevalence among youth in Western Kenya and smaller reductions in SW Uganda. Despite improvements in ART coverage in Uganda, HIV status awareness remains below goal: interventions are needed to address this persistent gap.

RESULTS

- In 2013-14, in 22 communities, we ascertained HIV status among 90,467/101,200 (89%) residents.
- In 2023-24, in 8 communities, we ascertained HIV status among 42,924/46,802 (92%) residents.
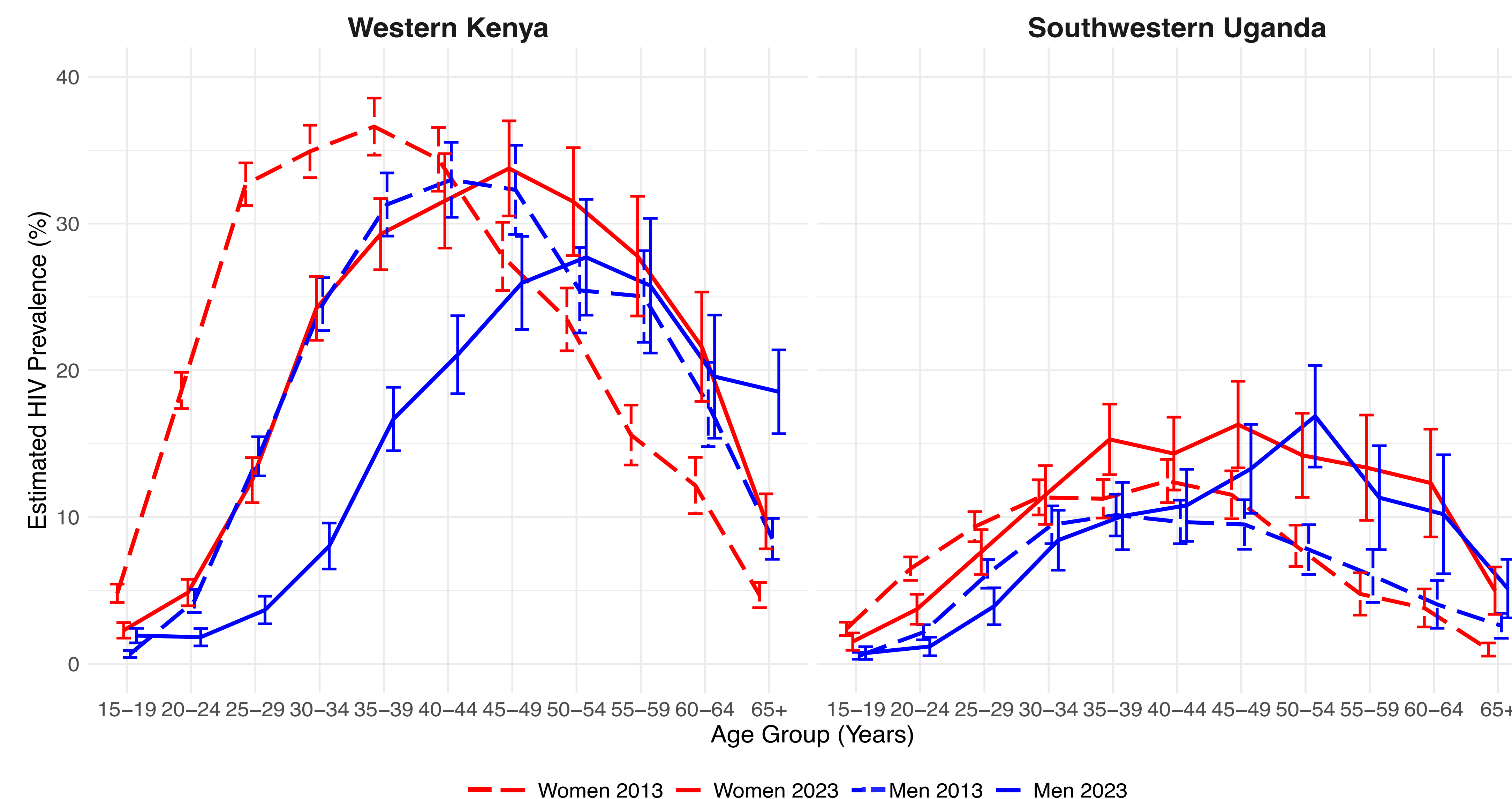

Figure: Estimated HIV prevalence by age and sex in 2013 and 2023 among communities enrolled in two population-level SEARCH cluster randomized trials (NCT01864603; NCT05768763) in rural western Kenya and southwestern Uganda.

RESULTS (*continued*)

In Western Kenya:
- Adult HIV prevalence decreased from 18.7% in 2013 to 13.2% in 2023 (p<0.001)
  - From 2013 to 2023, there were large, significant reductions in HIV prevalence among women aged 15-39 years and men aged 20-49 years, but significant increases among women ≥45 years (**Figure**).
- HIV status awareness increased from 64% to 90% (p<0.001) and ART use increased from 81% to 96% (p<0.001), with large, significant increases across all age-sex strata, and greatest gains among men and youth

In Southwestern Uganda:
- HIV prevalence <u>increased</u> from 6.4% in 2013 to 7.8% in 2023 (p<0.001).
- There were small, significant reductions in HIV prevalence among women aged 15-29 years, and men 20-29 years, but prevalence increased among women and men ≥40 years (**Figure**).
- Overall, from 2013 to 2023, HIV status awareness increased from 57% to 71% (p<0.001), and ART use from 82% to 93% (p<0.001); however, these improvements were not uniform by age and sex in SW-Uganda.

CONCLUSIONS

- Population-level prevalence data are consistent with a substantial decline in HIV incidence in W-Kenya, particularly among young adults, but not SW-Uganda over the past 10 years.
- Persistently low status awareness, well below the 95% target, over the past 10 years in SW-Uganda may explain this disparity and suggests that efforts to improve status awareness are needed to achieve further reductions in HIV incidence.