Global HIV Epidemiology and intersection with HPV and cervical cancer burden

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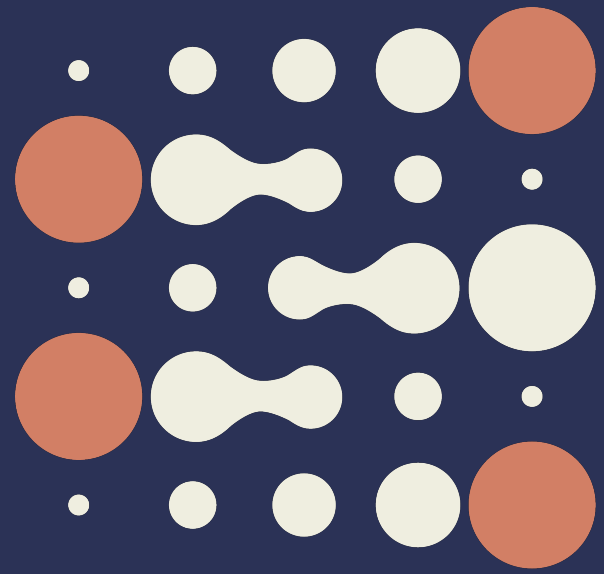
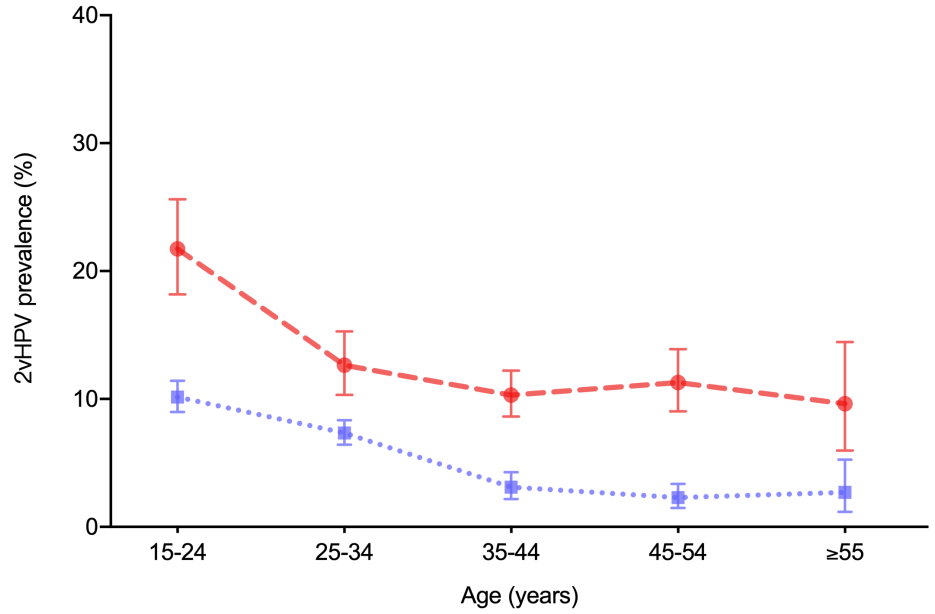


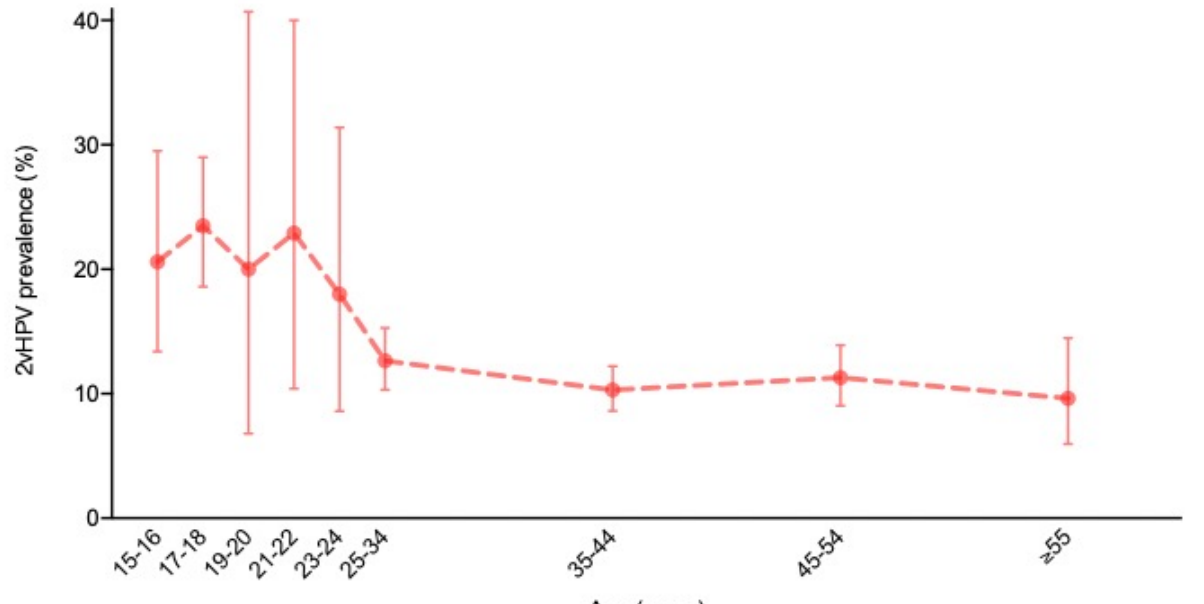
Age-specific HPV prevalence is high in sexually active females living with HIV, already among adolescents

cervical HPV16/18 prevalence, by HIV status



	15-24	25-34	35-44	45-54	≥55
HIV+ (n=3277)	108/497 (21.7%)	92/727 (12.7%)	119/1154 (10.3%)	78/691 (11.3%)	20/208 (9.6%)
HIV- (n=7900)	245/2413 (10.2%)	216/2942 (7.3%)	36/1160 (3.1%)	25/1089 (2.3%)	8/296 (2.7%)

cervical HPV16/18 prevalence in WHIV, by finer young age



Age group	15-16y	17-18y	19-20y	21-22y	23-24y	25-34y	35-44y	45-54y	≥55y
n/N (%)	22/107 (21%)	64/272 (24%)	5/25 (20%)	8/35 (23%)	9/50 (18%)	92/727 (13%)	119/1154 (10%)	78/691 (11%)	20/208 (10%)

Adapted from Wei et al, J Infect Dis, in press

Women living with HIV at higher risk of:

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Lui G et al, AIDS, 2018
Kelly et al, Lancet HIV 2018
Stezle et al, Lancet Global Health, 2020

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Age category	Cervical cancer cases	Person-years	ASIR (95% CI)
16-19	5	93 000	5.4 (2.3-13.0)
20-29	485	1 700 000	28.5 (26.1-31.1)
30-39	2864	3 550 000	80.7 (77.8-83.7)
40-49	3441	2 200 000	156 (151-162)
50-59	1883	877 000	215 (205-225)
60-69	520	215 000	242 (222-264)
70-79	113	27 000	412 (343-496)
80-89	10	3 000	297 (160-553)

Dhokotera et al. [Abstract O19].17th International Conference on Malignancies in HIV/AIDS, October 2019

Cervical cancer incidence in WHLIV, even on ART, varies by world region

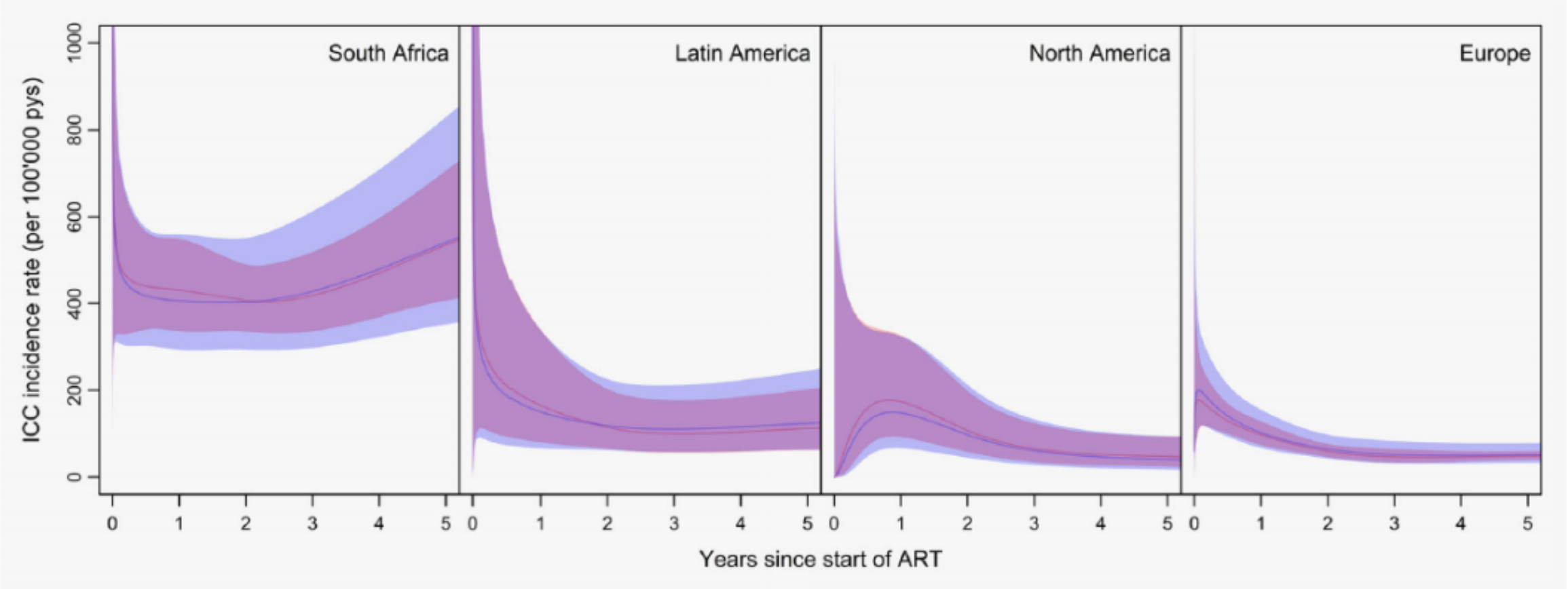

Figure 2. Regional ICC incidence rates with 95% confidence intervals by time since ART initiation, predicted from the crude model (red) and the main adjusted model (blue) for women who initiated an NNRTI-based regimen between 2008 and 2014, at age 31–50 years, with a CD4 cell count of 200 cells/μl.

Ronher et al, Int J Cancer, 2020

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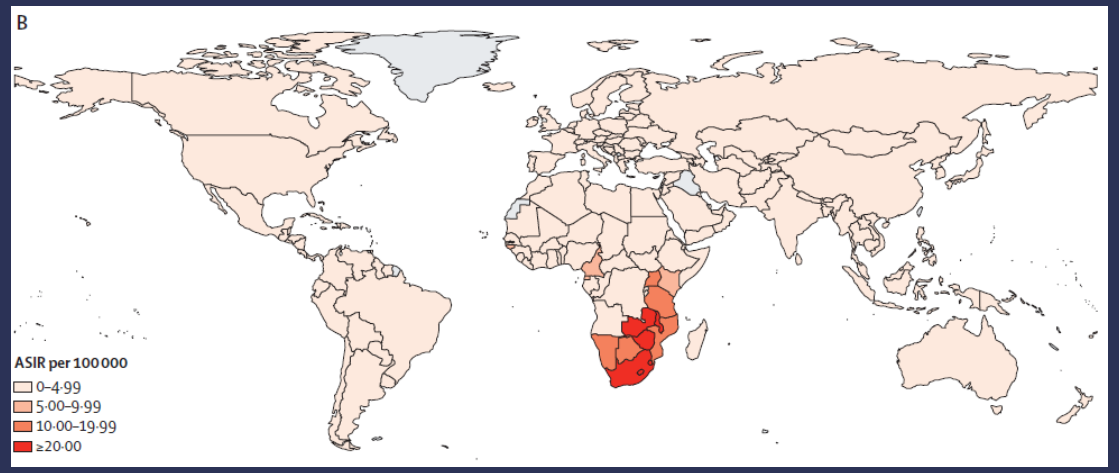
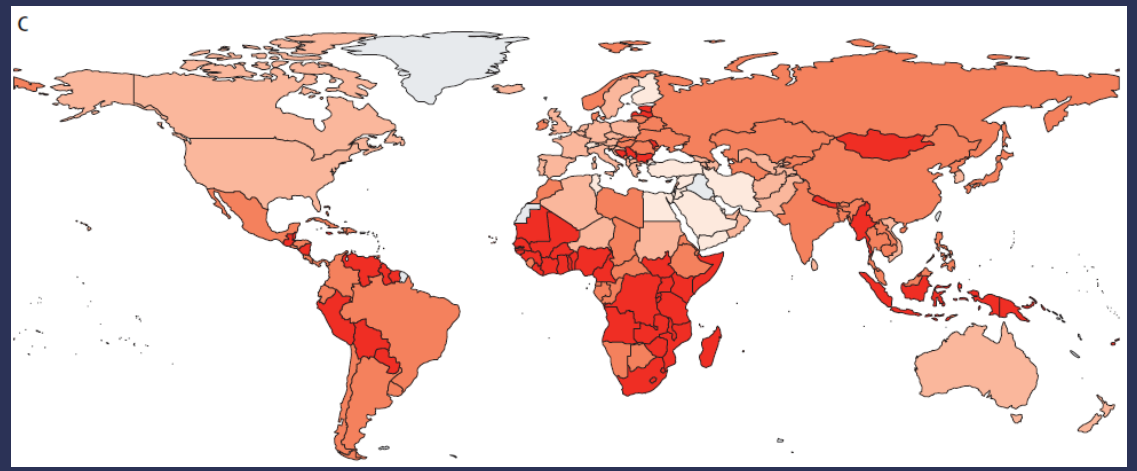
Estimates of the global burden of cervical cancer associated with HIV
Stelzle D et al, *Lancet Global Health,* 2020

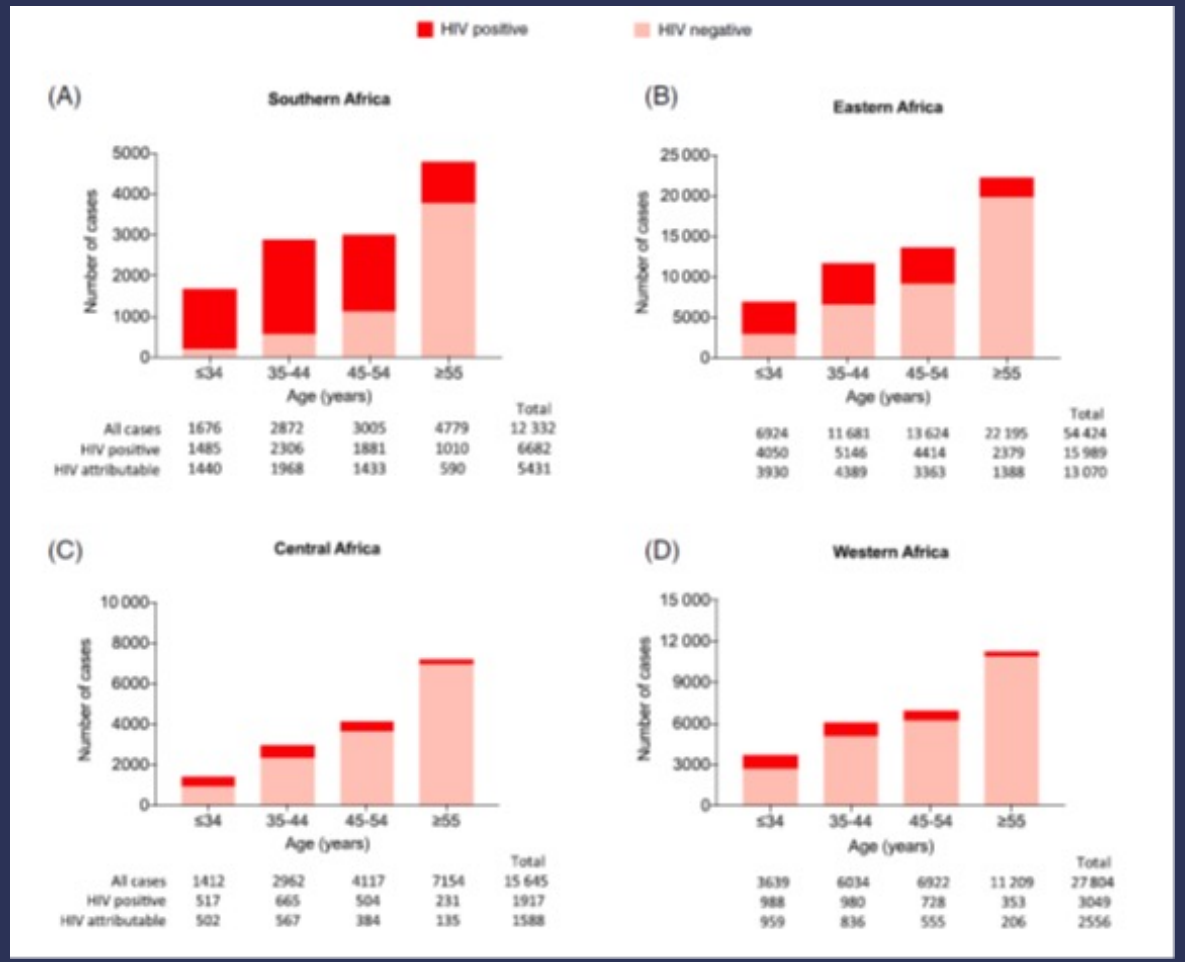
HIV-attributable cervical cancer incidence



HIV-independent cervical cancer incidence

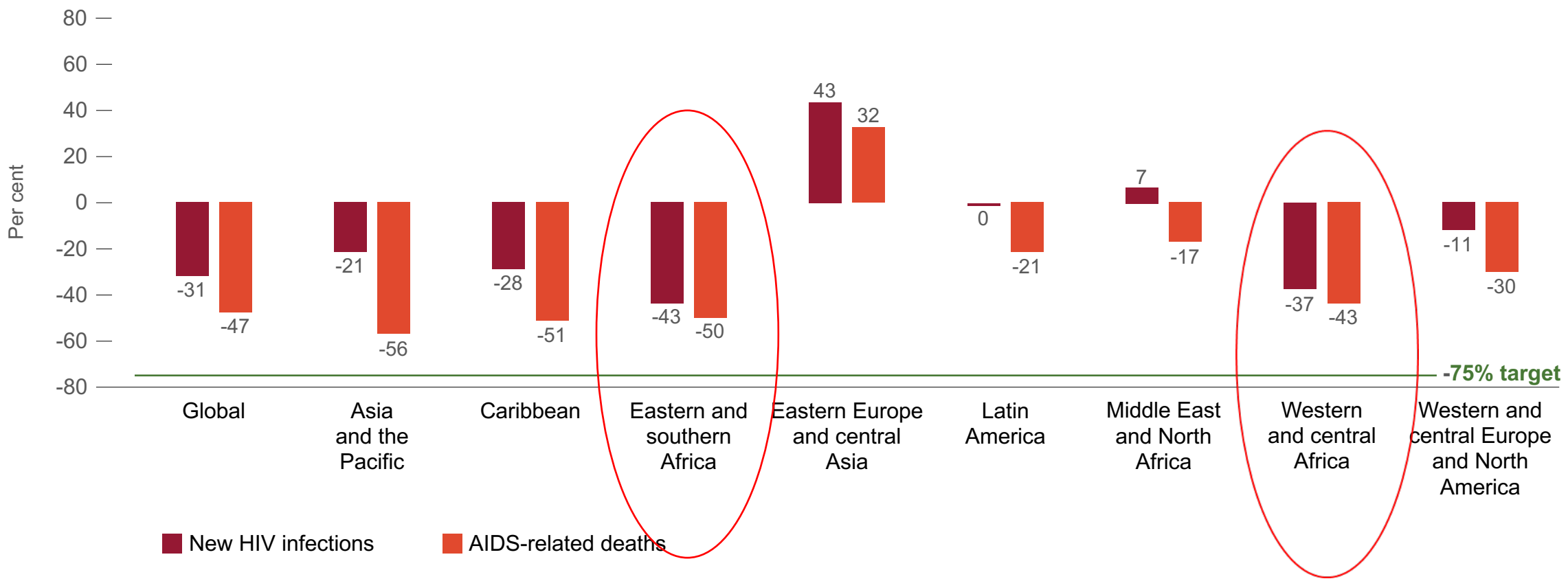


HIV-attributable cervical cancer burden occurs at younger age
Ibrahim Khalil A et al. *Int J Cancer,* 2021



Number of new HIV infections are decreasing, particularly in sub-Saharan Africa, due to HIV control programs

Change in new HIV infections and AIDS-related deaths, by region and global, 2010–2020



Source: UNAIDS epidemiological estimates, 2021 (https://aidsinfo.unaids.org/).

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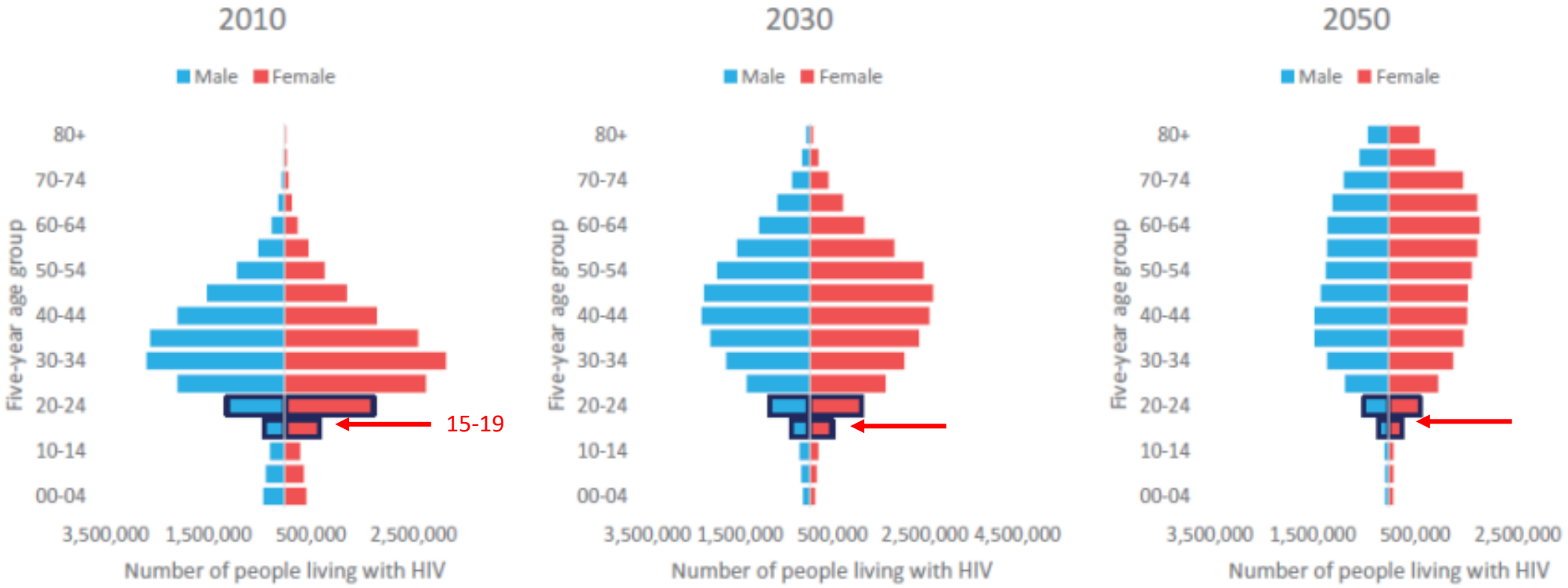

Figure 2. Number of people living with HIV by age and sex, 2010, 2030 and 2050, UNAIDS 2018 estimates.

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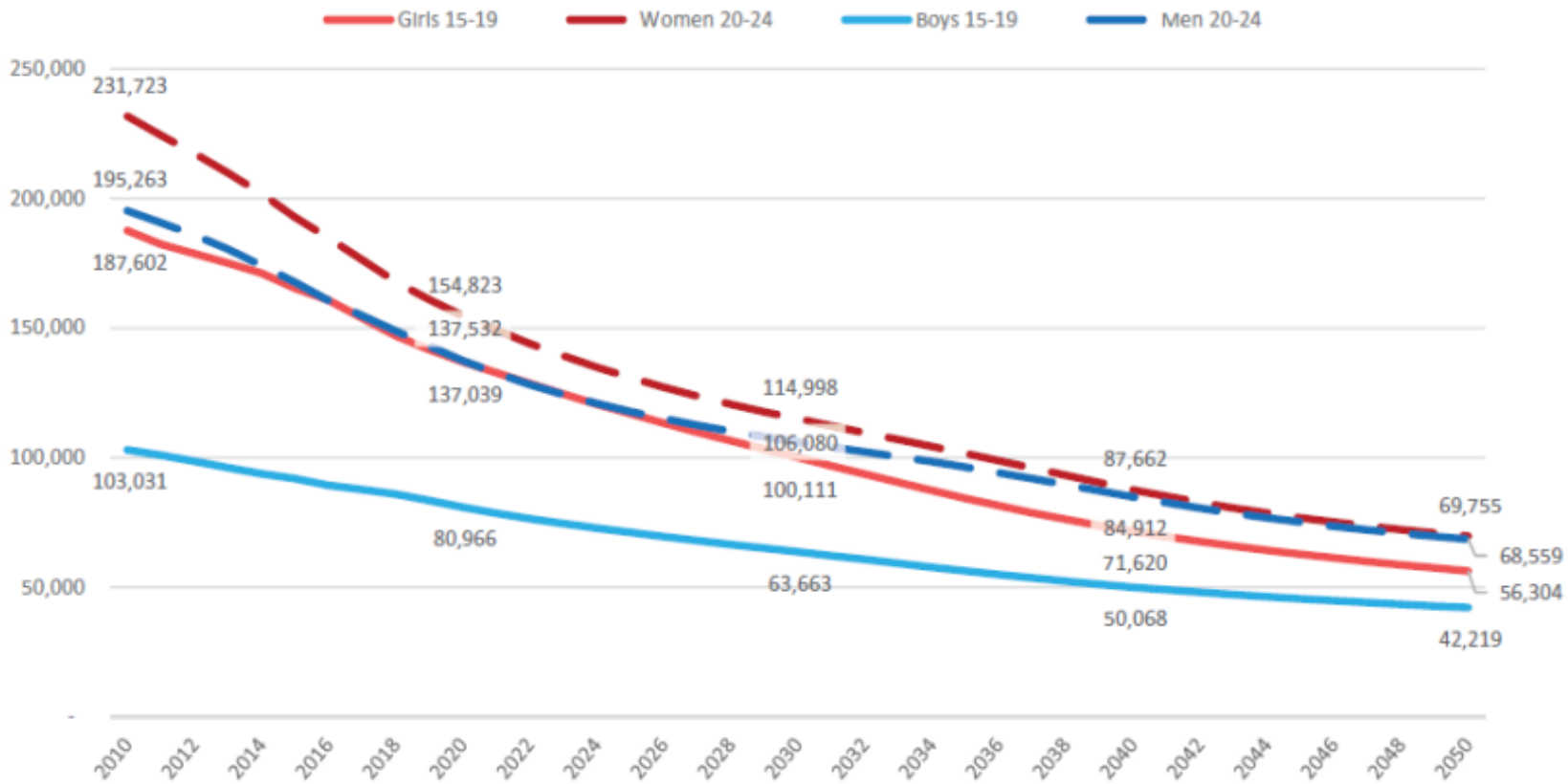
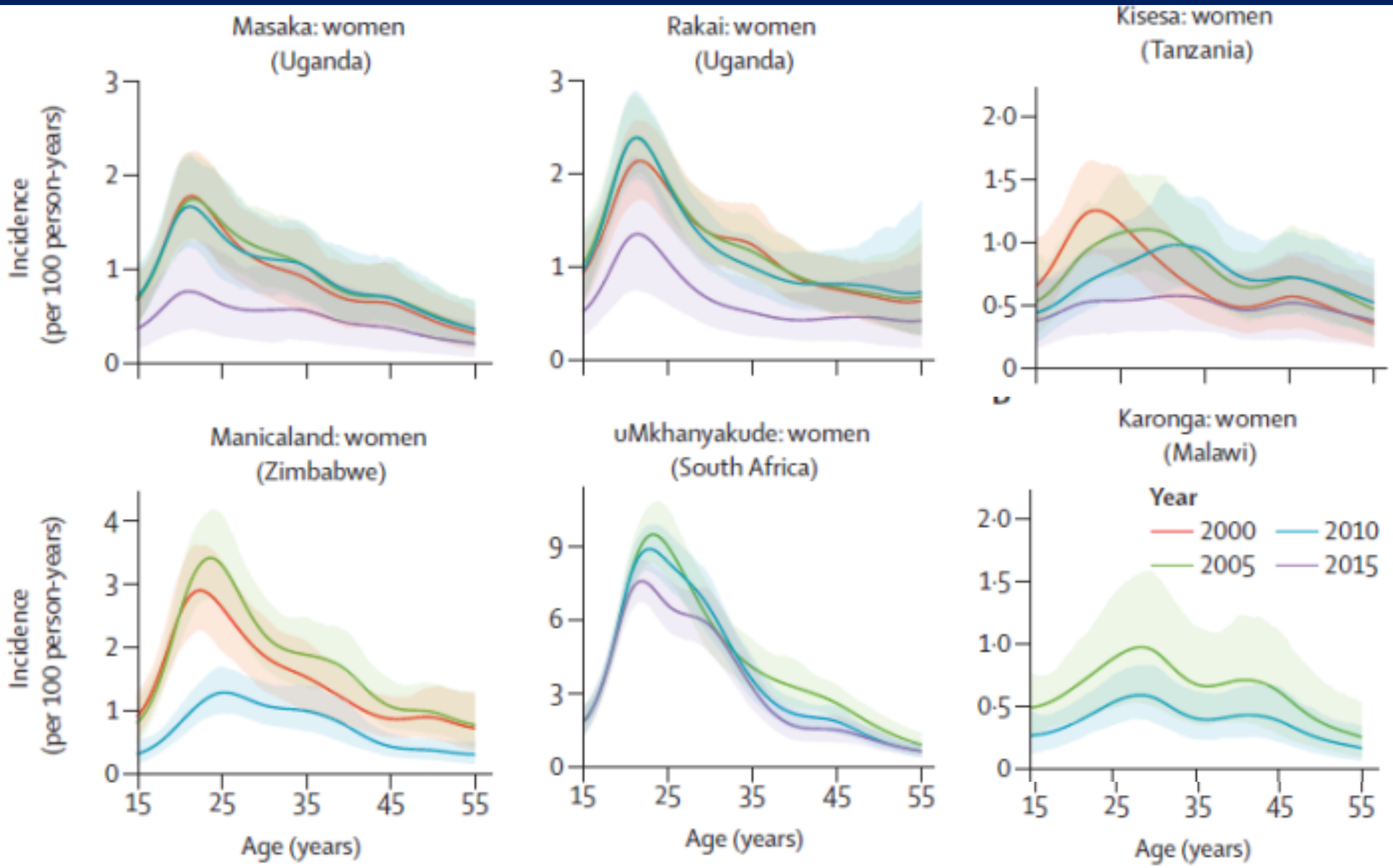
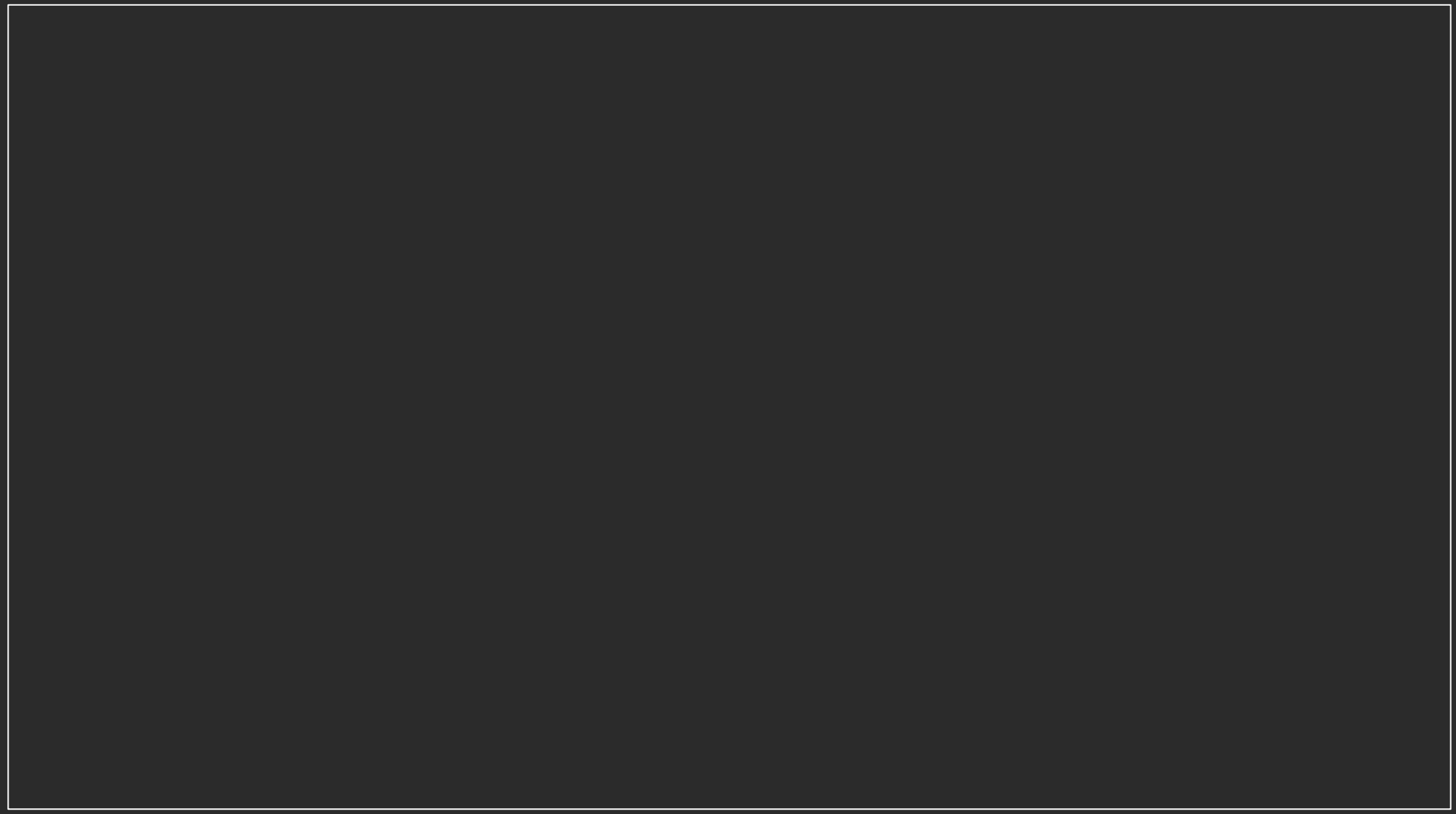


Figure 3. Number of new HIV infections among adolescent and young people, by sex and five-year age group, 2010–2050, UNAIDS 2018 estimates.

HIV incidence increases between 15 and 19 years (but age-specific incidence going down over time)



Age patterns of HIV incidence in eastern and southern Africa: a modelling analysis of observational population-based cohort studies

Risher KA et al, Lancet HIV, 2021

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