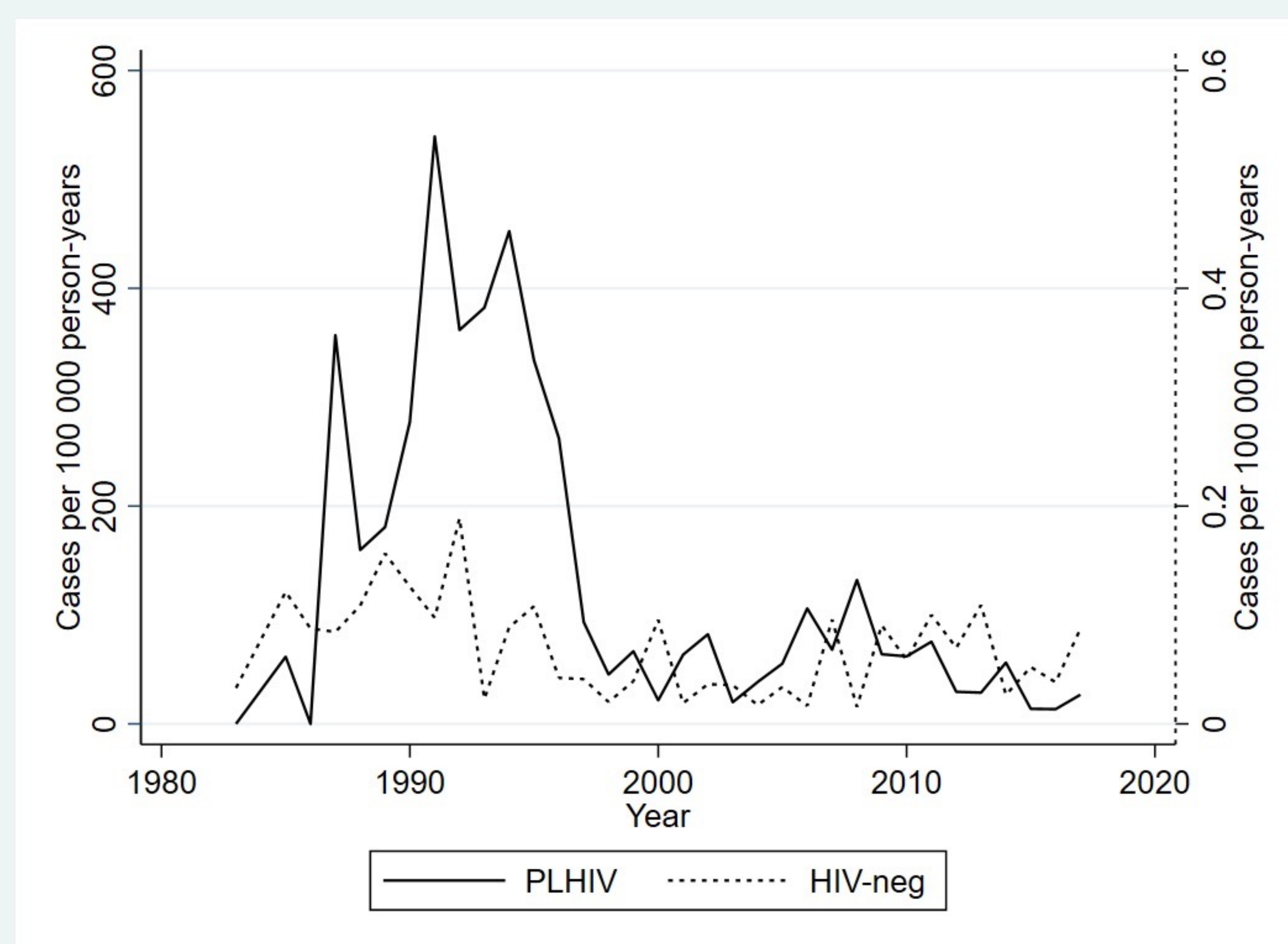


Extracutaneous Kaposi Sarcoma Risk Remains Higher in People with HIV in the Post-ART Era

Sofia Dinh¹ | Stina Malmström² | Isabela Killander Möller¹ | Aylin Yilmaz² | Veronica Svedhem¹ | Christina Carlander^{1, 4, 5}

Conclusions:

- Kaposi sarcoma remained increased in people living with HIV in the post-ART era, with a particularly higher risk for extracutaneous disease
- There were no cases of extracutaneous disease among virally suppressed people living with HIV, suggesting less aggressive disease in this population.



Annual incidence of Kaposi sarcoma in Sweden 1983–2017. The incidence remained significantly increased in PLHIV at end of follow-up. Different scales on the y-axes.

Background:

Kaposi sarcoma (KS) is a major driver for the elevated incidence of infection-related cancer in people living with HIV (PLHIV). While KS typically presents with skin lesions, it can also be rapidly progressive and manifest internal organs, including the lungs and gastrointestinal canal. Such advanced disease is associated with high morbidity and mortality if not treated appropriately. Thus far, data on disease severity of KS in PLHIV is scarce.

Aim:

To assess the occurrence of KS by HIV-status in Sweden between 1983 and 2017, with particular focus on extracutaneous disease.

Methods:

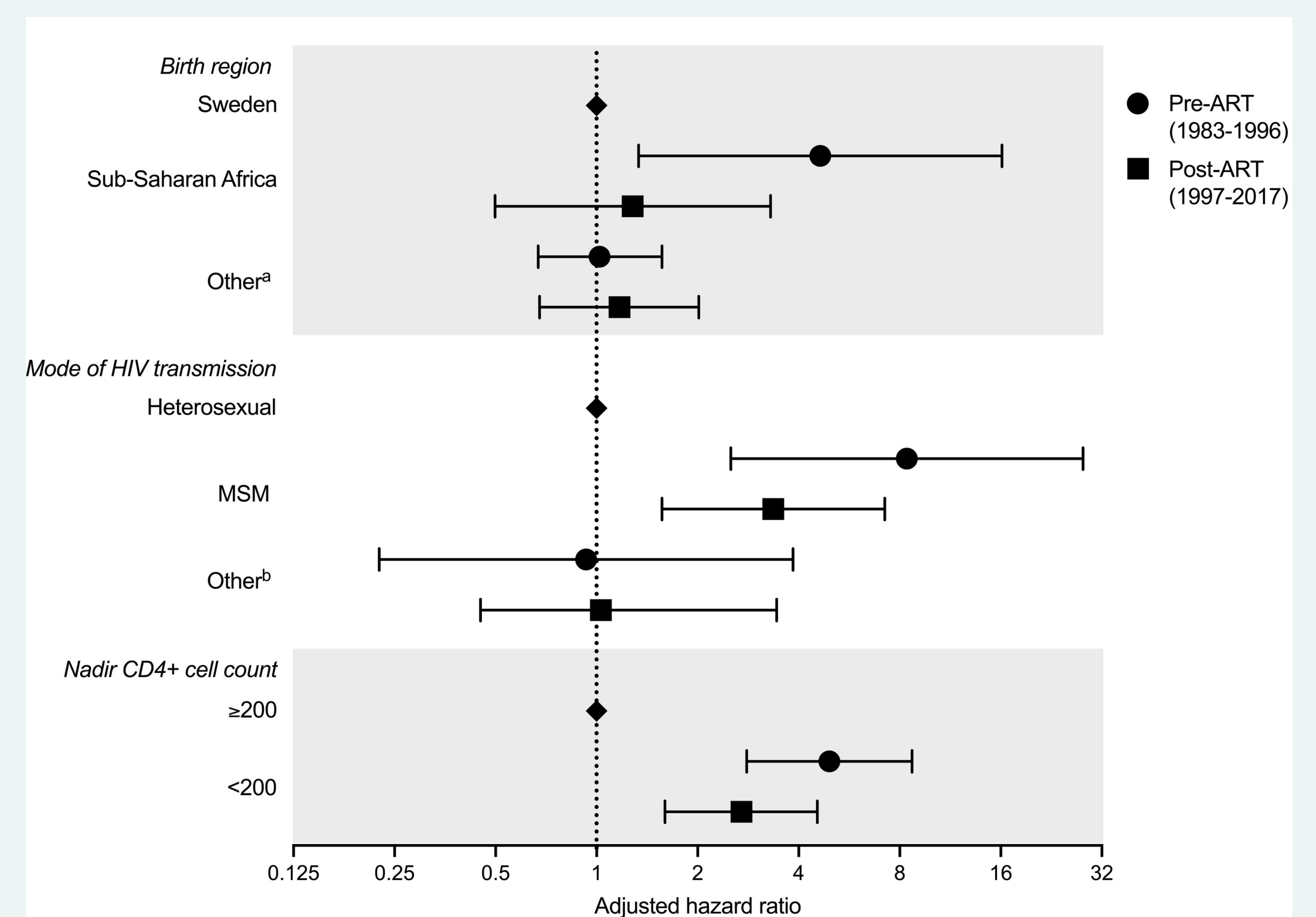
The Total Population Registry was linked to the Swedish HIV Registry (InfCareHIV), and the Swedish Cancer Registry. We included all residents, born in or outside Sweden between 1940 and 2000 ($n = 8\,587\,829$), assessing the annual incidence of KS, adjusted hazard ratios (adjHR), and odds ratios (adjOR) in the pre- and post-combination antiretroviral therapy (ART) eras.

Results:

KS was found in 324 individuals of whom 202 (62%) were PLHIV. While the incidence of KS decreased in PLHIV, it remained higher compared to HIV-negative at end of follow-up (28 vs. 0.09 per 100 000 person-years, $p < 0.001$).

In the post-ART era PLHIV still had increased risk of both cutaneous KS (adjHR 616, 95% confidence interval [CI] 410–926) and extracutaneous KS (adjHR 2068, 95% CI 757–5654), compared to HIV-negative individuals, although there were no cases of extracutaneous disease among virally suppressed PLHIV.

Among PLHIV in the post-ART era, the relative risk for KS remained higher in men, particularly MSM. Women with HIV had lower risk of KS compared to men with HIV (crude HR 0.06, 95% CI 0.02–0.14). Viral suppression was associated with lower odds of KS (adjOR 0.05, 95% CI 0.03–0.09).



Risk of Kaposi sarcoma in men with HIV in Sweden, pre-ART (1983–1996) and post-ART (1997–2017), calculated as hazard ratios using Cox regression.



Sofia Dinh
5th year medical student
Department of Medicine Huddinge (MedH)
sofia.dinh@stud.ki.se
+46765821788

¹Department of Medicine Huddinge, Karolinska Institutet, Stockholm, Sweden.

²Centre for Clinical Research Västmanland, Västmanland County Hospital, Uppsala University, Västerås, Sweden.

³Department of Infectious Diseases, Institute of Biomedicine, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden.

⁴Department of Infectious Diseases, Karolinska University Hospital, Stockholm, Sweden.

⁵Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden.



**Karolinska
Institutet**