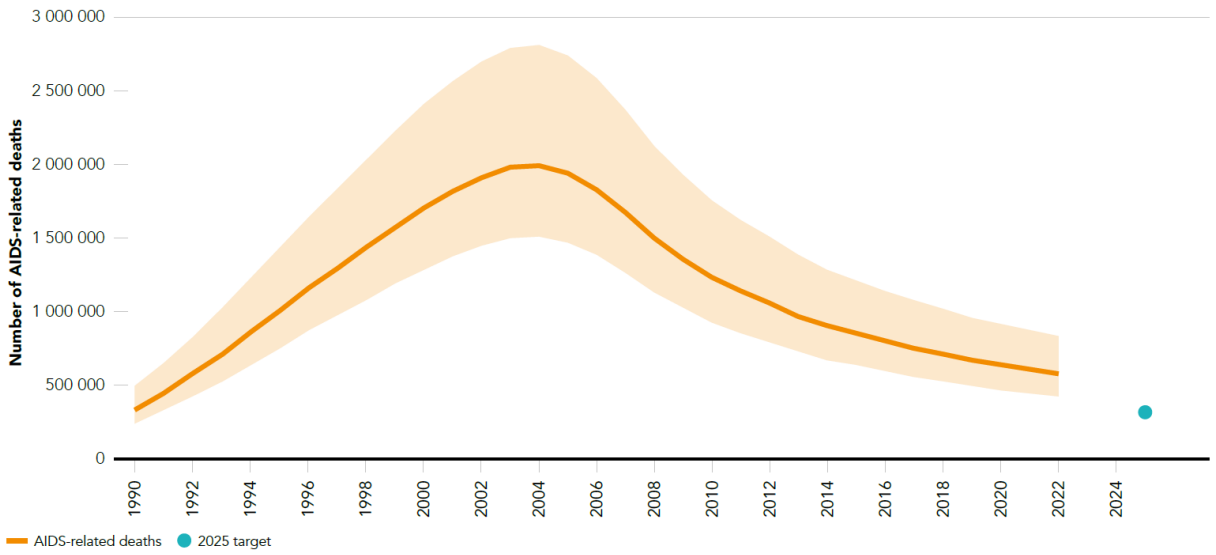
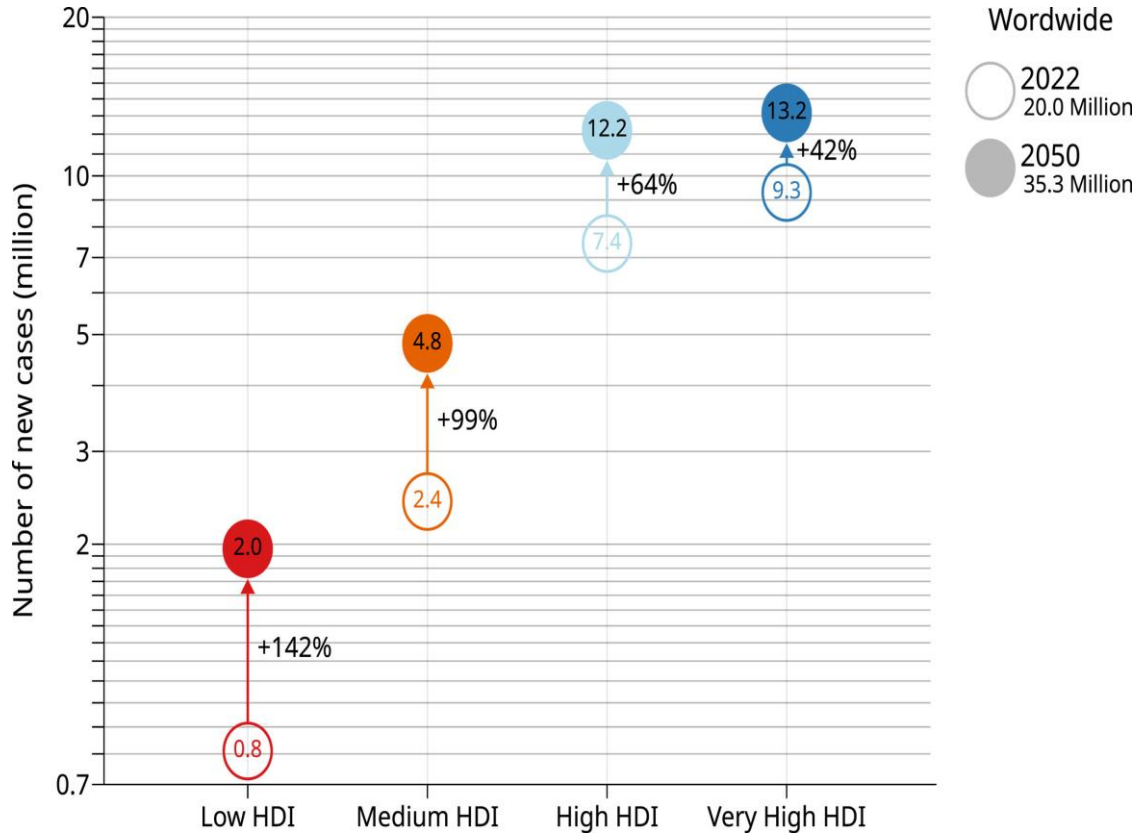
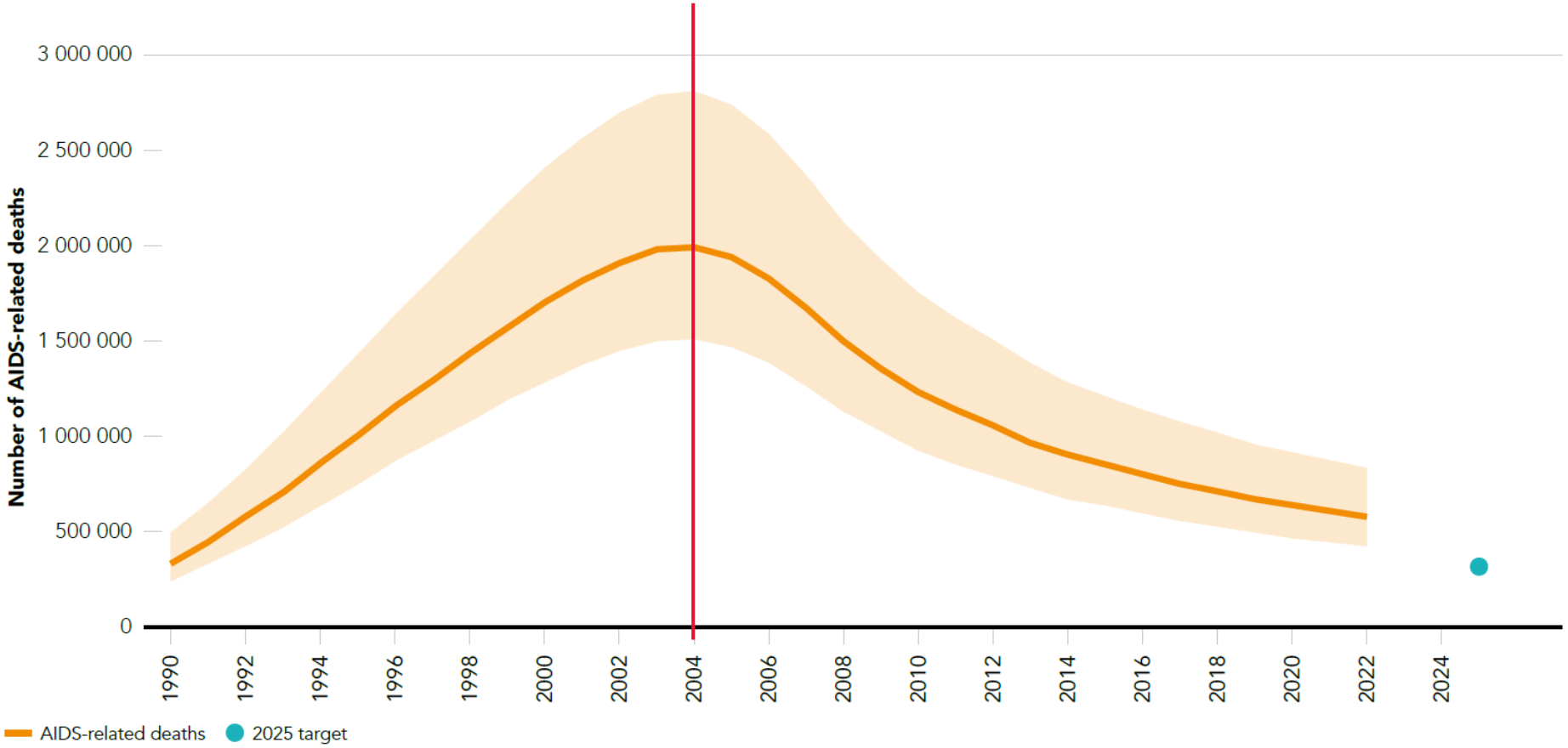


Source: UNAIDS epidemiological estimates, 2023 (https://aidsinfo.unaids.org/).



UNAIDS

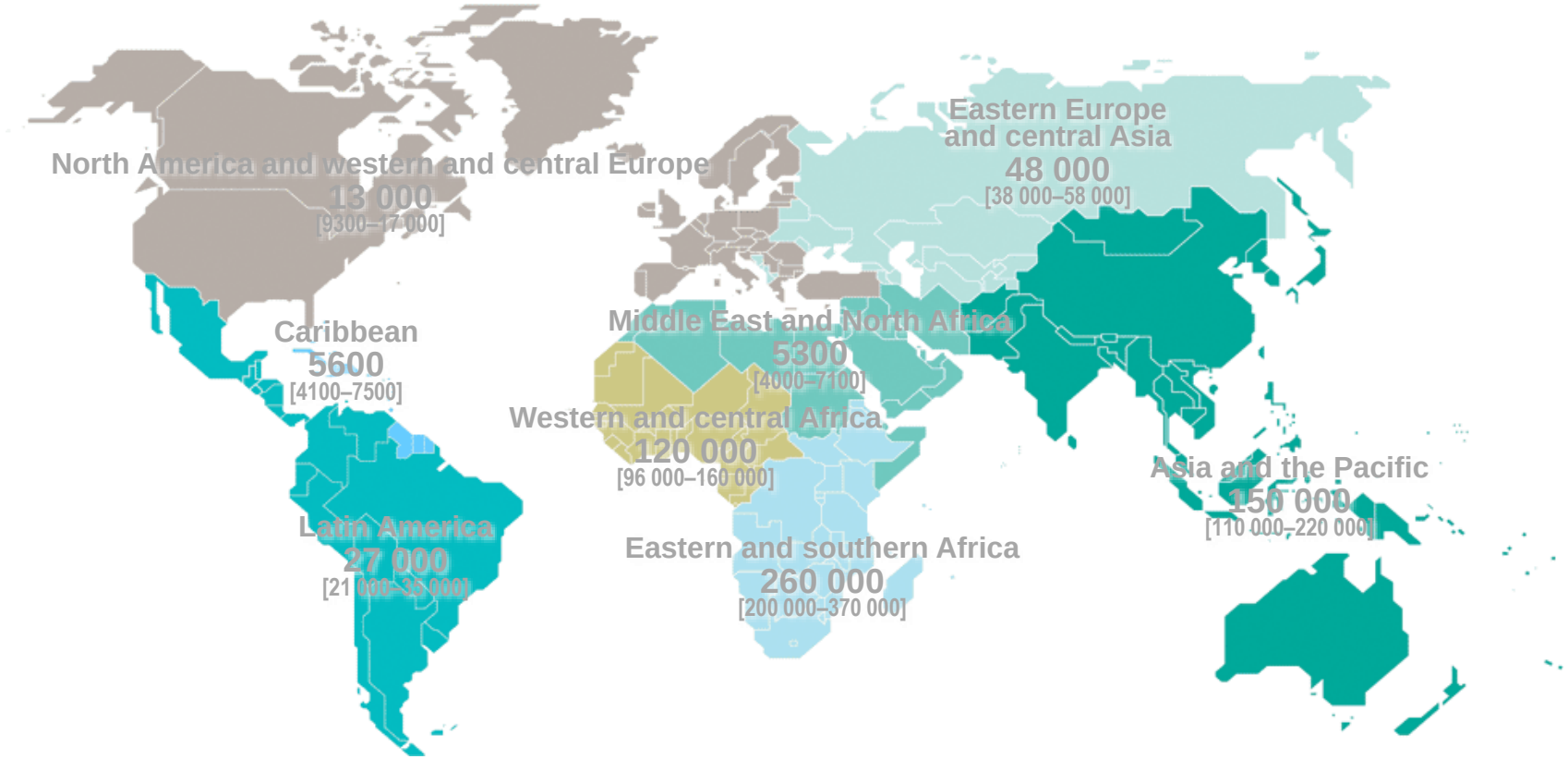
Number of HIV-related deaths, global, 1990-2022



Source: UNAIDS epidemiological estimates, 2023 (https://aidsinfo.unaids.org/).

UNAIDS

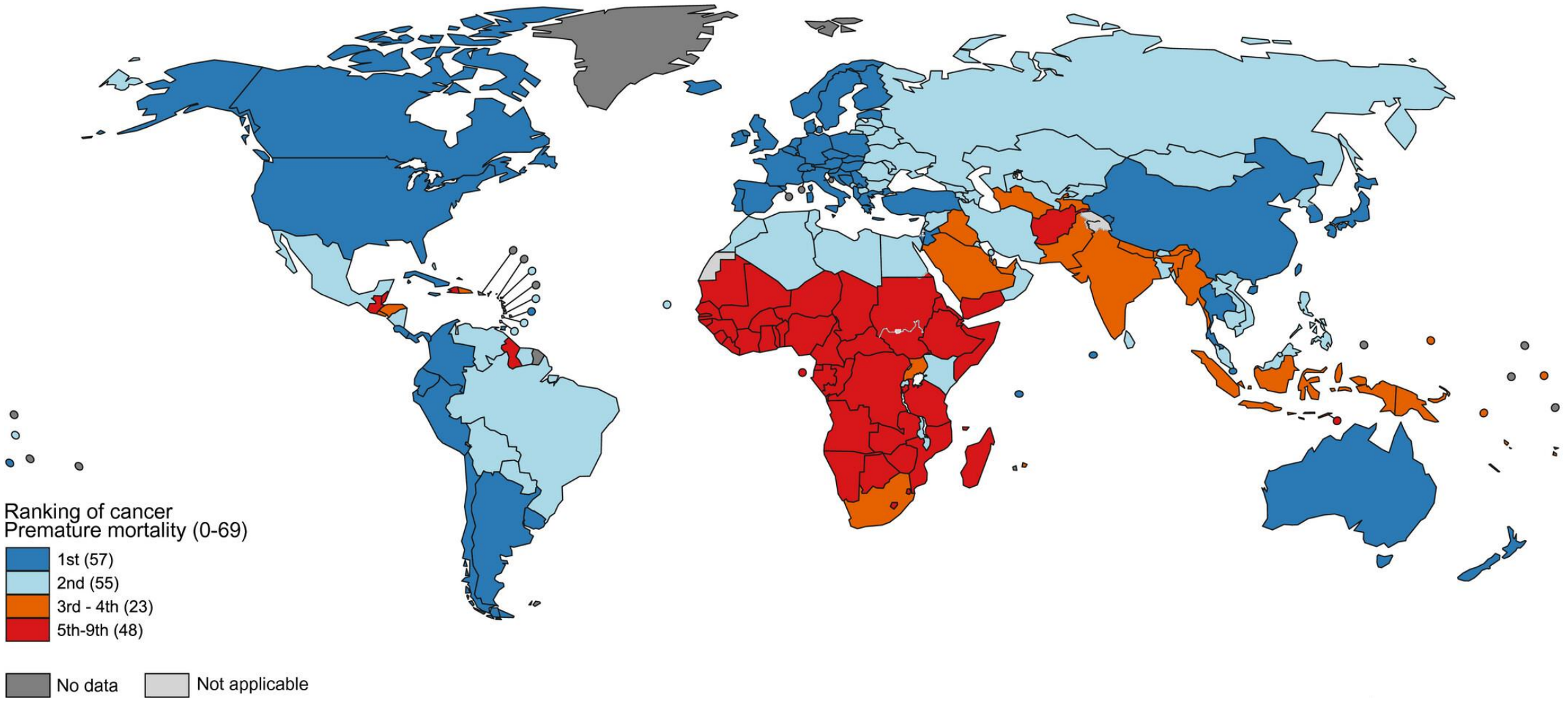
Estimated adult and child deaths from AIDS | 2022



Total: 630 000 [480 000–880 000]

UNAIDS

Global burden of cancer: today



World Health Organization. Global Health Estimates

> *"We should put out the fire while it is still small." – Kenyan proverb*

Global burden of cancer: today

Estimated number of global cancer deaths in 2022

9,736,779

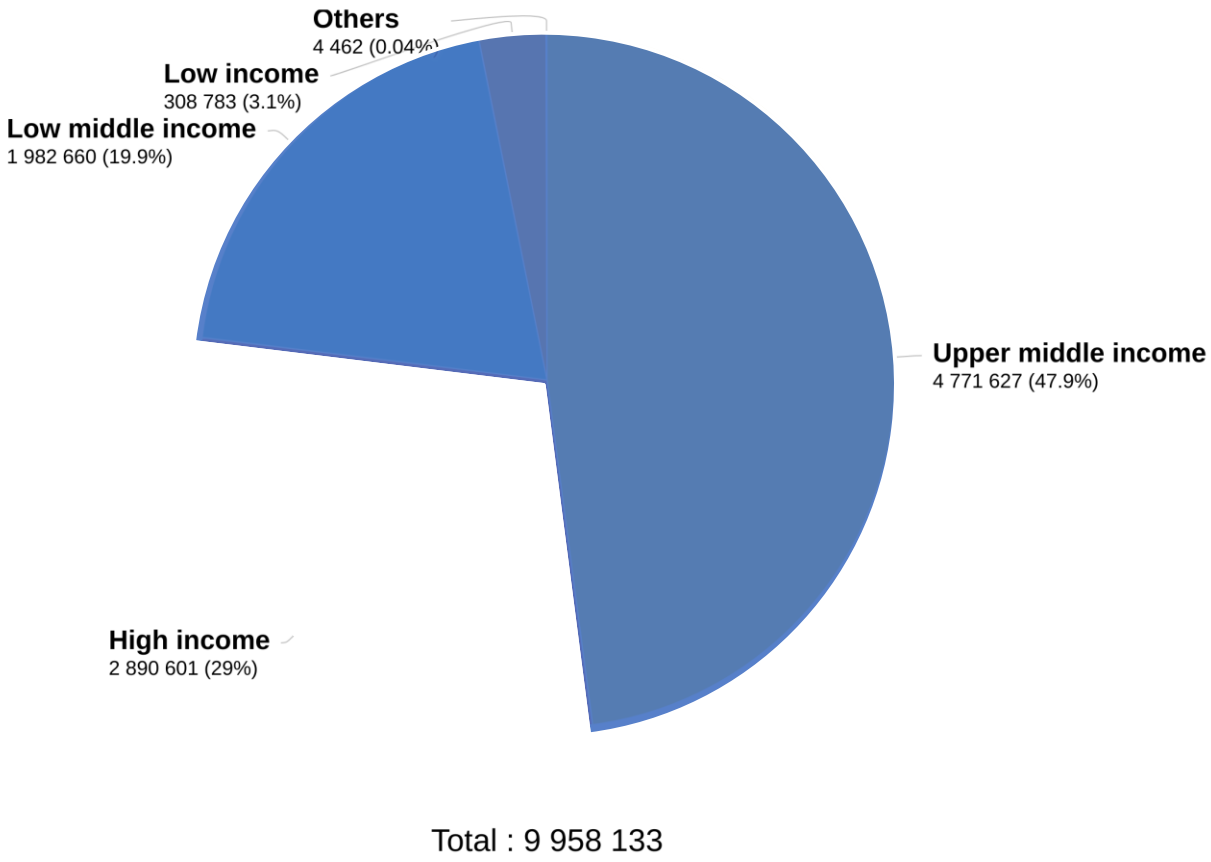
10 million cancer deaths in 2022

World Health Organization

> *"We should put out the fire while it is still small." – Kenyan proverb*

Global burden of cancer: today

Estimated number of global cancer deaths in 2022



10 million cancer deaths in 2022

70% in low- and middle-income countries

World Health Organization

"We should put out the fire while it is still small." – Kenyan proverb

Beyond Barriers: Enhancing the Reach of HIV Service Delivery by Addressing Cancer in PWH

OR

"***We should put out the fire while it is still small.***" – Kenyan proverb

Thomas A. Odeny, MD, MPH, PhD

Assistant Professor of Medicine
Division of Oncology, Washington University in St. Louis

Senior Principal Clinical Research Scientist
Kenya Medical Research Institute

"We should put out the fire while it is still small." – Kenyan proverb

DISCLOSURES

1. Research funding from Gilead Sciences

> *“We should put out the fire while it is still small.” – Kenyan proverb*

OUTLINE

1. **Global Burden of Cancer vs. HIV**
2. Cancer in People with HIV
3. Opportunities to Enhance the Reach of HIV Service Delivery by Addressing Cancer in PWH
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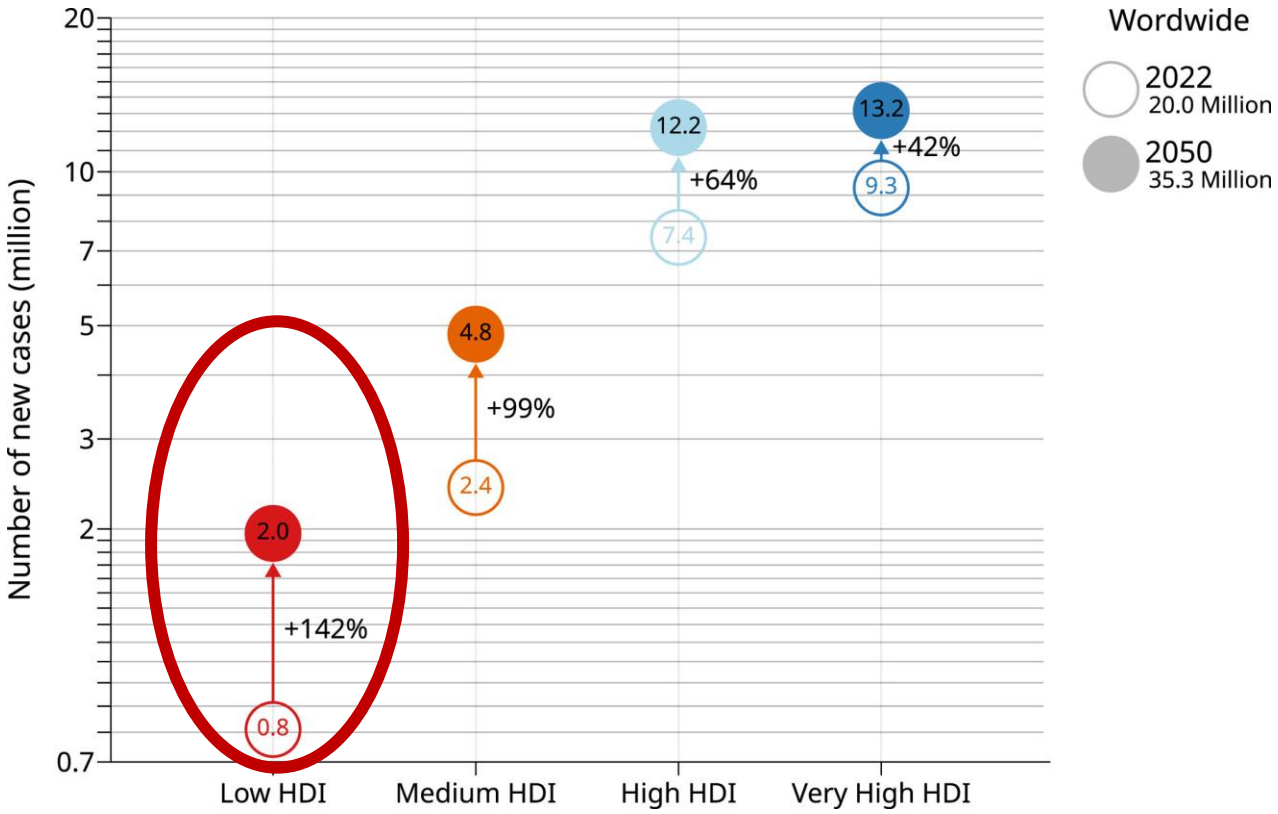
"We should put out the fire while it is still small." – Kenyan proverb

Global burden of cancer 2022-2050

Estimated increase in new cancer cases 2022-2050



35 million new cancer cases by 2050

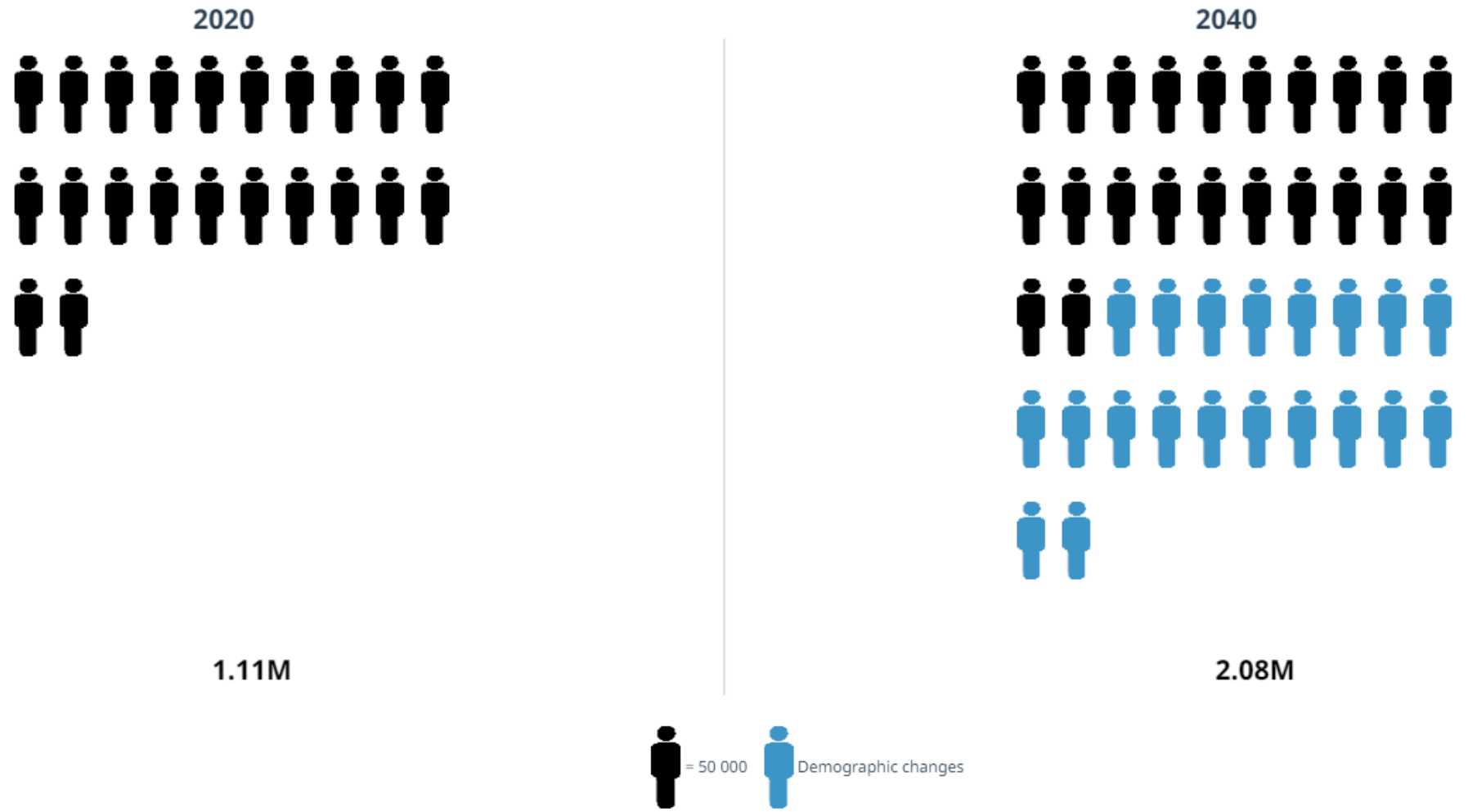
142% increase in new cancer cases in low-income countries

Soerjomataram et al. Nat Rev Clin Oncol 2021

"We should put out the fire while it is still small." – Kenyan proverb

Global burden of cancer: 2020-2040

Estimated increase in new cancer cases 2020-2040, Africa

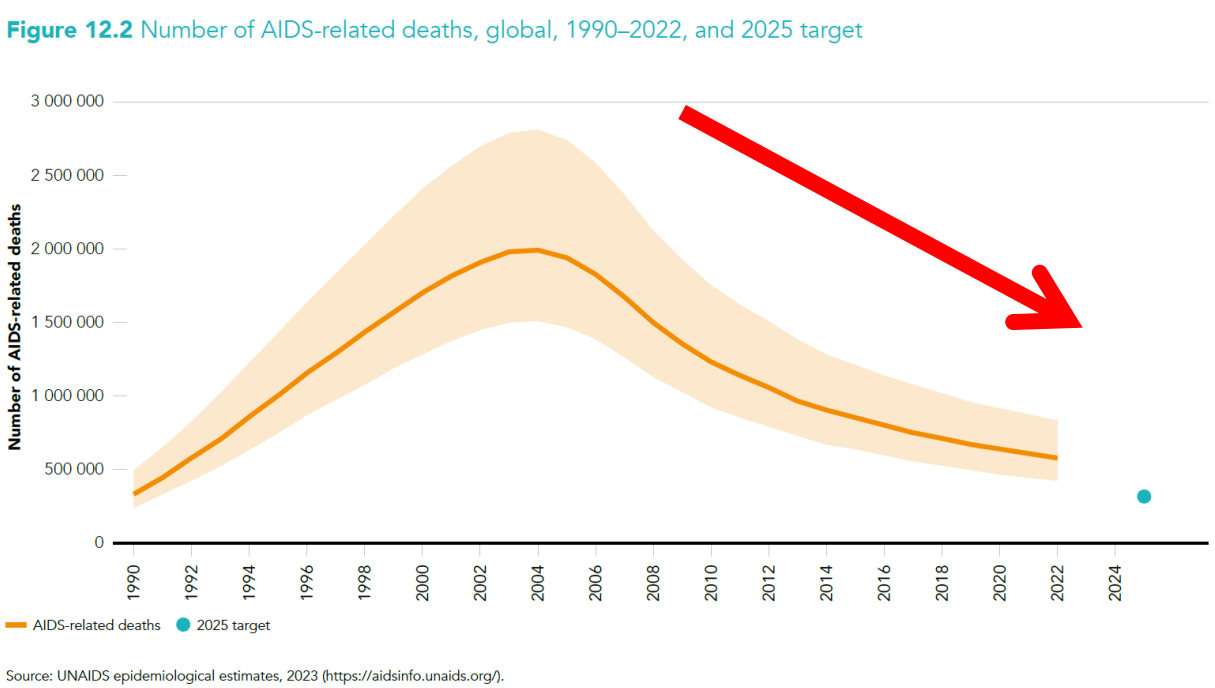


World Health Organization

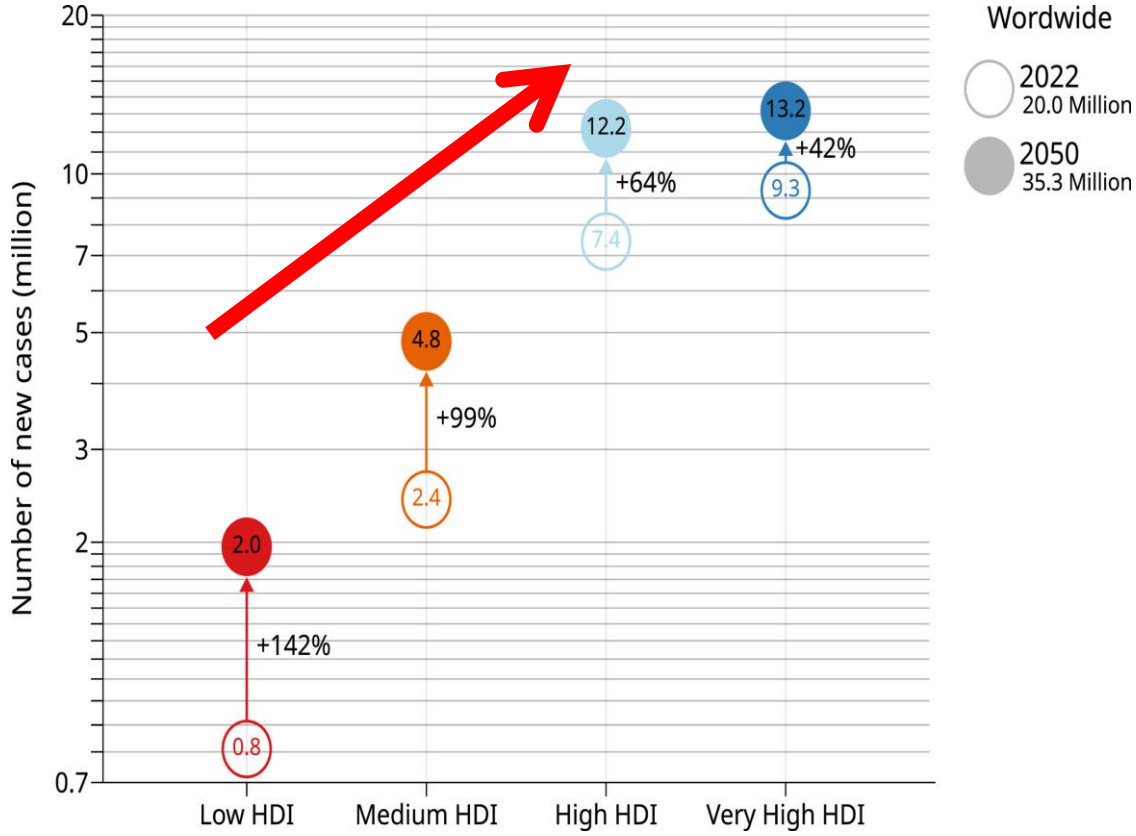
"We should put out the fire while it is still small." – Kenyan proverb

Comparing Global Burden of HIV and Cancer

HIV-related deaths



Cancer-related deaths



OUTLINE

1. Global Burden of Cancer vs. HIV
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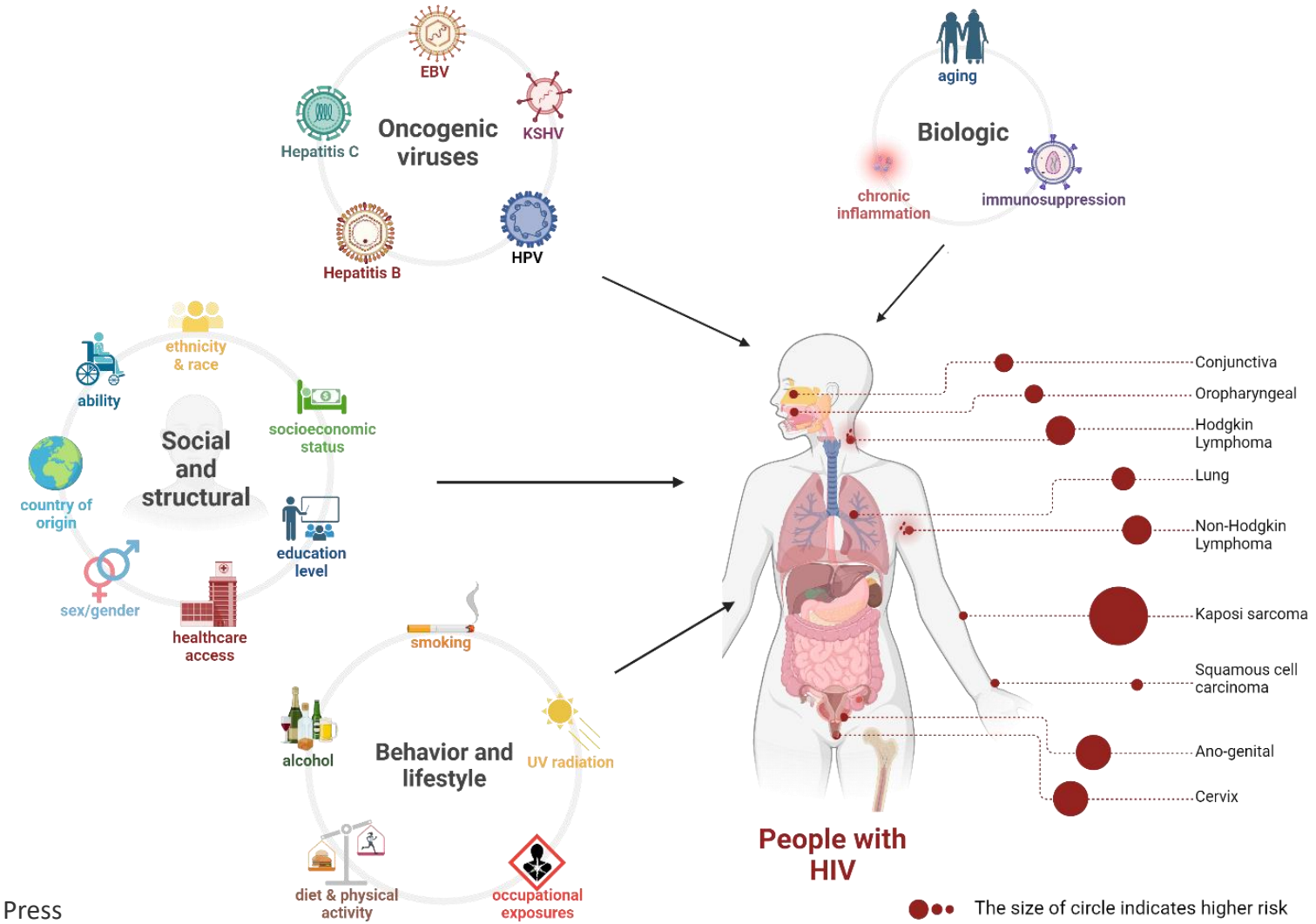
"We should put out the fire while it is still small." – Kenyan proverb

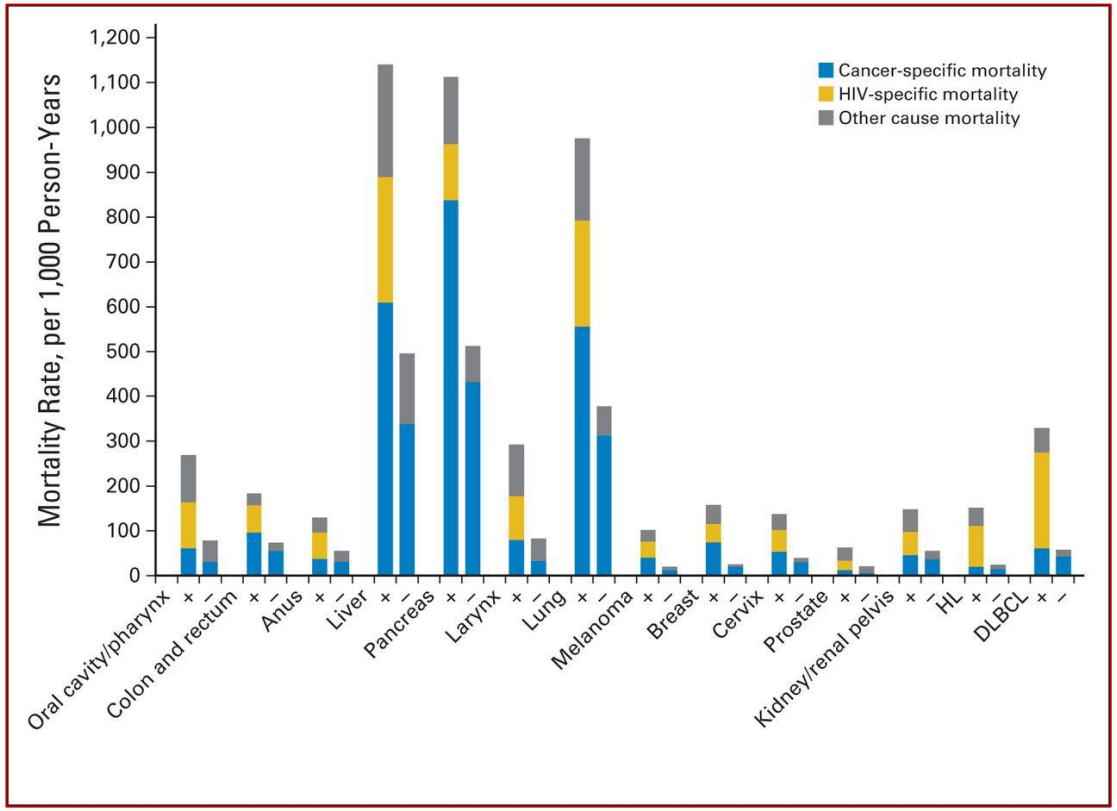
The complex and intersecting social, structural, behavioral, and lifestyle factors that affect cancer risk for PWH



Odeny et al. Clinics HIV 2024. In Press

Cancer in People Living with HIV (PLWH)

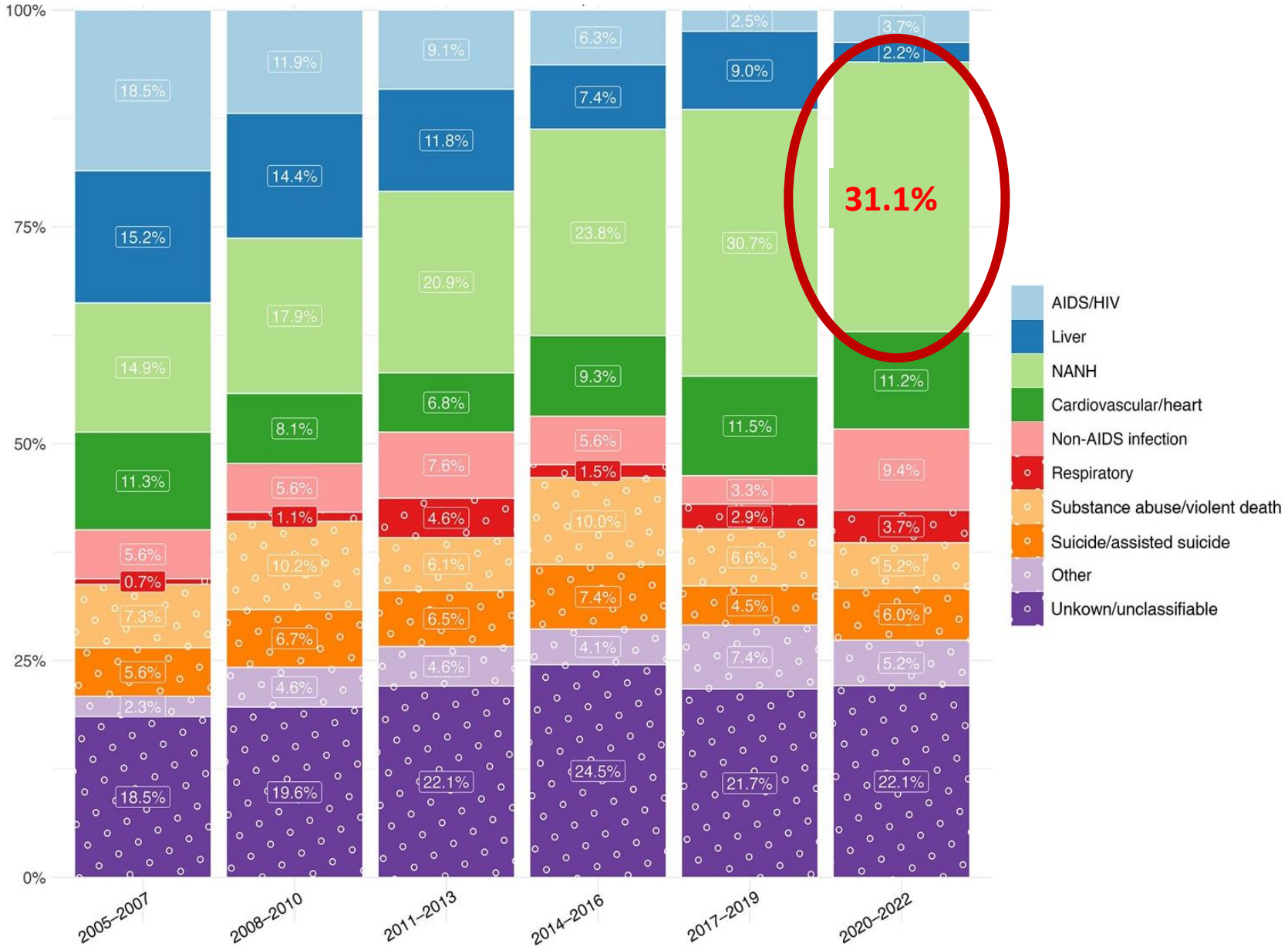
Age-standardized mortality rates in PLWH and HIV-uninfected patients with cancer



PWH have **higher cancer-specific mortality** than HIV-uninfected patients

Coghill AE et al. J Clin Oncol. 2015

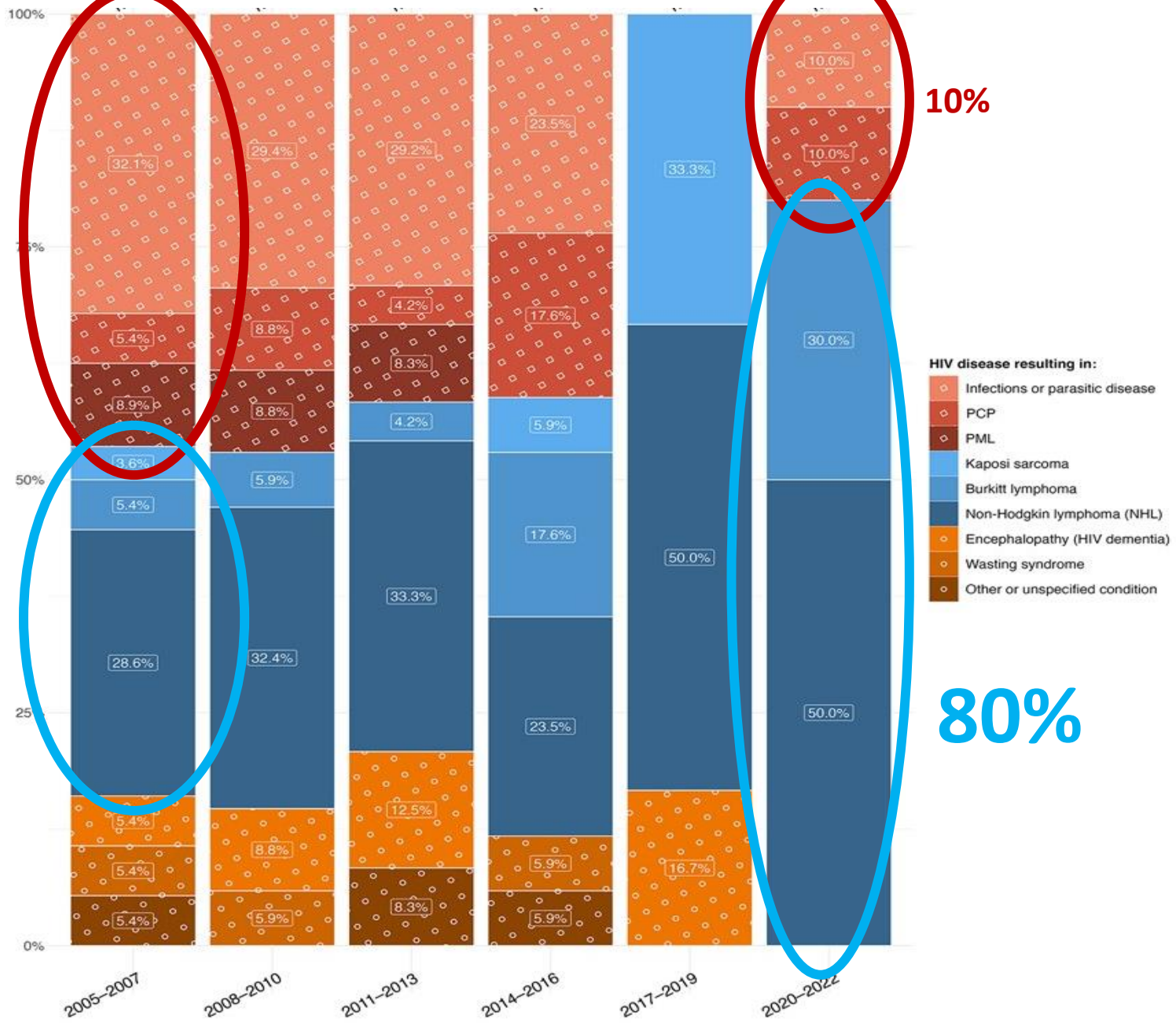
Causes of death in PWH from the Swiss Cohort Study 2005-2022



Non-AIDS defining cancers **doubled** as a **cause of death**

Weber et al. Clin Infect Dis, 2024

Trends in HIV-related Causes of Death 2005-2022



31.1%

37%

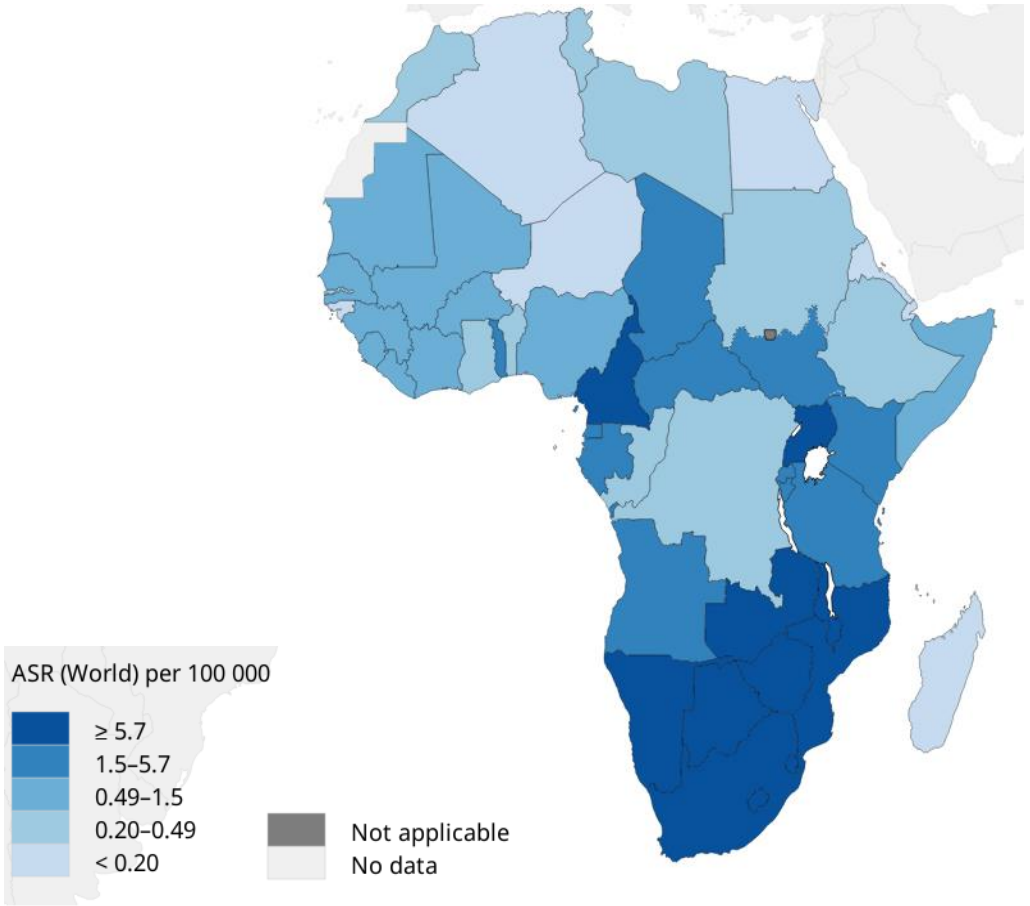
10%

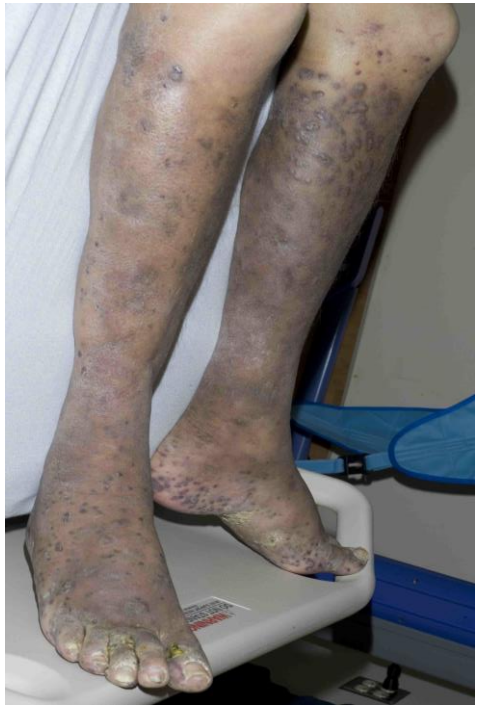
80%

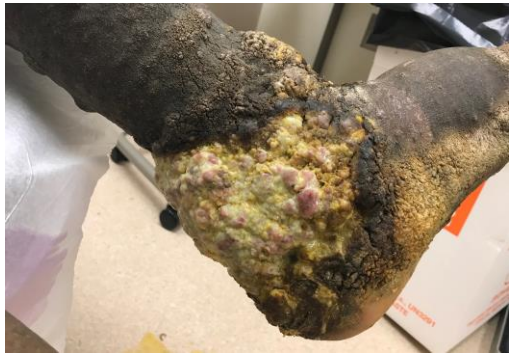
AIDS-defining cancers **doubled**

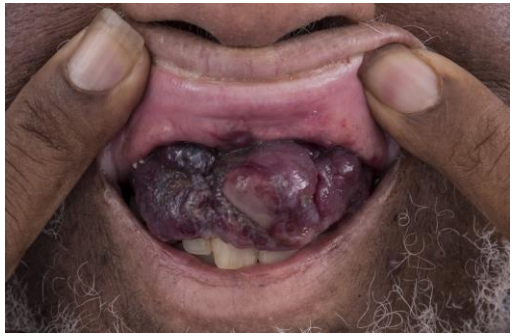
Weber et al. Clin Infect Dis, 2024

Incidence rates of Kaposi sarcoma in 2020





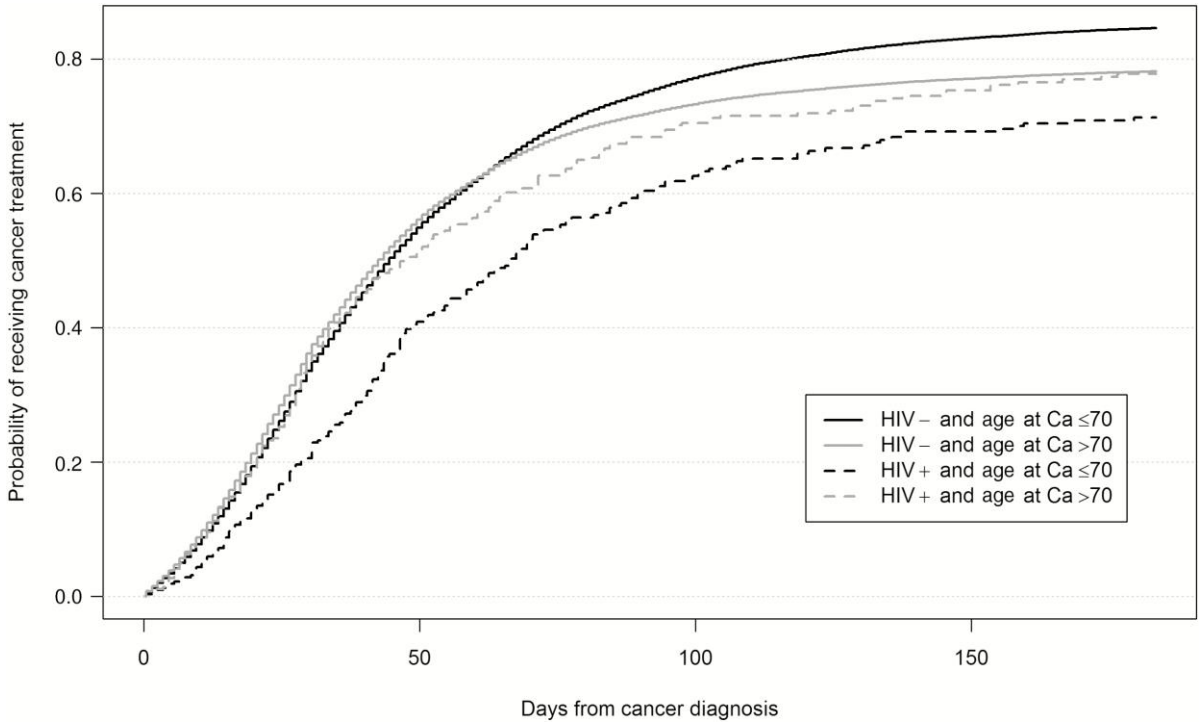




GLOBOCAN 2022

Cancer in People with HIV (PWH)

Probability of receiving cancer (Ca) treatment within 6 months of diagnosis, by age and HIV status.



PLWH experience **more barriers** to cancer care

- More likely to be diagnosed with cancer at advanced stage
- Less likely to receive cancer treatment
- Less likely to be enrolled in cancer clinical trials

Rositch AF et al. Clin Infect Dis. 2018

OUTLINE

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Exemplars of HIV implementation interventions and strategies and potential adaptations for cancer in PWH

Intervention in HIV	Potential Adaptation for Cancer in PWH
Single Tablet Regimens (STRs)	Simplify cancer treatment dosing to improve adherence.
Patient Navigation Services	Provide navigation services to help cancer patients manage healthcare and treatment.
Telemedicine and Digital Health	Expand access to cancer care through telemedicine and digital platforms.
Prevention and Screening Programs	Develop widespread screening and prevention programs for high-risk populations.
Integrated Care Models	Implement multidisciplinary care models for complex cancer treatments.
Community-Based Interventions	Adapt outreach and education programs for cancer prevention and early detection.

Simplifying cancer treatment dosing to improve adherence in PWH

Treatment of advanced AIDS-associated Kaposi sarcoma in resource-limited settings: a three-arm, open-label, randomised, non-inferiority trial

Susan E Krown, Carlee B Moser, Patrick MacPhail, Roy M Matining, Catherine Godfrey, Stephanie R Caruso, Mina C Hosseinipour, Wadzanai Samaneka, Mulinda Nyirenda, Naftali W Busakhala, Fred M Okuku, Josphat Kosgei, Brenda Hoagland, Noluthando Mwelase, Vincent O Oliver, Henriette Burger, Rosie Mngqibisa, Mostafa Nokta, Thomas B Campbell, Margaret Z Borok, for the A5263/AMC066 protocol team

Summary

Background Optimal treatment regimens for AIDS-associated Kaposi sarcoma, a frequent contributor to morbidity and mortality among people with HIV, have not been systematically evaluated in low-income and middle-income countries, where the disease is most common. In this study, we aimed to investigate optimal treatment strategies for advanced stage disease in areas of high prevalence and limited resources.

Methods In this open-label, non-inferiority trial, we enrolled people with HIV and advanced stage AIDS-associated Kaposi sarcoma attending 11 AIDS Clinical Trials Group sites in Brazil, Kenya, Malawi, South Africa, Uganda, and Zimbabwe. Eligible participants were randomly assigned (1:1:1) with a centralised computer system to receive either intravenous bleomycin and vincristine or oral etoposide (the investigational arms), or intravenous paclitaxel (the control arm), together with antiretroviral therapy (ART; combined efavirenz, tenofovir disoproxil fumarate, and emtricitabine). The primary outcome was progression-free survival (PFS) at week 48, using a 15% non-inferiority margin to compare the investigational groups against the active control group. Safety was assessed in all eligible treated study participants. The study was registered with ClinicalTrials.gov, NCT01435018.

Findings 334 participants were enrolled between Oct 1, 2013, and March 8, 2018, when the study was closed early due to inferiority of the bleomycin and vincristine plus ART arm, as per the recommendations of the Data and Safety Monitoring Board (DSMB). The etoposide plus ART arm also closed due to inferiority in March, 2016, following a DSMB recommendation. Week-48 PFS rates were higher in the paclitaxel plus ART arm than in both investigational arms. The absolute differences in PFS were –30% (95% CI –52 to –8) for the comparison of paclitaxel plus ART (week 48 PFS 50%, 32 to 67; n=59) and etoposide plus ART (20%, 6 to 33; n=59), and –20% (–33% to –7%) for the comparison of paclitaxel plus ART (64%, 55 to 73; n=138) and bleomycin and vincristine plus ART (44%, 35 to 53; n=132). Both CIs overlapped the non-inferiority margin. The most common adverse events, in 329 eligible participants who began treatment, were neutropenia (48 [15%]), low serum albumin (33 [10%]), weight loss (29 [9%]), and anaemia (28 [9%]), occurring at similar frequency across treatment arms.

Interpretation Non-inferiority of either investigational intervention was not shown, with paclitaxel plus ART showing superiority to both oral etoposide plus ART and bleomycin and vincristine plus ART, supporting its use in treating advanced AIDS-associated Kaposi sarcoma in resource-limited settings.

Single agent paclitaxel **superior** to combined bleomycin + vincristine for **HIV-associated Kaposi sarcoma** in LMIC

Could adapt HIV strategies that implemented and scaled single drug regimens

Krown et al. Lancet 2020.

Simplifying cancer treatment dosing to improve adherence in PWH

ELSEVIER

Blood 142 (2023) 4467–4469

The 65th ASH Annual Meeting Abstracts

POSTER ABSTRACTS

626.AGGRESSIVE LYMPHOMAS: PROSPECTIVE THERAPEUTIC TRIALS

A Phase 1 Study of Subcutaneous Rituximab Hyaluronidase Combined with Local Standard-of-Care Chemotherapy for the Treatment of Diffuse Large B-Cell Lymphoma in Uganda

Henry Ddugnu, MD PhD[1], Kelvin Mubiru, MS[2], Scott V Adams, PhD[3], Jacqueline Asea, MSN[2], Joyce Kambugu, MBChB, MMED[1], Rosemary Namagembe, BSN[2], Prossy Namuli, BSN[2], Jackson Orem, MBChB, PhD[1], Camille Puronen, MDMPH[4], Thomas S. Uldrick, MDMS[3], Edus H Warren, MD PhD[5,6], Manoj P Menon, MD[5,6]

[1]Uganda Cancer Institute, Kampala, Uganda
[2]Hutchinson Center Research Institute of Uganda., Kampala, Uganda
[3]Fred Hutchinson Cancer Center, Seattle
[4]University of Washington, Seattle
[5]Fred Hutchinson Cancer Center, Seattle, WA
[6]Division of Hematology and Oncology, University of Washington, Seattle, WA

Background: Patients with Diffuse Large B-Cell Lymphoma (DLBCL) who are treated in low-resource settings have inferior outcomes compared to those in high-resource settings, with 12-month overall survival (OS) rates typically under 50% with standard chemotherapy (Gopal et al. [PMID:26934054]). Rituximab, an anti-CD20 monoclonal antibody, when combined with chemotherapy, improves OS for DLBCL and is the standard of care for patients with CD20+ DLBCL in resource-rich settings. Despite receiving FDA approval over 25 years ago and its subsequent inclusion in the World Health Organization's List of Essential Medicines, IV rituximab is not readily available or routinely used in sub-Saharan Africa (SSA). This is in part due to

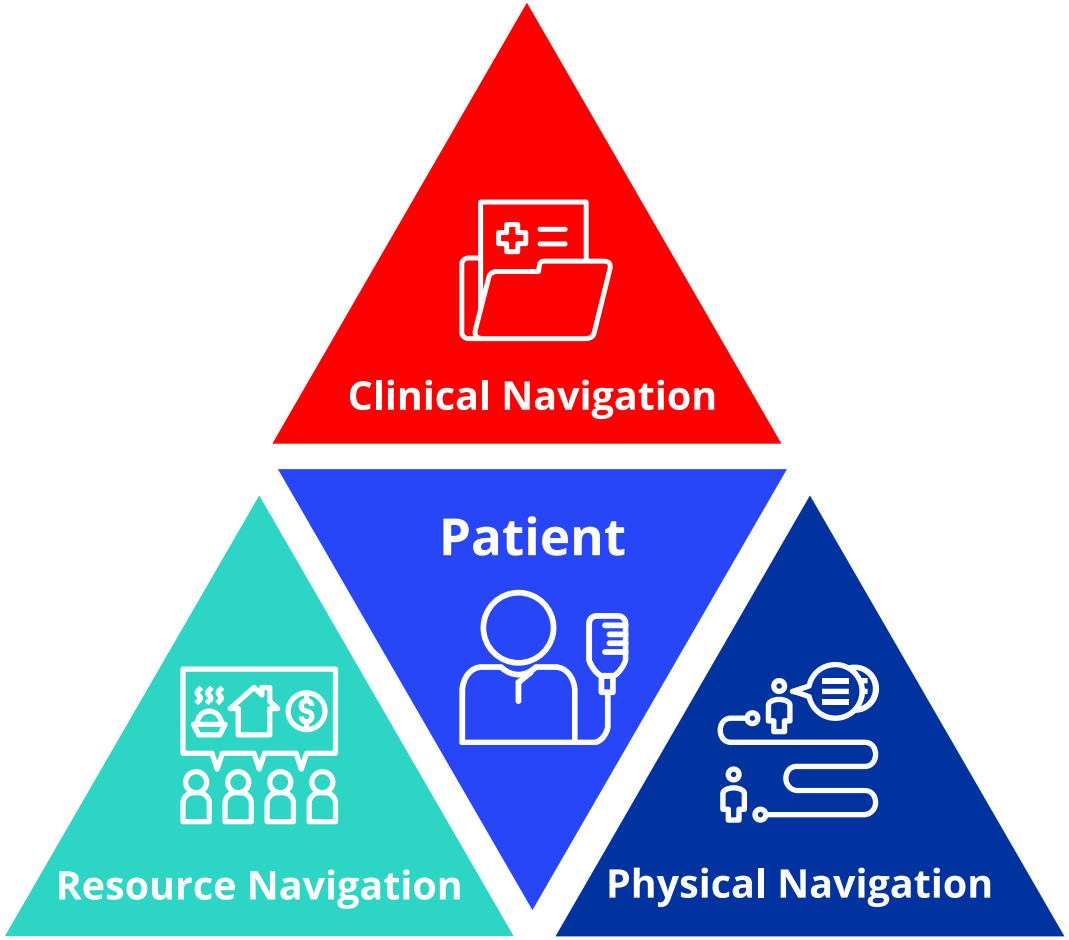
Subcutaneous rituximab is safe and efficacious and **precludes need for IV infusions** for **Lymphoma** treatment in **Uganda**

Could adapt HIV strategies that are implementing injectable PrEP and ART

Ddungu et al. Blood 2023.

Patient Navigation Services

American Cancer Society Patient Navigation Program in Kenya

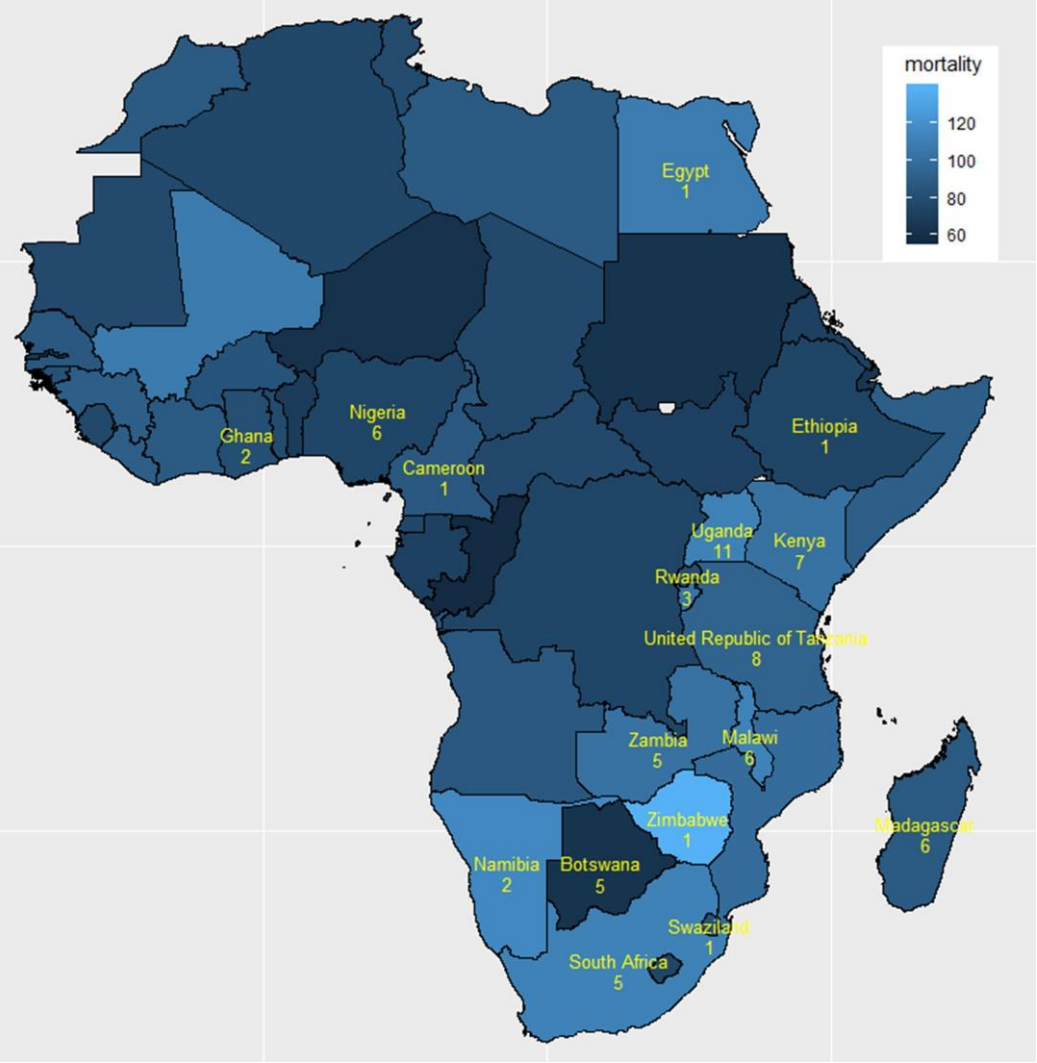


The American Cancer Society BEACON Initiative supports health systems in LMICs to design, implement, and sustain **cancer patient navigation** programs.

Could adapt HIV strategies for engagement in care that have implemented and scaled patient navigation

Telemedicine and Digital Health

Digital Health Pilots in Cancer Programs



Most digital health programs for cancer are isolated pilots

Reach should be extended to PWH with cancer by adapting from successful HIV digital health programs and leveraging impl sci to address barriers to spread.

Kabukye et al. Int J Med Inf 2022.

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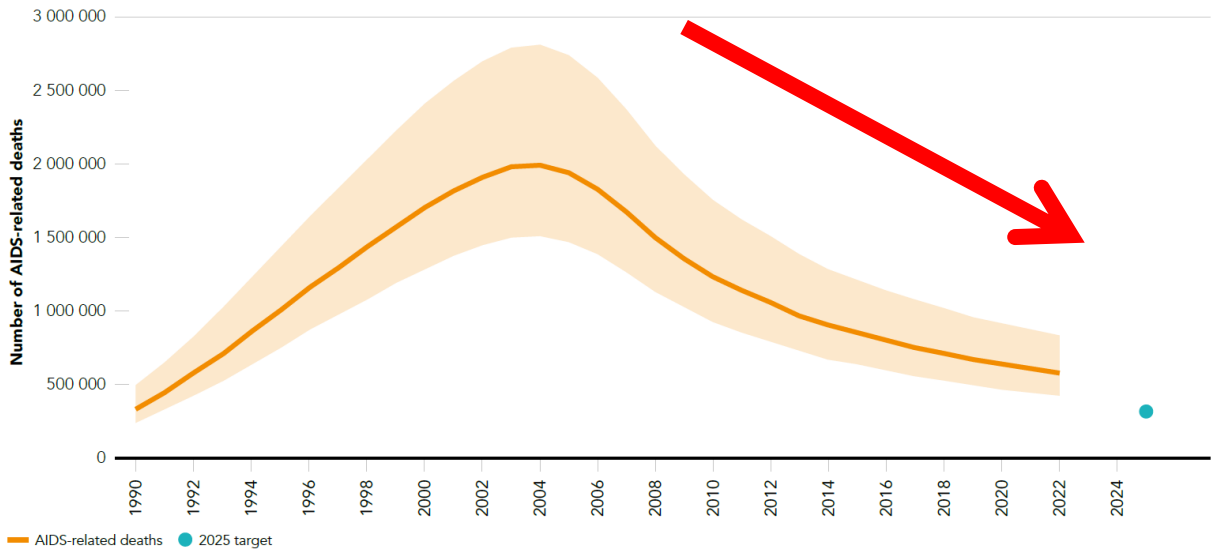
> *"We should put out the fire while it is still small." – Kenyan proverb*

1. Cancer-related deaths are on the rise

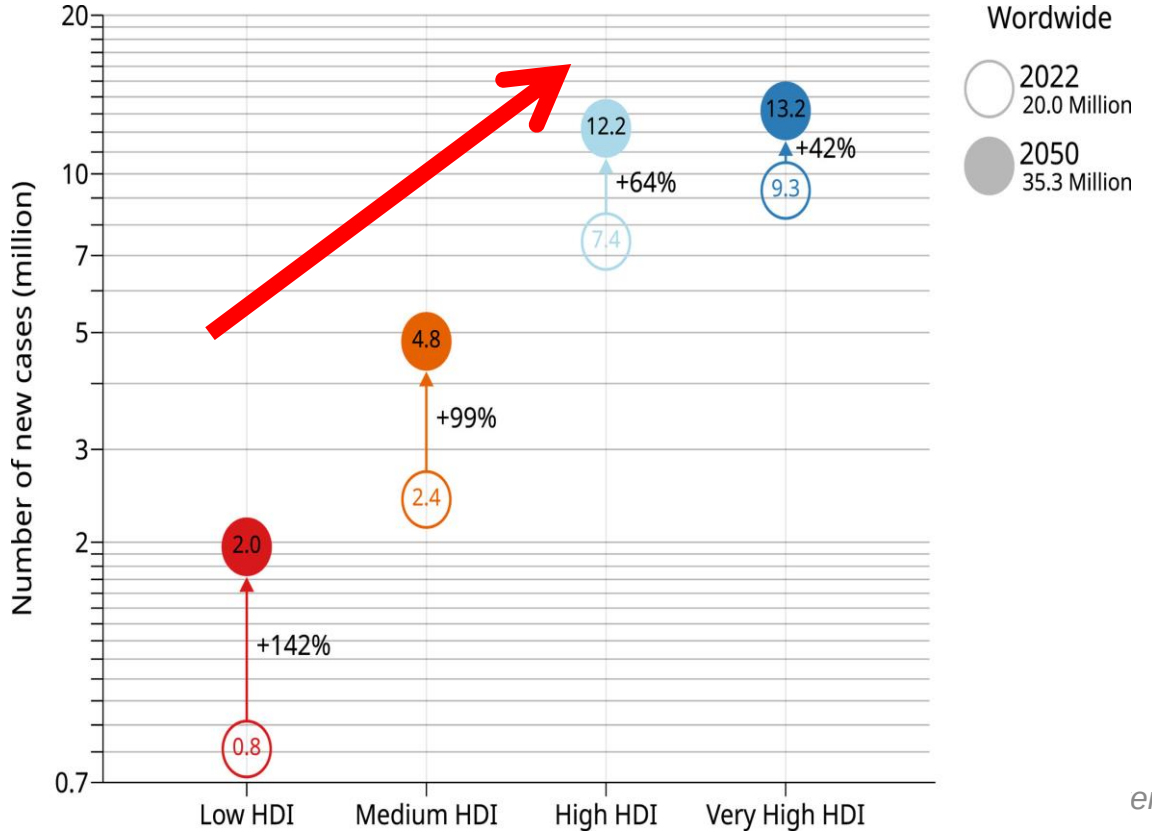
HIV-related deaths

Figure 12.2 Number of AIDS-related deaths, global, 1990–2022, and 2025 target



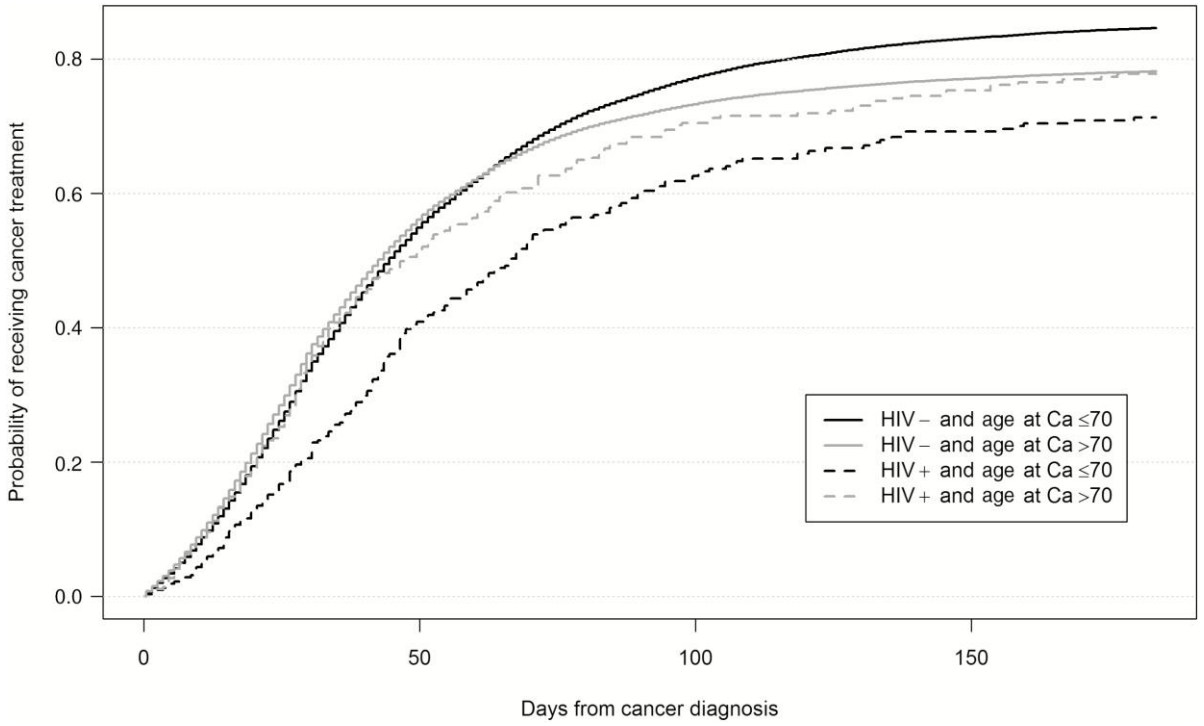
Source: UNAIDS epidemiological estimates, 2023 (https://aidsinfo.unaids.org/).

Cancer-related deaths



2. PWH Get More Cancer and Experience More Barriers

Probability of receiving cancer (Ca) treatment within 6 months of diagnosis, by age and HIV status.



PWH are more likely to get cancer

PWH with cancer experience **more barriers** to cancer care

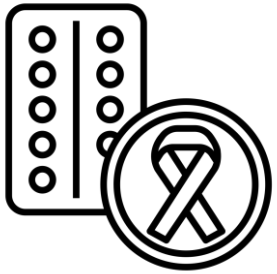
Rositch AF et al. Clin Infect Dis. 2018

3. Cancer is a Leading Cause of Death in PWH

Cancer is a leading cause of death in PWH

Weber et al. Clin Infect Dis, 2024

4. Opportunities Exist for Successful HIV implementation strategies to be adapted to extend the reach of services for PWH with cancer



Simplifying cancer treatment for PWH

Patient navigation services for PWH with cancer

Digital Health and Telemedicine

Thank you!

Washington University

- Elvin Geng
- Betsy Abente

Kenya Medical Research Institute (KEMRI)

- Elizabeth Bukusi
- Eliud Akama
- Fridah Adhiambo