



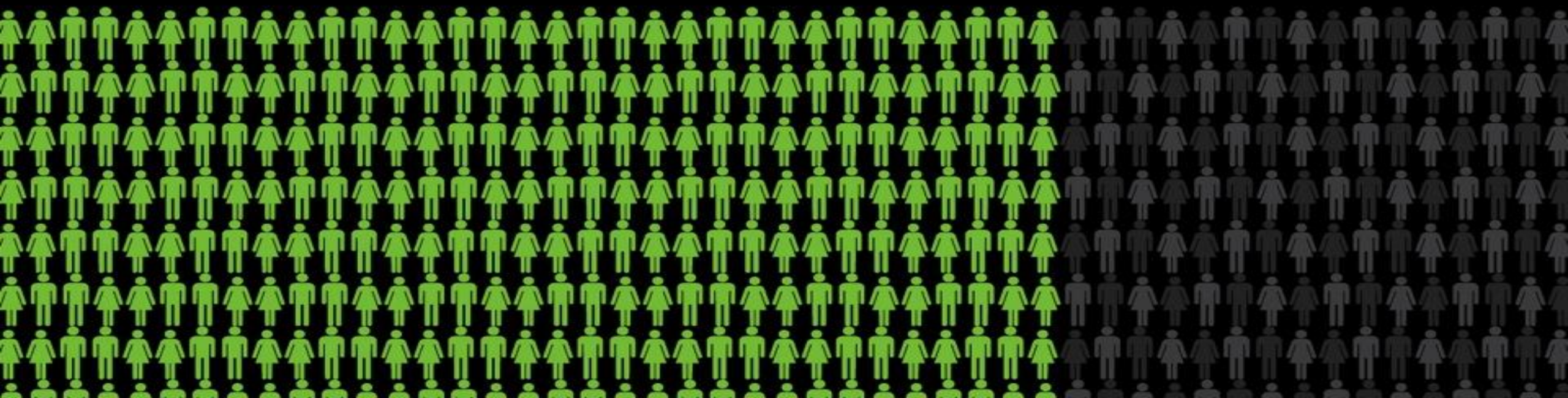
Global Oncology: Impact and Updates

**Manoj Menon
University of Washington
Fred Hutchinson Cancer Center**

GLOBAL BURDEN OF CANCER

66%

of new cancer
cases will be in
developing countries



GLOBAL BURDEN OF CANCER

66%

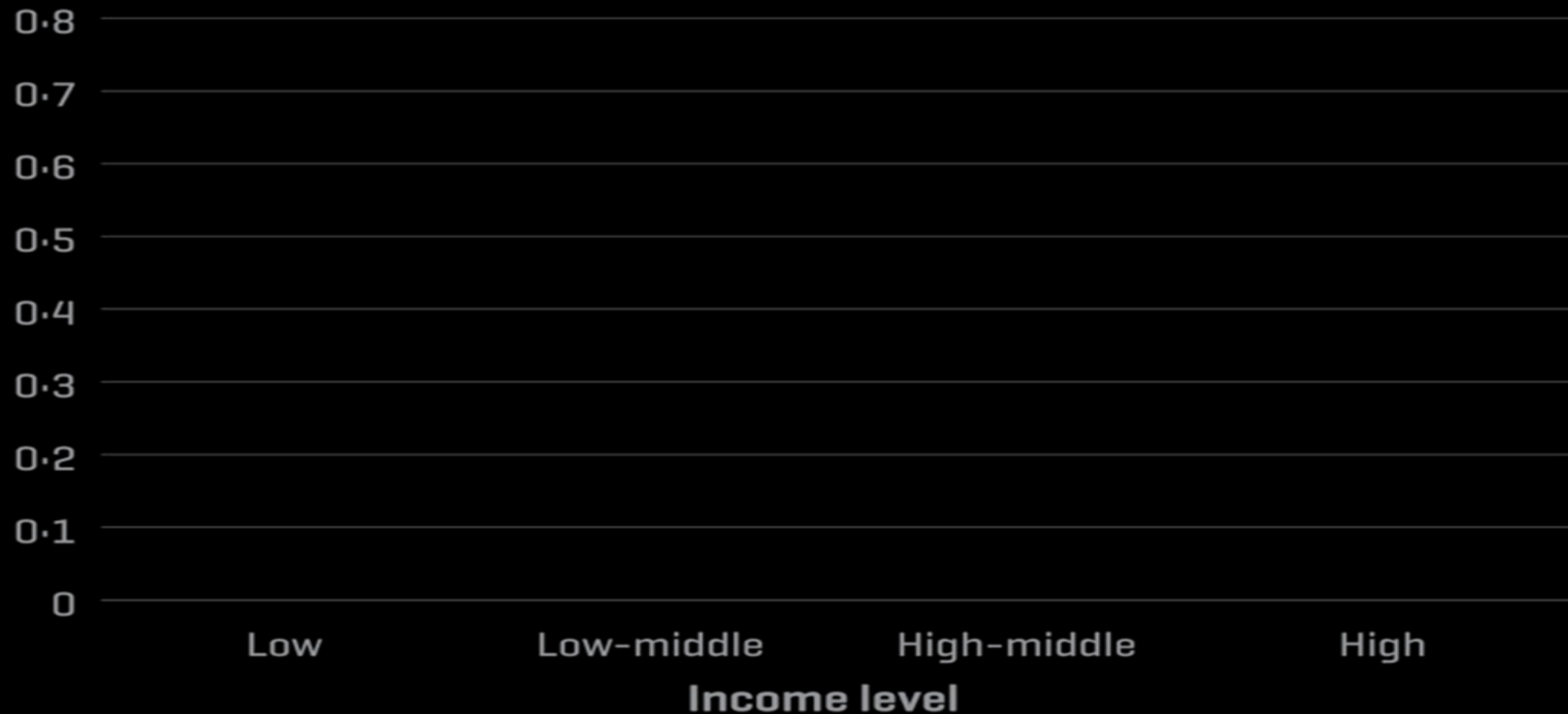
of new cancer cases will be in developing countries

80%

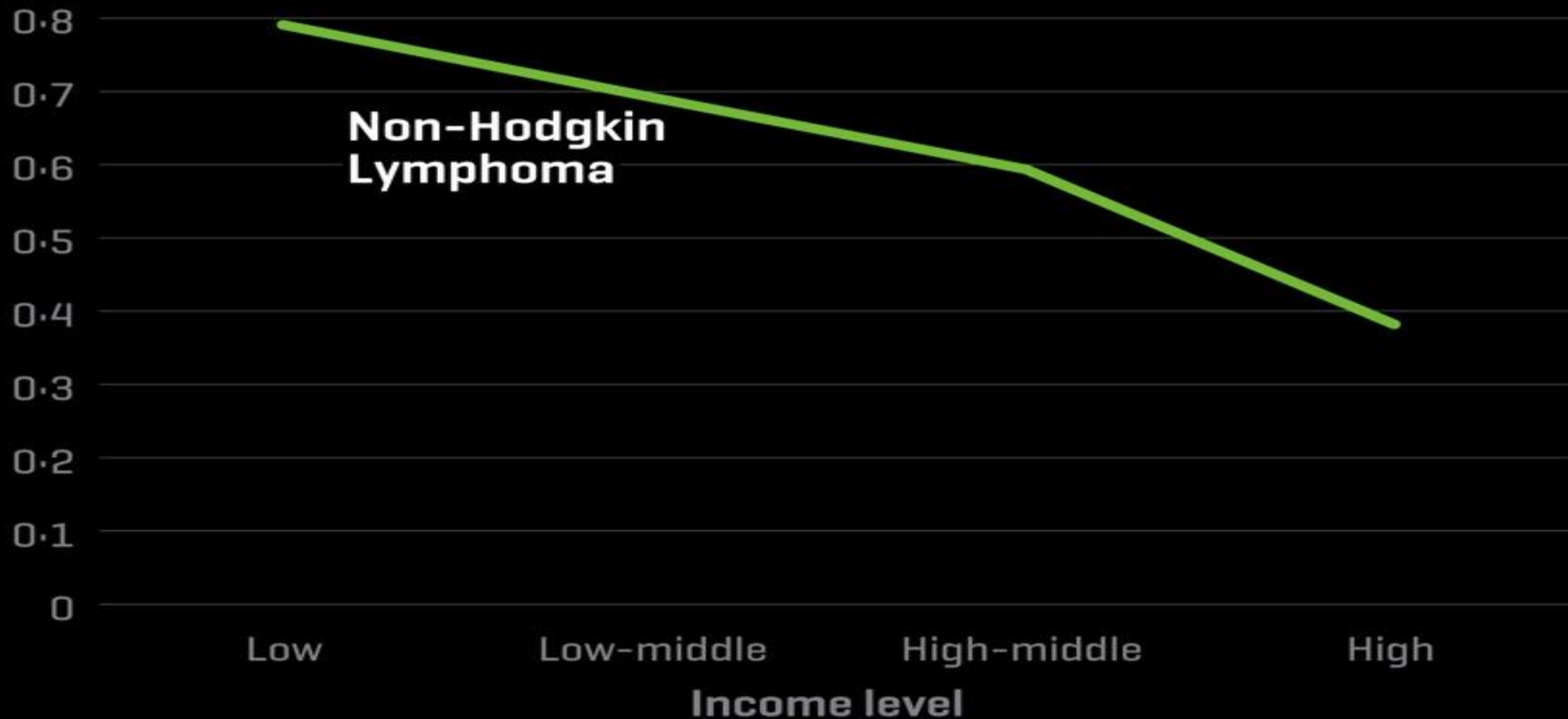
of those cases will result in death



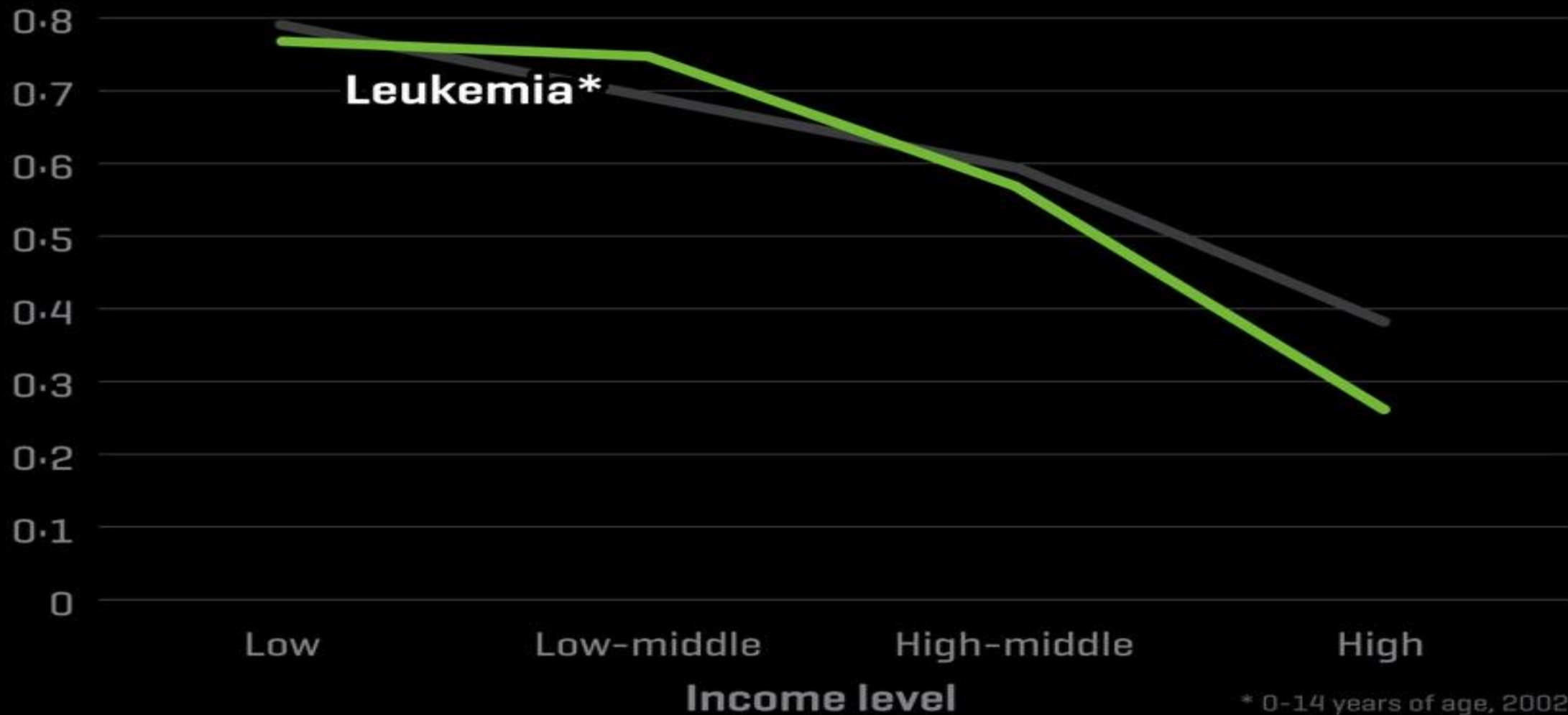
THE CANCER DIVIDE



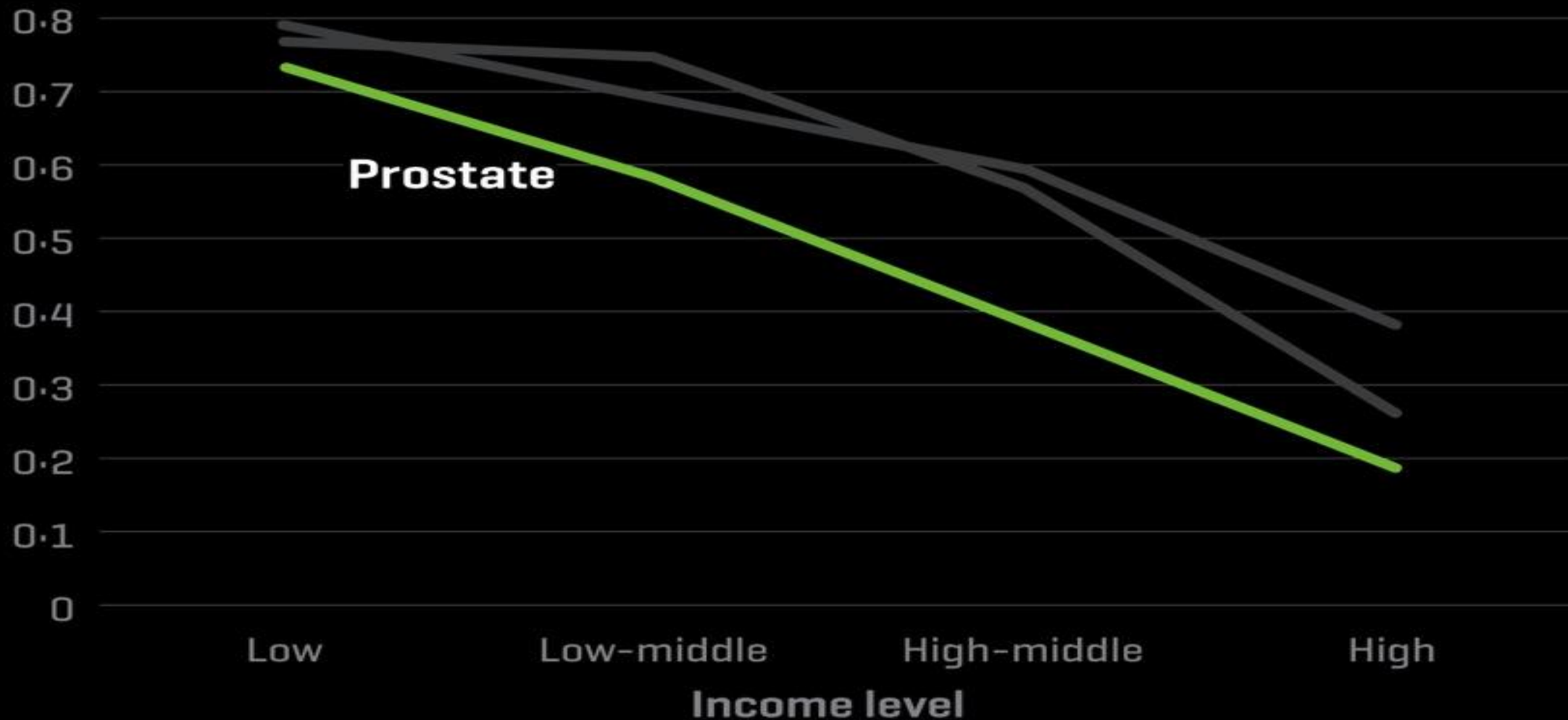
THE CANCER DIVIDE



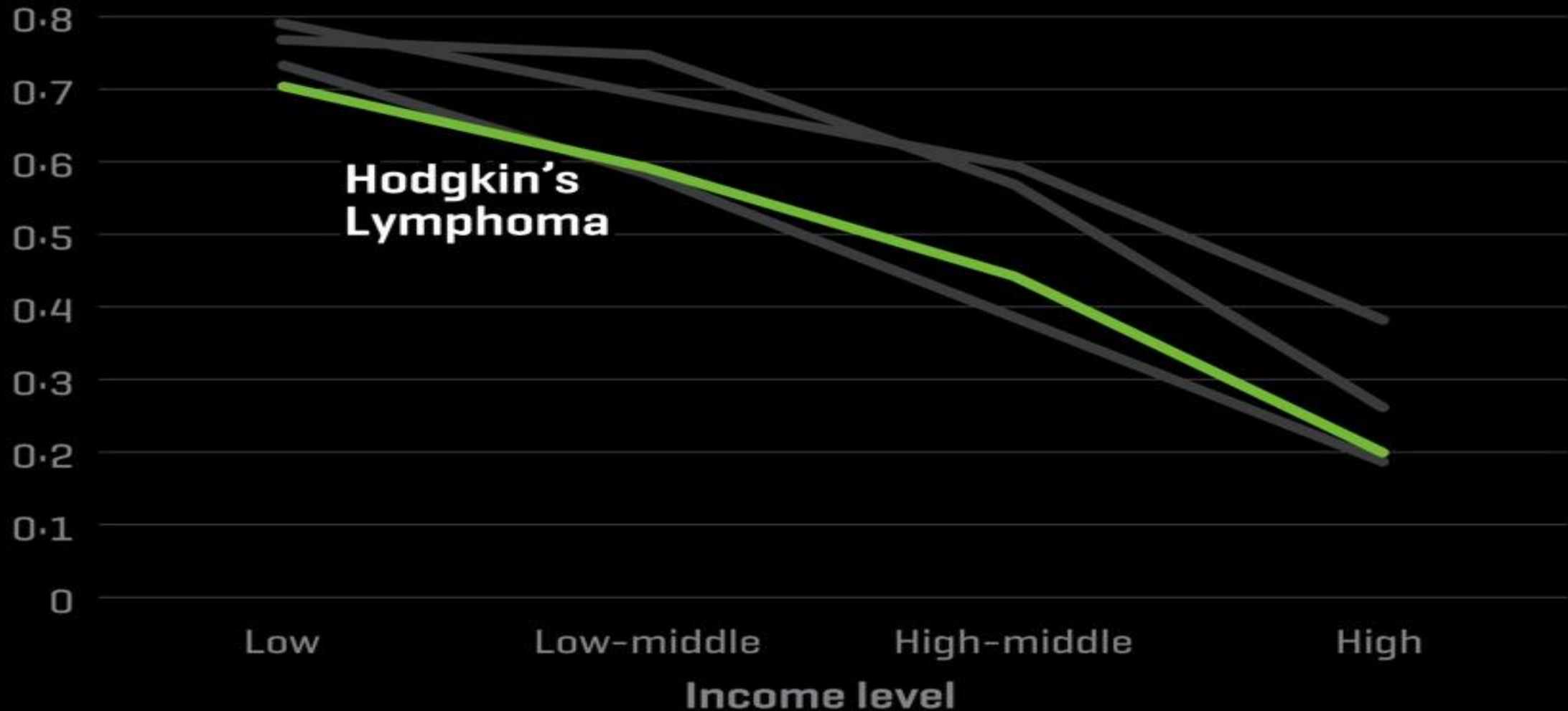
THE CANCER DIVIDE



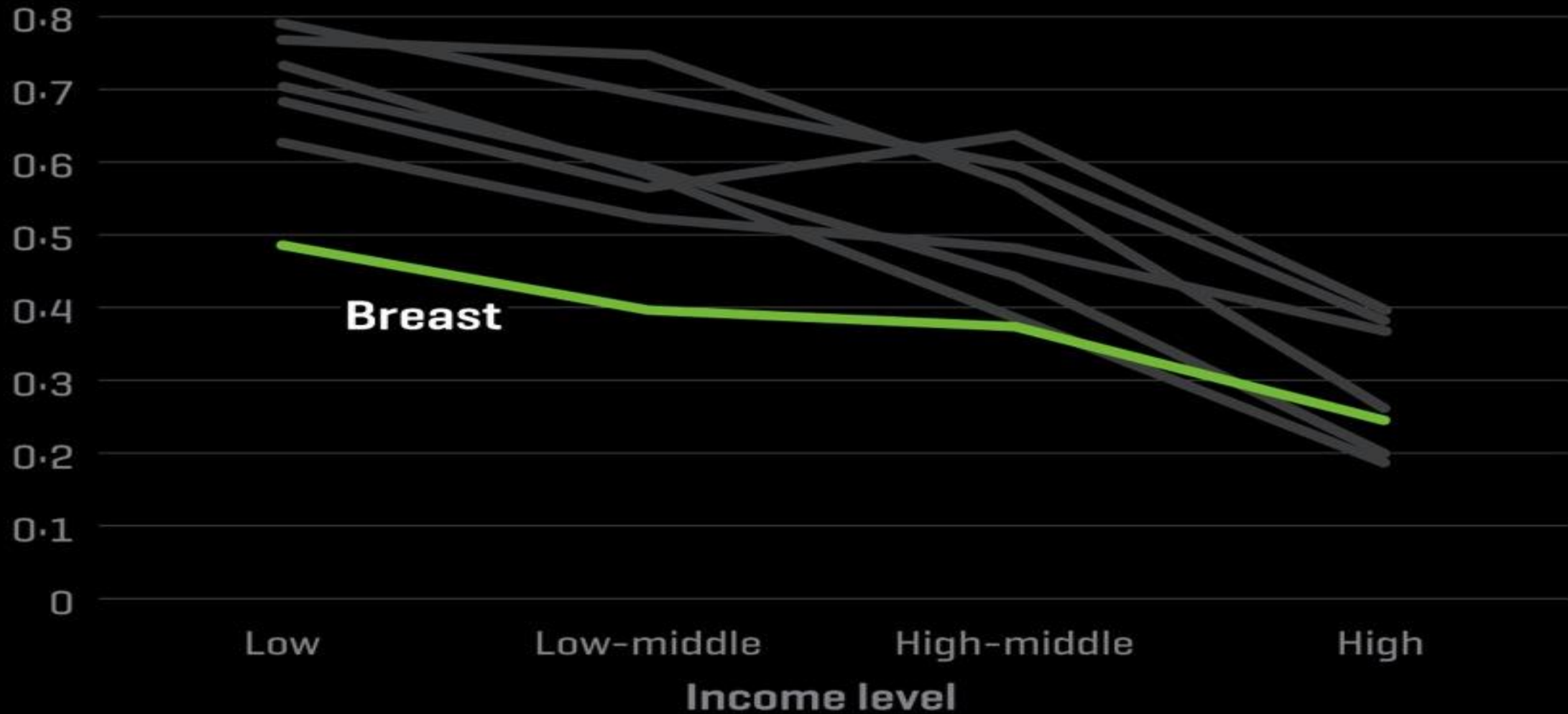
THE CANCER DIVIDE



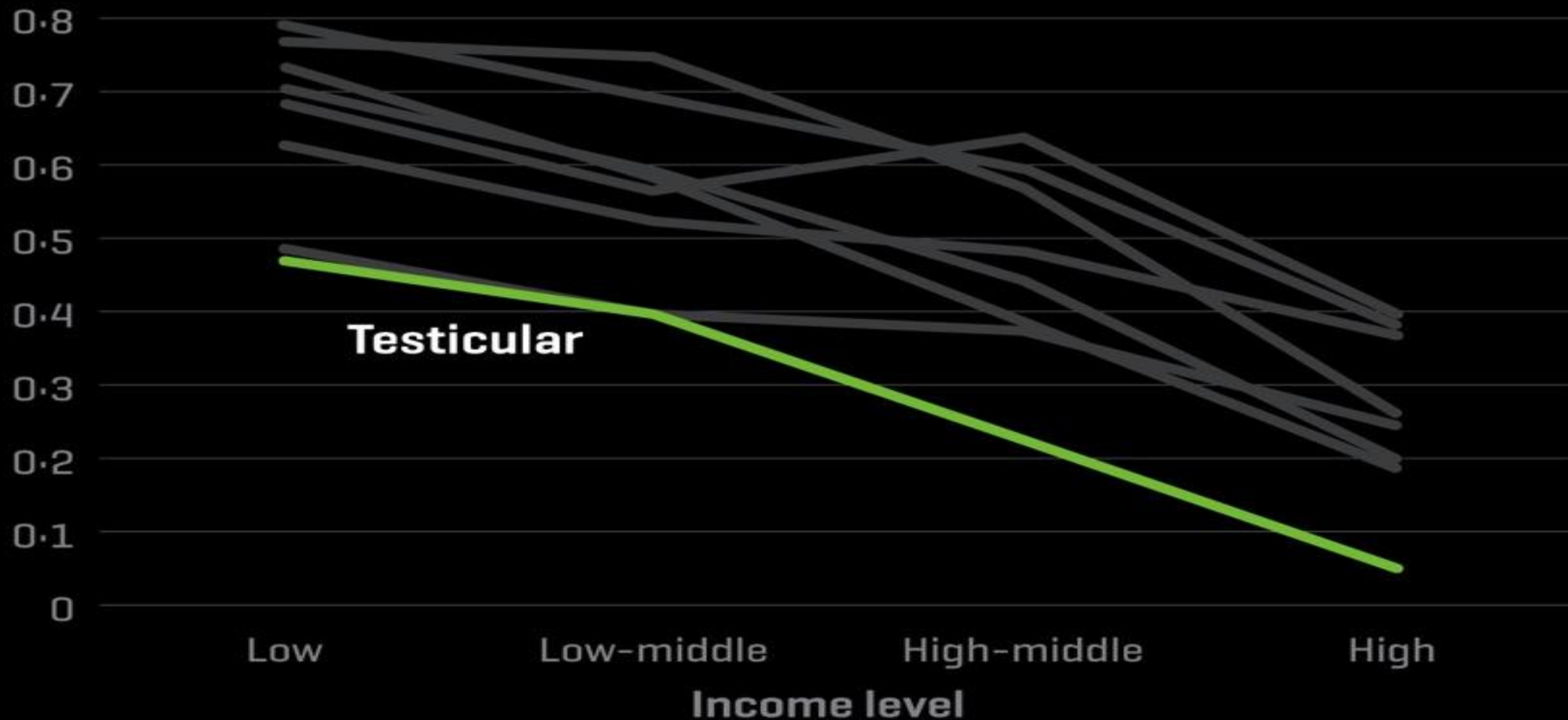
THE CANCER DIVIDE



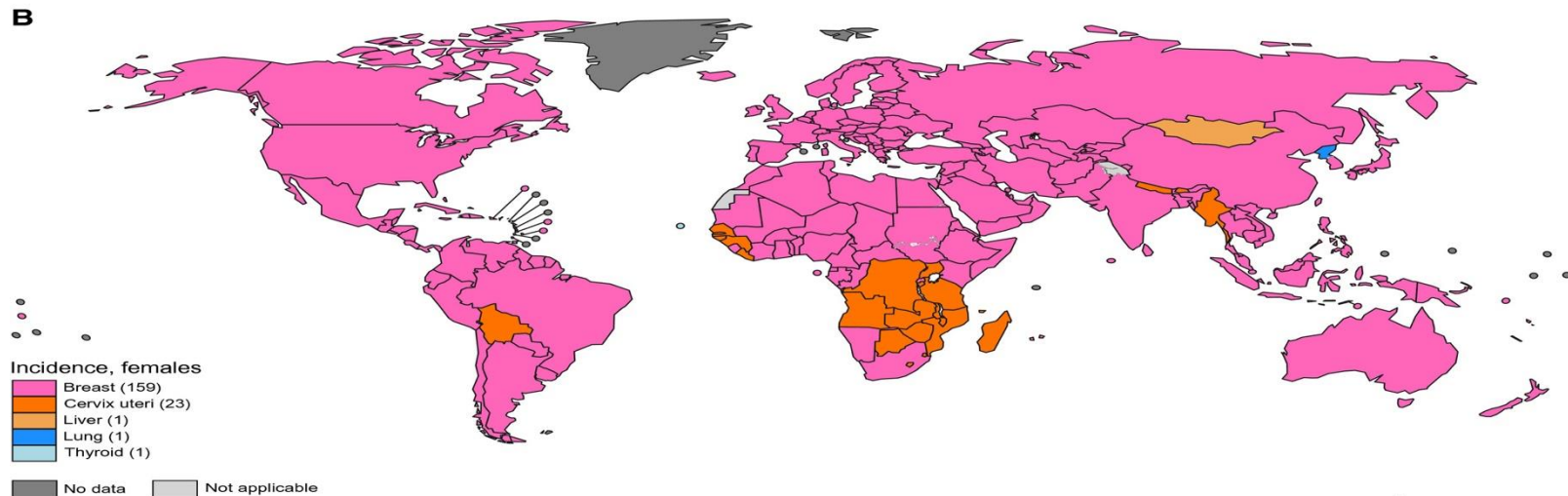
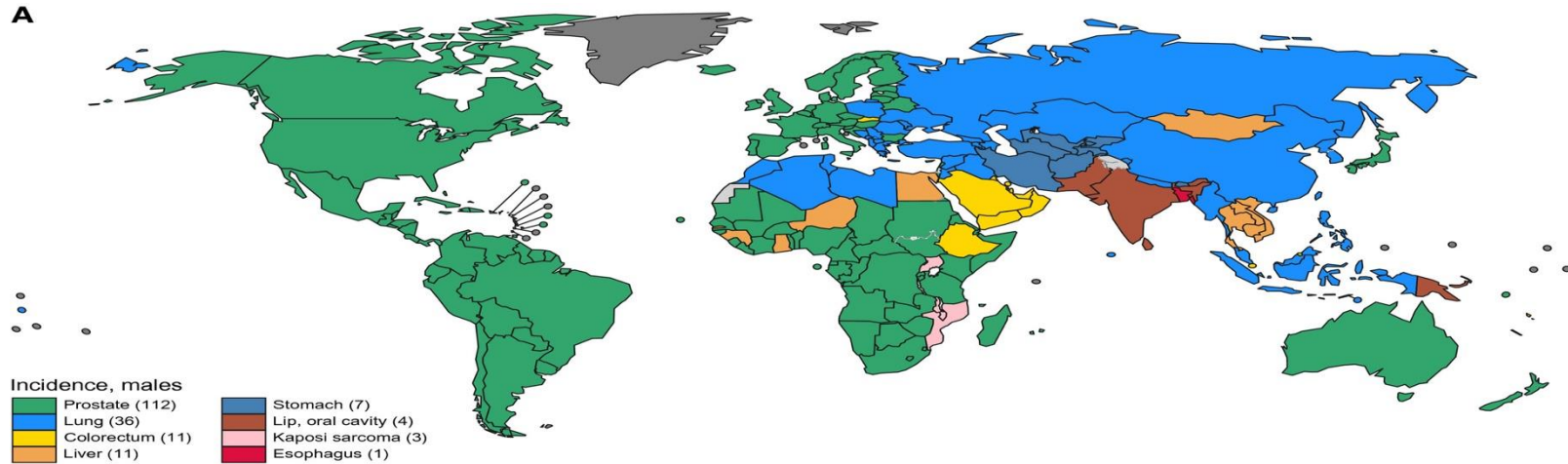
THE CANCER DIVIDE



THE CANCER DIVIDE



Cancer Incidence, 2020

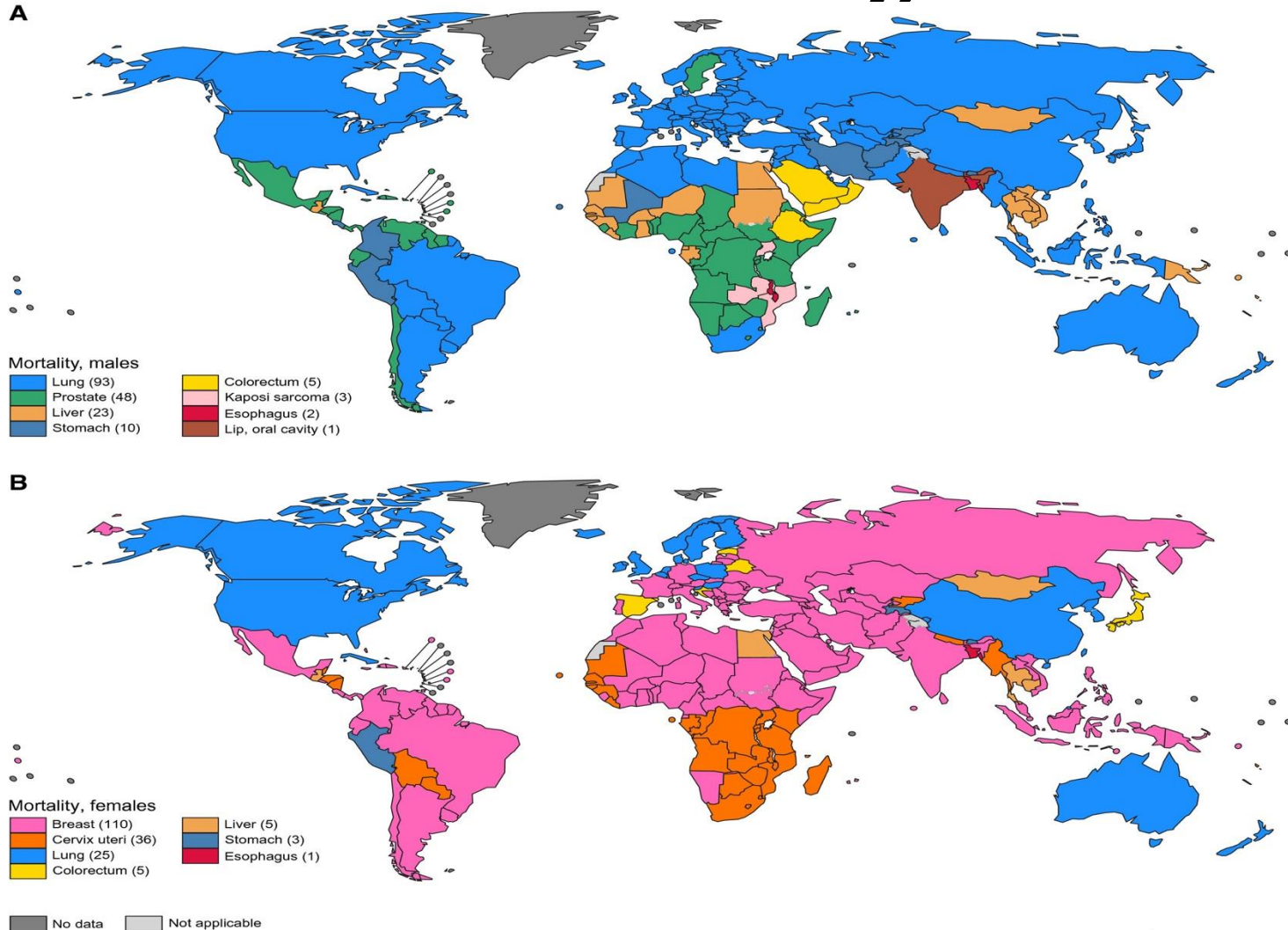


The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data source: Globocan 2020
Map production: IARC
World Health Organization


World Health Organization
 © WHO 2020. All rights reserved

Cancer Mortality, 2020

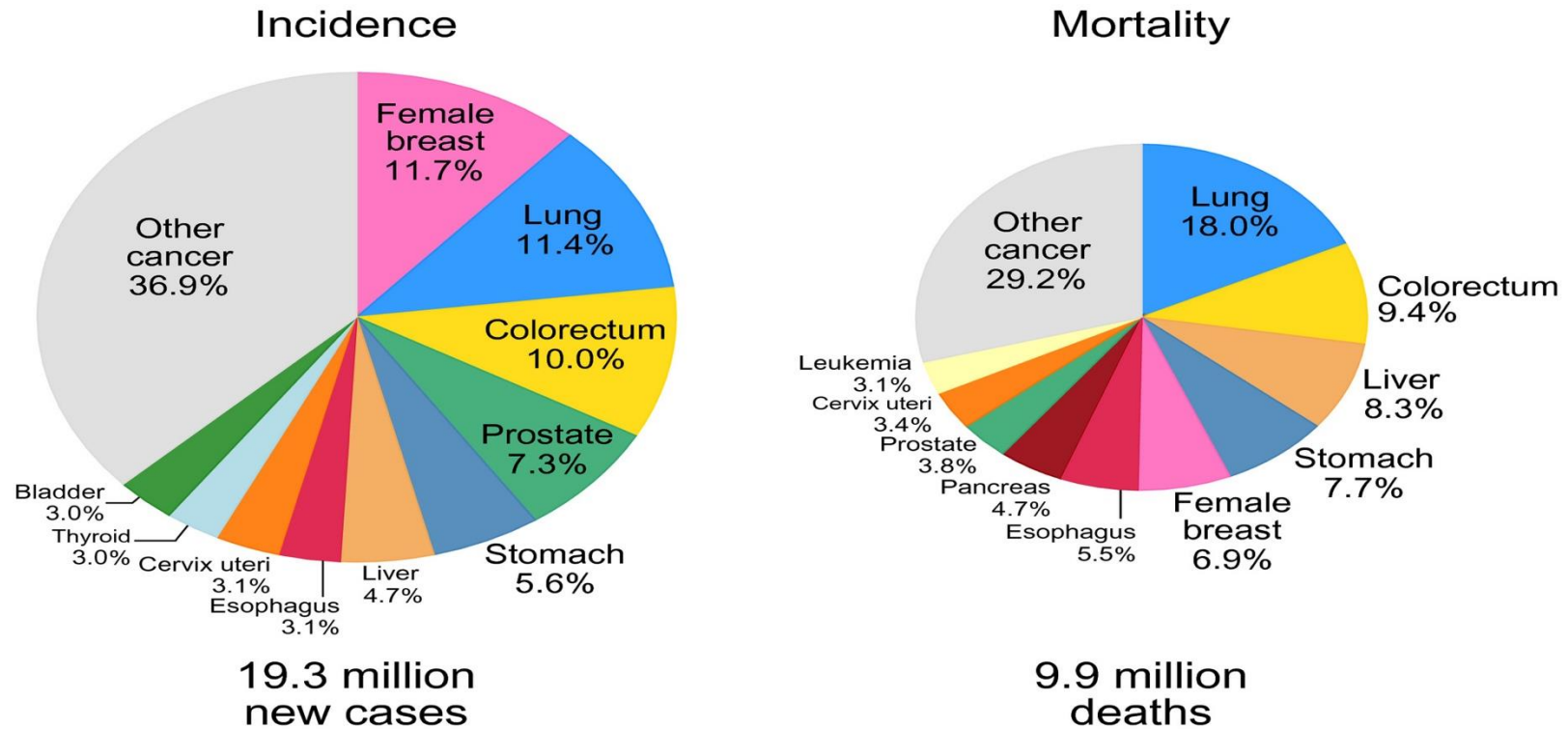


The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

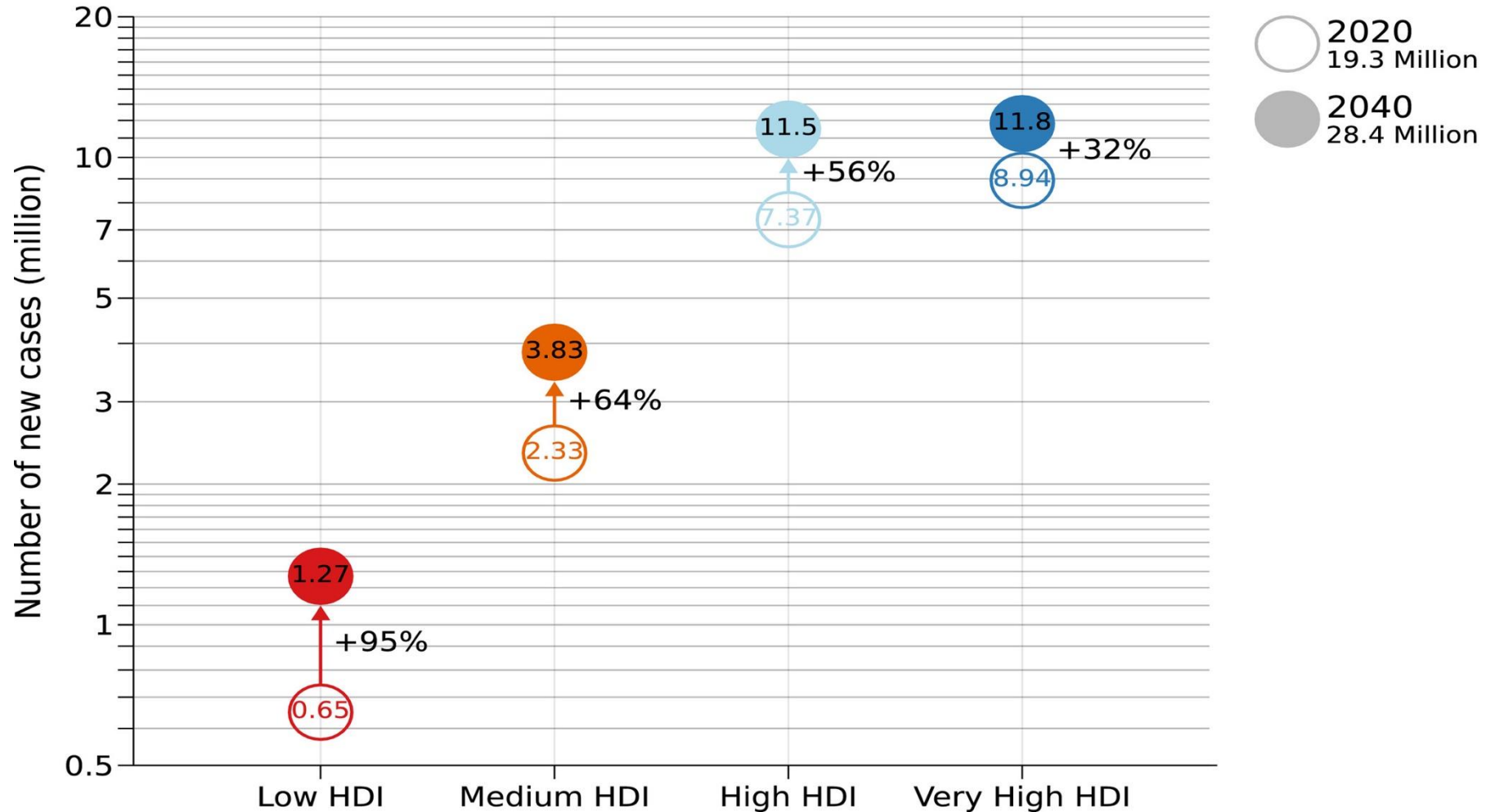
Data source: Globocan 2020
 Map production: IARC
 World Health Organization



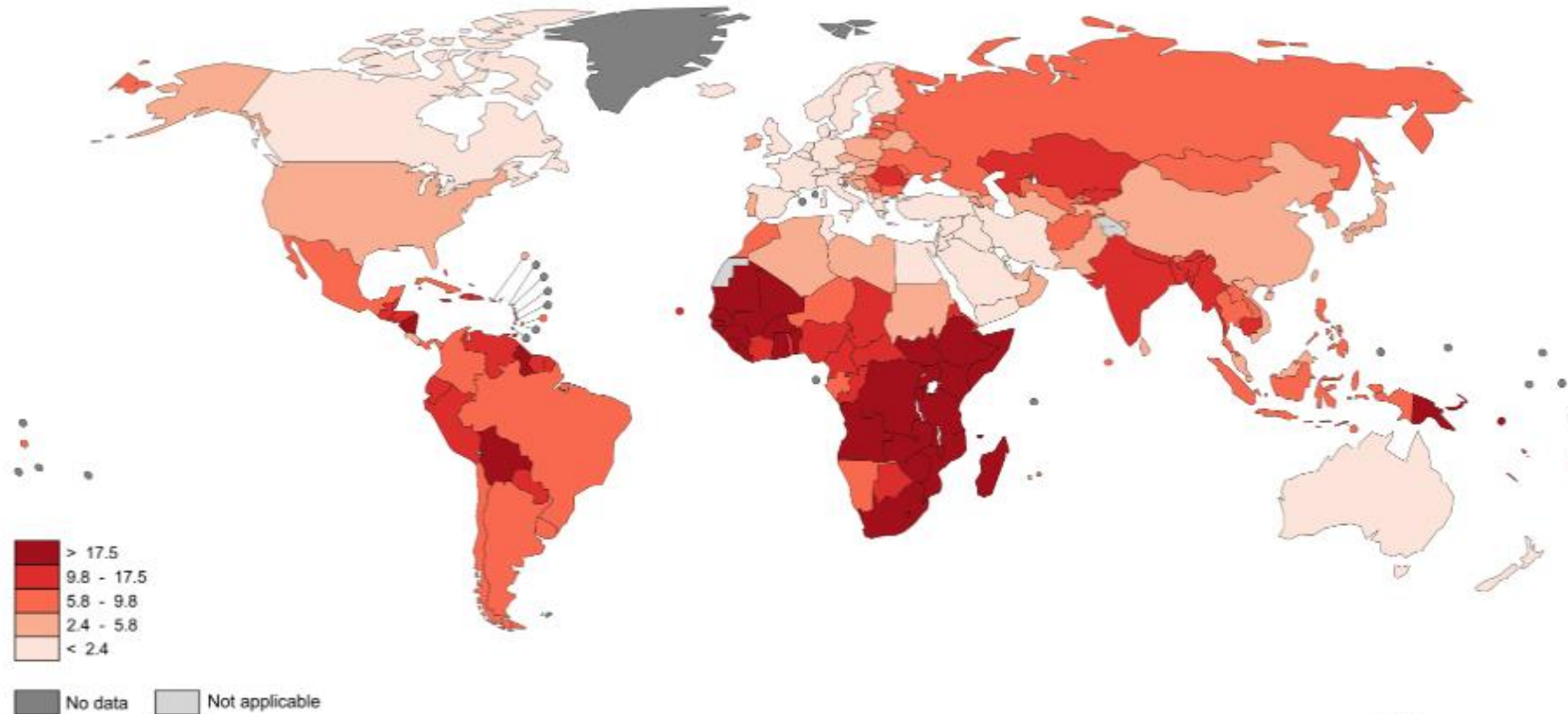
Distribution of Cases and Deaths for the Top 10 Most Common Cancers in 2020



Cancer Prediction (2020-2040)



Cervical Cancer Mortality



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data source: GLOBOCAN 2012
Map production: IARC
World Health Organization



Estimated age-standardised rates (World) per 100,000

Countries with HPV Vaccine in Immunization Program, 2014



National HPV immunization coverage

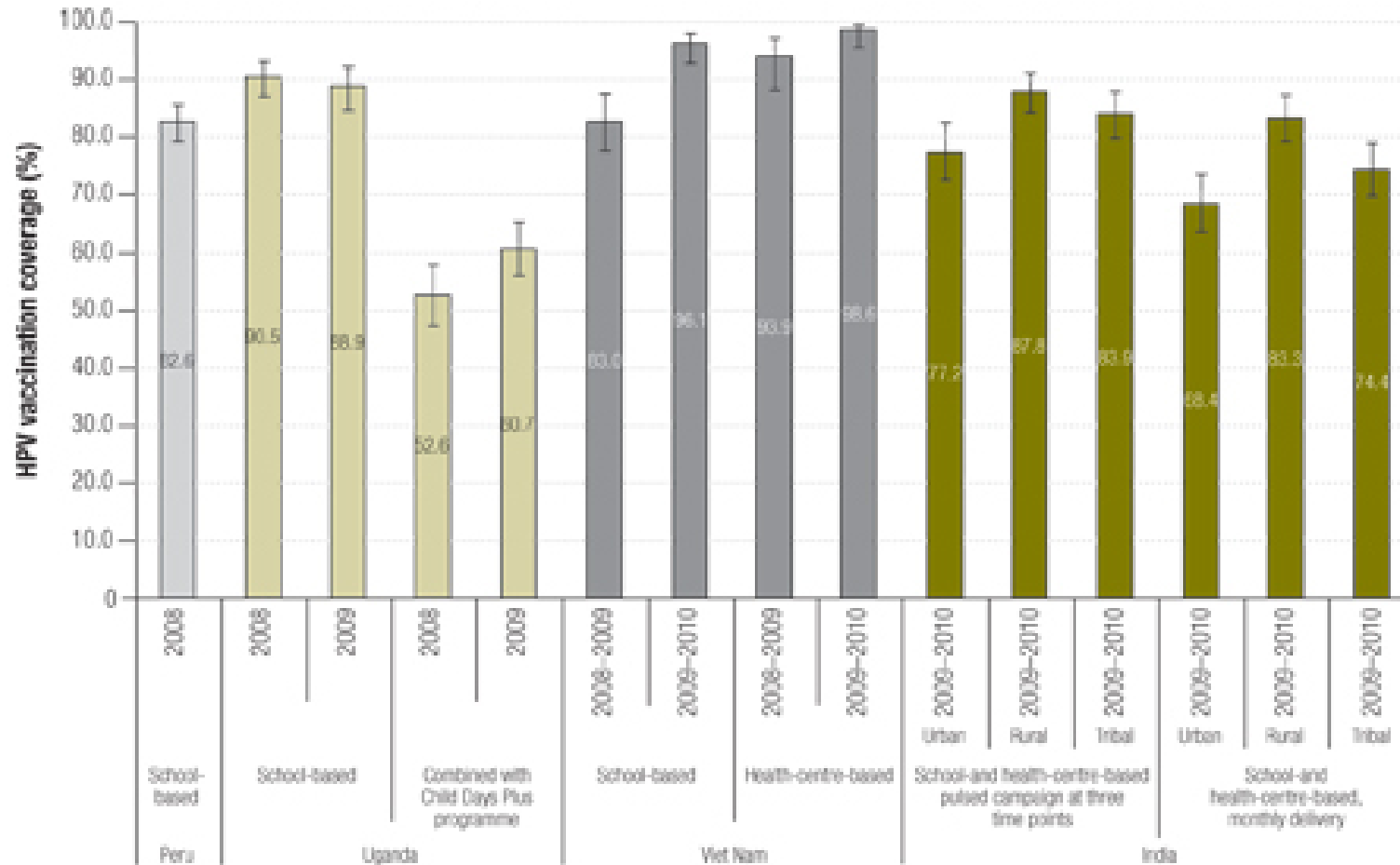
2014



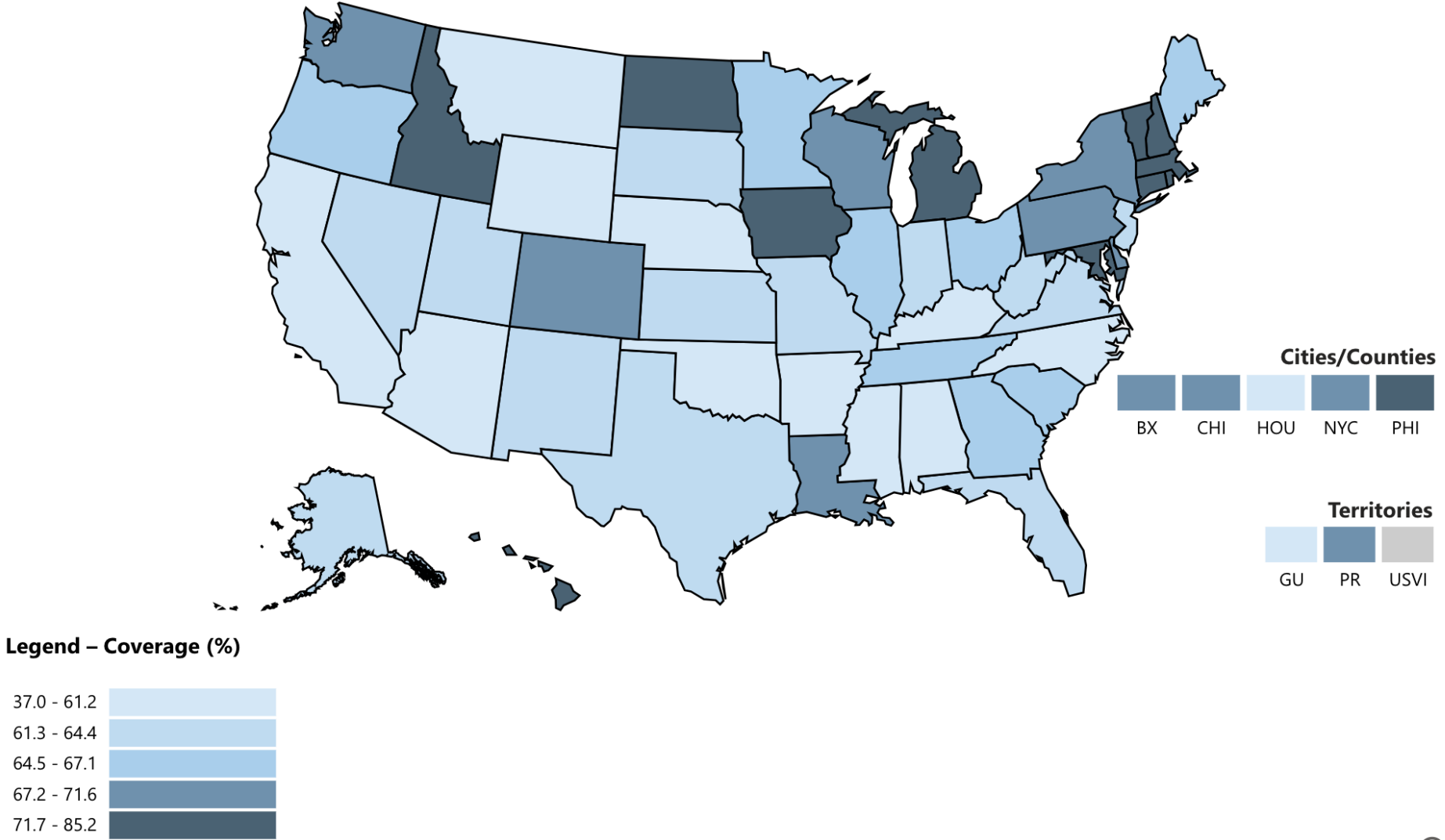
2020



HPV Vaccination Coverage in Demonstration Projects: India, Peru, Uganda, Vietnam



Up-to-Date HPV Vaccination Coverage among Females Age 13-17 Years, 2022, National Immunization Survey-Teen



Efficacy of Single-Dose Human Papillomavirus Vaccination among Young African Women

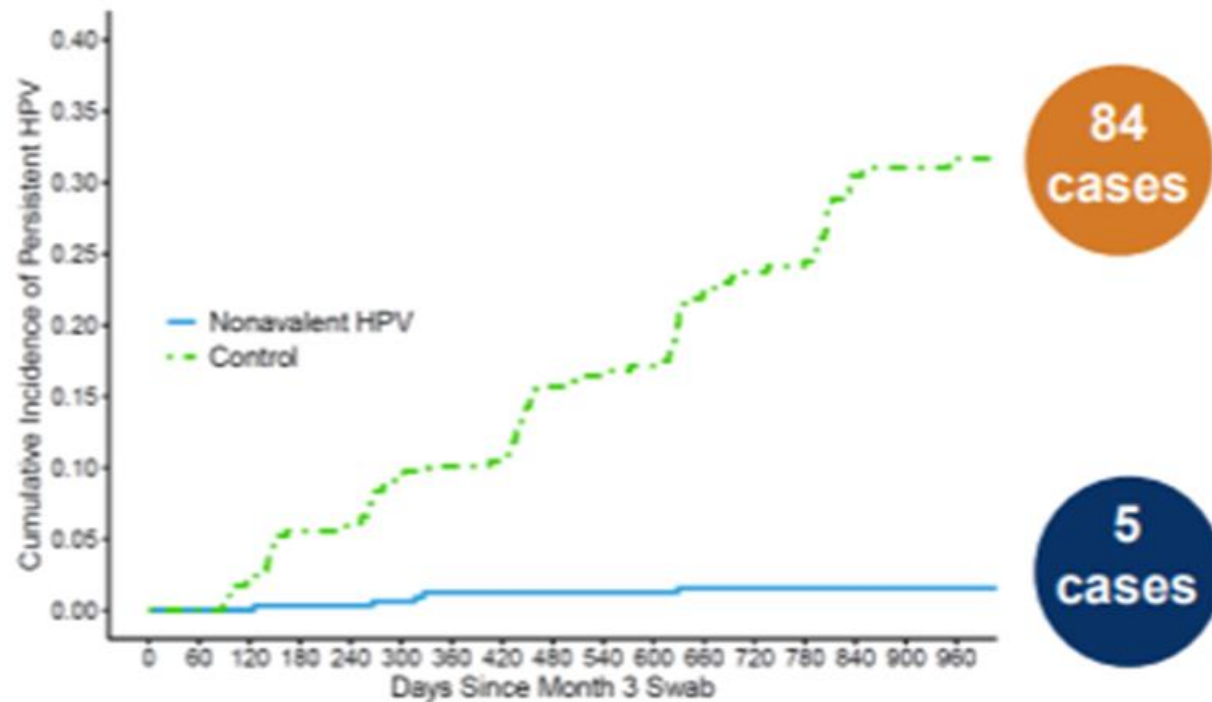
NEJM
Evidence

nature medicine




Article | [Open access](#) | [Published: 04 December 2023](#)

Durability of single-dose HPV vaccination in young Kenyan women: randomized controlled trial 3-year results



MEETING ABSTRACTS | [VOLUME 10, SPECIAL ISSUE, S30, MARCH 2022](#)

 [Download Full Issue](#)

Reciprocal innovation: a new approach to equitable and mutually beneficial global health research and partnerships

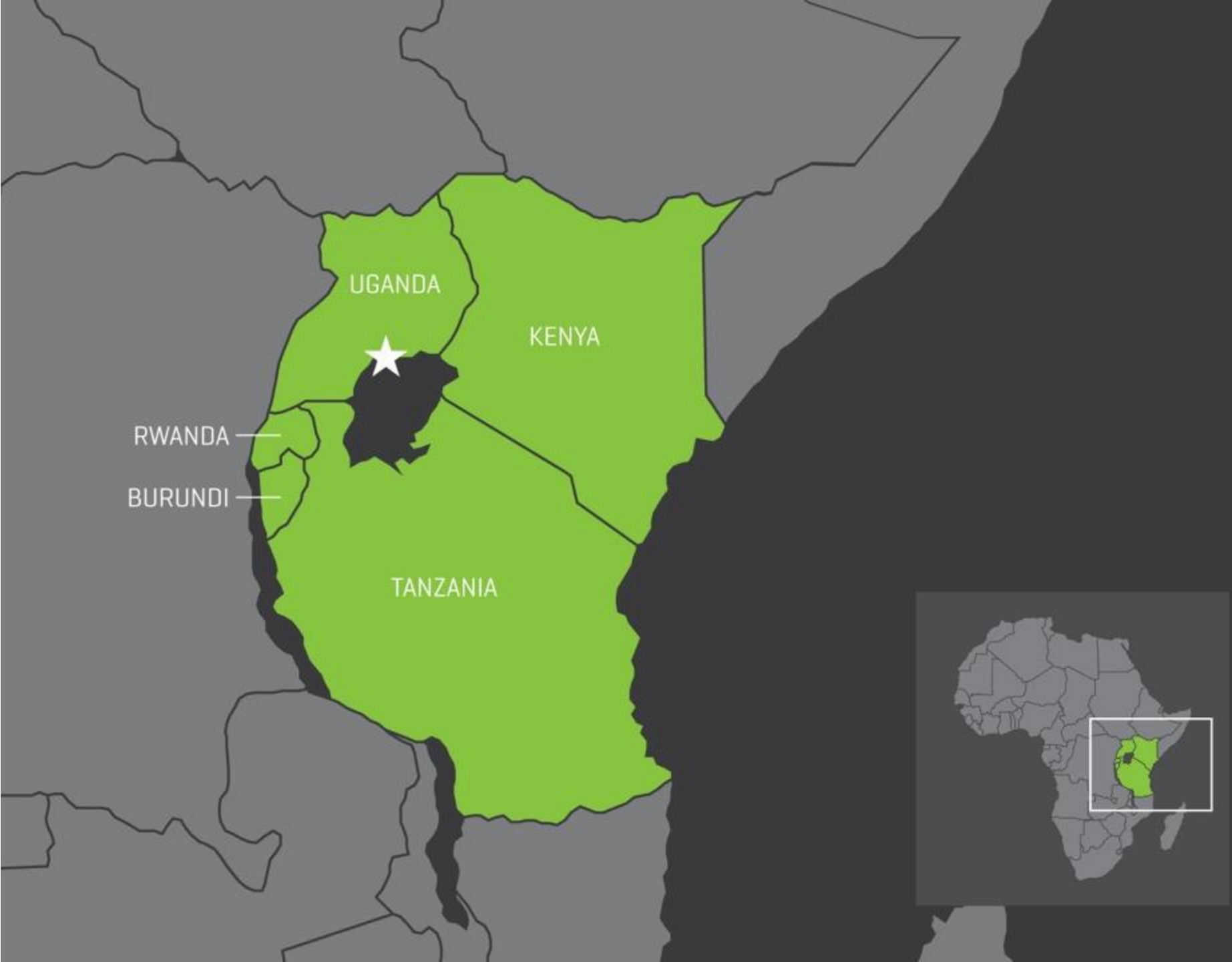
[Thomas Sors, PhD](#) • [Kara Wools-Kaloustian, MD](#) • [Rishika Chauhan O'Brien, MPA](#)   • [Li Yuan Bermel, PhD](#) • [Ibrahim Chikowe, MPhil](#) • [Adrian Gardner, MD](#) • et al. [Show all authors](#)

[Open Access](#) • Published: March, 2022 • DOI: [https://doi.org/10.1016/S2214-109X\(22\)00159-0](https://doi.org/10.1016/S2214-109X(22)00159-0) •

 [Check for updates](#)



UCI-FRED HUTCH CANCER CENTRE



UGANDA CANCER
INSTITUTE
LYMPHOMA TREATMENT CENTRE

TO X-RAY ROOM
←

THE AFRICAN LYMPHOMA

Preliminary Observations on Response to Therapy

DENIS BURKITT, M.D., F.R.C.S.E., M. S. R. HUTT, M.D., M.R.C.P.,
and D. H. WRIGHT, B.SC., M.D.

THE AFRICAN LYMPHOMA

INITIAL RESPONSE TO METHOTREXATE AND CYCLOPHOSPHAMIDE THERAPY

Grading of tumor	Methotrexate therapy			Cyclophosphamide therapy				
	No. of patients	Response			No. of patients	Response		
		I	II	III		I	II	III
Grade A	4	0	0	4	6	0	0	6
Grade B	9	3	4	2	27	4	13	10
Grade C	6	6	0	0	30	7	15	8
TOTAL	19	9	4	6	63	11	28	24

THE AFRICAN LYMPHOMA

Preliminary Observations on Response to Therapy

DENIS BURKITT, M.D., F.R.C.S.E., M. S. R. HUTT, M.D., M.R.C.P.,
and D. H. WRIGHT, B.SC., M.D.

“One of the most encouraging and practical outcomes of this trial is that Cyclophosphamide or Methotrexate can be used for treatment of these cases in small up-country and mission hospitals”

Enter words / phrases / DOI / ISBN / authors / keywords / etc.

Newest Content

Issues

Special Content

Authors

Subscribers

About

ASCO

[Journal of Clinical Oncology](#) > [List of Issues](#) > [Volume 27, Issue 21](#) >

ORIGINAL REPORTS | [Aids-Related Cancer](#)

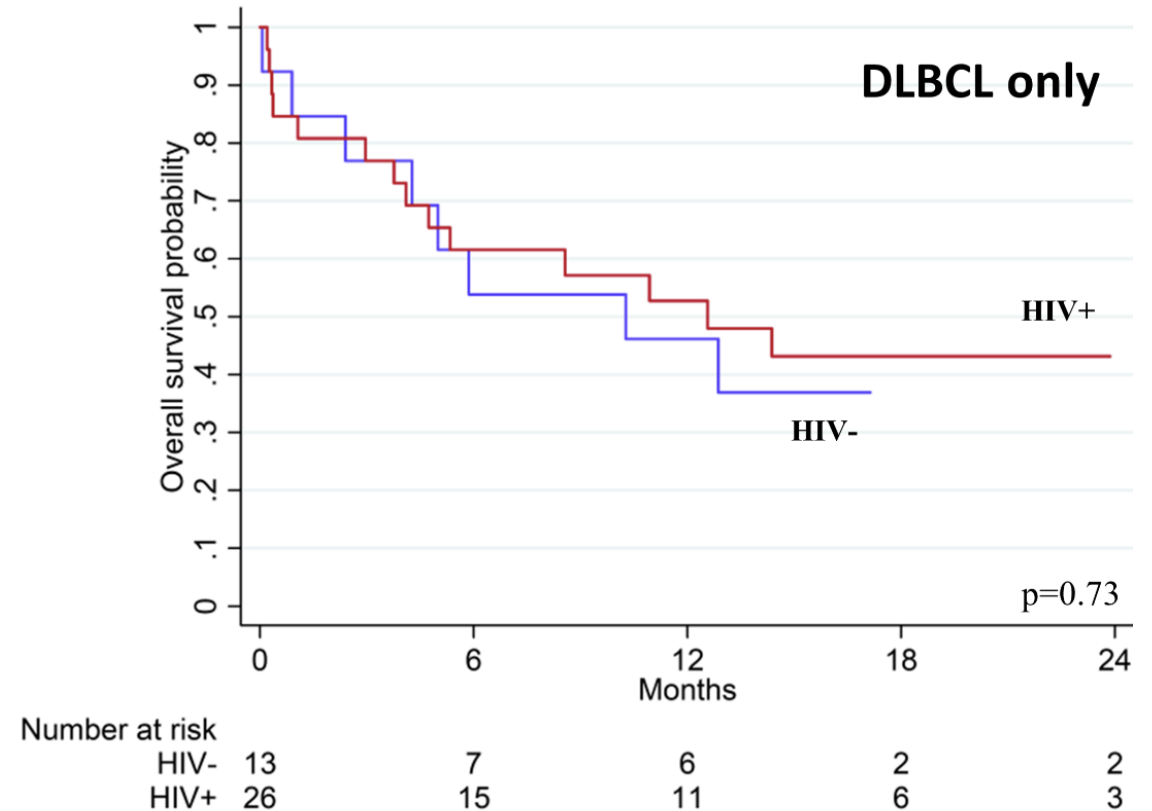
Dose-Modified Oral Chemotherapy in the Treatment of AIDS-Related Non-Hodgkin's Lymphoma in East Africa

[Walter O. Mwanda](#) , [Jackson Orem](#) , [Pingfu Fu](#) , [Cecilia Banura](#) , [Joweria Kakembo](#) , [Caren Auma Onyango](#)[Anne Ness](#) , [Sherrie Reynolds](#) , [John L. Johnson](#) , [Vivek Subbiah](#) , [Jacob Bako](#) , [Henry Wabinga](#) , [Fatuma K. Abdallah](#) , [Howard J. Meyerson](#) , [Christopher C. Whalen](#) , [Michael M. Lederman](#) , [Jodi Black](#) , [Leona W. Ayers](#) , [Edward Katongole-Mbidde](#)  , [Scot C. Remick](#)

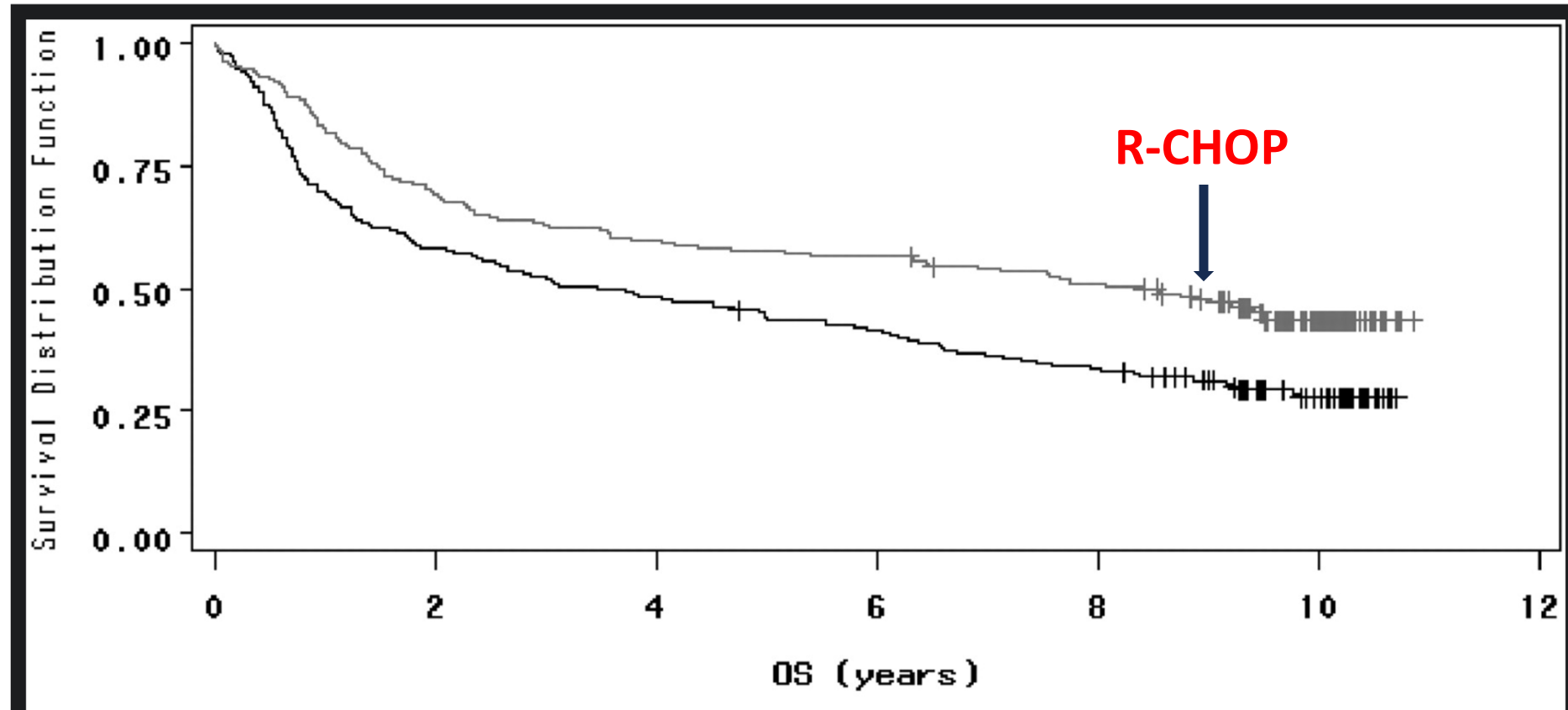
DLBCL in sub-Saharan Africa (SSA)

- Inferior outcomes compared to high-resource settings
- 12-month overall survival rates typically under 50%
- Various cytotoxic chemotherapeutics

CHOP in Malawi



Overall survival in patients treated with CHOP and R-CHOP



Rituximab

- **Standard of care for patients with CD20+ DLBCL in resource-rich settings**
- **FDA approval over 25 years ago**
- **World Health Organization's List of Essential Medicines**

Rituximab in SSA



- **IV rituximab is not readily available or routinely used in SSA**
 - Cost
 - Limited availability of infusion centers
 - **Subcutaneous rituximab hyaluronidase (sqR) is a potential solution, but its safety is not established in these settings.**
-
- **We evaluated the safety and efficacy of a fixed dose of 1400 mg sqR in combination with standard-of-care chemotherapy in Ugandan adults with CD20+ DLBCL.**

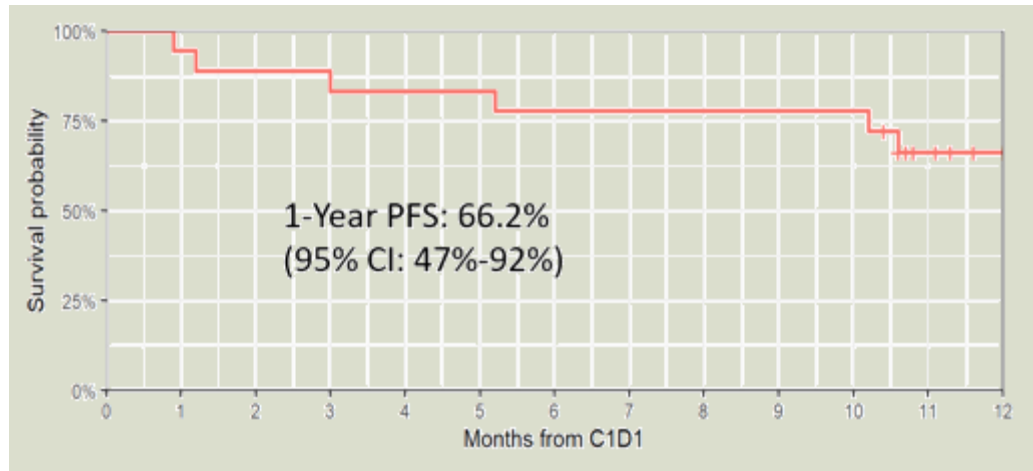
sqR in combination with chemotherapy in Ugandan adults with CD20+ DLBCL

- Enrolled patients age ≥ 18 with newly diagnosed CD20+ DLBCL with measurable disease
 - ECOG performance status of ≤ 2 .
 - Patients living with HIV were eligible if they were receiving antiretroviral therapy and had CD4+ T-cell count >200 cells/uL.

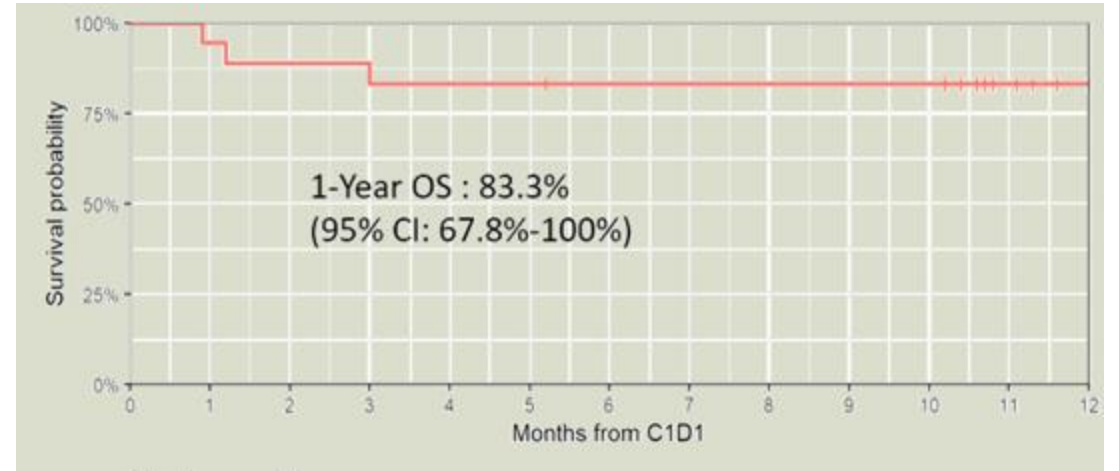
- The first cohort (n=6) received **IV rituximab**, 375mg/m² on day 1 of cycle 1 plus CHOP chemotherapy
 - IV cyclophosphamide 750 mg/m² (d1)
 - IV doxorubicin 50 mg/m² (d1)
 - IV vincristine 1.4 mg/m² (maximum 2 mg/m²) (d1)
 - PO prednisone 100 mg (d 1-5)
 - **sqR (1400 mg) for subsequent cycles**
- The second cohort (n=12) received sqR plus CHOP for **all** cycles.

R-CHOP in Uganda

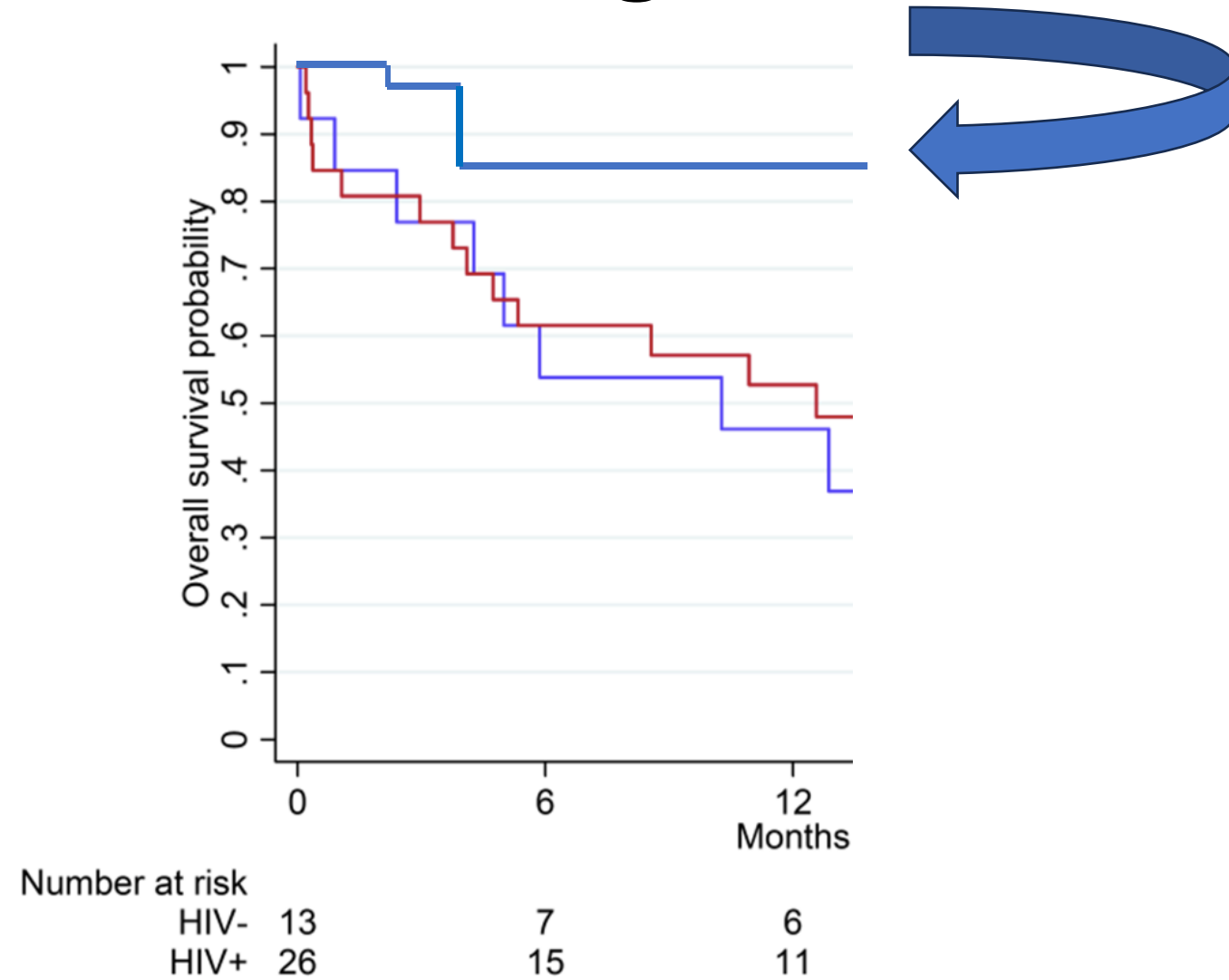
PFS

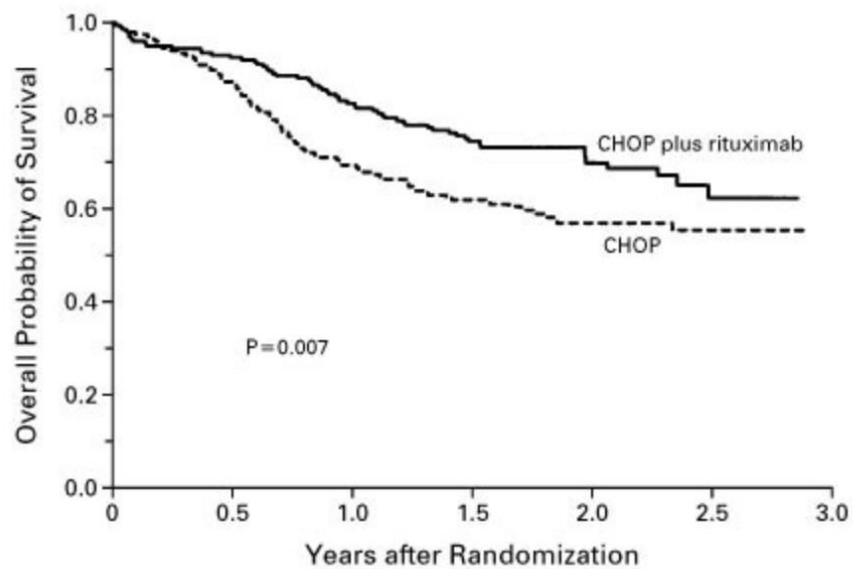


OS



R-CHOP in Uganda





No. AT RISK		0	0.5	1.0	1.5	2.0	2.5	3.0
CHOP plus rituximab	202	187	167	118	64	21		
CHOP	197	171	136	96	58	16		



Coiffier B et al. CHOP chemotherapy plus rituximab compared with CHOP alone in elderly patients with diffuse large-B-cell lymphoma. *N Engl J Med*. 2002 Jan 24;346(4):235-42.

Ddgungu et al. *Blood* (2023) 142 (Supplement 1): 4467.

Global Oncology

- **Develop cancer diagnostics and evaluate therapies suited for low-resource settings and elucidate the pathogenesis of globally important cancers**
- **Cultivate a research portfolio to understand the role of and prevent and manage infectious diseases in cancer patients**
- **Train the next generation of global and local oncology leaders**



Fred Hutch faculty (Drs. Larry Corey and Corey Casper) & Uganda Cancer Institute (UCI) start joint research on the high incidence of pathogen-associated cancers in Uganda

2004

2008

Fred Hutch and the UCI establish formal partnership to focus on biomedical research, training, and clinical care



2011

Groundbreaking ceremony for the new \$10 million USD UCI-Fred Hutch Cancer Centre (UCI-FHCC) in Kampala



2016

UCI's pediatric oncology and adult Kaposi sarcoma and gynecologic-oncology outpatient clinics moved into the UCI-FHCC



2017



Dr. Edus H. Warren named Global Oncology Program Head (July 2017)



UCI-Fred Hutch Collaboration celebrated its 10-year anniversary

2018

Launched East African Adult Hematology-Oncology Fellowship Program



Launched a clinical trial evaluating a novel targeted treatment that is administered subcutaneously for lymphoma patients (funded in part by Roche)

2019

Activated clinical trial to test alternative diagnostic tool and oral chemotherapy, and study genetic differences in breast cancer (funded by GSK Africa NCD Open Lab)



World Health Organization declared novel coronavirus outbreak a pandemic on March 11, 2020

2020

Suspended research at the UCI-FHCC in March 2020 that did not provide immediate benefit to patients



Launched ongoing SARS-CoV-2 testing at the UCI-FHCC in coordination with the Ministry of Health in Uganda (Nov 2020)

2021

GO Research Portfolio

8

CANCERS

Breast
Burkitt lymphoma
Cervix
Diffuse large B-cell lymphoma
Kaposi sarcoma
Leukemia
Lung
Nephroblastoma

5

INFECTIONS, VIRUSES, ETC.

Bacteremia
Blood infections
HHV-8
KSHV-Multicentric Castleman's disease
Neutropenic fever



Thank you