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THE SOUTH AFRICAN HIV CANCER MATCH STUDY: COHORT PROFILE

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BACKGROUND

- South Africa has the largest population of people living with HIV in the world. A national ART programme was initiated in 2004.
- The public health system provides nationwide access to CD4 cell count and HIV RNA viral load monitoring via a network of public laboratories with centralised data warehousing

Objectives

1. To create a national cohort of people living with HIV (PLWH) and cancer outcomes in South Africa
2. To assess the spectrum and risk of cancer in PLWH in the context of the evolving South African HIV epidemic.

METHODS

- We retrieved laboratory records from PLWH with at least two HIV-related records in public sector facilities in South Africa from 2004 – 2014.

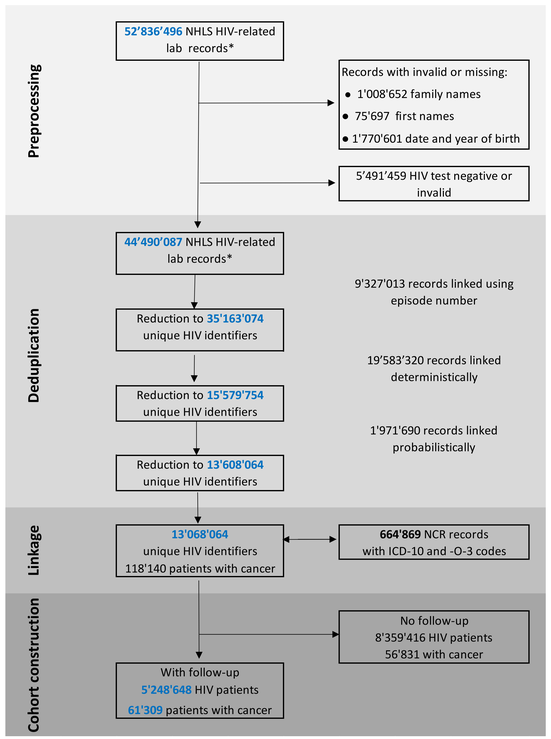

Figure 1: Creation of the SAM Cohort

The South African HIV Cancer Match Study is a unique resource for research and surveillance of malignancies in PLWH in the context of the evolving South African HIV epidemic.

Table 1: Top ten cancers stratified by sex

	Incident cancer cases		Cancer incidence rate per 100 000 person-years (95% CI)*	
Cancer type	Males	Females	Males	Females
Cervical cancer	-	7,433	-	66.0 (64.5 - 67.5)
Kaposi Sarcoma	3,268	3,105	72.7 (70.2 - 75.2)	27.6 (26.6 - 28.5)
Breast cancer	39	2706	0.9 (0.6 - 1.2)	24.0 (23.1 - 24.9)
Non Hodgkin lymphoma	1,202	1,386	26.7 (25.2 - 28.2)	12.3 (11.7 - 13.0)
Eye cancer	470	854	10.4 (9.5 - 11.4)	7.6 (7.1 - 8.1)
BCC	647	450	14.4 (13.3 - 15.5)	4.0 (3.6 - 4.4)
SCC of skin	454	432	10.1 (9.2 - 11.1)	3.8 (3.5 - 4.2)
Lung	526	206	11.7 (10.7 - 12.7)	1.8 (1.6 - 2.1)
Prostate cancer	660	-	14.7 (13.6 - 15.8)	-
Colorectal cancer	291	363	6.5 (5.7 - 7.2)	3.2 (2.9 - 3.6)

BCC: Basal Cell Carcinoma, SCC: Squamous Cell Carcinoma

METHODS (cont)

- We used privacy preserving record linkage methods to deduplicate HIV records from the National Health Laboratory Service and to link cancer records from the National Cancer Registry (doi:10.31730/osf.io/wzxbv).
- We included all PLWH with ≥2 HIV laboratory records in the cohort and estimated cancer incidence rates (IR) per 100,000 person-years (pys) for the five most common cancers.

RESULTS

- We included a total of 5,248,648 PLWH and 32,064,508 HIV-related laboratory records (Figure 1)
- At cohort entry, 69% were female, the median age was 33.0 years (interquartile range [IQR]: 26.2 - 40.9), whilst the median age at cancer diagnosis in records linked to an HIV record was 45.9 years; (IQR: 36.8 – 55.1).
- The median CD4 cell count 290 was cells/µL (IQR: 153 – 465).
- The total follow-up time was 13,198,218 person-years; median follow-up time was 2.0 years (IQR 0.6 – 3.8) and the median time between any two HIV-related laboratory records was 8.3 months (IQR 5.1 – 13.3).
- The most common cancers were cervical cancer (IR 66/100,000 pys), Kaposi sarcoma (IR 40/100,000 pys), breast cancer (IR 17/100,000 pys), non-Hodgkin lymphoma (16/100,000 pys) and eye cancer (8/100,000 pys).

additional laboratory information are being planned and underway.

ADDITIONAL KEY INFORMATION

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Acknowledgements

The research reported in this publication was supported by the Eunice Kennedy Shriver National Institute of Child Health & Human Development (NICHD), National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), National Institute on Drug Abuse (NIDA), National Heart, Lung, and Blood Institute (NHLBI), National Institute on Alcohol Abuse and Alcoholism (NIAAA), Fogarty International Center (FIC), National Cancer Institute (NCI), and by the National Institute of Allergy and Infectious Diseases of the National Institutes of Health under Award Number U01AI069924. The SAM study was supported by the National Institutes of Health administrative supplement to Existing NIH Grants and Cooperative Agreements (Parent Admin Supp) (grant U01AI069924-09, to ME, JB) PEPFAR supplement (to ME), the Swiss National Science Foundation (grant 320030_169967, to JB, ME) and the U.S. CRDF Global (HIV_DAA3-16-62705-1, to MM). ME was supported by special project funding (grant 189498) from the Swiss National Science Foundation. The contents are solely the authors' responsibility and do not necessarily reflect the views of the funding bodies.