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the HPV IMMUNIZATION  
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# HPV related cancers incidence, mortality, social and economic impact in Africa

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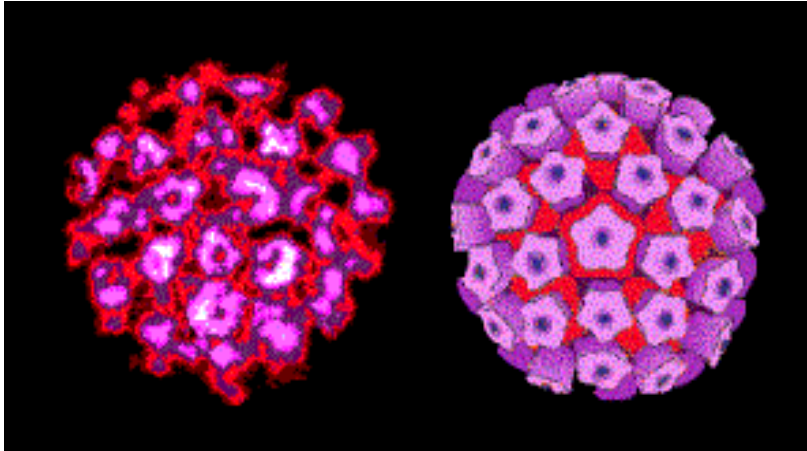


# Introduction

- Cancer is a major public health concern, particularly in the sub-Saharan region where the disease burden is high
- HPV is associated with several cancers including: Cervical, vulva, vaginal, penile, anal, oropharynx among others
- Cervical cancer cases have been reported to be on the rise as per data generated by population based cancer registries in SSA.
- Human papillomavirus (HPV) infection is the central cause of cervical cancer <sup>1</sup>
- The impact of cancer is further exacerbated by the high burden of HIV in SSA

1. Walboomers et. Al, 1999

# Human Papilloma Viruses



- HPV types 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 68, 73, and 82 should be considered carcinogenic, or high-risk, types,
- HPV types 26, 53, and 66 should be considered probably carcinogenic<sup>4</sup>
- HPV types 16 and 18 cause 70% of cervical cancers and precancerous cervical lesions.

# Cancers associated with HPV

- HPV is thought to be responsible for more than 90% of anal cancers, about 70% of vaginal and vulvar cancers, and 60% of penile cancers <sup>2</sup>
- Recent studies show that about 60% to 70% of cancers of the oropharynx (traditionally linked to alcohol and smoking) may be linked to HPV <sup>2</sup>

1. Walboomers et. Al, 1999

2. [https://www.cdc.gov/cancer/hpv/basic\\_info/cancers.htm#ref](https://www.cdc.gov/cancer/hpv/basic_info/cancers.htm#ref)



# Cancers Attributable To Infection With Oncogenic HPV in Africa 2018

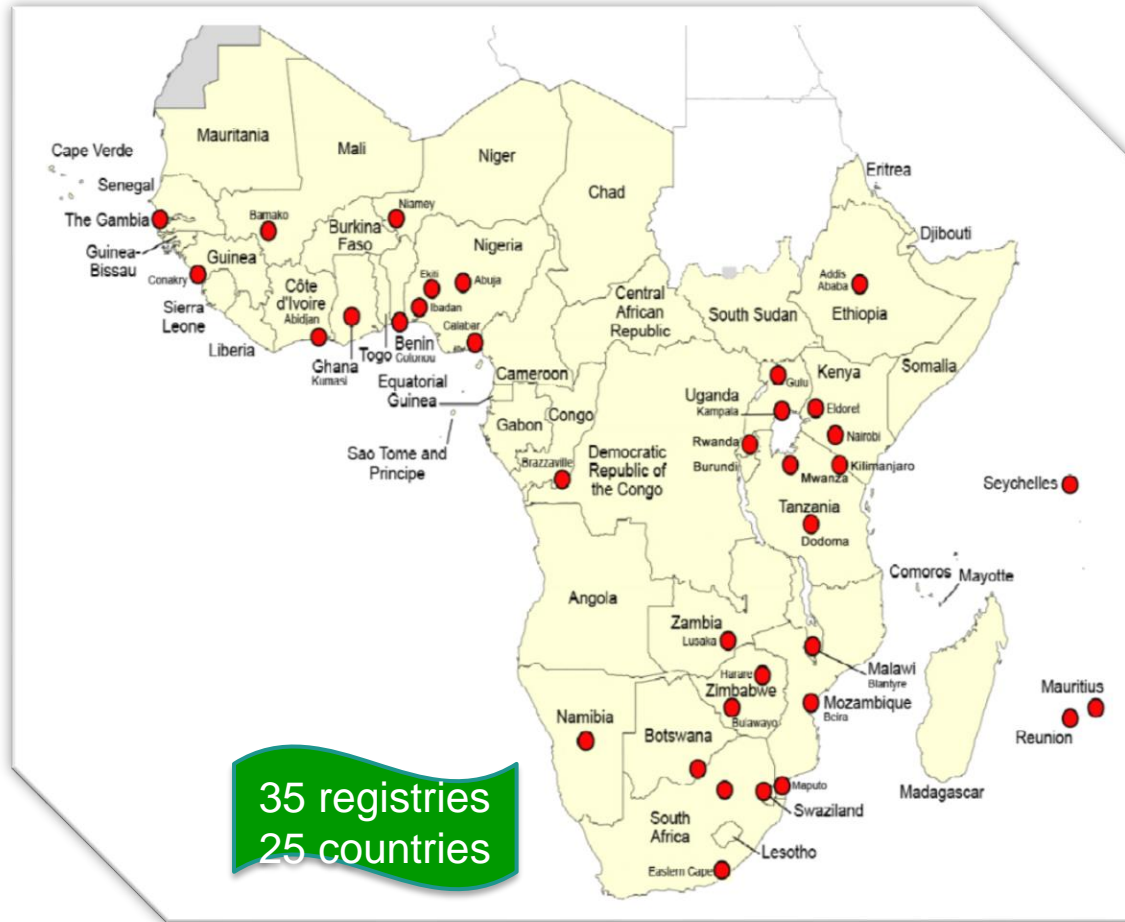
Site	Total Cancers	AF(%)	Attributable Cancers	% all cancer
<b>Cervix</b>	<b>119,280</b>	100	119,280	11.3%
Anus (s.c.c. only)	2,938	90	2,590	0.3%
Vulva	5,767	40	2,210	0.2%
Vagina	1,977	72	1,420	0.1%
Penis	2,279	40	910	0.1%
Oro-pharynx	2,514	30	760	0.1%
Oral Cavity	13,613	4	550	0.1%
Larynx	10058	4	410	0.0%
<b>Total</b>			<b>128,130</b>	<b>12.1%</b>



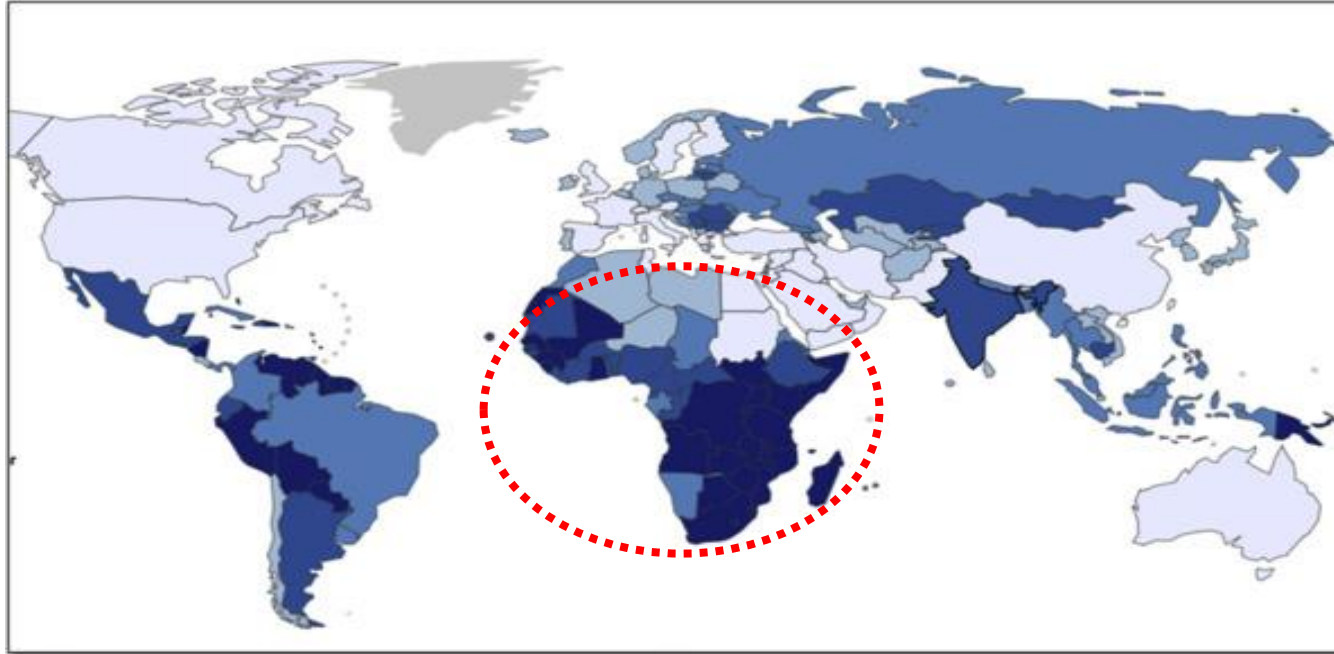
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# Population-Based Cancer Registries in SSA: The Africa Cancer Registries Network

- ❑ There has been an increase in number of PBCR across SSA though still low compared to high income countries
- ❑ 35 population-based Cancer Registries in 35 countries of SSA
- ❑ The incidence rates from these registries are used to generate national estimates



# Incidence of cervical cancer globally



World map showing incidence (age—standardized rate) of cervical cancer



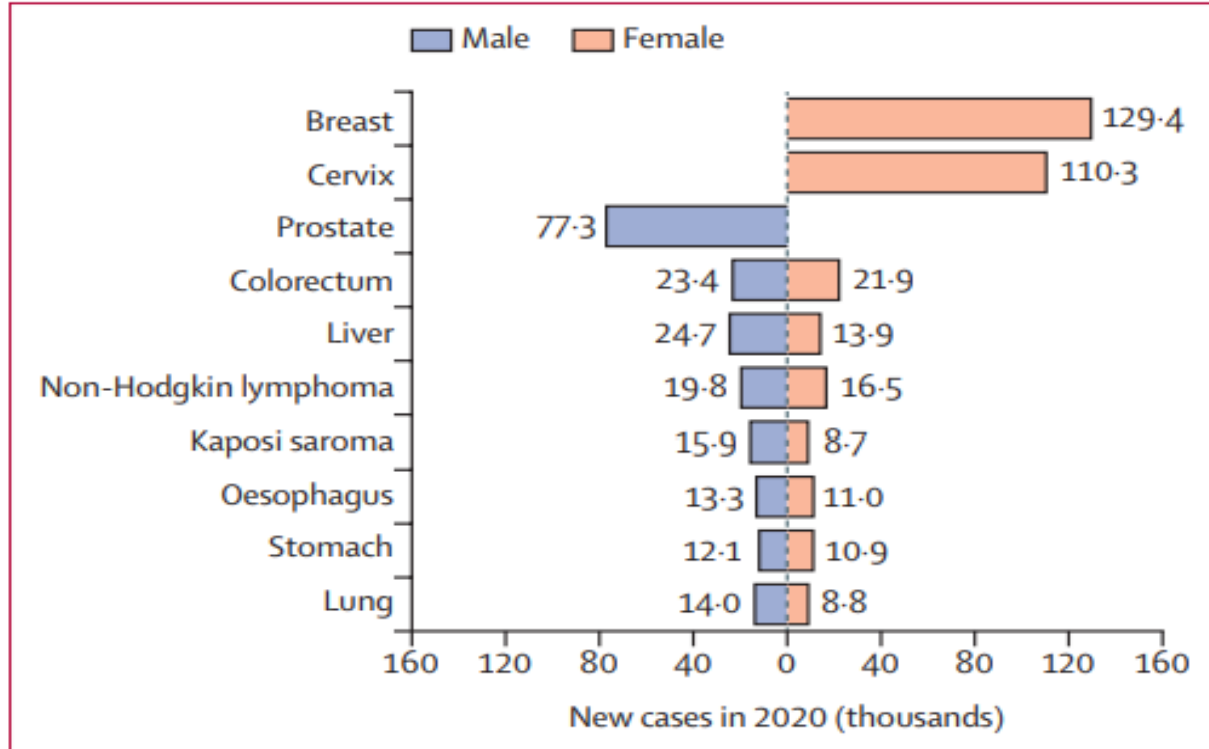
# Patterns of cancer incidence and mortality in SSA

Patterns across the 48 countries of sub-Saharan Africa, using IARC's national estimates for the year 2020<sup>3</sup> indicate that:

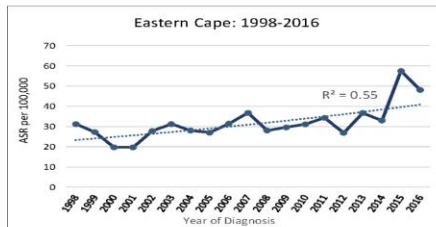
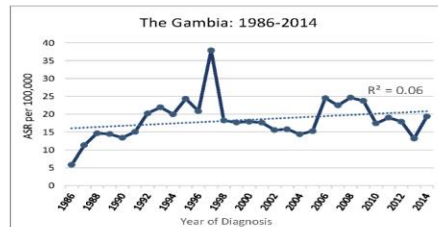
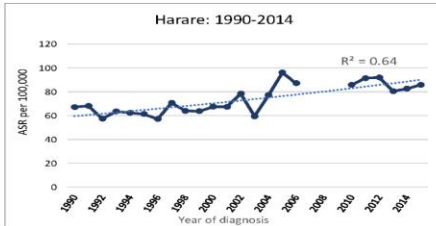
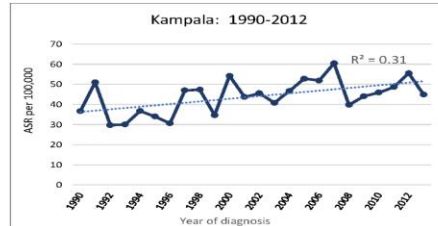
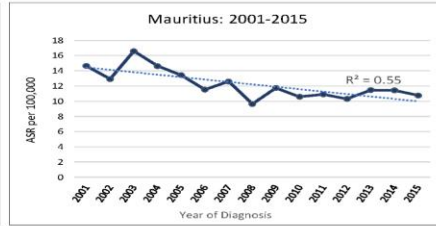
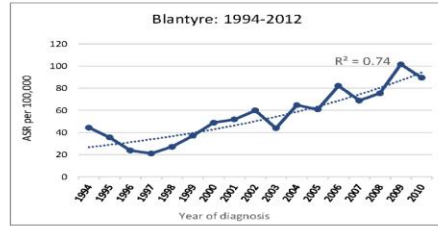
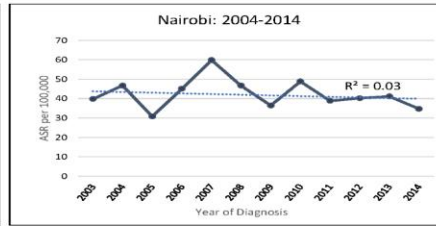
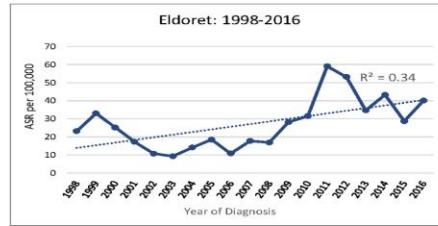
- 801 392 new cancer cases and 520158 cancer deaths were estimated to have occurred
- Cancers of the breast (129 400 female cases) and cervix (110 300 cases) were responsible for three in ten of the cancers diagnosed in both sexes.
- Breast and cervical cancer were the most common cancers, ranking first in 28 and 19 countries, respectively
- Cervical cancer was the leading form of cancer death among women in 27 countries, followed by breast cancer (21 countries)
- In Kenya, cervical cancer is the second most common cancer among women - 5,236 new cases and 12.4% of all female cancers annually



# Estimated numbers of cases of the ten most frequent cancers, by sex, in SSA

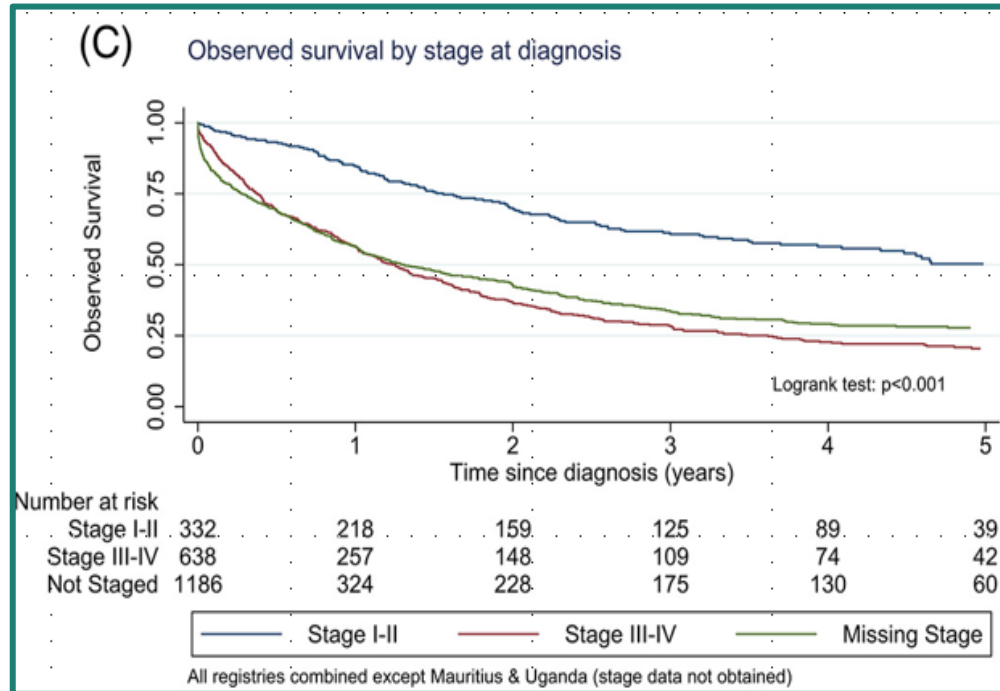


# Cervical cancer trends in incidence in SSA countries



# Survival by stage (Cervical cancer)

Source: Sengayi-Muchengeti et al. 2020



# Impact in Africa

- 19 of 20 countries worldwide with the highest burden of cervical cancer in 2018 were in Africa <sup>5</sup>.
- While Cervical cancer is one of the most preventable cancers, poor access to prevention, screening and treatment contributes to 90% of deaths.
- Cervical cancer is also one of the most common in women living with HIV, adding a layer of complexity to young women in Africa who face multiple barriers to good health
- Social discrimination, loss of body image, loss of sexual function, loss of femininity have been reported by patients <sup>6</sup>
- Economic impact: loss of income, financial distress due to medical and non medical expenditure, work and employment challenges have also been reported

5. WHO <https://www.afro.who.int/health-topics/cervical-cancer>

6. Endale H. et al, 2021

# WHO cervical cancer elimination goal

- To eliminate cervical cancer, all countries must reach and maintain an incidence rate of below four per 100 000 women.
- Achieving that goal rests on three key pillars and their corresponding targets:
  - 1) Vaccination
  - 2) Screening
  - 3) Treatment
- Each country should meet the 90-70-90 targets by 2030 to get on the path to eliminate cervical cancer within the next century.
- Population-based registries play a vital role in tracking the progress towards attainment of these goals

**90%**

of girls fully vaccinated with the HPV vaccine by the age of 15

**70%**

of women screened by the age of 35, and again by the age of 45

**90%**

of women with pre-cancer treated, and 90% of women with invasive cancer managed

# Gaps and opportunities

- To achieve cervical cancer elimination there's need to improve prevention strategies. HPV vaccination, screening and follow up along the care continuum are key strategies
- There is need to strengthen cancer registries in SSA and improve the collection of critical variables (e.g., staging, recurrence, co-morbidities)
- Cancer registries need to perform follow-up on over 80% of the cases to determine the outcomes and measure impact of interventions.

# Conclusion

- The role of the PBCR has evolved from basic reporting of incident cancers to monitoring population-based indicators of cancer control
- PBCRs are vital for generating data on population-level survival outcomes and for monitoring the cancer care pathway.
- The AFCRN provides a harmonized platform to study trends in cancer incidence, survival by age, stage at diagnosis and country-level human development index.
- AFCRN is open to collaborations and partnerships

# Acknowledgement

- CHIC
- AFCRN
  
- THANK YOU!