



# The interrelated epidemic of HPV and HIV in Kenya

Opportunities for health system integration and mobilisation towards a common goal

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**Cervical cancer is the second most common cancer in Sub-Saharan Africa and the leading cause of cancer death among the region's women. Women living with HIV are six times more likely to develop cervical cancer, and they do so at a much quicker rate, with an onset of five to ten years (compared with 15-20 years for the general population).<sup>1</sup> The scale of cervical cancer as a public health challenge and the fact that cervical cancer intersects with almost all areas of women's health give rise to opportunities for integration with existing disease programmes, such as HIV, and sexual and reproductive health. Sustained co-ordination across multiple stakeholders is needed to position cervical cancer elimination as an investment in health systems, society and the broader economy. Collaboration that seeks greater integration at programme and service levels will ensure success and sustainability.**

## **The burden of cervical cancer in Sub-Saharan Africa**

All women are at risk from cervical cancer. However, although many people have human papillomavirus (HPV—the leading cause of

cervical cancer), few will develop cervical cancer. In addition, cervical cancer is one of the most treatable forms of cancer and, when detected early and managed effectively, it is highly preventable and curable. Yet it is the fourth most common form of cancer among women globally—the disease claimed the lives of 342,000 women in 2020.<sup>1</sup>

The global burden of cervical cancer is not spread equally. Of the deaths recorded globally in 2020, 90% occurred in low- and middle-income countries (LMICs).<sup>1</sup> While deaths from cervical cancer are stabilising in Eastern Europe and Asia and have declined globally, they are increasing in Sub-Saharan Africa, where the disease is the second most common cancer and the leading cause of death among women.<sup>2</sup>

The mortality rate is highest in east Africa, at 30 per 100,000 people (this compares with 2.1 per 100,000 people in Western Europe).<sup>2</sup> In Kenya, cervical cancer ranks as the second most prevalent cancer among women, with over 5,200 women diagnosed yearly and over 3,200 annual deaths.<sup>3</sup> The annual number of cervical cancer cases in Kenya is expected to increase to over 11,000 by 2040.<sup>4</sup>

**The World Health Organisation (WHO) estimates that without effective intervention, global cervical cancer deaths will double to 440,000 by 2030, with 90% of these deaths in sub-Saharan Africa.<sup>5</sup>**

The geographical disparities in the prevalence and impact of cervical cancer reflect the availability and quality of preventative strategies and prevalence of risk factors. With limited access to preventative screening measures in Sub-Saharan Africa, cervical cancer is often not identified until symptoms of the disease have advanced.<sup>2</sup>

The Global Strategy for the Elimination of Cervical Cancer, adopted by the World Health Assembly in 2020, recommends a comprehensive approach to cervical cancer prevention and control. Recommended actions and interventions across the life course include community education, social mobilisation, vaccination, screening, treatment and palliative care.<sup>5</sup>

**The case for investment in cervical cancer elimination**

Investing in the interventions needed to meet the global elimination targets offers immense economic and societal benefits. It is estimated that for every US dollar invested in cervical cancer elimination through 2050, US\$3.20 will be returned owing to increases in women’s workforce participation; the return rises to US\$26 when wider societal benefits are considered.<sup>5</sup>

The WHO Global Strategy for Cervical Cancer Elimination “90-70-90” targets

- 90% of girls fully vaccinated against HPV by age 15
- 70% of women screened by age 35 (and again by 45 years of age)
- 90% of women identified with cervical disease are treated

**Cervical cancer incidence and mortality rates**

	<b>Incidence</b> (estimated age-standardised rate of new cervical cancer cases per 100,000)	<b>Mortality</b> (estimated number of age-standardised deaths from cervical cancer per 100,000)
Global	13.3	10.9
Africa	25.6	17.7
East Africa	40.1	29.8
Kenya	31.3	20.6
Tanzania	62.5	42.7
Uganda	56.2	41.4

Source: WHO, GLOBOCAN 2020 (4)

**“It’s important that we change the narrative to get women to embrace preventative health from a perspective of taking charge and owning their health. Currently, we get many women at late-stage cervical cancer disease, which is costly to treat, the outcomes are not great, and it is very emotionally demanding to the person going through the disease and their family.”**

*Benda Kithaka,  
Health advocacy & behaviour change communications specialist, and  
executive director at KILELE Health, Kenya*

Achieving the 2030 global cervical cancer elimination targets for LMICs will require significant financial investment and scaling up and mobilising of resources. It is estimated that US\$10.5bn is needed to expand cervical cancer prevention and treatment interventions between 2018 and 2030.<sup>5</sup>

We know what causes cervical cancer, and how to prevent and treat it—clear guidelines and

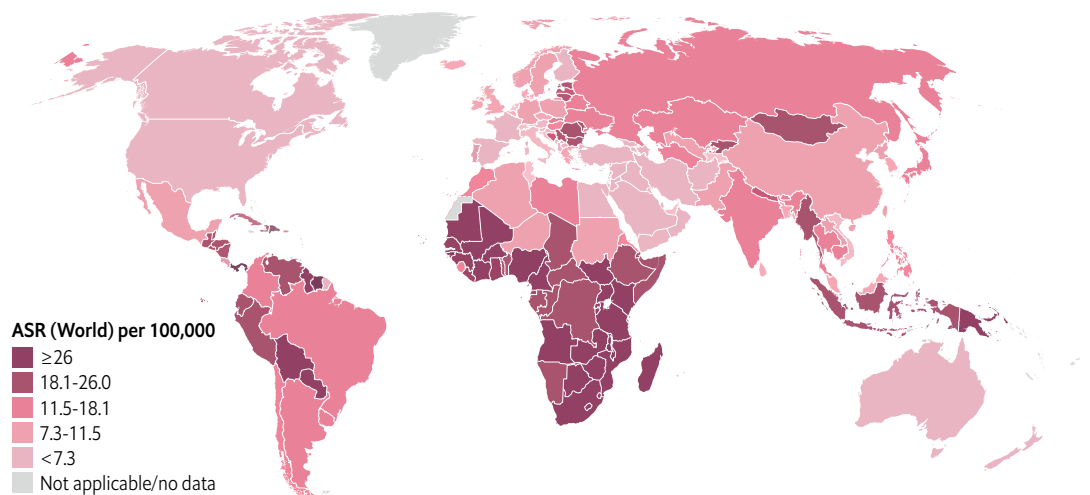
evidence-based interventions are available. However, sustained political commitment and strategic use of existing resources are necessary to accelerate progress.

**The interrelated epidemics of HPV and HIV**

Immunocompromised women, such as those living with HIV, are particularly vulnerable to cervical cancer. Women living with HIV (WHIV) are six times more likely to develop cervical cancer and do so at a much quicker rate, with an onset of five to ten years (compared with 15 to 20 years for the general population). HIV also increases rates of recurrence after treatment and reduces life expectancy.<sup>1</sup> While an estimated 5% of all cervical cancer cases are attributable to HIV, 85% of women with cervical cancer and HIV live in Sub-Saharan Africa. In East Africa, 27.4% of women with cervical cancer are also living with HIV.<sup>2</sup>

The life expectancy of those living with HIV in Sub-Saharan Africa is increasing. In Kenya, it is estimated that the population of WHIV will increase from 0.91m in 2020 to 1.73m in 2040, with the mean age rising from 37.5 in 2020 to 44.1 in 2040.<sup>6</sup> As life expectancy and the number

**Estimated age-standardised cervical cancer incidence, 2018**



Source: Global Cancer Observatory.

## Women living with HIV (WHIV) are six times more likely to develop cervical cancer and do so at a much quicker rate, with an onset of five to ten years (compared with 15 to 20 years for the general population).<sup>1</sup>

of women living with HIV increases, cervical cancer rates and related deaths also rise.

HIV and cervical cancer compound the public health threat to sub-Saharan Africa. Yet while HIV is well-recognised and supported with dedicated funding and resources, cervical cancer is still a relatively new challenge for the region.

Given the strong links between the two diseases, eliminating cervical cancer in countries with a high HIV burden will be more challenging. Focusing on prevention and treatment of both cervical cancer and HIV can help to maximise benefits, particularly in low-resource settings. The opportunity and need to leverage platforms already developed for HIV to enhance cervical cancer screening and treatment integration is well recognised in the global health community.<sup>7</sup>

Recent WHO guidelines incorporate specific recommendations for WHIV, including HPV DNA screening, access to screening at a younger age (starting at age 25) and higher frequency of screening (every three to five years).<sup>7</sup>

### Prevention of cervical cancer in Kenya

Kenya's National Cancer Control Strategy, covering 2019-30, includes the integration of routine cervical cancer screening and clinical breast examination in maternal and child health as part of service delivery for HIV and regular outreach activities.<sup>8</sup> Ministry of Health guidelines recommend screening WHIV for cervical cancer at HIV diagnosis, followed by an annual screening.<sup>6</sup>

Yet screening uptake has been low: just 6.4% of eligible women have been screened for cervical cancer, and only 3.2% attend screening regularly, regardless of HIV status.<sup>6</sup> Challenges facing efforts to improve screening rates include low acceptability, high follow-up loss, and infrastructure and commodity constraints (less than 20% of health facilities in Kenya offer cervical cancer screening).<sup>6</sup> Studies from the wider Sub-Saharan Africa region on attitudes towards cervical cancer indicate that there is limited awareness among WHIV of the importance of cancer screening, as well as low knowledge among female healthcare workers.<sup>9</sup>

Adopting cervical cancer screening technologies—including same-day HPV DNA testing, digitally enhanced visual inspection with acetic acid (VIA) screening and self-screening—may improve engagement and overall screening rates. However, maximising health outcomes among WHIV in Kenya will rely more on the efficient use and integration of available resources.<sup>6</sup>

### Integration of services

Given the scale of cervical cancer as a public health challenge and its intersection with almost all areas of women's health, there are clear opportunities for integration with existing disease programmes such as HIV and sexual and reproductive health (SRH). Integrating cervical cancer services with HIV services and, more broadly, SRH services is feasible and has the potential for cost savings and efficiency gains in health delivery, diagnostic infrastructure and procurement.<sup>7</sup> According to the WHO, women living with HIV who have access to care have clinical appointments at least every six months, which provides an opportunity for the delivery of cervical cancer interventions, alongside appropriate follow-up.<sup>7</sup>

The integration of SRH and HIV services, as recommended in the WHO's Consolidated Guidelines on HIV Prevention, Testing, Treatment, Service Delivery and Monitoring, led to improvements in accessibility, quality of antenatal care and nurse productivity. In settings with high HIV prevalence, the integration of cervical cancer screening, treatment and referral systems with HIV services could positively impact a large proportion of cervical cancer cases.<sup>7</sup> However, for integration to be successful, strong links need to be established at all levels of the health system between HIV and cervical cancer services to support cross-referral.

Physical infrastructure and equipment also provide opportunities for integration through task shifting and sharing of resources. The technology used in HPV DNA tests is very similar to that used in HIV viral load testing, allowing access to pre-existing infrastructure. According to Benda Kithaka, executive director of KILELE Health, a Kenya-based cancer advocacy and support group, health services need to look at available resources in HIV/AIDS, tuberculosis and other fields where laboratory equipment may not be utilised at full capacity. "Many of the machines used for HIV viral load can be utilised for other specimens that lead to better approaches to cervical cancer prevention and diagnostics," she says.

Sustained co-ordination across multiple stakeholders is needed to position cervical cancer elimination as an investment in health systems, society and the broader economy. Collaboration that works towards greater integration at programme and service levels will ensure success and sustainability.

According to Ms Kithaka, the approach taken to HIV can serve as an example in stakeholder engagement. "You see many organisations, from governments, civil society, people living with HIV, the private sector, academia, trade-

**“There is integration. It’s no longer just about cervical cancer. We’re looking at the whole woman approach.”**

*Benda Kithaka,  
executive director at KILELE Health*

based associations and the scientific community coming together to speak with one voice, all arrows pointing in one strategic direction, and all hands on deck," she says.

#### **Lessons from covid-19**

As with many health systems and services, the covid-19 pandemic has severely disrupted cervical cancer screening and HPV vaccination efforts, and treatment for many women with cervical cancer has been delayed.<sup>10</sup>

Yet the pandemic also provides critical lessons for laboratory integration and community co-ordination, both valuable elements of the path to cervical cancer elimination. The introduction of PCR testing, rapid nucleic acid technologies and multiplex immunoassay platforms has proven feasible and necessary to accommodate the scale of covid-19 testing. This infrastructure can also be applied to support multi-disease elimination programs for HPV and HIV.

"Covid-19 has shown us that labs alone will not work," adds Ms Kithaka. "It took a whole-community approach, with education on social distancing and hygiene measures, efforts to remove stigma, and education on appropriate care for people with covid-19. As a community, we worked together to reduce the burden of hospital admissions and co-ordinated with the lab network to test as many as possible. The community has to be equipped with knowledge, health literacy, and be engaged in taking action."

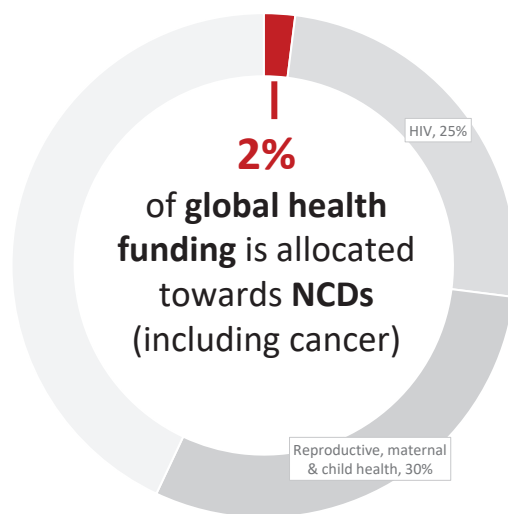


**“We can talk as much as we want; however, if it’s not matched with resources to enable delivery of the services required, it will become noise. It’s not just about money when we speak of funding and resource mobilisation. It’s also about addressing the barriers to cervical cancer screening. It’s about pooling resources and eliminating waste.”**

*Benda Kithaka,  
executive director at KILELE Health*

**Committing funding and resources for co-ordinated action**

The current and future threat posed by cervical cancer in Kenya and the wider Sub-Saharan Africa region, including the potential burden on women’s health, and the wellbeing of families, society and the economy, is evident and alarming. However, the importance and urgency



Source: IHME. Financing Global Health 2018: Countries and Programs in Transition.<sup>11</sup>

of cervical cancer elimination is not reflected in funding and resource allocation. Between 2000 and 2018 the largest recipients of global funding programmes were programmes focused on HIV (~25%) and reproductive, maternal, newborn and child health (~30%). Non-communicable diseases, including cancer, accounted for just 2% of funding.<sup>11</sup>

Earmarked funding provided by donor or aid agencies often works against supporting a sector-wide approach, resulting in further shortfalls and inefficiencies once funding ceases. Reviewing how funding is designed, how programmes are implemented and encouraging harmonisation would lead to more sustained outcomes and a more robust health system.<sup>12</sup>

**Access to people-centered care and integrated services is one of the key themes of the Global AIDS Strategy 2021-2026**

The importance of integrated and co-ordinated multi-disease approaches in the area of HIV is prioritised in recent strategic initiatives from the WHO and UNAIDS. The WHO’s Global Health Sector Strategies on HIV, Viral Hepatitis and Sexually Transmitted Infections 2022-2030 recognises that the resources available to treat interrelating diseases are underutilised. The strategy aims to combine disease-specific priorities with shared approaches across the three disease areas and other diseases and health issues. The strategy focuses on using primary care platforms while adapting to each country’s context and health system capacities.<sup>13</sup> Access to people-centered care and integrated services is one of the key themes of the Global AIDS Strategy 2021-2026, which includes a target

that 90% of adolescent girls and young women (15-24 years) have access to integrated services for HIV treatment and cervical cancer, other non-communicable diseases, sexual and reproductive health services, healthy lifestyle counselling, and other services needed for overall health and wellbeing.<sup>14</sup>

No single intervention can eliminate cervical cancer. Screening and treatment programmes should integrate and bring together organisations with existing programmes—particularly those in HIV, sexual and reproductive health, and women’s health—to commit to a unified movement around policymaking, financing, programme design and service delivery.

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