

Study offers guidance for improving access to oncology drug treatments in sub-Saharan Africa

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With cancer rates rising throughout sub-Saharan Africa—home to 1.1 billion people, or about 14% of the world's population—researchers with the Botswana-Rutgers Partnership for Health are seeking solutions.

Cancer is among the [top three causes of premature death](#) in the vast majority of nations in the region. Without significant interventions, predictions indicate the number of cancer deaths per year in this region would nearly double by 2030, to about 1 million.

In a study published in *PLOS Global Public Health*, researchers associated with the partnership address the need to improve access to oncology drugs in sub-Saharan Africa, where significant disparities exist and inhibit access to therapies that can improve the length and quality of life for cancer patients.

In the paper, titled "Advancing oncology drug therapies for sub-Saharan Africa," the study's authors present a review of selected oncology drug therapies for common malignancies in sub-Saharan Africa, including [breast cancer](#), cervical cancer, Kaposi sarcoma, [lung cancer](#) and prostate cancer.

"Our review describes several specific means for advancing oncology drug therapies in a region where there are complex barriers to providing comprehensive cancer care," said Kirthana Sharma, a senior researcher at Rutgers Global Health Institute and lead author of the study.

"High drug costs are a major challenge to bridging the stark inequities in access to cancer treatments. To optimize [cancer treatment](#) in this region, diagnostic and laboratory infrastructure also needs to be strengthened, and the oncology workforce needs to be further trained and developed."

The review also identifies gaps in access to oncology clinical trials in the region and calls attention to cancer therapeutics that should be considered for the World Health Organization (WHO) [Model Lists of Essential Medicines](#).

"Cancer is threatening sub-Saharan African populations to a degree that

demands a large-scale response," said Richard Marlink, the director of Rutgers Global Health Institute and a senior author. "This guidance provides a framework for how to improve access to the life-saving and life-altering medications that are proven to work. The high-impact treatments available elsewhere are needed in this region of our world."

Marlink is the Rutgers lead for the Botswana-Rutgers Partnership for Health, a collaboration among the Ministry of Health in Botswana, the University of Botswana and Rutgers Global Health Institute. Botswana's cancer mortality rate exceeds [63%](#), and the partnership is engaged in efforts to strengthen health systems and provide comprehensive, patient-centered oncology care.

The study provides insights relevant to common cancer types in sub-Saharan Africa, including:

Breast cancer

In this region, breast [cancer patients](#) aren't routinely tested to determine their statuses regarding specific hormonal profiles. Consequently, treatment may not include precision targeting, which is available in high-income countries where profiling capabilities are more accessible. This limitation throughout sub-Saharan Africa affects treatment decisions and can result in patients receiving drug treatments that expose them to potential harms without any therapeutic advantage.

For example, hormonal therapy with the drug tamoxifen may be initiated in absence of patient-specific evidence supporting its use because this pharmaceutical is inexpensive or even free in some countries. In instances where hormonal profiling is available, however, the medications proven most effective may be cost-prohibitive to obtain, such as the human epidermal growth factor receptor 2 targeted drug trastuzumab. Another barrier is that immunotherapy, using drugs such as

atezolizumab and pembrolizumab, requires specialized monitoring and management protocols that usually aren't available in this region.

Cervical cancer

This is the leading cause of female cancer-related death in sub-Saharan Africa. For patients with locally advanced [cervical cancer](#), the standard of care is chemotherapy in conjunction with radiation therapy. Based on a study of 29 oncology treatment centers in 12 countries in sub-Saharan Africa, the review indicates inconsistent supply of cisplatin, a preferred chemotherapy drug, is common. This results in treatment delays or drug substitutions. Limited access to radiation therapy in sub-Saharan Africa further complicates this dynamic.

Kaposi sarcoma

This cancer causes patches of abnormal tissue to grow in the body, especially under the skin; in the lining of the mouth, nose and throat; and in lymph nodes. It is caused by infection with human herpesvirus-8 and usually occurs in people with weak immune systems, including individuals with HIV/AIDS. Partnership researchers note the incidence of Kaposi sarcoma in sub-Saharan Africa has increased twentyfold since the onset of the HIV/AIDS epidemic in the early 1980s.

They also acknowledge the first large clinical trial in more than a decade that compared chemotherapy drugs used to treat Kaposi sarcoma in sub-Saharan Africa took place in 2020. The researchers cited the "paucity of [clinical trials](#) for Kaposi sarcoma in sub-Saharan Africa compared to the significant burden of disease in the region."

Lung cancer

As affordability and marketing of tobacco products increases in sub-

Saharan Africa, so does the occurrence of lung cancer. The researchers emphasized the need for more advanced pathology capabilities in the region to improve precision diagnostics and therapeutics. They also discuss discrepancies related to targeted therapy drugs and the WHO's essential medicines list.

Prostate cancer

A leading cause of cancer death among men is prostate cancer, for which treatment with surgical castration to remove the testicles is widespread in sub-Saharan Africa. Newer generation oral hormone therapy may have an expanded role in the region, and researchers reviewed the potential of abiraterone with prednisone therapy to improve outcomes.

The authors noted abiraterone is expected to be available through multiple generic options and that reduced pricing is in the foreseeable future. Information about molecular profiling, which isn't readily accessible in the region, also is discussed in relation to the role of drug therapies for patients with metastatic castration-resistant [prostate cancer](#).

More information: Kirthana Sharma et al, Advancing oncology drug therapies for sub-Saharan Africa, *PLOS Global Public Health* (2023).

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