News and Perspectives

Cancer Is Rising Across Africa. In Kenya, the First Gap Is Diagnosis—Can Digital Tools Help?

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Abstract

New research describes a growing cancer burden across Africa. In this *News and Perspectives* article, JMIR Correspondent Scovian Lillian reports from Kenya on how fragmented health services delay diagnosis, and how emerging digital technologies may help bridge these gaps.

Key Takeaways:

- Recent analysis of 2023 data attributes 923,000 deaths in Africa to cancer, showing a growing cancer burden across the continent.
- In Kenya, delays and misdiagnoses cost patients time at every step, from symptoms to biopsy to results to treatment.
- Digital tools could help track patients and ease staff shortages—but only if treatment is available and accessible.

A recent study analyzing Global Burden of Disease 2023 data, published in *The Lancet Oncology*, shows Africa's growing cancer burden. Cancer was responsible for an estimated 923,000 deaths across the continent and 33.9 million disability-adjusted life years (DALYs) in 2023. Of these, 306,000 deaths and 10.7 million DALYs were linked to the 88 risk factors assessed by the study, chief among them unsafe sex, tobacco use, dietary risks, and high BMI.

Atalel Fentahun Awedew, MD, the study's lead author at Debre Tabor University in Ethiopia, says the figures reflect problems that extend beyond cancer diagnosis alone: "Patients often present at advanced stages, referrals and treatment are delayed, and access to surgery, chemotherapy, and radiotherapy remains unequal. Shortages of oncology workers and infrastructure, alongside high out-of-pocket costs, contribute to cancer deaths and years of healthy life lost."

Irene Soila's experience illustrates the challenges that can precede a cancer diagnosis. Soila, 35, a patient with cervical cancer in Kenya, says her diagnosis was not easy after recurring infections, spotting between periods, and previous gynecological problems. She underwent tests, including a Pap smear and a biopsy, which showed that she had stage 1 cervical cancer.

"I struggled to believe and accept the results because I felt strong and healthy except for the infections. I was not even sexually active at the moment, and I kept wondering how I got it because nobody in my family has had cancer," she says. She was diagnosed in 2024.

She now shares her experience on social media, raising awareness. In posts on her TikTok page, she describes the fear and financial strain of treatment and questions whether her journey might have been different had her condition been diagnosed correctly and investigated in time.

"Every patient deserves to be heard, properly examined, and correctly diagnosed. I always encourage women to take time with their oncologists and ask hard questions without fear," she says.

Data Gaps Hide in the True Picture

According to the study, many African countries lack comprehensive cancer registries, and existing registries often cover urban areas. Awedew says his team addressed gaps in the data using covariates, imputation, cross-validation, and other modeling methods developed for the Global Burden of Disease study. These approaches help produce estimates, but they cannot replace stronger national cancer data.

Africa recorded 104,000 new cancer cases among children and adolescents aged 0-19 years in 2023. Children and teenagers accounted for 6.8% of cancer deaths in Africa, compared with 1% worldwide. Among young adults aged 15-39 years, the figure was 16.3%, compared with 4.6% globally. The authors link these differences partly to Africa's younger population and gaps in timely diagnosis and curative treatment.

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> Vincent Gakuhi

Nineteen-year-old Vincent Gakuhi's cancer journey began with a simple toothache in 2020. His mother, a nurse, initially gave him painkillers, thinking it was a cavity, but the pain persisted. He was later diagnosed with sarcoma, a rare, aggressive jaw cancer. Gakuhi describes misdiagnosis as a serious challenge.

"If referrals were faster and information clearer at the first appointment, many patients would be saved in time," says Gakuhi. He completed 4 cycles of chemotherapy and 21 sessions of radiotherapy, and now studies medicine and surgery at Kenyatta University.

Kenya's Cases Have Doubled, Delays Worsen Them

For Kenya, the study estimates 55,700 new cancer cases and 33,600 deaths in 2023. Cases have more than doubled since 1990, largely because the population has grown and aged.

Catherine Nyongesa, MMed, a clinical and radiation oncologist in Kenya, says delays in treatment occur at several stages, from recognizing symptoms and reaching an appropriate facility to obtaining a biopsy and receiving pathology results. Patients may visit several facilities before reaching definitive care, while travel costs, fragmented referrals, and limited diagnostic capacity compound the delays.

Digital records and tracking systems could help hospitals identify where patients get lost, follow up on abnormal results, and confirm completed referrals. "We need to measure each interval separately to identify where action is most needed," Nyongesa says.

A 2025 review on digital health and AI in sub-Saharan Africa argues that shortages of health workers make digital tools important because training more workers alone will not be enough. In Kenya, digital technologies used to improve cancer detection and care include electronic patient records, digital tracking and appointment reminders, teleconsultations, virtual multidisciplinary meetings, and research into AI-assisted interpretation of cervical samples and pathology images, according to Nyongesa.

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>
> Catherine Nyongesa, MMed

"In radiotherapy, AI-assisted auto-contouring can help outline organs at risk and, in selected applications, treatment targets on planning scans... In radiology, AI can support image interpretation by flagging suspicious findings, helping prioritize urgent examinations, and assisting with measurements and reporting," she explains. "These interventions are at different stages of development and adoption. We should distinguish tools being studied from those established in routine practice. AI applications require local validation, quality assurance, and clinical oversight, and efficiency improvements should be measured separately from improvements in patient outcomes."

Hannah Simonds, PhD, a clinical oncologist at Stellenbosch University and Tygerberg Academic Hospital in South Africa, describes several emerging uses of digital technology in cancer care. These include cervical cancer screening initiatives and pilots for AI-generated radiotherapy plans and AI-generated radiology reports that may help where radiology staff are scarce. Remote pathology reporting is another area of potential development.

Such tools could help centers with limited specialist capacity, but their intended benefits should not be confused with proven improvements in patient outcomes. Simonds cautions that identifying patients is not enough if treatment is unavailable.

"Even routine diagnostic tools that identify patients are of little use if there is no access to treatment," she says.

She points to the need for political commitment, funding, skilled health workers, affordable chemotherapy, and functioning radiotherapy equipment. Some projects depend on international or donor funding, she says, raising questions about their long-term sustainability.

Moving Forward

The *Lancet Oncology* study's findings point to a need for stronger health systems, better national cancer plans, and responses suited to local conditions. In Kenya, cancer cases have more than doubled in 3 decades, while many patients still encounter delays in diagnosis and treatment.

Africa accounts for nearly 38% of childhood cancer deaths worldwide, and its age-standardized cancer death rate has risen over 3 decades while rates have fallen in wealthier regions. The study calls for continent-led prevention efforts and action across the cancer-care pathway, from early diagnosis to equitable access to treatment, to reverse this trend and narrow the longstanding gap in cancer outcomes.

Nyongesa says hospitals should measure how long patients wait for diagnosis and treatment, whether referrals are completed, and how many patients start and finish treatment. They should also track treatment abandonment, survival, and patient costs and travel burdens, including differences between patients based on where they live and what they can afford.

The central test, she says, is whether digital technology helps more patients complete the journey from suspicion to

effective treatment, with fewer delays and a lower financial burden.

Keywords: cancer care; cancer burden; Kenya; artificial intelligence; electronic health records; cancer diagnosis; cancer screening

Conflicts of Interest

None declared.

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