

Building capacity for geospatial cancer research in Uganda: a feasibility study



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Abstract

Background There is a growing epidemic of cancer and other non-communicable diseases in sub-Saharan Africa. Targeted, specific, cost-effective strategies are needed to manage the growing burden of cancer. In high-resource settings, geospatial analysis has transformed cancer control through geographic targeting of interventions and policies. A similar approach could improve cancer control in sub-Saharan Africa; however, georeferenced cancer data and increased geospatial research capacity are needed. Here, we aimed to assess the feasibility of geocoding and mapping small-area cancer data from a cancer registry in Uganda.

Methods We established a partnership including the Makerere University Department of Pathology, School of Public Health and College of Computing and Information Sciences, the Kampala Cancer Registry, Uganda, and the Medical College of Wisconsin, USA. The overarching goal of our multidisciplinary and multi-institutional partnership is to increase geospatial cancer research capacity at Makerere University to enhance the prioritisation and targeting of limited cancer prevention and control resources in Uganda.

Findings Two medical students from the Medical College of Wisconsin, mentored by faculty at their own institution and Makerere University, worked in Kampala with registry staff to identify, enter, and quality-check geographic codes of residence for approximately 1522 cervical cancer records from 2005 to 2014. Information about district (n=1520, 99.9%) and subcounty (n=1486, 97.6%) was available for the vast majority of cases, and the parish was identifiable for a large proportion of cases (n=1242, n=81.6%), with increasing availability in more recent years. A seed grant is supporting ongoing capacity building at the Kampala Cancer Registry, including the purchase of new computing hardware and software and the implementation of a revised geographic data collection protocol to support future geospatial analysis of Kampala Cancer Registry data.

Interpretation It is feasible to geocode cancer registry records in Kampala, Uganda, and to create cancer incidence maps to identify areas with higher than expected cancer burdens. This capacity building partnership is a catalyst for improving targeted prevention and control efforts to reduce the burden of cancer in Uganda.

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Declaration of interests

We declare no competing interests.

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