



**CANCER RESEARCH AGENDA: PRIORITIES
FOR EFFECTIVE CANCER CONTROL IN KENYA**

Background

Cancer is an increasing burden for healthcare systems globally, especially for low- and middle-income countries undergoing an epidemiologic transition and bearing the effects of triple burden of disease; infectious, non-communicable and injuries. Progress against cancer in high-income countries has been modest and has come at enormous expense; identification of areas of cost-effective interventions in LMICs is of urgent importance. Most financial resources for cancer, however, are spent on diagnosis and management of patients with disease in circumstances where specific knowledge about effective approaches is significantly limited, and the majority of interventions, other than surgery, are not cost-effective in resource-limited countries by global standards. In summary, how to intervene effectively on a global scale for the majority of citizens who develop cancer is poorly defined. Current investment in cancer prevention research and the implementation of preventive interventions is too low.

The World Health Organization has identified five priority cancer research agenda:

1. Track the cancer burden and risk factors and collect data (e.g. staging, treatment, use of opiates, economic impact of cancer, and human resources for cancer control) needed to strengthen cancer programmes
2. Develop methods for applying cancer prevention strategies in relation to local culture and local resources (including primary prevention, effective early detection, vaccination programmes)
3. Develop means to train health professionals on all aspects of cancer control, including leadership and management of cancer control programmes with a public health approach at the national and district levels
4. Study cost-effectiveness of modalities of different surgical procedures and radiotherapies given varying resource settings and health care systems
5. Identify means to reduce barriers to access to diagnosis, treatment, rehabilitation for curable and palliative care for non-curable cancers

The National Cancer Control Strategy for Kenya, 2017-2022 recognized that cancer research is a central strategy in all cancer control planning in the country, and identified the priority research topics in the various domains of cancer control. This document, therefore, summarizes this research agenda for Kenya, and aims to serve as a quick reference document for researchers working in diverse organizations, either in academia, research organizations, public health institutes as well as independent investigators, locally or abroad, to partner with the government in cancer control through research. This research agenda therefore can be utilized for planning research projects as well as advocating for funding for cancer research.



Cancer research Agenda

a) Cancer burden description

- Cancer burden mapping by type, age, sex and geographical context (County/regions) using data from the national population-based registry.

b) Cancer causes and prevention

- Baseline data on each of the known cancer risk factors (alcohol consumption, tobacco use, unhealthy diet, physical inactivity): already available from national surveys
- To investigate the contribution of known environmental and occupational risk factors to development of cancer in Kenya (for example, prevalence of various carcinogens classified by the IARC monographs volumes 1-123, in Kenya).
 - Data on population exposure to known or suspected carcinogens;
 - Chemicals in use in the agricultural sector in Kenya, and the number classified as probable carcinogens by IARC
- Laboratory based research on biological mechanisms underlying cancer
- To investigate the contribution of infectious agents to development of cancers in Kenya: Examples HPV, HBV, HCV, EBV, H-pylori, Schistosomiasis, HIV,
- Cancer-Prevention, Early Detection, Screening, Treatment and Palliative Care: feasibility, cost-effectiveness, barriers and opportunities
- Etiological studies on risk factors and their interaction (including gene–environment interactions);
- Risk assessment, evaluation of attributable risks and projection of cancer incidence based on exposure prevalence and relative risk estimates;
- Identification of priority risk factors in the country concerned, based Upon their population attributable fraction, that is the fraction or proportion of cancers that can be attributed to different risk factor exposures;
- Methods for applying cancer prevention strategies in relation to local culture and local resources.

c) Gaps in screening and early detection

- Studies to understand the performance of preventive, screening and early diagnostic services for cancer (including infrastructure and human resource)
- Cost benefit analysis of the various interventions in prevention, screening and early diagnosis of cancer
- Investigate the impact of the standardized communication tools and platforms on cancer prevention, early diagnosis and screening



- Detailed study of the pathology system in Kenya to better understand its nature, pathway of specimen referral, points of weakness in the system, and extent of the problems to derive workable short- and long-term solutions
- Detailed study of the medical imaging in Kenya to better understand its nature, pathway of referral, points of weakness in the system, and extent of the problems to improve access and use
- Development of Programme strategies for screening and early detection coupled with effective clinical management programmes;
- Evaluation of models for implementing effective screening programmes in different socioeconomic settings;
- Studies to document determinants and barriers to participation in early detection programmes and those leading to cancer being diagnosed at an advanced stage;
- Cost-effectiveness of alternative technologies for diagnosis, screening and treatment appropriate for use in low- and middle-income countries;
- Means for down-staging of detectable cancers through public awareness programmes;
- Improvement of pathology and imaging practice in cancer diagnosis, including the feasibility and utility of tele-imaging and tele-pathology as tools for improved diagnosis and education in low- and middle-income countries;
- Further development and piloting of quality assurance guidelines for screening and early detection programmes appropriate to low- and middle-income countries.
- Strategies to increase the awareness of familial patterns for cancers with strong heritability component (breast, colon and childhood cancers) in order to better identify subjects who may be at particularly high risk of cancer.

d) Research gaps in relation to cancer treatment, rehabilitation and early palliative care

- Clinical research to determine the most effective treatment, palliative care approaches and role of end of life care
- Psychosocial and behavioural (e.g. factors impacting on prevention, the response to screening, and the impact of diagnosis and treatment)
- Effectiveness of medicinal plants and traditional treatments and ways of integrating them into the conventional health system
- Health systems and health policies (e.g. how services can best be implemented and organized).
- Effective ways to improve access to quality cancer health care services e.g. ways to decrease the healthcare costs associated with cancer prevention and treatment



- Low-cost research mainly for evaluation of epidemiological and treatment results of different cancers
- Conduct cost analysis including potential financial impact to patients, to formulate essential package for NCD/cancer control services, as per level of health care and in line with evidence-based guidelines
- Research on improvements of health care systems to reduce barriers to access to diagnosis and treatment, rehabilitation and palliative care;
- Cost-effectiveness of resource-minimal, locally affordable and effective multimodality therapy for common cancers, including surgery;
- Cost-effectiveness of modalities of different surgical procedures and radiotherapies given varying resource settings and health care systems;
- Studies to document trends in population-based cancer survival experience in low- and middle-income countries, to evaluate the efficiency and effectiveness of health services responses to diagnosis, treatment and follow-up care of cancer patients;
- Palliative role of surgery, chemotherapy and radiotherapy;
- Comparative assessment of cancer surgical practice across different regions,
- Taking advantage of the clinical expertise developed in areas where specific types of cancer are frequent;
- Validated models on palliative care in different socioeconomic settings;
- Evaluation of outcome of community-based palliative care, conditions for success and sustainability;
- Evaluation of policies for the provision of morphine for palliative care;
- Role of supportive care interventions in early stages of the disease, for example good symptom relief and psychosocial support from the time of diagnosis;
- Palliative care solutions for problems in cancers common in low and middle income countries.
- Support to parents, families and communities to improve the environment of cancer patients and their integration into the fabric of society;
- Development and piloting of quality assurance guidelines and programmes for service provision, Programme management and rollout in low- and middle-income countries.



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