POLICY **Brief**

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Ministry of Health

Assessment of Demand Versus Supply of Cancer Services on Kenya

Insights from the Kenya Health Facility Assessment (KHFA) 2018/2019

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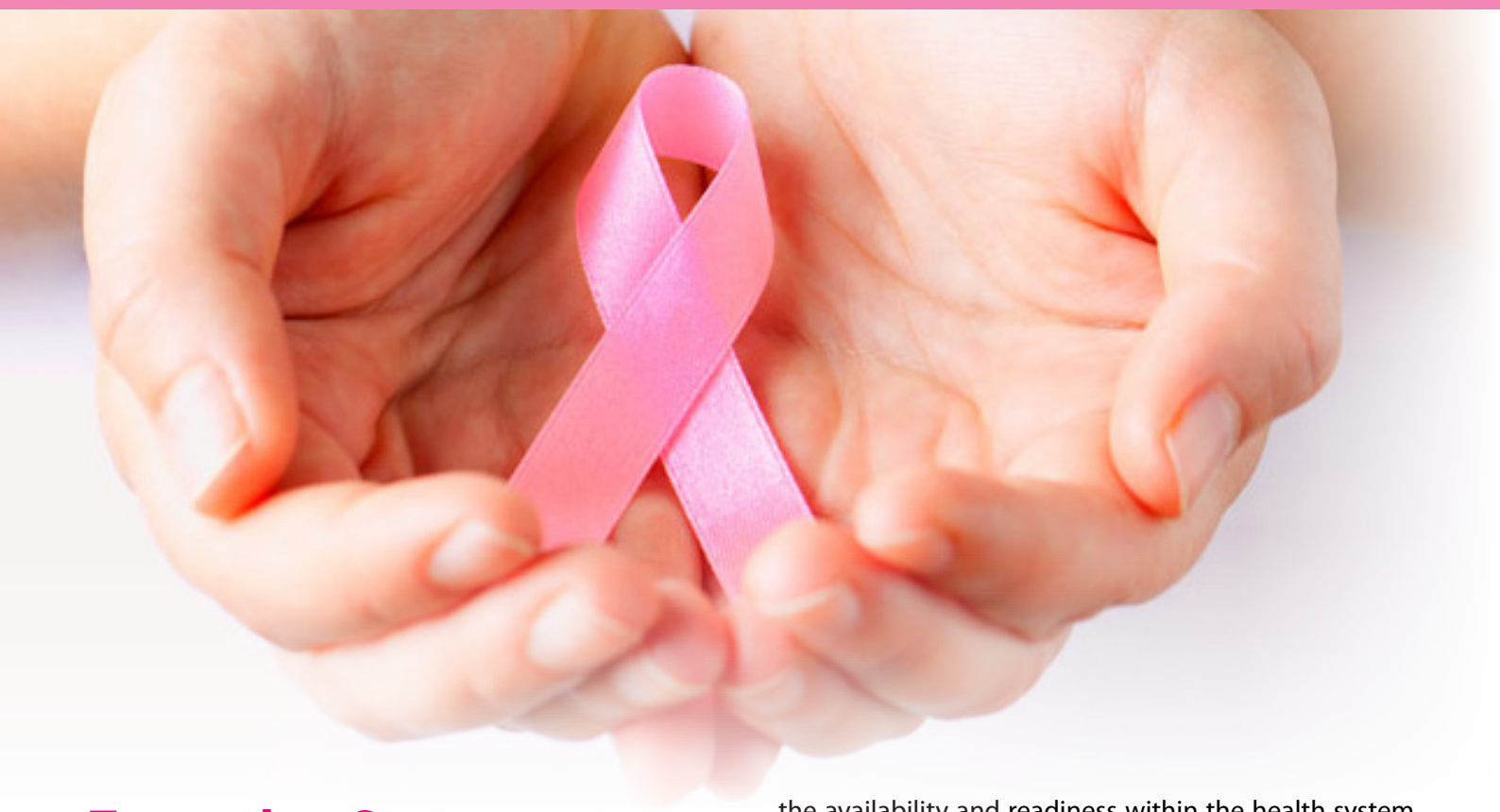

Executive Statement

Kenya, like other developing countries, is undergoing an epidemiological transition marked by a decline in morbidity and mortality due to communicable conditions, and an increase in the burden of non-communicable diseases (NCDs).

Cancer is currently the third leading cause of death in the country, but despite it being a public health concern, the health system remains largely unprepared to meet this emerging threat. Specifically, marked inequalities exist in the availability and readiness within the health system to provide services across the cancer care spectrum. In addition, the risk of financial impoverishment is particularly high in the management of cancers due to inequities in access to care and the high cost involved.

This brief will demonstrate the demand for cancer services in Kenya (burden of disease) and relate this to the diagnostic and treatment capacity of the health system (supply) and recommend policy changes aimed at enhancing access to cancer screening, diagnostic treatment and palliative services across all levels of care.

Key Messages

- Less than a third (26%) of facilities in Kenya had cancer screening services
- National availability of cancer treatment services was 2%
- Less than a quarter (22%) of facilities reported being able to carry out cervical cancer screening and diagnosis with only 4% of the facilities providing Human Papilloma Virus testing.
- Acetic acid or lugol's iodine for cervical cancer screening was available in 79% of health facilities
- Breast cancer care services were available in 20% of all facilities with fine needle aspiration and core needle biopsy available in only 2% of these facilities
- Morphine was available in less than a fifth (15%) of facilities in the country
- Capacity to screen for, diagnose, or treat colorectal cancer was generally low at 2%
- National availability of palliative care services was 3%.

Introduction

Epidemiology

Non-communicable diseases have emerged as a major health and development challenge responsible for 71% of all deaths. Approximately 15 million people are estimated to die prematurely (between the age of 30-69 years) annually from NCDs.[1]

The burden of disease due to cancer has risen to levels of public health concern in Kenya with an estimated 47,887 new cases and 32,987 deaths making it the third leading cause of death after infectious and cardiovascular diseases. This shift in disease burden from one that was largely communicable to non-communicable conditions puts strain on scarce resources in an already overstretched healthcare system. In addition, cancer has a significant impact on economic growth due to the high cost of diagnosis & treatment and lost productivity as a result of cancer-related premature deaths.[2]

The top 5 adult cancers in Kenya (cervical, breast, oesophageal, prostate and colorectal cancer) account for 44% of the burden with 1 in every 4 cancers being either breast or cervical cancer. Cancers of the esophagus and cervix account for 23% of cancer deaths in the country.[3] Lymphomas, leukemias, retinoblastomas, renal and bone tumors are the most common childhood cancers.

Cancer care services

Cancer care services range from preventive services such as vaccination and addressing risk factors; early detection that includes screening and early diagnosis; diagnostic, treatment, palliative and survivorship services which are available at various levels of care based on availability of requisite resources.

1 WHO FACT sheet 2018

2 Hanly, P.A., Sharp, L. The cost of lost productivity due to premature cancer-related mortality: an economic measure of the cancer burden. BMC Cancer 14, 224 (2014). https://doi.org/10.1186/1471-2407-14-224

3 GLOBOCAN 2018

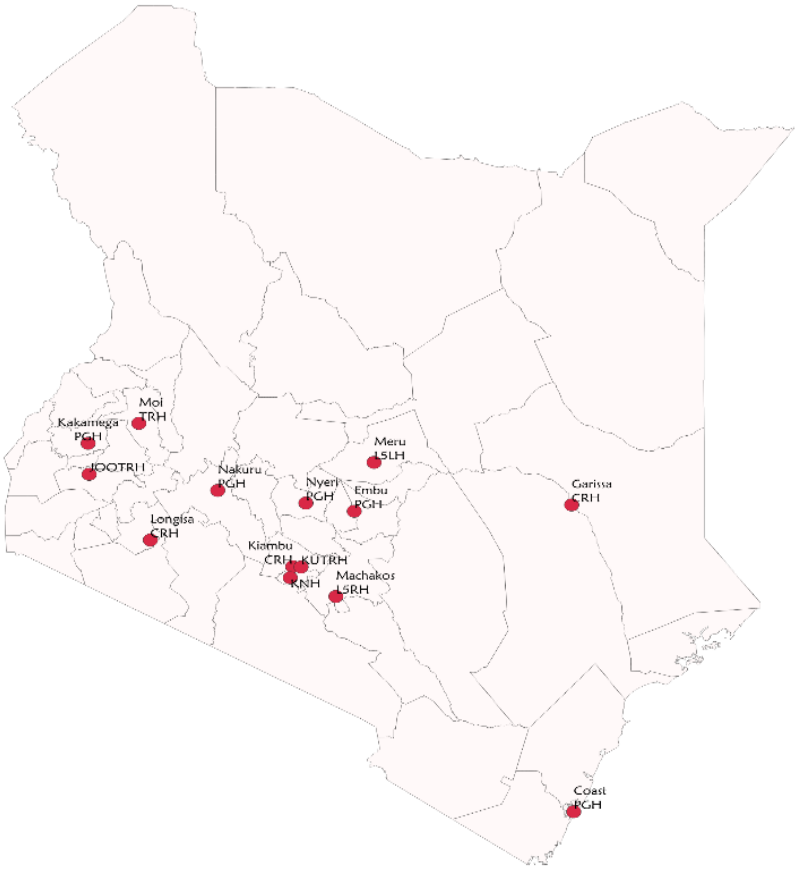

Figure 1: Distribution of cancer management centres in Kenya, 2019

The main forms of cancer treatment include surgery, chemotherapy, radiotherapy and nuclear imaging services. Their availability within the public sector is varied with only 2 hospitals (Kenyatta National Hospital and Kenyatta University Teaching, Referral and Research Hospital) able to provide comprehensive/the full set of these services in addition to prevention, screening and diagnostic services. Eleven public hospitals namely Coast PGH; Garissa PGH; Nakuru Level 5; Meru Level 5; Kisumu (JOOTRH), Kakamega, Nyeri; Embu; Bomet (Longisa), Machakos and Moi Teaching and Referral Hospital provide prevention, screening, diagnostic, surgical and chemotherapy services as shown in Figure 1 below. Four hospitals (Garissa, Nakuru, Mombasa and Kisii) are currently been upgraded to comprehensive cancer management centers.

Noticeably, all the cancer centers are in urban areas, largely in central and western regions of the country leaving out the northern and lower eastern regions. For example, a patient in Mandera, Moyale, Turkana, Marsabit, Samburu, Wajir, Isiolo and West Pokot requiring histopathology as a diagnostic must travel to Eldoret or Nairobi. Similarly, a child requiring treatment for blood cancers like leaukemia in Kenya must travel with a guardian to Nairobi, for a prolonged period, to receive the required services.

Overall, cancer patients encounter many barriers to access the required services including social and psychological barriers that are largely decisions on whether, where and when to seek care, economic barriers that relate to the associated costs, the burden of travel for diagnostic, specialized treatment and emergency services and health system barriers that relate to availability and readiness of the facilities to provide the services.

In Kenya, 70-80% of cancer cases are diagnosed in late stages and this has been largely attributed to inadequate diagnostic and treatment facilities; high cost of diagnostics and treatment coupled with low awareness and high poverty levels in the population.[4]

4 Kisiangani, J., Baliddawa, J., Marinda, P. et al. Determinants of breast cancer early detection for cues to expanded control and care: the lived experiences among women from Western Kenya. BMC Women's Health 18, 81 (2018). https://doi.org/10.1186/s12905-018-0571-7

Marked differences in the availability, distribution and accessibility of cancer infrastructure, requisite human resources and commodities aggravate the situation. More than half of children with cancer in Kenya were found to abandon treatment due to scarcity of specialized pediatric oncology services and high costs of transportation to health facilities.

This brief will demonstrate the demand for cancer services in Kenya (burden of disease) and relate this to the diagnostic and treatment capacity of the health system (supply) to provide policy direction on how to address existing differences in the access to cancer services.[5]

5 Makau-Barasa, L.K., Greene, S.B., Othieno-Abinya, N.A., Wheeler, S., Skinner, A. and Bennett, A.V., 2017. Improving access to cancer testing and treatment in Kenya. Journal of global oncology, 4, pp.1-8.

Methodology

This policy brief uses findings from the Kenya Harmonized Health Facilities Assessment (KHFA) 2018/19, as well as evidence from a comprehensive desk review of existing literature that include health sector strategic documents, policy documents, annual health sector performance report, Kenya STEPwise Survey for Non Communicable Diseases Risk Factors 2015 reports and published research papers.

The KHFA entailed a comprehensive study of availability and readiness of health facilities in Kenya to provide services using a modular approach. The modules applied included: Availability, Readiness, Management & support systems, Quality of care and Community health systems. The survey population included 2,980 facilities with representation across counties, ownership levels and facility types. Availability of cancer care services was assessed based on the presence of diagnosis and treatment services while readiness to provide the services was based on the availability of the tracer items.

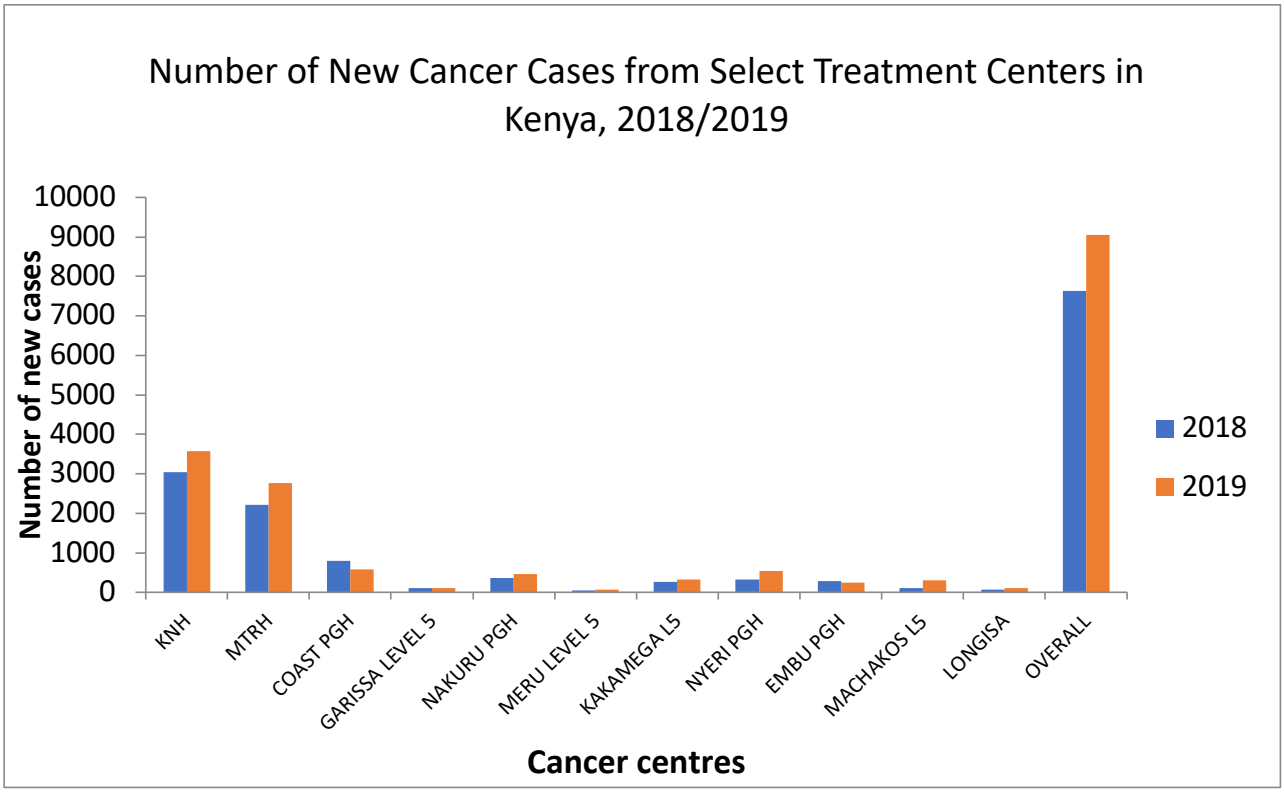

Figure 2: Number of new cancer cases in 2018 and 2019 (Source: DHIS)

Findings & Discussion

An analysis of the number of new cancer cases seen in select treatment centers in Kenya indicated a general increase in the number of cancer cases reported in 2019 as compared to 2018 as illustrated in the figure below. This demonstrates an increase in demand of cancer care services among Kenyans.

In comparison, findings from the KHFA showed that less than a third (26%) of facilities had cancer screening services with only 2% of facilities having cancer treatment services. There was variable availability of services for some of the most prevalent cancers in the country as seen in the figure below.

The lack of specialized equipment, service providers, requisite support services like blood and various specialized treatment options like stem cell transplants have been observed as reasons for late presentation, poor outcomes and preference for overseas treatment.

An opinion survey on cancer priorities showed that improved affordability of cancer services (59%); investment in cancer infrastructure (48%) and improved cancer education (51%) were the top actions that Kenyans expected from the government in the response to cancer.[6] This is particularly important in advising measures that need to be put in place to ensure equitable access to cancer services based on actual as opposed to perceived needs.

Cervical cancer services

Screening and early diagnosis of cancers are key intervention strategies for the health system with an aim of improving outcomes and at lower costs. However, previous studies have shown low population awareness and uptake of cancer screening services. For instance, only 16% of Kenyan women aged 30-49 years have been screened for cervical cancer and less than half aware of cervical cancer screening services[7]. Limited availability of these services particularly in the public sector has been cited as a contributing factor to the low uptake.

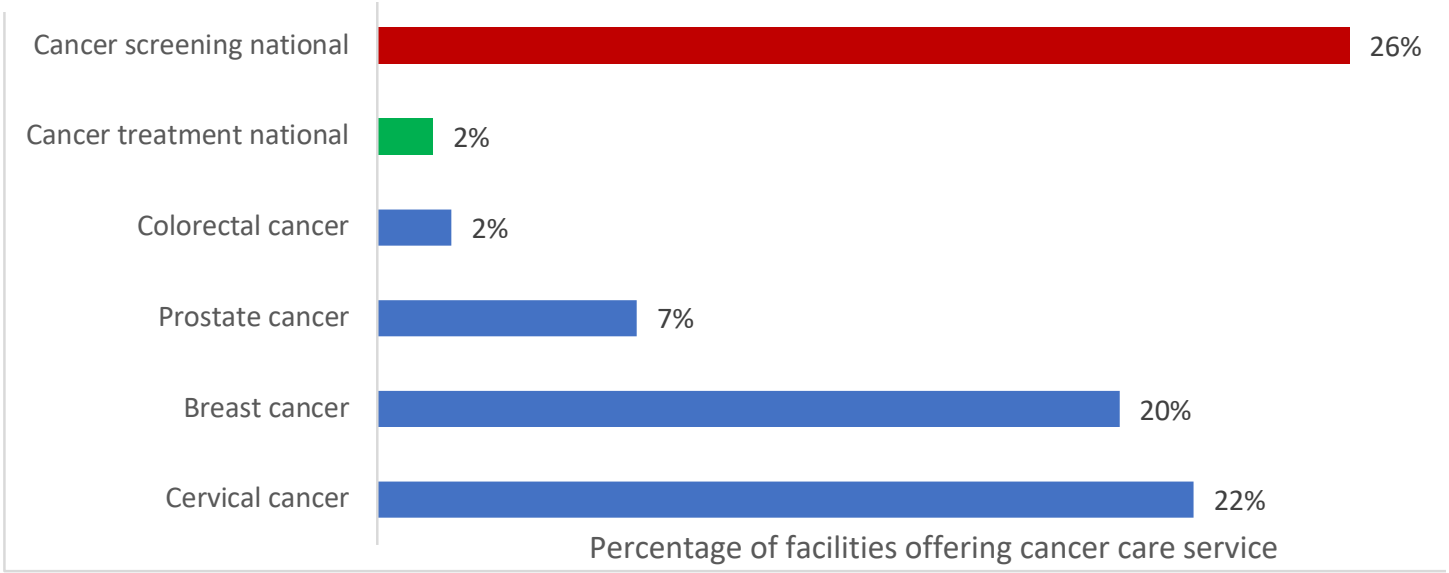

Figure 4: Trends on Routine Cervical Cancer Screening among women aged 25-49 years; 2015-2019

6 International public opinion survey on cancer 2020, UICC info@uicc.org

7 Ministry of Health K. Kenya STEPwise Survey for Non Communicable Diseases Risk Factors 2015 Report; 2015. p. 8–210. Available from: http://aphrc.org/wp-content/uploads/2016/04/Steps-Report-NCD-2015. pdf

A trend analysis of routine cervical cancer screening data between FY2015/2016 to 2018/2019 equally demonstrates a decline in the number of women screened particularly in primary health care facilities.

According to KHFA 2018, less than a quarter (22%) of facilities reported being able to carry out cervical cancer screening and diagnosis. The capacity was highest among secondary and tertiary facilities with 9 in 10 having cervical cancer diagnosis compared to public primary hospitals (52%), private/FBO hospitals (59%) and health centers (29%).

The National Cancer Screening Guidelines further advocate for screening and immediate treatment of pre-invasive cervical cancer lesions with particular emphasis on the use of HPV testing for cervical cancer screening. However, only 4% of the facilities are able to provide HPV testing with availability highest among secondary and tertiary facilities (75%) compared to public Level 4 facilities (12%) and health centres (5%). It is however noteworthy that more than three quarters (79%) of health facilities had in place acetic acid or lugol's iodine which is another basic screening test for cervical cancer.

Availability of treatment of pre-cancerous lesions was variable with 6% of facilities providing cryotherapy while 3% were able to provide LEEP. Availability of cryotherapy was highest in secondary and tertiary hospitals (44%) compared to public primary hospitals (13%) and health centers (8%). Colposcopy and biopsy services are critical to conducting confirmatory diagnosis of cervical cancer. Close to two thirds (60%) of secondary and tertiary hospitals provide these services against private and faith-based Level 4 hospitals (17%) and public primary hospitals (4%).

Overall, the limited availability of screening, diagnostic and treatment of pre-cursor lesions coupled with public low awareness could explain why the highest proportion of cervical cancer cases in the country present with advanced disease.

Breast Cancer Care Services

Findings from KHFA showed that screening and diagnosis services for breast cancer are available in a fifth (20%) of all facilities with highest availability noted among secondary and tertiary hospitals (85%). Mammography is the recommended screening modality for breast cancer in Kenya[8]. The survey noted availability of mammography in secondary/tertiary, public primary and private/faith-based hospitals as 70%, 8% and 3% respectively indicating higher availability within the public sector.

Availability of key definitive tests like fine needle aspiration and core needle biopsy, were very low, with only 2% of facilities doing these investigations. Regarding availability of core-needle biopsy for breast cancer diagnosis, highest availability was observed among secondary/tertiary hospitals (60%) compared to private/FBO (23%) and public level 4 (6%). Availability of histopathologists is equally highest among secondary/tertiary hospitals (41%) with almost none (1%) available in public Level 4 hospitals.

Surgical treatment (mastectomy) was largely available in Level 5 and 6 hospitals (80%) compared to private/FBO hospitals (31%) and public level 4 (9%) while chemotherapy was mainly available in half (50%) of secondary and tertiary hospitals and only 5% of private/FBO hospitals. Maintenance treatment for breast cancer in the outpatient setting is widely available in secondary/tertiary hospitals (70%) compared to private/FBO (31%) and public primary hospitals (14%).

Morphine, an opiod analgesic used in the management of pain for cancer patients was available in less than a fifth (15%) of facilities in the country, of which 94% was in secondary and tertiary facilities, 67% in private primary/FBO/NGO facilities and 10% in health centers.

8 Ministry of Health (2018). Kenya National Cancer Screening Guidelines

Prostate Cancer Care Services

Availability of services to screen, diagnose and treat prostate cancer was reported at 7% with highest availability among secondary/tertiary hospitals (80%) followed by private/FBO hospitals (48%) and public Level 4 (27%). Availability of simple screening services such as digital rectal examination and PSA was largely available at 72% and 66% respectively. Surgical intervention for prostate cancer was available in almost all secondary/tertiary level hospitals (94%) compared to private/FBO hospitals (70%) and public level 4 hospitals (38%).

Colo-rectal Cancer Care Services

Capacity to screen for, diagnose, or treat colorectal cancer was generally low at 2%. More specifically, almost half (45%) of secondary/tertiary hospitals provide stool guaiac test for colo-rectal cancer screening compared to private/FBO hospitals (14%), public primary hospitals (14%) and health centres (1%). Colonoscopy services were available in half (50%) of Level 5 and 6 hospitals and in only 9% of private/faith-based hospitals. Surgical services for colo-rectal cancer treatment were equally high in secondary/tertiary hospitals (50%) compared to private/faith-based hospitals (21%). Availability of chemotherapy and radiotherapy services was also relatively higher in secondary/tertiary hospitals 50% and 15% compared to private/faith-based facilities at 6% and none respectively.

Palliative Care Services

Palliative care is particularly important in a setting where cancer patients are diagnosed in advanced stages or when they are facing the terminal phase of the disease[9]. Findings from KHFA revealed 3% availability of palliative care services. Highest availability was seen in secondary and tertiary hospitals (85%) compared to public primary (19%) and private/FBO hospitals (25%). Close to two thirds (60%) of secondary and tertiary hospitals provide inpatient palliative care while only 14% of public primary hospitals and 23% of private/FBO hospitals are able to provide these services. Facility linkages with home-based palliative care were observed in 55% of secondary/tertiary hospitals and in only 12% of private and faith-based Level 4 hospitals.

9 World Health Organization (2007). Palliative care (Cancer control: Knowledge into Action- WHO Guide for Effective Programmes)

Conclusion

- The country is faced with an increasing burden of cancer against limited availability and readiness within the health system to provide services across the cancer care spectrum.
- Availability and readiness to provide cancer care services is highest in secondary and tertiary facilities. This may be a reflection of continued government's investment towards better cancer management infrastructure at this level.
- There is a disproportionate availability of cancer care services, including screening and early detection, at higher levels of care as opposed to primary health care facilities where the majority of the population resides.
- Limited availability and readiness to provide cancer diagnostic services across all levels of care presents a real barrier to improving treatment outcomes
- Availability of surgical services for treatment of common cancers such as breast and prostate is generally high.
- The limited availability of palliative care services particularly in the primary level hospitals is a major concern in view of the high proportion of cancer patients who are diagnosed in advanced stages.

Recommendations

In order to mitigate the ravaging health and socioeconomic impacts of cancer, Kenya has to consider the following;

i. Enhance access to basic cancer screening and diagnostic services in primary health care settings
ii. Strengthen investments in cancer diagnostic services across all levels of care.
ii. Engage all relevant stakeholders to strengthen the capacity of health facilities to provide the required cancer services in a sustainable way.
iv. Strengthen availability of palliative care services. www

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