Global Burden of Cancer in Africa

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Cancer is a leading cause of morbidity and mortality worldwide. More than 70% of all cancer deaths occur in developing countries. By 2030, seven out of every ten new cases of cancer will occur in the developing world.
Learning Objectives

• Understand the role of population based cancer registries in determining the burden of cancer
• Understand the risk factors for cancer in LMIC’s and how they differ from resource rich countries
Challenges of Cancer Research in Africa

1. Awareness that cancer is an existing health problem in Africa

West African Face Mask circa 1880’s

Boy with Burkitt’s lymphoma Kenya, 2007
Challenges

1. Awareness that cancer (and other NCD’s) are an existing health problem in Africa

2. Under-resourced clinical research infrastructure
Under-resourced clinical infrastructure

- Few specialized oncologists per country
- Pathology limited
- Lack of drugs
Challenges

1. Awareness that cancer (and other NCD’s) are an existing health problem in Africa
2. Under-resourced clinical research infrastructure (includes ethical framework)
3. Lack of training in cancer and cancer research
Challenges

1. Awareness that cancer (and other NCD’s) are an existing health problem in Africa
2. Under-resourced clinical research infrastructure (includes ethical framework)
3. Lack of training in cancer and cancer research
4. Understanding burden of disease
Cancer Registries

• Hospital vs Population-based registries
• Population based:
  – Captures occurrence and outcome of any cancer in defined population groups (e.g. city, region, country)
  – Each cancer case: details of the individual affected, type of cancer, information on treatment, and on follow-up specially with respect to survival
• Sources of cases:
  – Government and Private Hospitals, nursing homes, Cancer centers, Hospital-based registries, hospices, histology laboratories, Death certificates, private physicians clinics, pathology-based registries, vital registration
Role of cancer registries

• Research into the cause of cancer
  – data on patterns and trends

• Planning and monitoring of cancer control strategies

• Identifying priorities in public health
Vital Registration

• To asses burden of cancer also need data on vital registration
• Vital registration: recording of live births and deaths in a country.
• Only two countries in Africa (Egypt and South Africa) have any system of vital registration to measure cause-specific mortality.
Only 34 of 178 countries report **high quality mortality** data to WHO*

* WHO Mortality Database
## Cancer Incidence in Five Continents: Geographical Representation

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African Cancer Registry Network

- The African Cancer Registry Network (AFCRN) was formally inaugurated on 1st March, 2012
- Serves as regional hub to International Agency on Research on Cancer (IARC/WHO):
  - providing technical and scientific support to countries;
  - delivering tailored training in population-based cancer registration and use of data;
  - advocating the cause of cancer registration in the region and facilitating setting up associations and networks of cancer registries; and
  - coordinating international research projects and disseminating findings
AFCRN membership on June 1st 2016

List of countries:
Benin
Botswana
Congo (Republic of)
Cote d’Ivoire
Ethiopia
Gambia
Ghana
Guinea
Kenya
Malawi
Mali
Mauritius
Mozambique
Namibia
Niger
Nigeria
Reunion
Seychelles
South Africa
Uganda
Zambia
Zimbabwe

Pending membership:
Maputo (Mozambique)
Kilimanjaro (Tanzania)
2012 Top Male Cancers Worldwide

- Lung: 1200 cases (1000s)
- Prostate: 1000 cases (1000s)
- Colorectum: 700 cases (1000s)
- Stomach: 600 cases (1000s)
- Liver: 500 cases (1000s)
- Bladder: 400 cases (1000s)
- Oesophagus: 300 cases (1000s)
- NHL: 200 cases (1000s)
- Kidney: 150 cases (1000s)
- Leukemia: 100 cases (1000s)
- KS: 50 cases (1000s)
Most frequent cancer, men 2012

- Prostate (23)
- Liver (13)
- Kaposi sarcoma (6)
- Lung (5)
- Colorectum (2)
- Non-Hodgkin lymphoma (2)
- Leukaemia (1)
- Oesophagus (1)
- Stomach (1)
Kisumu Cancer Registry Data

2011-2014 Top ten Male Cancers

- Kaposi sarcoma (C46): 205 (39.2%)
- Oesophagus (C15): 76 (14.5%)
- Other: 66 (12.6%)
- Non-Hodgkin lymphoma (C82-85,C96): 60 (11.5%)
- Prostate (C61): 42 (8%)
- Liver (C22): 28 (5.4%)
- Penis (C60): 13 (2.5%)
- Stomach (C16): 12 (2.3%)
- Colon (C18): 7 (1.3%)
- Connective and soft tissue (C47,C49): 7 (1.3%)
Most frequent cancer, women  2012

Cervix uteri (28)

Breast (28)
The piece of pie due to infectious burden likely higher if we knew true burden of cancer in Africa
Any Questions?