RESEARCH AND HEALTH INFRASTRUCTURE
(Cancer Prevention and Control in Africa)

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In Africa: A Continent of Double Burden

- Crisis of Communicable and Non-Communicable Diseases
  - In Africa cancer is becoming a growing health burden
    - SSA-645,000 new cancer cases in 2012
    - 456,000 cancer deaths
  - By 2020, 70% of 16 million new cancer cases will be in developing countries
  - Over one million new cancer cases per year
    - Governments are least prepared
    - Survival rates are often less than half of those of more developed countries
    - Survival mimics Economic status
    - A cause of premature death
    - Vicious cycle of loss, deprivation and underdevelopment
The Implication:
Cycle of Cancer Woes in Africa!

- The Less the Knowledge, the Less the Ability to Create Knowledge
- The More Limited the Evidence, the Less Efficient the Action
- The Greater the Poverty, the Less the Education and the Ability to Combat Poverty
- The Greater the Poverty, the Poorer the Health and the Ability to Combat Poverty
- The Less Attention to Prevention, the Higher the Incidence of Cancer
- The More Advanced the Cancer, the Shorter the Survival
- The Worse the Access to Care, the More Advanced the Cancer

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Cancer in Africa - A Reality
Research remains the driver for any change

1. Identify the problem
2. Commission research
3. Analyse the results
4. Choose the best option
5. Establish the policy
6. Implement the policy
7. Evaluation
Cancer Research

• Is about systematic continuous investigation and generation of evidence
• Cancer knowledge is dynamic with emerging ideas and concepts
  – Understanding the disease, prevention and treatment
• Focus is now multidisciplinary
  – Intra and inter regional/continental collaboration
• The use of Information technology (Bioinformatics)
  – Cancer modelling (Aetiology, disease course & control strategies)
components
- genes
- genotypes
- gene expression
- proteins
- protein

context
- pathways
- ontologies

etiology, treatment, prevention

states
- Trials
- Animal Models

agents
- therapeutics
- probes
The spectrum of Cancer Research

- The scope is numerous
  - Basic science
  - Clinical
  - Demographic
  - Social/Behavioural science/cultural
  - Public health
  - Pharmacology & therapeutics
  - Anthropology
  - etc
Evidence is core to policy making

Source: Phil Davies Impact to Insight Meeting, ODI, 2005
Access to Cancer Infrastructure

• In Africa people have limited access
  – To clinics, and the number of doctors and nurses to serve populations is often severely inadequate.
  – To pathologists able to provide accurate diagnoses and staging of cancers are in short supply.
  – Laboratory facilities, equipment and technicians to provide screening programs and radiotherapy services for treating cancers fall far short of need, with some African countries lacking such services altogether (Kavanos P., 2006).
  – Biobanking
Lateral Challenges of African Health System

• Traditional medical claims and systems
  – Competitive attention from governments
  – Orthodox practitioners showing interest!

• Spiritual interpretation of chronic medical problems including cancers
  – Complex and contextual

• Cultural response and behaviour to health challenges
The State of Africa Cancer Research

• Currently, effort is encouraging but still below expectation to our needs.
• Unlike in developed countries, a typical cancer research from Africa are mostly
  o Donor funded
  o Lacks depth of contextual framework – sociocultural
  o Minimal multi-national outlook
  o Lean basic science component
  o Low translational potential
The State of Africa Cancer Research

- Other challenges include poor research friendly environment (laboratory, incentives and recognition)
- Lack of mentoring programs, public funding comparable to NIH is non-existence
- Poor record keeping: Cancer registry with necessary resources
- Poor political support
Challenges

• Poor policy support
  – No national budget for Cancer research!
• Poor understanding of Burden of Disease
• Limited expertise in cutting edge research/care/mentoring
  – Limitations in conducting research
• Poor understanding of the community needs
• Minimal inter-professional research collaboration
• Difficulty in re-integrating to the system for those who trained abroad
Opportunities

- Structured facilities
- Available trainable-personnel
  - Training could be done within the country when there is appropriate capacity building measures
- Large pool of patients for research
  - E.g. Genomic studies in Cancer research
- Renewed interest in sub-specialization thereby the opportunity for multidisciplinary approach to care
- Incorporation of Cancer related research questions to routine data collection e.g. DHS; MICS
- Institutional collaboration rather than individual empires
“Keeping a finger on the pulse of cancer care in Africa ... ”
The African Organisation for Research and Training in Cancer (AORTIC) has the vision of transforming the orientation of cancer researchers within the continent through

- provision of research capacity building opportunities
- generation of a critical mass of cancer researchers that will form the core of the network
- leading advocacy for local funding of cancer research in Africa
- promotion of center of excellence in cancer research at national and sub-regional level.
The Strategic Plan

AFRICAN ORGANIZATION FOR RESEARCH AND TRAINING IN CANCER (AORTIC)

Strategic Plan of Action – 2010-2015:

WORKING TOGETHER TO PREVENT AND CONTROL CANCER IN AFRICA
Initial Cancers Targeted for the Plan of Action

- Breast Cancer
- Cervical Cancer
- Liver Cancer (Hepatocellular type)
- Prostate Cancer
- AIDS-Related Malignancies
- Childhood Cancers
Goal

- Build capacity for sustainable oncology programs on Africa
- Reduce the burden of cancer in Africa by the promotion and implementation of cancer control efforts through research and training in cancer.
My Thoughts

• Leverage on existing Postgraduate Colleges & research institutions
• Train within the country with international experts as mentors
• Increase access to international collaborations for translational research opportunity
• Facilitate improvement in the use of the Telemedicine technology
• Enhance training exchanges between countries of similar resources.
My Thoughts........2

• Advocate for increased resources
  – Encourage multinational companies/organisations to fund cancer research with incentives (Tax cut)

• Network of cancer care providers within a locality with rapid dissemination of appropriate evidence-based information.

• Countries with low or medium levels of resources should incorporate necessary budgetary allocations for training and provision of necessary facilities/equipment.
The Role of Academic Centers

• Build infrastructure

• Train leaders
  – Health care providers
  – Administrators
  – Health system planners
  – Mathematical modellers
  – Cancer Epidemiologists

• Generate evidence
  – Research
  – Foundation of good policy and preventive strategy

• Advocate for fair and equitable systems
Cancer Control Research Framework

Reducing the cancer burden

Adopted from the 1994 Advisory Committee on Cancer Control, National Cancer Institute of Canada.
Framework for cancer Program in Africa

Adewole, I. et al. (2014) Building capacity for sustainable research programmes for cancer in Africa
FUTURE GOAL: AFRICAN CENTERS OF EXCELLENCE IN CANCER

• An ultimate goal is to promote the establishment of national Centers of Excellence in Cancer throughout the continent

• These Centers will:
  – offer high quality facilities for training, research and service
  – reduce dependence on foreign institutions for training and service and promote brain sharing
Examples of Training Models......2

• Institutional “twinning,” in which networks of referral, information and support are established between institutions with well-developed cancer capacities and those without, has also proved successful in expanding clinical capacity to treat childhood cancer
  – Developed vs Developing programs (Exchange/Collaboration)
Cancer Care Kenya

- Kenya’s first private and comprehensive cancer centre, dedicated to the prevention, diagnosis, treatment and aftercare of cancer
- Internationally trained radiation, medical and surgical oncologists, palliative care physicians, physicists, radiation technicians and oncology nurses
Cancer Diseases Hospital (CDH) – Zambia

- Improves the quality of cancer treatment in Zambia
- Manages cancer using a multidisciplinary approach, applying evidence-based guidelines
Thank You