

MEDICAL ONCOLOGY  
IN KENYA –  
PROBLEMS AND  
NEEDS

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# Kenya

- Geography – location
- Population – 30, 000, 000
- Climate












# Medical Oncology – cancer chemotherapy

Historical perspective:

- David Karnofsky
- Joe Burchenal
- Others



1914  
1969

 David A. Karnofsky, M.D.

As a member of the Army Chemical Warfare Service, David A. Karnofsky, M.D., investigated the antineoplastic activity of various chemical agents. After World War II, he was able to pursue his research in the laboratory and clinic at the Memorial Hospital-Sloan-Kettering Institute, a new facility designed for the rapid dissemination of research results from basic research and animal studies to the clinic. During Dr. Karnofsky's multifaceted career, he investigated the use of chemical agents on tumor and embryonic stem cells, and his research led to the development of a system for screening compounds for anticancer activity and subsequent clinical trials.



7TH DEAN-PROF. THOMAS OGADA  
12.3.84-1.6.87

# Ministry of Health Priority List – 2005/2006

Item	Total Annual Cost
Reproductive health	12,781
Child Health/MCI	12,333
EPI	2,390
Malaria control	8,085
HIV/AIDS	1,3649
STI control	2,998
TB control	2,394
Environmental health	5,494
Mental health	136
Dental health	858
Health promotion	1,809
Rehabilitation	1,162
Palliative care	285

	Hospitals by Provinces in Kenya – 1999/	Number of Hospitals
1	Nairobi	54
2	Coast	46
3	Eastern	58
4	North Eastern	6
5	Central	51
6	Rift Valley	88
7	Nyanza	87
8	Western	59
9	Total	449

# Registered Health Professionals in – 1999 to 2000

1	Doctors	4411	15.3
2	Dentists	734	2.6
3	Pharmacists	1650	5.8
4	Clinical Officers	4277	14.9
5	Pharmaceutical Technologists	1167	4.1
6	Registered Nurses	8671	30.2
7	Enrolled Nurses	27073	94.4
8	Public Health Officers	780	2.7
9	Public Health Technicians	4879	16.9
	Total	53612	

# Health facilities:

- Ministry of Health
- Schools of medicine
- KEMRI
- Private sector
- NGOs/KHBP

# CANCER IN KENYA

# Table 1: Cancer Frequency by year at KNH (1991-2000)

Year	Total biopsy	Total cancer	Cancer as a percentage of all biopsies
1991	4274	926	21.7
1992	3612	743	20.6
1993	4501	767	17.0
1994	2855	501	17.5
1995	3541	893	25.5
1996	3854	590	15.3
1997	3245	480	14.9
1998	4065	828	20.4
1999	4460	658	14.8
2000	3800	460	12.1
<b>Total</b>	<b>38,207</b>	<b>6848</b>	<b>17.9</b>

# Table 2: The top ten cancers at KNH (1991-2000).

SITE	FREQUENCY	PERCENTAGE
Cervix	1451	21.2
Skin	651	9.5
Breast	630	9.2
Oesophagus	609	8.9
Lymphomas	452	6.6
Postnasal space	294	4.3
Stomach	247	3.6
Lips & oral cavity	212	3.1
Eye	205	3.0
Prostate	185	2.7
Total	4836	100

Table 3: The top ten cancers in Nairobi in both sexes (2000-2003)

CANCER TYPE	PERCENTAGE
Breast	13.8
Cervix	8.1
Oesophagus	5.7
Skin	4.8
Stomach	3.6
Prostate gland	3.2
Liver	2.9
Head/face	2.6
Bones	2.2
Lymph nodes	2.1

Table 4: Top ten cancers in females in Nairobi  
(2000-2003)

CANCER TYPE	PERCENTAGE
Breast	23.6
Cervix	14.8
Uterus	4.3
Oesophagus	3.8
Ovary	2.9
Skin	2.9
Stomach	2.5
Mandible	2.0
Brain	2.0
Thyroid	2.0

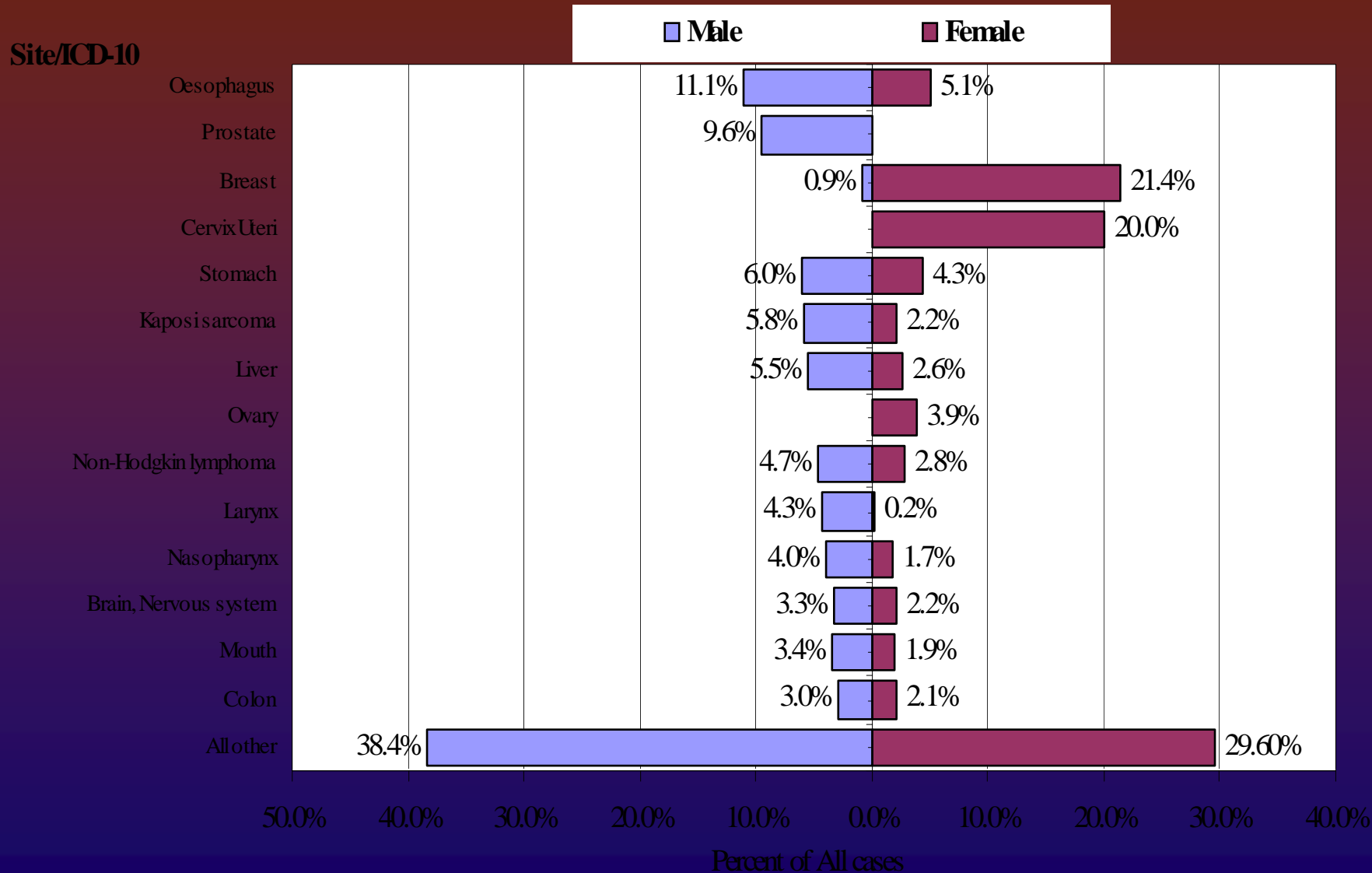
**Table 5: The top ten cancers in Males in Kenya  
(2000-2003)**

CANCER TYPE	PERCENTAGE
Oesophagus	7.3
Prostate gland	6.7
Liver	6.4
Skin	6.4
Stomach	5.8
Lymph nodes	3.8
Bone marrow	3.8
Head/face	3.2
Nasal cavity	2.6
Brain	2.3

**Table 6: The top ten cancers seen at the Nairobi Hospital (2003)  
(N= 616).**

CANCER TYPE	NUMBER OF CASES	PERCENTAGE
Breast	89	14.5
Non-Hodgkin's lymphoma	56	9.1
Non melanoma skin cancer	48	7.8
Colorectal	45	7.3
Hodgkin's disease	35	5.7
Prostatic	32	5.2
Liver and biliary system	20	3.3
Lungs and trachea	16	2.6
Lips, oral cavity, pharynx	15	2.4
Stomach	15	2.4
Leukaemia	14	2.3
Cervix	13	2.1

# Most Common Cancers registered by NCR (2000-2004)





Medical oncologists cannot work in isolation

The multiple disciplines required

- Pathologists
- Surgeons
- Radiotherapists
- Medical Oncologists
- Haematologists
- Others like oncology nurses

The actual numbers medical  
oncologists – 3+2 (5)

All in Nairobi

An internist haematologist in  
Eldoret.

The Indiana University connection -  
Lawrence Einhorn

# Problems encountered

## Clinical area:

Initially deficiencies in:

- Proper diagnosis
- Overall pathology reporting.
- Pathologic staging

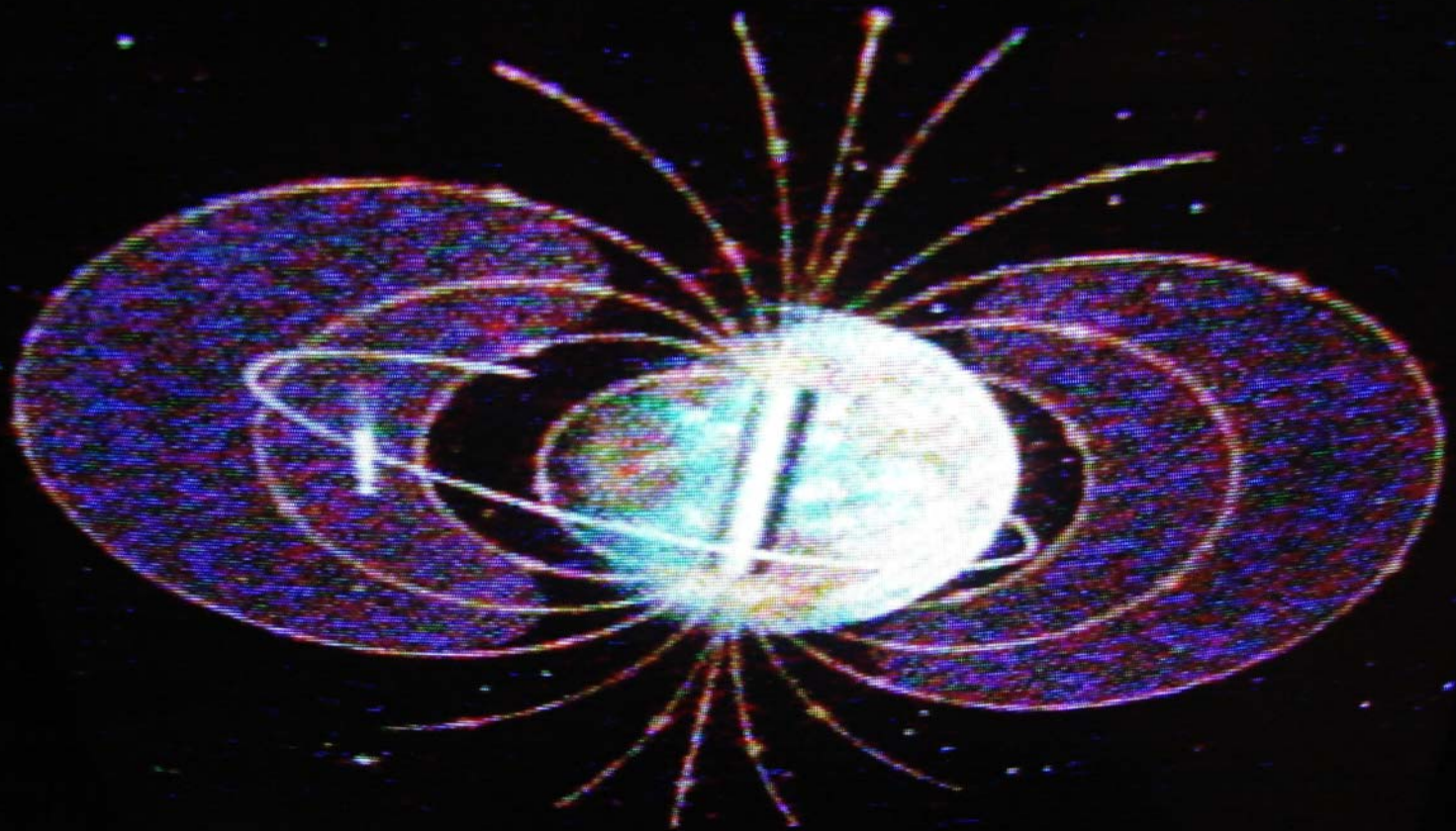
- Surgical resections and lymphadenectomies

## **Also**

- Lack of understanding and application of radiation.
- Lack of understanding of principles and application of chemotherapy.

# Alternative medicine

- Herbalists
- Quacks including “healers” from China
- Nutritional supplementation without evidence for need
- Internet based non-scientific evidence



 KTVE

PHILIPS

## **Equipment and supplies:**

- Surgery?
- Radiotherapy facilities
  - Only in Nairobi
  - Range limited
- **Chemotherapy:**
  - Mainly limited to Nairobi/ Preparation and use of platelets for example
  - Lack of medicines in public hospitals but good supplies in the major private hospitals.

- Lack of facilities  
for high dose  
chemotherapy with  
haematopoietic stem  
cell support.

# Teaching:

- To train health workers directed at cancer care:  
local/regional
- Regional seminars

# Research:

Virtually non existent:

- No funds
- No good will
- No laboratories

# Needs – Clinical & Training

- Training of pathologists in cancer diagnosis and prognostication
- Spread out radiotherapy and chemotherapy to cover the provinces
- Training of surgical oncologists.
- Training of medical oncologists

# Research:

- Train physicians in research methodology – “this is however going on reasonably well at the universities”.

- Clear research policy at the national level
- Respect for local researchers:
  - by the local community
  - by foreign researchers
- **? A national cancer institute.**

Thank you...

