

A photograph showing the silhouettes of several trees against a clear blue sky. The trees are dark and their branches are visible against the lighter sky. The foreground is a dark, solid black area.

# Organization of Cancer Services in Western Kenya

*Patrick J. Loehrer Sr., MD*  
*Indiana University Melvin and Bren Simon Cancer Center*

# Moi University

Moi Teaching and Referral Hospital is the second largest Public and Referral University Hospital in Kenya serving western Kenya where about 50% of Kenya's population live.

# AMPATH

## Academic Model Providing Access To Healthcare

(formerly Academic Model for the Prevention and Treatment of HIV/AIDS)

An organizational construct consisting of Moi University, Moi Teaching and Referral Hospital, and a consortium of American medical schools led by Indiana University that aims to deliver essential primary care services, control HIV, and mitigate the social and economic consequences of HIV/AIDS

# Health Indicators and Outcomes

- 40,000 pregnant women screened for HIV
- 3,361 HIV infected pregnant women enrolled into pMTCT
- >110,000 other persons screened for HIV
- 30,000 food insecure persons fed weekly
- 10 tons food grown weekly on AMPATH farms
- 4615 orphans and vulnerable children served
- Home counseling and testing successfully demonstrated in Turbo and Kosirai (pop 160,000)
- Riley Mother and Baby Hospital completed
- IU docs provided services in Medicine, Pediatrics, Medical Oncology, Anesthesia, Surgery, Orthopedics, ENT, Ob/Gyn, Pathology

The beginnings of a sustained  
partnership...

## Development of a Cancer Care Program

# Cancer care infrastructure

## Kenya



- **No National Cancer Registry**
- **No National Screening for Breast, Cervical, or other Cancers**
- **2 Cobalt 60 Radiation Units in Public Sector**
  - Older, in need of frequent repair
- **Oncologists**
  - 3 (or 4) Oncologists
  - 4 (or 5) Radiation Oncologists





# *"The infusion clinic"*





# AMPATH-Oncology

Capacity Building for patient care – nursing & Pharmacy



# AMPATH-Oncology

Capacity Building for patient care – nursing & Pharmacy



# Ampath-oncology

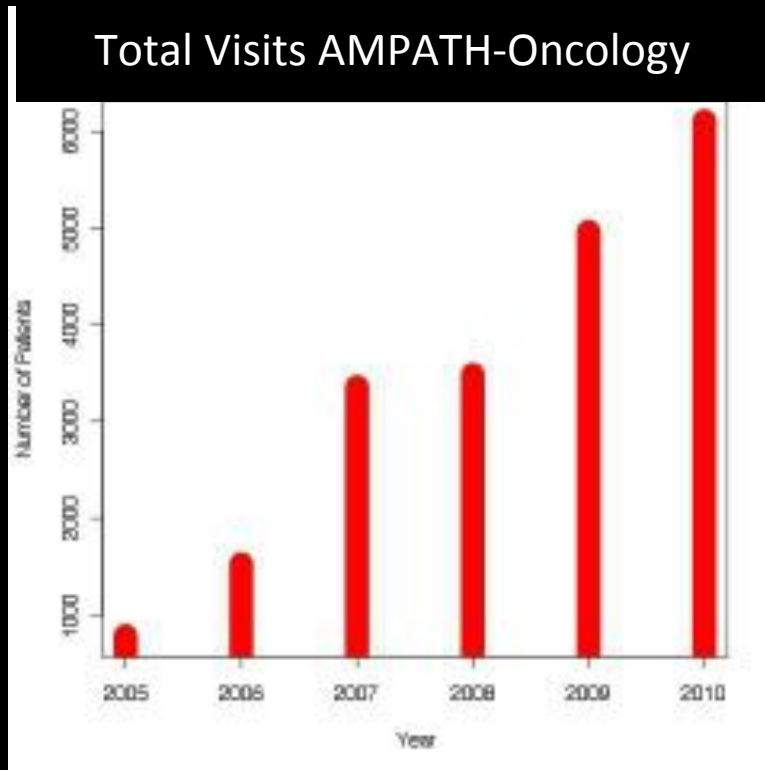
Using an HIV/AiDS backbone

- Access to patients
- A system for follow-up
- Existing basic laboratory infrastructure



# AMPATH-Oncology

## Increasing Patient Volume



- Rapid rise in non-HIV malignancy referrals
- Over 9000 visits in 2012
- Early attempt to offer treatment to all-comers
- Frequent lack of biopsy-proven diagnosis
- Lack of standardized protocols
- Potential for unsustainable costs

# AMPATH-Oncology

Capacity Building for patient care – Pathology infrastructure

## Pre-2008

- Visual diagnosis of most cancers
- Turn-around time for biopsies of 6-8 weeks
- Morphologic diagnosis only
- Lack of a functional cancer registry

## 2009- present

- Pathologic diagnosis as accepted standard
- Turn-around time for biopsies 2-4 weeks
- Basic, but developing, immuno-staining capabilities
- Up-to-date population-based cancer registry



# AMPATH-Oncology

## Screening Services



# Background of AMPATH Oncology Palliative Care

- Started in late Sept, 2010
  - Growing needs for palliative care (over 60-80% of cancer patients)
  - IU Palliative Care Physicians, Drs Greg Gramelspacher and Colleen Brown visited MTRH and AMPATH
- Recommendations: Kenyan champions, accurate prognostication & good communication
- Patient volumes: 783 (2005) → 5953 (2011)

# AMPATH-Oncology

Capacity Building for patient care – treatment protocols

- WHO List of Essential Drugs

Table 3. Cancer drug priority list.

	Top 10 cancers	Category 1-2	Generic
Priority 1			
Bleomycin	+	+	+
Chlorambucil	+	+	+
Cisplatin	+	+	+
Cyclophosphamide	+	+	+
Doxorubicin	+	+	+
Etoposide	+	+	+
5-Fluorouracil	+	+	+
Methotrexate	+	+	+
Procarbazine	+	+	+
Tamoxifen	+	+	+
Vincristine	+	+	+
Vinblastine	+	+	+
Cytarabine		+	+
Dactinomycin		+	+
Daunorubicin		+	+
6-Mercaptopurine		+	+
Together with two antiemetics – a dopamine receptor and a 5-HT <sub>3</sub> receptor antagonist as well as dexamethasone			

- Research protocols that use these drugs
- Minimize toxicity
- Importance of creating a standard, recording data, and re-assessing at regular intervals

# AMPATH-Oncology:

## *Key Questions for Patient Care*

- Is it cancer?
  - Is there a biopsy, can we biopsy, do we need a biopsy (does it really change treatment?)
- Is it staged?
  - Can we stage, can we afford to stage, will staging really make a difference in treatment?
- Can we treat?
  - Is there a surgeon able to do the operation, do we have the drugs, can the patient get to radiation?
- Can the patient and/or the system afford any of this?

# Cancer Research

- Cervical Cancer Screening
  - “see and treat”
  - HPV serotyping
- Pediatric cancers
  - Childhood Leukemia
  - Treatment Compliance in Childhood Cancers
  - Epidemiology
  - Molecular profiling of Wilm’s Tumor
- Kaposi’s Sarcoma
  - Treatment outcomes in HIV + patients
  - Gem vs BV
- Pharmacogenomics
  - Etoposide in KS patients
  - Vincristine and neuropathy
- Breast Cancer
  - Komen Proposal
  - Behavioral



# AMPATH- Oncology: Progress

- Patient volume increased over 10 fold
- Strategic academic partnerships
- Dedicated North American and Kenyan faculty and staff
- Guidelines and EMR initiated
- Creation of a Department of Oncology
- Chosen by AMC to be one of first four sub-Saharan Sites
- Increasing workforce (nurses, medical officers, oncologists)
- Gyne-Oncology Curriculum
- 2012 ASCO MCMC course in Eldoret
- Cancer and Chronic Care facility including radiation

## Role of American Society of Clinical Oncology in Low- and Middle-Income Countries

Jyoti D. Patel, Matthew D. Galsky, Anna R. Chaggar, Doug Pyle, and Jyoti J. Ladner Jr

### ABSTRACT

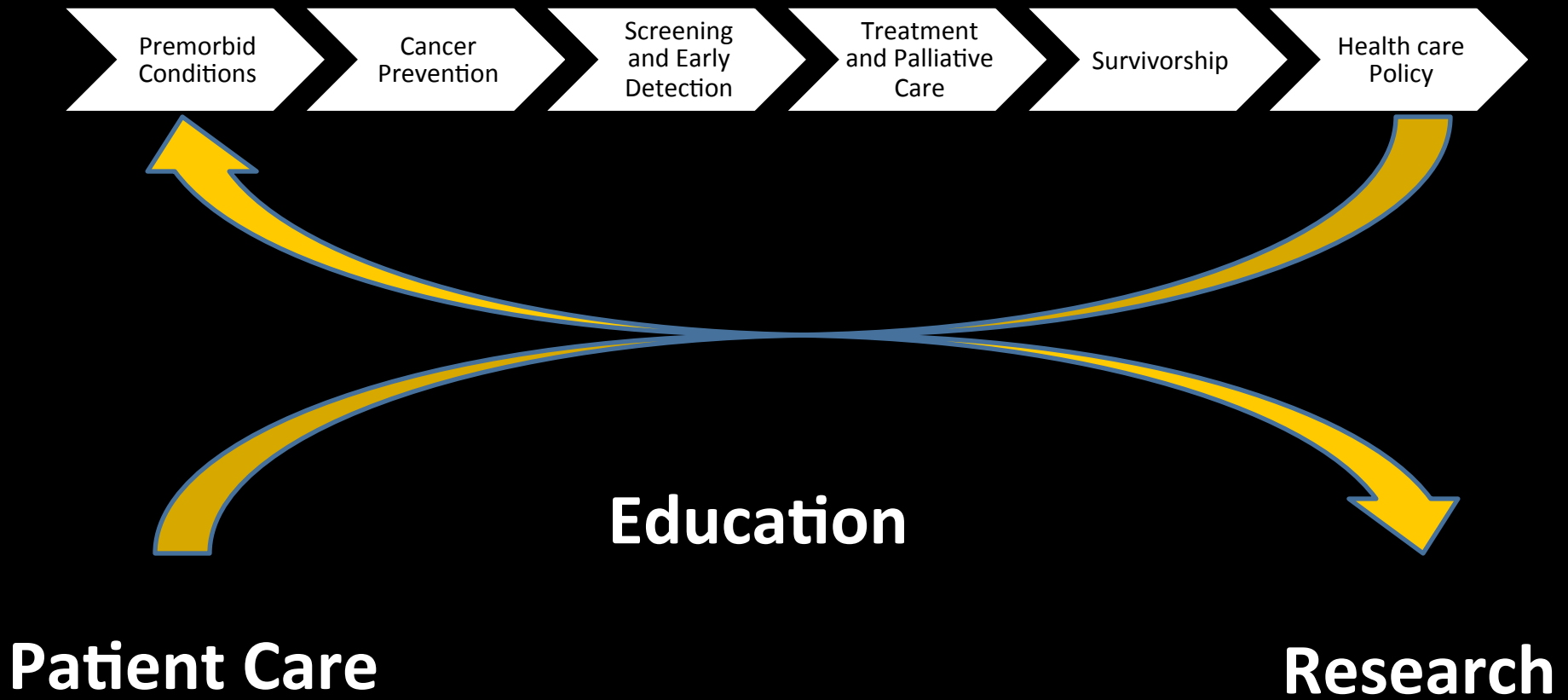
The American Society of Clinical Oncology (ASCO) is a global community of health care professionals whose stated purpose is to "make a world of difference" by improving cancer care around the world. Unfortunately, cancer survival rates vary significantly among countries with differing financial and infrastructure resources. Because ASCO is a professional oncology society

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## Barriers to Cancer Control in LMCs

- Lack of infrastructure
- Poorly trained and Limited workforce
  - Patient care costs
- Insufficient palliative care
  - Education Deficits

# Kenya: A Sustainable Approach for Cancer Control



# Final reflections on global health

- Care must lead the way
- Strategic partnerships
- Need to listen, before you listen
- LMCs can teach high income countries how to deliver more cost effective cancer care
- The Academic tripartite mission (service, education and research) works
- AMPATH-Oncology is one such model

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