

**NCI's Office of International Affairs:
Health Diplomacy & Capacity Building
for Global Cancer Control**

NCAB – 16 September 2009

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Office of the Director

National Cancer Institute

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U.S. DEPARTMENT
OF HEALTH AND
HUMAN SERVICES

National Institutes
of Health

NCI's International Mandate in Legislation



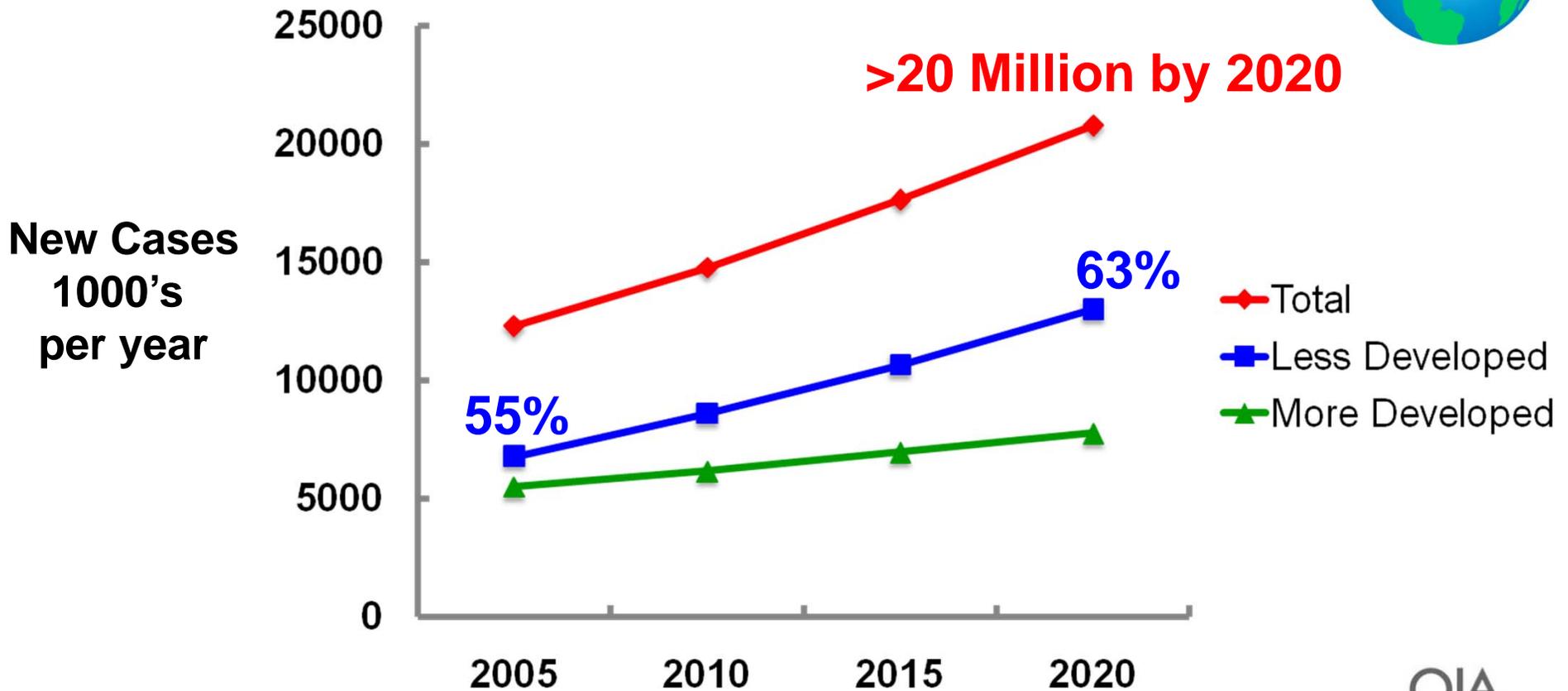
The National Cancer Act of 1971 and subsequent follow-up legislation specifically emphasize an international presence in directing that NCI:

“...support:

- (A) research in the cancer field outside the United States by highly qualified foreign nationals which can be expected to benefit the American people;*
- (B) collaborative research involving American and foreign participants; and*
- (C) the training of American scientists abroad and foreign scientists in the United States.”*



Cancer Cases Are Rising Globally Especially in Less Developed Settings



**~ 90% of all cancer cases and deaths are outside the U.S.
Cancer kills more people globally than AIDS+TB+Malaria.
Increases reflect growing and aging populations.**

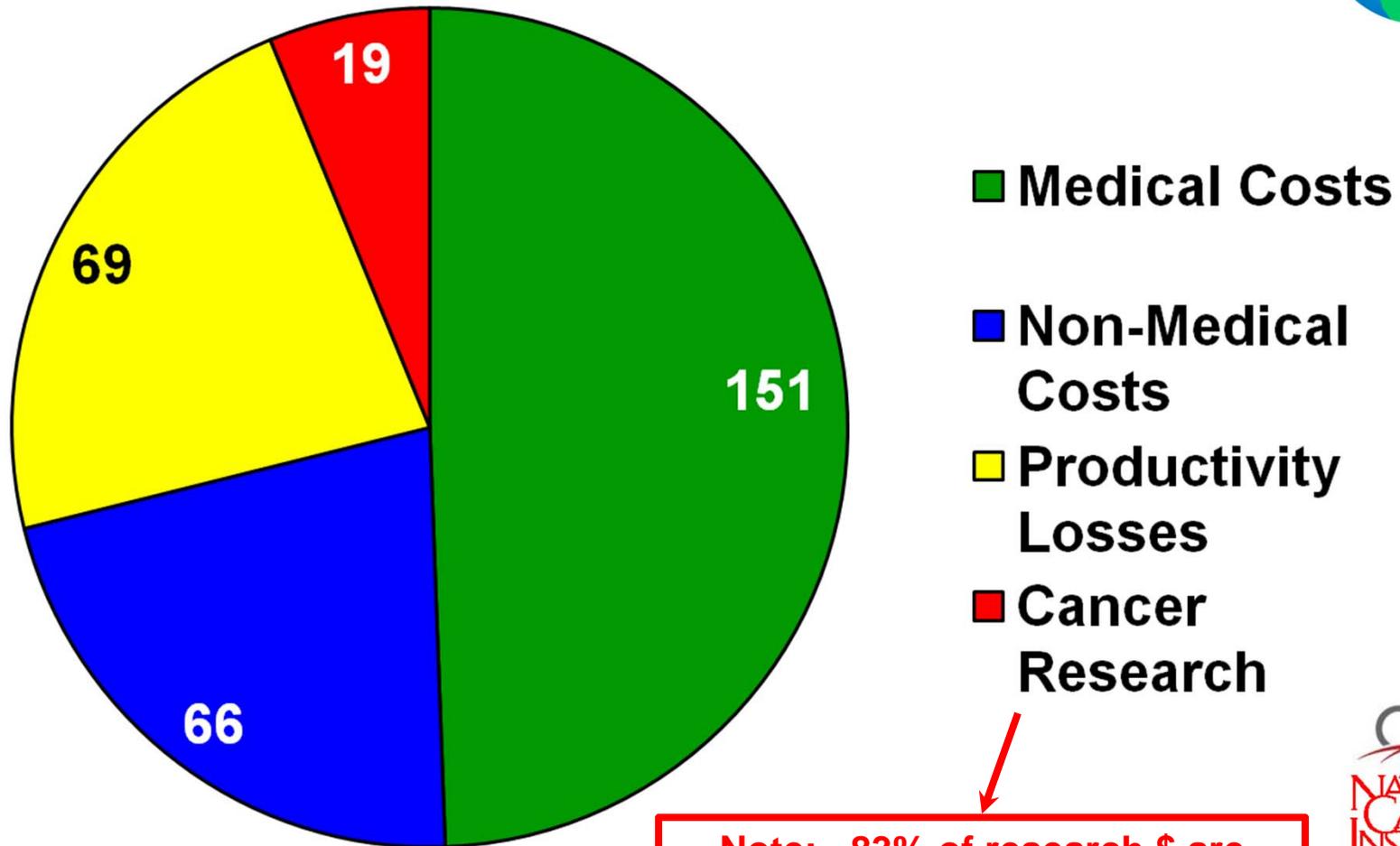
Data Source: Globocan 2002 + WHO (2003)



The Global Economic Cost of the 12.9 Million New Cancer Cases is Estimated to be \$305B



Cost in Billions of Dollars:



Note: ~83% of research \$ are spent by US, EU & Pharma 24

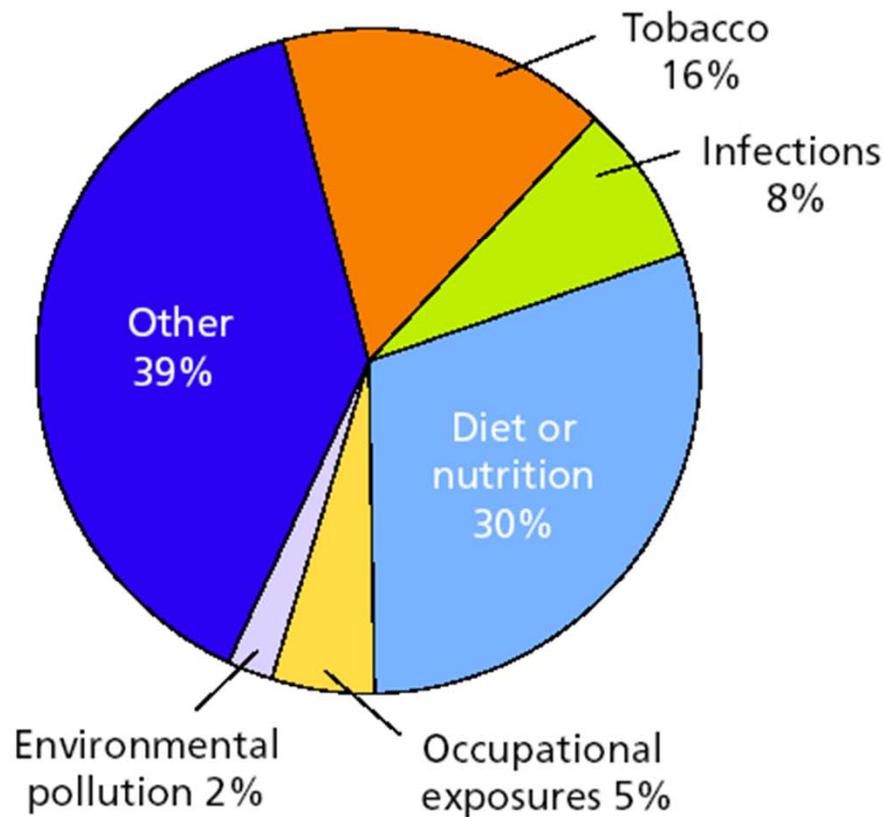
Source: The Economist Intelligence Unit Limited 2009



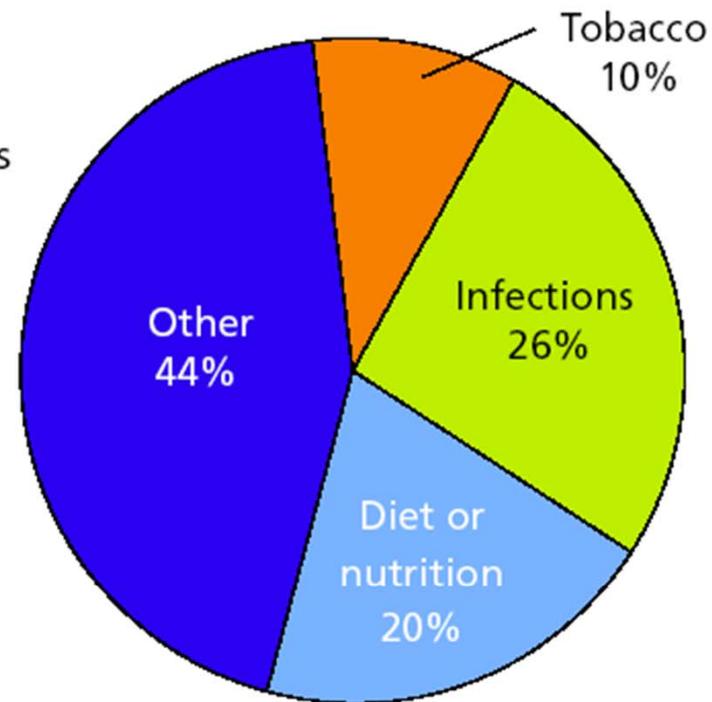
Major Risk Factors for Cancer Differ Quantitatively in Different Settings



Developed Countries

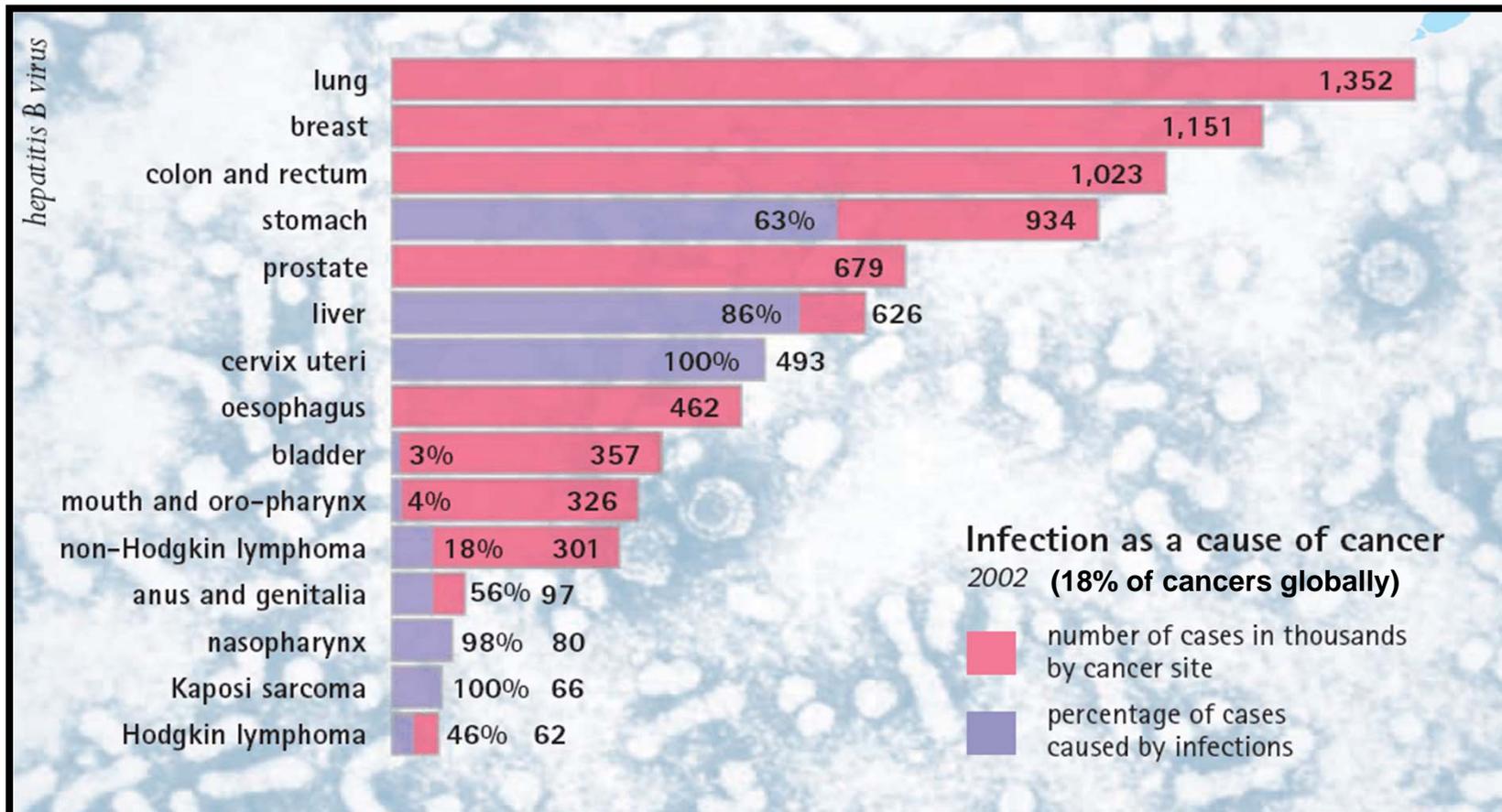
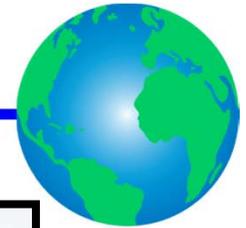


Developing Countries

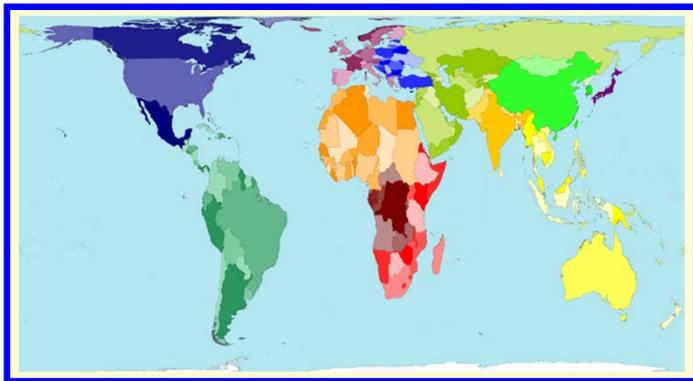


Source: Cancer Atlas, 2006.⁴

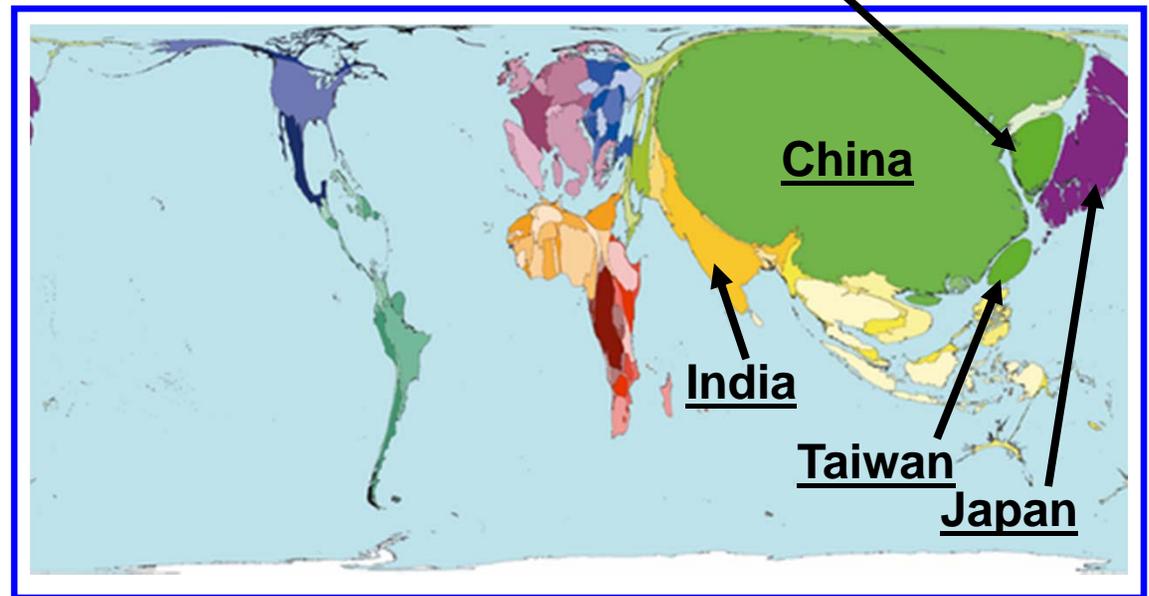
Infections Cause ~20% of Cancers (26% in LMICs and 6% in HICs)



Asia Has High Numbers of Liver Cancer Deaths That Are Related to Infection with Hepatitis Viruses



Geographic Map



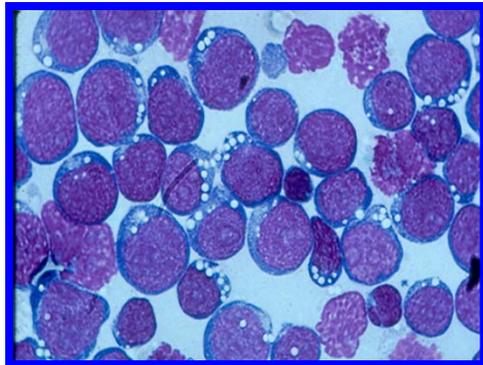
Territories are sized in proportion to the absolute number of people who died from liver cancer in one year.

Cancer of the liver caused 1.1% of all deaths worldwide in 2002, an average of 99 deaths per million people per year and 9% of all deaths from cancer.

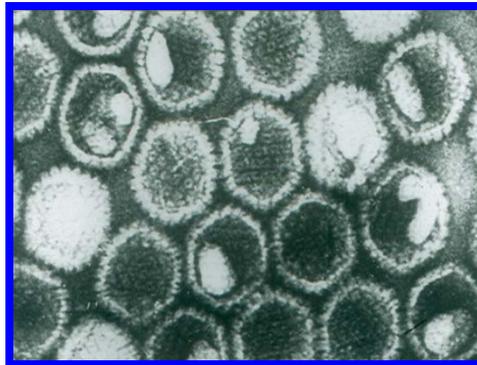
(from Worldmapper, www.worldmapper.org)



Research Done Anywhere Can Benefit People Everywhere Out of Africa: Viral Etiology + Chemotherapy



Burkitt's Lymphoma Cells



Epstein Barr Virus



Dr. Dennis Burkitt
Searching
for Virally Caused
Cancers in Africa

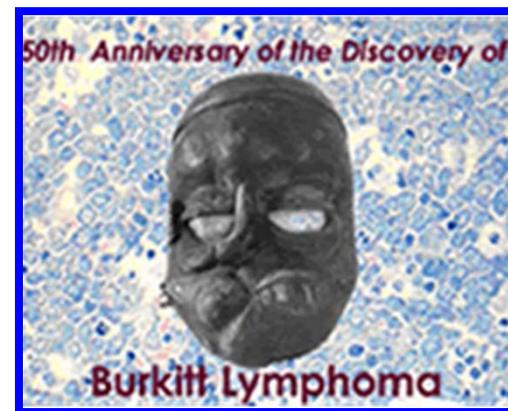


Before



After

Early Dramatic Proof-of-Principle
for Cancer Chemotherapy



Note: In Feb 2008 in Uganda, OIA/NCI joined in marking the 50th Anniversary of Burkitt's 1958 paper describing what is now known as Burkitt's lymphoma.



Photos courtesy of
Dr. John Ziegler, UCSF

The 3 Most Significant Features of Cancer in Developing Countries



1. Late Presentation
2. Late Presentation
3. Late Presentation

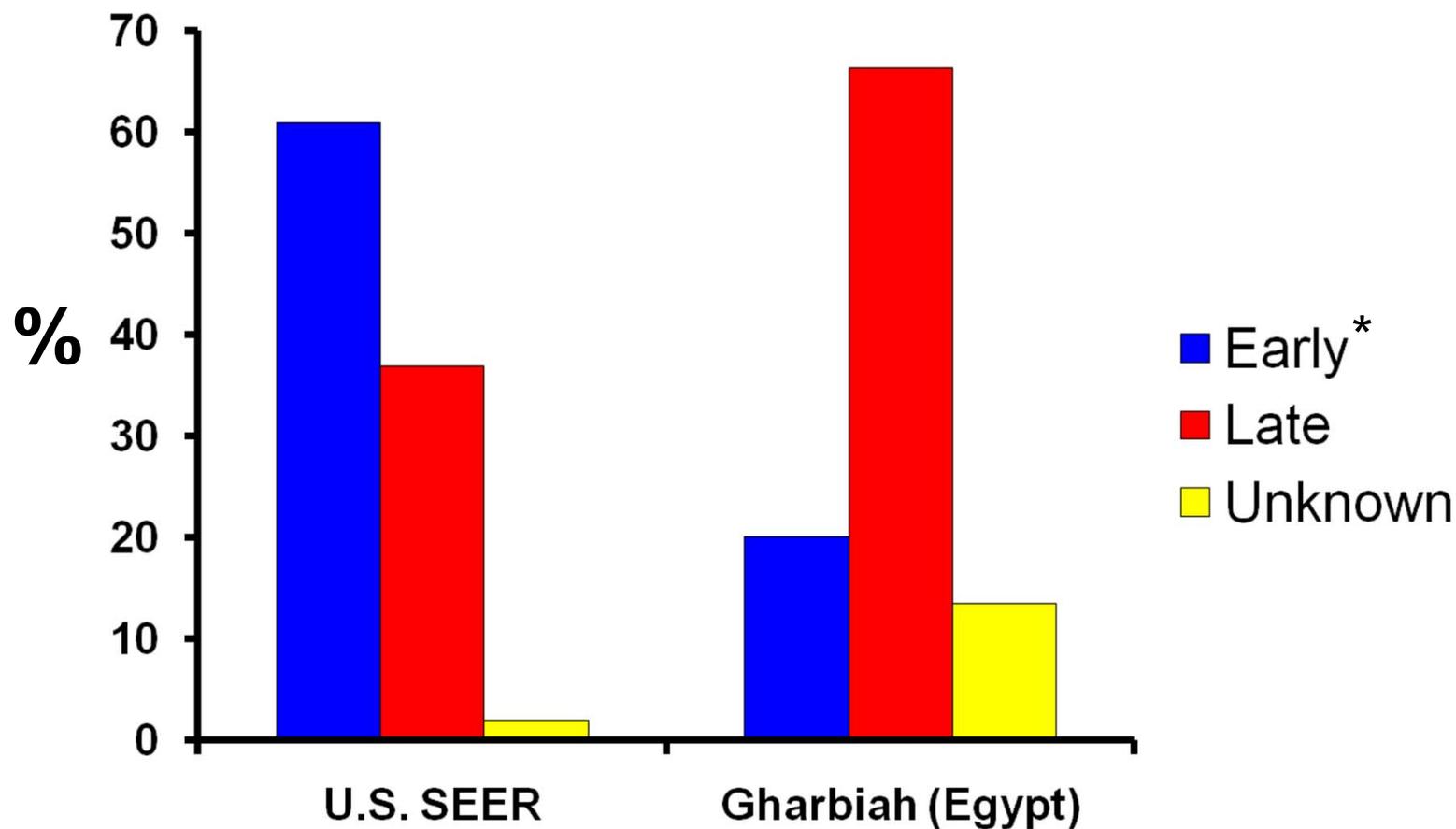
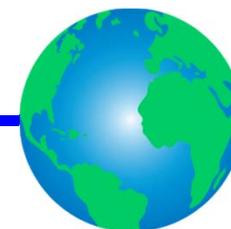


Some Implications of Late Presentation:

- Lower cure rates
- More suffering and death due to cancer
- More of a sense that cancer equals death i.e., more stigma
- More pronounced need for increased emphasis on palliative care
- More of a need for education health care workers and the public

“Where can I go in this desert to find out about how to prevent cancer or detect it early enough so that it won’t kill me?”

Breast Cancer Stage, U.S. vs. Egypt

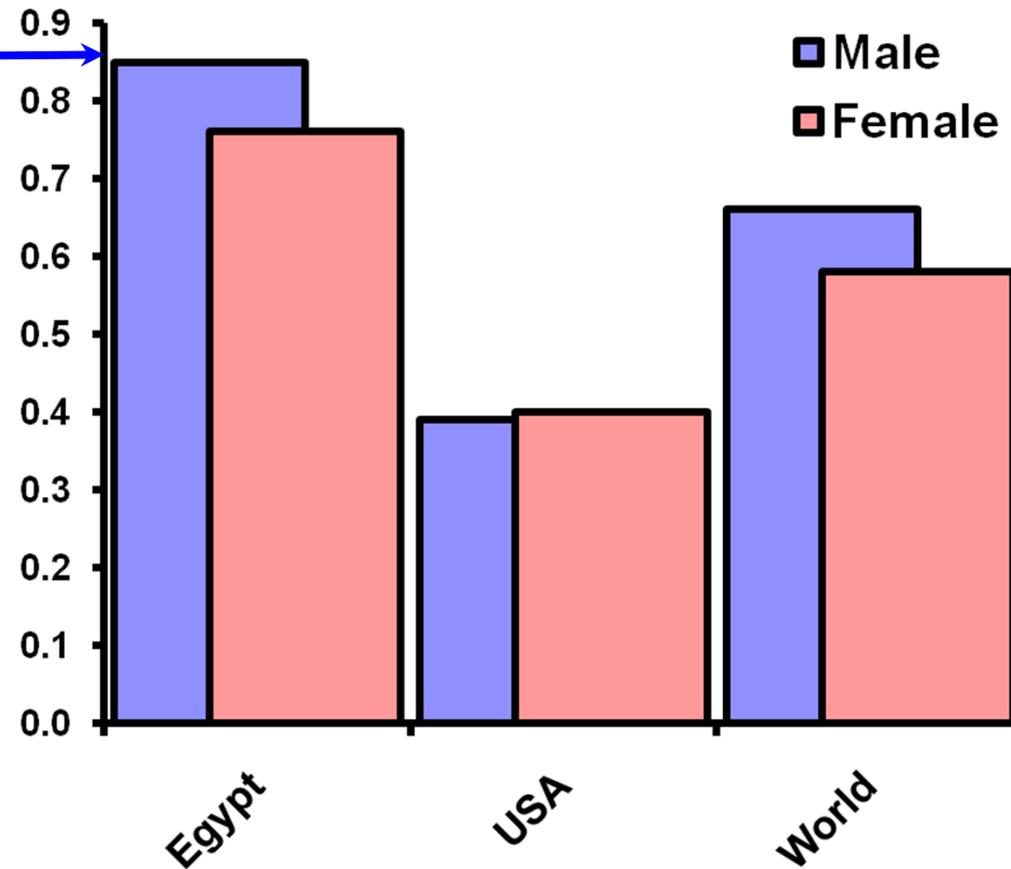


*Early = *in situ* + localized; Late = regional + distant
Source: NCI's MECC Cancer Registry Monograph

Cancer Outcomes Vary: Case Fatality



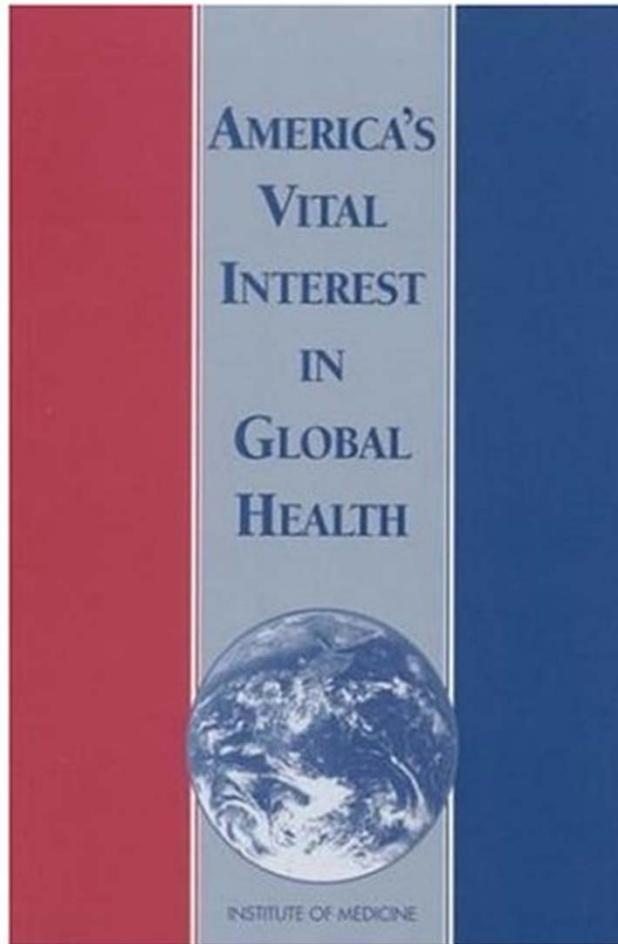
For Egyptian males, Case Fatality = 0.85; for every 100 new cases/yr, there are 85 deaths/yr



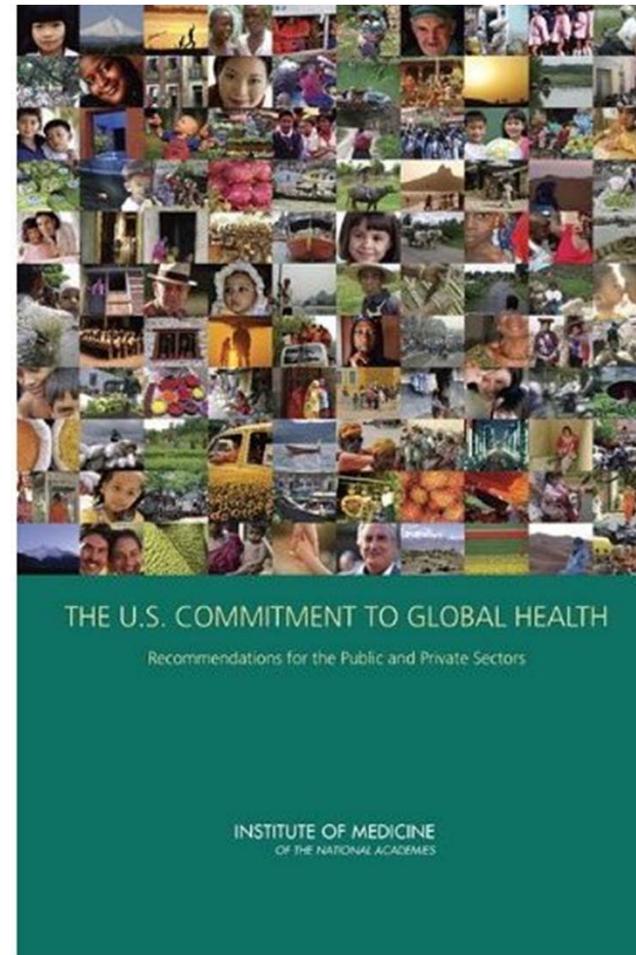
Source: Data from GloboCan 2002



U.S. Interest & Commitment to Global Health



IOM Report 1997



IOM Report 2009



An Interconnected World & U.S. Responsibility in Global Health



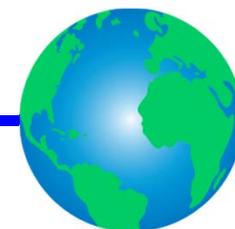
“The world is interconnected, and that demands an integrated approach to global health.... we have a responsibility to protect the health of our people, while saving lives, reducing suffering, and supporting the health and dignity of people everywhere. America can make a significant difference in meeting these challenges, and that is why my Administration is committed to act.”



President Barack Obama



Global Health As “Smart Power” For A Safer And More Stable World



“The President’s new global health initiative will be a crucial component of American foreign policy and a signature element of smart power.”

“I look forward to working with agencies across the government, with Congress, and with the private and non-governmental sectors to lead a coordinated and effective approach to global health that leaves a safer and more stable world for generations to come.”



**Secretary of State
Hillary Clinton**



Health Diplomacy & Capacity Building



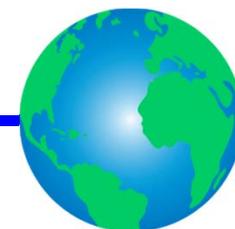
“The ability of NIH to play a major role in U.S. soft power seems like an opportunity we should not pass up.”



**NIH Director
Dr. Francis Collins**

“And we should, in the process of doing so, make sure we’re focused not just on doing research in those countries but helping them develop their own research capacity in the longer term.”

Inspiration and Pride



“NCI is committed to playing an even greater role in international cancer control in the future....It is an inspiration to witness the effort put forth by scientists and health care providers around the world to improve the health of all humans, regardless of race, gender, age, or religion. I am proud - as I believe the entire U.S. cancer community should be - of NCI's continued commitment to reducing the global cancer burden.”



**NCI Director
Dr. John Niederhuber**

In *NCI International Portfolio: Addressing the Global Challenge of Cancer*
July 2006



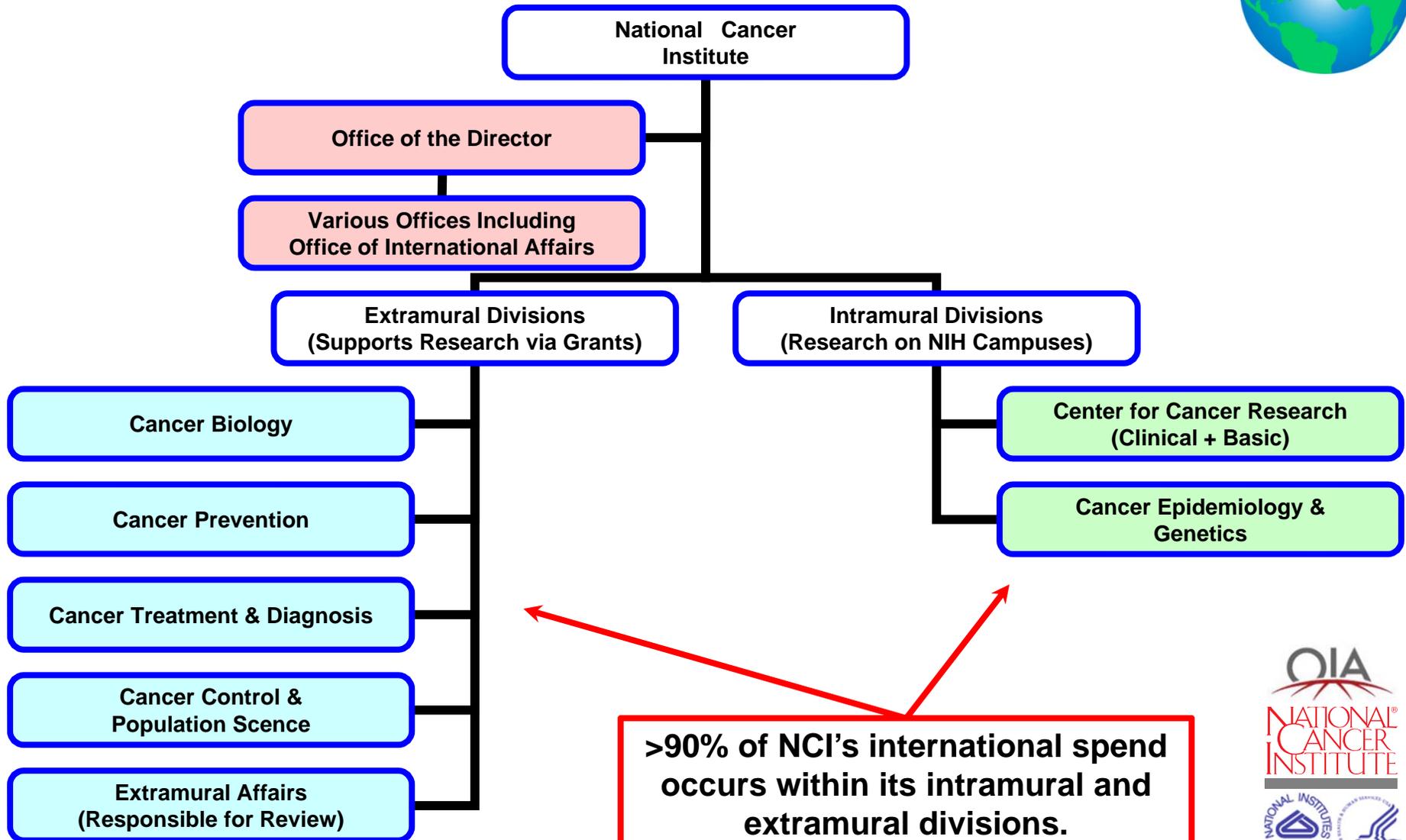
Official Functional Statement for NCI's Office of International Affairs



- Coordinates the planning, management, and evaluation of the international research, control, and information activities of the National Cancer Program;
- Serves as National Cancer Institute focal point with the Fogarty International Center, the DHHS Office of Global Health Affairs, the State Department, and other Federal organizations involved in international health activities;
- Coordinates cancer activities under bilateral agreements between the United States and other countries;
- Plans and implements programs for the international exchange of scientists; and
- Maintains liaison with international agencies involved in the National Cancer Program.



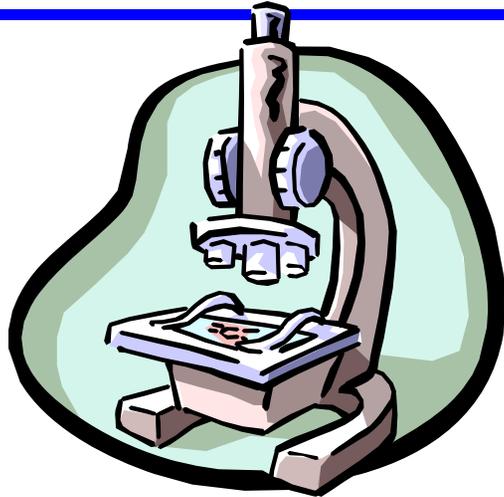
Organizational Structure of NCI OIA Sits Within the Office of the Director



>90% of NCI's international spend occurs within its intramural and extramural divisions.



Striking the Balance in NCI's International Activities



Utilizing Existing International
Research Infrastructure
To Maximize Shorter-Term
Return on Investment in Discovery
(Working Primarily with
Developed Countries)



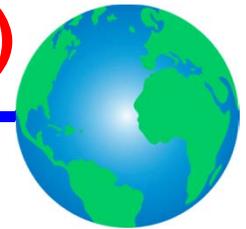
Building Research Infrastructure
Where it is Currently Limited
And Engaging in "Health Diplomacy"
On the Part of U.S. Government
(Working mainly with Developing
Countries)

**Mainly
Research
Collaborations**

vs.

**Mainly
Capacity
Building**

NCI Foreign Research Grants & Contracts (FY08)



WB Income Group	Foreign Countries w/ Grants/Contracts	Grants/Contracts Awarded
High	16 of 66	84
Upper Middle	6 of 46	7
Lower Middle	3 of 55	5
Low	0 of 43	0
Total	25 of 210	96

Top Five:

<u>Country</u>	<u>No.</u>
Canada	28
UK	13
Australia	10
Israel	10
France	4

Five countries received 68% of NCI foreign grants & contracts

NCI spent ~\$3.32B on Research Grants + R&D Contracts in FY08.
 <1% (~\$30.5M) of this amount went to foreign grants and contracts.
 88 of 5380 grants went to foreign PI's.



Striking the Balance in NCI's International Activities



Monitoring the international activities of NCI's Divisions



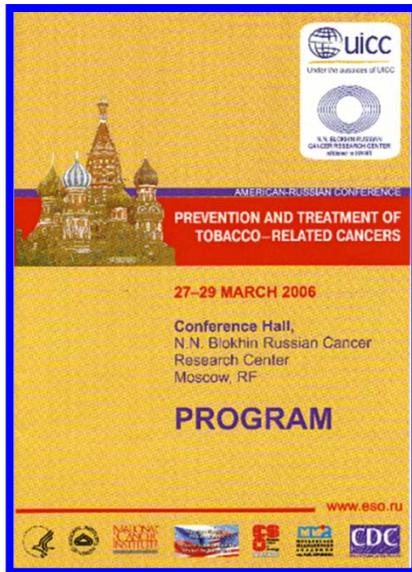
Managing certain international activities

Examples:

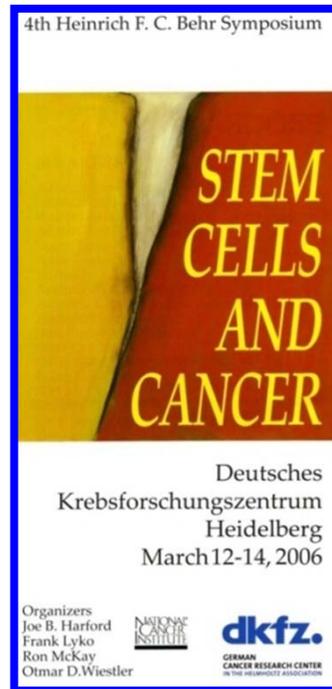
- Provide trans-NCI responses to inquiries re. international activities from NCI & NIH Directors, DHHS, DoS, Congress, & White House
- Organization and sponsorship of topical workshops with both high- and low/middle-income countries
- Support for individual & group training activities (mainly for those from low/middle-income countries)
- Support of short-term visits by foreign scientists (mainly involving NCI intramural laboratories)
- Support and facilitation of divisional international activities
- Management of bilateral interactions
- Management of multilateral consortia
- Representation of NCI with international organizations



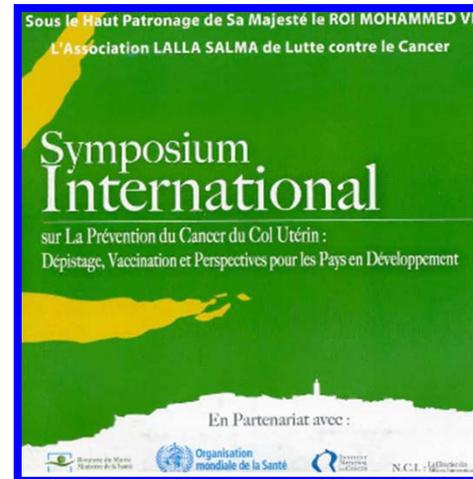
Examples of OIA Involvement in International Topical Workshops



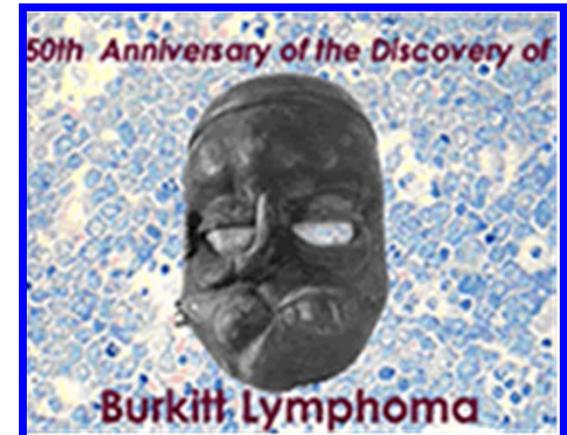
**Tobacco & Tobacco-Related Cancers
Moscow, Russia
(2006+2009)**



**Stem Cells & Cancer
Heidelberg, Germany
(2006+2008+2010)**



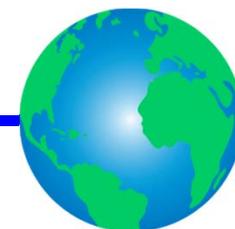
**Cervical Cancer
Rabat, Morocco**



**Burkitt Lymphoma
Kampala, Uganda**



US-Japan Cooperative Cancer Research Program



- NCI's longest standing bilateral interaction (1974)
- Partnership with Japan Society for the Promotion of Science (JSPS)
- Sponsorship of >250 topic-related seminars
- >500 Researcher exchanges
- Joint Research Project Fellowships
- Revamped workshop program rotating among Basic, Clinical, and Epidemiological/Behavioral Sciences

Recent US-J Workshops

2008: Regulation of Tumor Angiogenesis and Lymphangiogenesis; Prof. T. Takakura & Dr. N. Ferrara, Organizers, Kyoto, Japan

2009: Immunotherapy Markers in Oncology; Prof. H. Tahara & Dr. F. Marincola, Organizers, Hawaii, USA

2010: Cancer Biology, Epidemiology, and Policy Making for Tobacco and Alcohol Control; Prof. N. Hamajima & Dr. E. Trapido, Organizers, Nagoya, Japan

U.S. Steering Committee = J. Harford (OIA), L. Helman (CCR), S. Thorgiersson (CCR), & D. Laurence (DCCPS)



ARCA: Using Russian Nuclear Materials For Imaging & Treatment of Cancers



A Partnership that Demonstrates that the Whole can Exceed the Sum of the Parts.

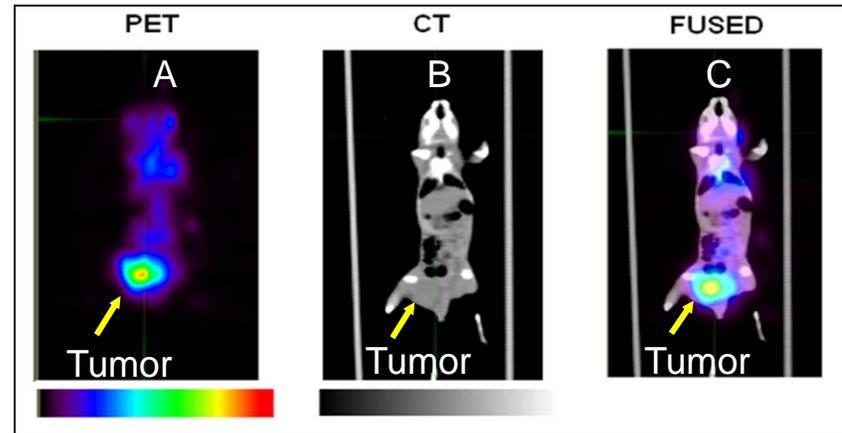


N. N. BLOKHIN RUSSIAN
CANCER RESEARCH CENTER



UMBI
SHADY GROVE

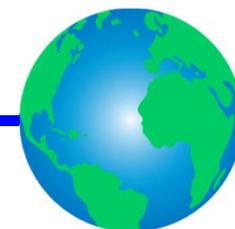
University of Maryland Biotechnology Institute



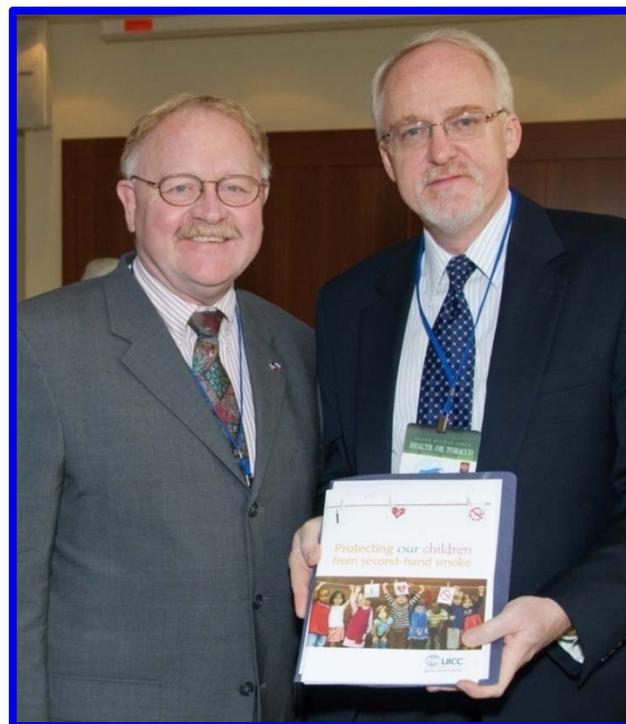
¹²⁴I Imaging



Examples of OIA/NCI's ARCA Activities



- Support for ARCA infrastructure by supplementing FCCC Core Grant (*via* DCTD) in support of work with Russian nuclear materials for cancer imaging and treatment
- OIA support for grant to FCCC for tobacco research (*via* DCCPS & FIC)
- OIA support of two workshops in Moscow on tobacco control and tobacco-related cancers leading to signing of FCTC by Russia
- Sponsor of Russian scientists to attend NCI's *Summer Curriculum in Cancer Prevention*



OIA Director & US Ambassador Beyrle
in Moscow with UICC Publication on
Smoke-free Environments for Children



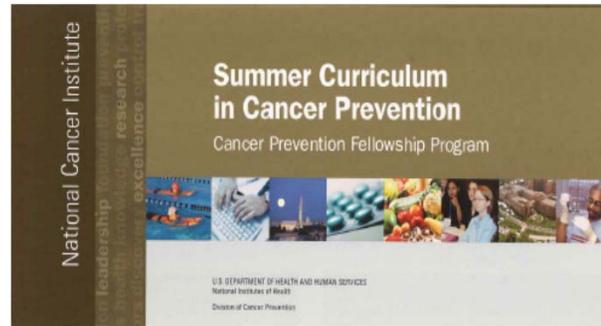
Examples of OIA/NCI Interactions with Other National & International Organizations



- **World Health Organization (WHO)**
 - OIA/NCI conferring on research priorities for non-communicable diseases
- **International Agency for Research on Cancer (IARC)**
 - OIA/NCI has historically represented the U.S. on Governing Council and OIA Director participating in working groups on cancer registries and strategic planning
- **International Union Against Cancer (UICC)**
 - OIA/NCI supports fellowships & serves as OIA Director serves as Knowledge Transfer Strategic Leader
- **International Atomic Energy Agency (IAEA)**
 - OIA/NCI partner in the *Programme of Action for Cancer Therapy (PACT)* with OIA supporting xx individuals from LMC's over 3 yrs to attend the NCI Summer Curriculum in Cancer Prevention



IAEA Nominations for NCI's Summer Curriculum in Cancer Prevention 07-09



- Candidates nominated by IAEA
- Applications reviewed by NCI
- OIA provides full scholarships including airfare + subsistence allowance
- 66 Individuals from 28 LMCs
- OIA also provided partial support for 54 other participants from LMCs
- Evaluation to assess use of training now underway

Albania	6
Angola	1
Argentina	1
Azerbaijan	1
Chile	2
El Salvador	1
Georgia	2
Ghana	1
Haiti	2
Indonesia	1
Kenya	1
Kyrgyz Republic	1
Malawi	2
Mongolia	1
Morocco	2
Mozambique	2
Nicaragua	6
Niger	2
Peru	4
Senegal	1
Sri Lanka	5
Syria	1
Tanzania	6
Tunisia	1
Uzbekistan	1
Vietnam	8
Yemen	3
Zambia	1



Examples of OIA/NCI Interactions with Other National & International Organizations



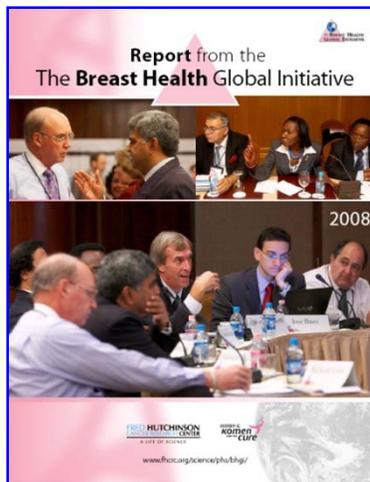
- **Breast Health Global Initiative (BHGI)**
 - OIA/NCI serves as a Sustaining Partner, hosting the BHGI Summit in Bethesda in 2005 and OIA Director serves on Executive Board
- **African Organization for Research and Training in Cancer (AORTIC)**
 - OIA/NCI supported travel grants to AORTIC meetings in Ghana (2003), Senegal (2005), South Africa (2007), and Tanzania (2009); OIA Director to deliver keynote lecture in Dar es Salaam.
- **International Network for Cancer Treatment and Research (INCTR)**
 - OIA/NCI's Dr. Ian Magrath serves as President and OIA/NCI supports research & training
- **Middle East Cancer Consortium (MECC)**
 - OIA/NCI provides core support for cancer registries in Cyprus, Egypt, Israel, Jordan, Turkey and the Palestinian Authority and for numerous training courses focusing on A) cancer registry; and B) palliative care for cancer patients



Breast Health Global Initiative



Mission: To develop, implement and study evidence-based, economically feasible, and culturally appropriate Guidelines for International Breast Health and Cancer Control for low- and middle-income countries (LMCs) to improve breast health outcomes and access to breast cancer screening, detection and treatment for women.



**2008
Report**



BHGI Panels:

- **Early Detection and Access to Care**
- **Diagnosis and Pathology**
- **Treatment**
- **Health Care Systems and Public Policy**

Global Summit reception, from left, **Leslie Sullivan**, BHGI Senior Program Manager, **Benjamin O. Anderson**, BHGI Chair and Director, **Joe Harford**, Director, NCI Office of International Affairs, BHGI Executive Committee member, **U.S. Ambassador to Hungary, the Honorable April Foley**, **Gabriel N. Hortobágyi**, Immediate past president of ASCO, BHGI Executive Committee Chair.



BHGI Global Summit 2005* Guideline Stratification



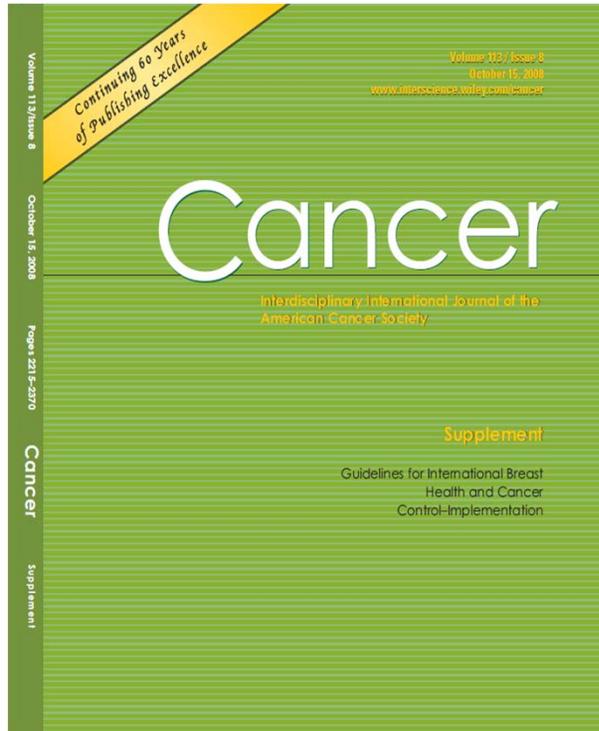
- **Basic level** — Core resources or fundamental services necessary for any breast health care system to function.
- **Limited level** — Second-tier resources or services that produce major improvements in outcome such as survival.
- **Enhanced level** — Third-tier resources or services that are optional but important, because they increase the number and quality of therapeutic options and patient choice.
- **Maximal level** — Highest-level resources or services used in some high resource countries that have lower priority on the basis of extreme cost and/or impracticality.

*BHGI Summit 2005 hosted in Bethesda by NCI/OIA



BHGI GLOBAL SUMMIT 2007

Guideline Implementation



Cancer: 113 (8 suppl), 2008

CONSENSUS STATEMENTS

- **Early Detection**
- **Diagnosis**
- **Treatment**
- **Health Care Systems**
(Co-chaired by Director, OIA/NCI)

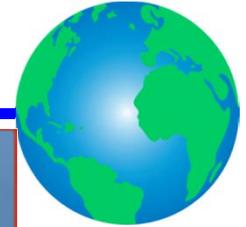
8 Stratified Tables

15 Individual Manuscripts

(2 Co-authored by Director, OIA/NCI)



African Organization for Research and Training in Cancer (AORTIC)



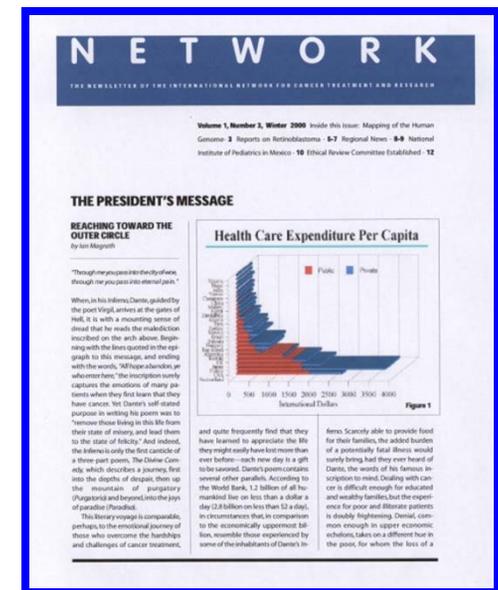
- OIA/NCI supported travel grants to AORTIC meetings in Ghana (2003), Senegal (2005), South Africa (2007), and Tanzania (2009)
- OIA Director to deliver keynote lecture in Dar es Salaam on “Breast Cancer in Africa: The Need for Contextual Solutions”
- In conjunction with AMP/DCTD/NCI sponsoring a workshop in Dar es Salaam on “AIDS Malignancies” (similar successful workshop held in Capetown)
- Facilitating investigator meeting of MADCaP (Men of African Descent and Carcinoma of the Prostate),
 - 17 centers with over 4,000 prostate cancer cases and 5,000 controls of African descent.



International Network of Cancer Treatment and Research (INCTR)



- A not-for-profit NGO headquartered in Brussels and focused on countries with limited resources for cancer research (i.e., the developing world)
- Engages in clinical research, palliative care, and training
- Dr. Ian Magrath of OIA/NCI serves as President of INCTR
- Support derived from OIA/NCI and other sources
- Space in Brussels donated by the Institut Pasteur

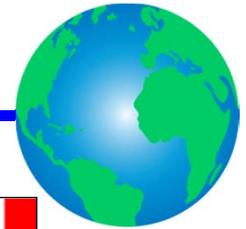


INCTR

www.inctr.org



Countries Associated with INCTR



Many of these countries are unrepresented in NCI grants, contracts, and the NCI visitor pool.

INCTR



Middle East Cancer Consortium Formed in 1996 by MoH Agreement



Cyprus



Jordan



Egypt



Palestinian Authority



Israel



Turkey
(2003)

● = MECC-affiliated cancer registry



MECC Cancer Registries Requires Regional Cooperation



About MECC

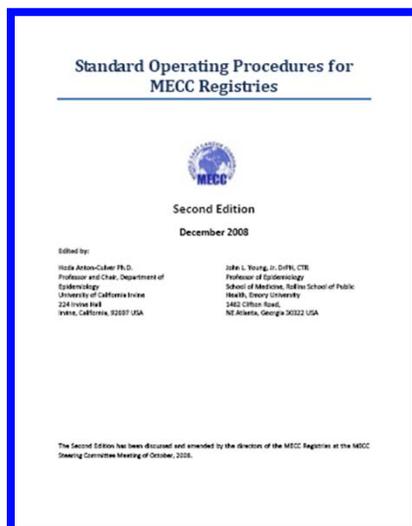
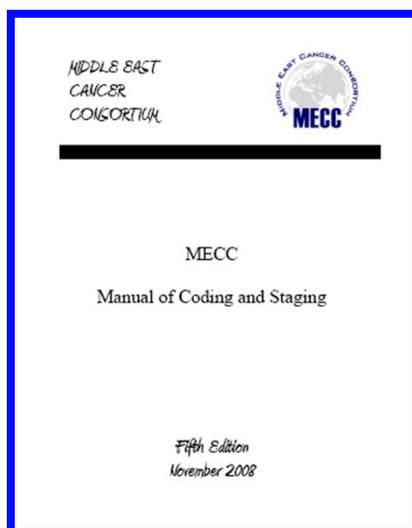
Cancer Registry Project

- [Supported Registries](#)
- [Common Standards for Cancer Registration](#)
- [Common Software for Cancer Registration](#)
- [Training in Cancer Registration](#)
- [Publications Related to MECC CRP](#)
- [CRP Steering Committee](#)

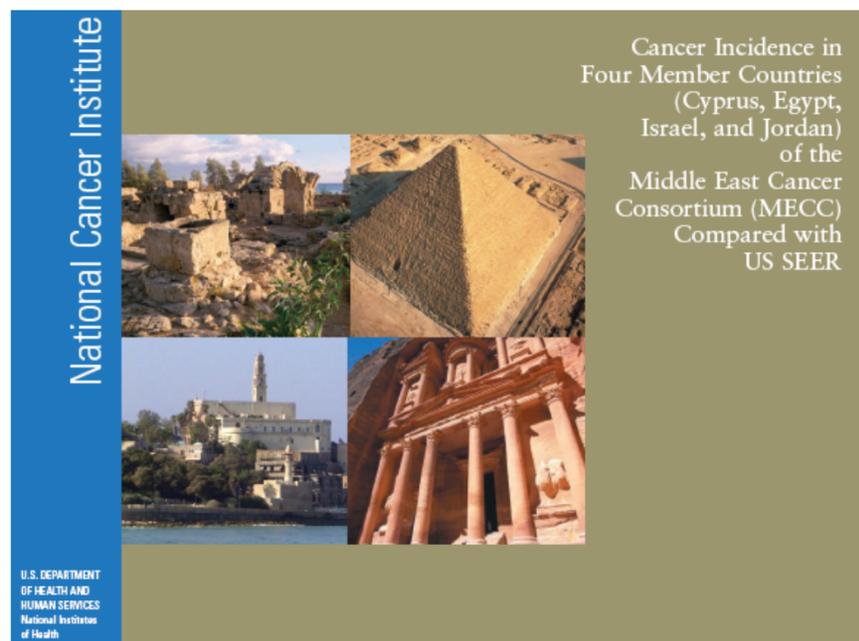
Small Grants Programme

Other MECC Activities

Useful Links



www.mecc.cancer.gov





Establishment & Renewal



- Direct outcome of the Good Friday peace accords
- Signing ceremony in Belfast in October 1998 attended by Senators Connie Mack and George Mitchell plus other dignitaries
- Renewed for 5 years in November 2006 in Belfast



1998



2006



Cancer Consortium - Governance

Board of Directors:



Dr. Tony Holohan
Dep. CMO, Ireland



Dr. Michael McBride
CMO, Northern Ireland



Dr. John Niederhuber
Director, US NCI



Board of Directors

Strategic Advisory Group



Cancer Registries
WG

Nursing
WG

Scholar Exchange
& Training WG

Prevention
WG

IT
WG

Clinical Trials
WG



IRELAND-NORTHERN IRELAND-NATIONAL CANCER INSTITUTE
Cancer Consortium

Research Across Borders

Consortium Communications by OIA/NCI



Consortium Activity Reports



9-yr Timeline



Average of one noteworthy event per month for 9 years



Consortium Newsletters



www.allirelandnci.org



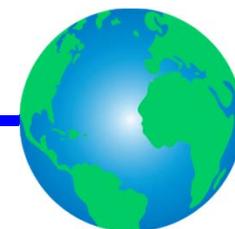
Examples of OIA/NCI Interactions with Other National & International Organizations



- **American Society for Clinical Oncology (ASCO)**
 - OIA/NCI provides travel grants for researchers from LMC's to attend ASCO EPEC-O course in palliative care and funding for ASCO's IDEA program that brings individuals from LMC's to the ASCO annual meeting with mentoring
- **American Association for Cancer Research (AACR)**
 - OIA/NCI represented on AACR International Affairs Committee and provided travel grants for researchers from LMC's to attend the AACR Annual Meeting and the AACR Frontiers in Cancer Prevention
- **Oncology Nursing Society (ONS)**
 - Collaboratively engaged in nursing training in the Middle East



Knowing & Willing Are Not Enough Applying and Doing Are Needed



Knowing is not enough, we must apply.
Willing is not enough, we must do.
Goethe

Can we apply what we know?

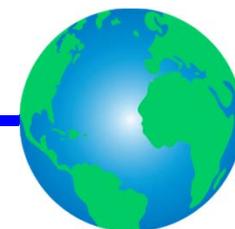


Mind the “Do-Know Gap”

But “Just Do It!” is too simplistic.



More Research Is Needed Including Implementation Research

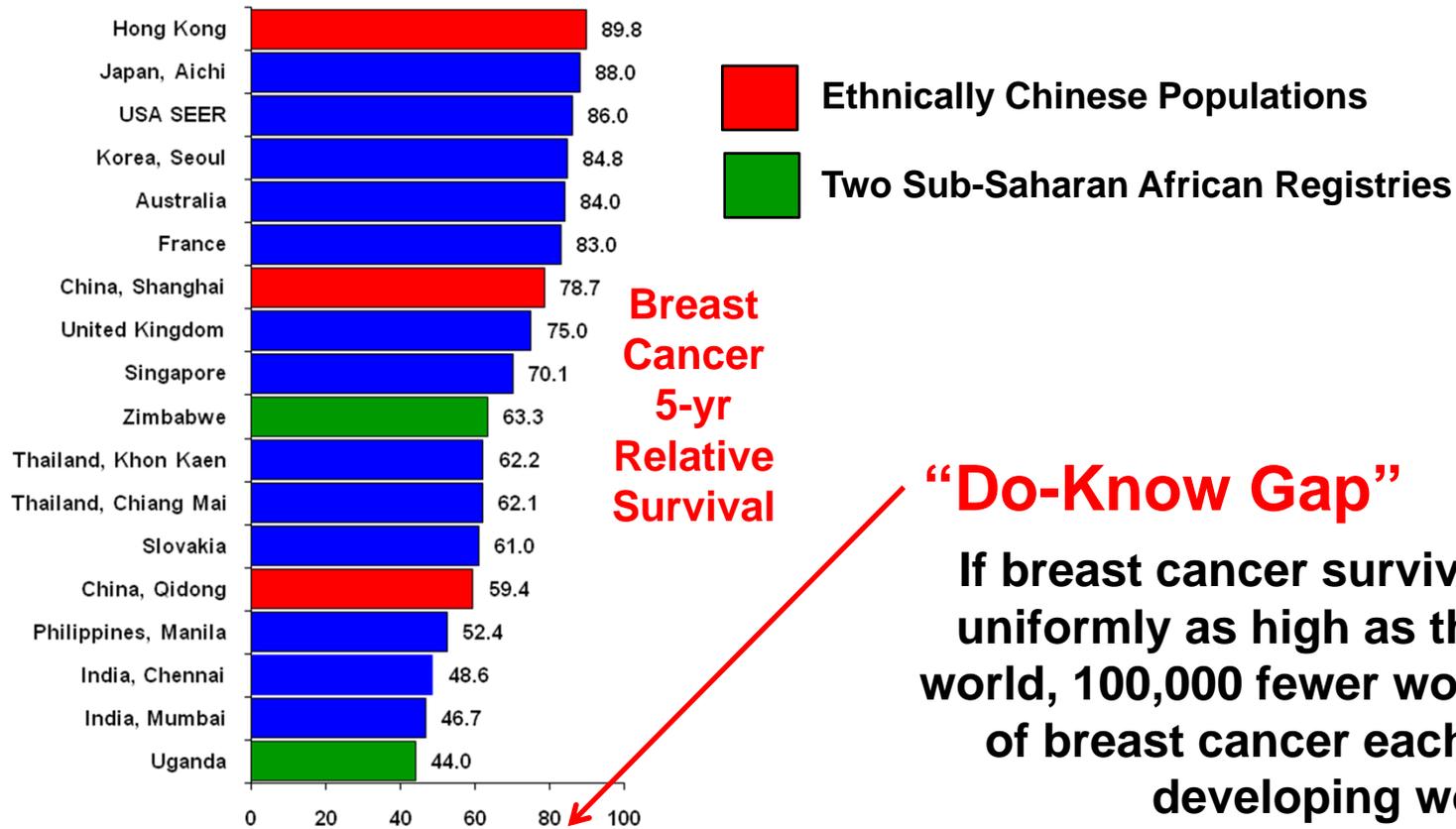
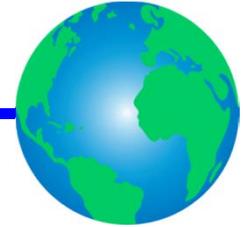


The “Do-Know Gap”

More research is needed not only to know WHAT to do but also to know HOW to do it, e.g., we know that cessation of smoking reduces cancer risk, but we do not know how best to improve cessation rates in all cultural settings. We know that earlier detection of breast cancer would improve outcomes, but we do not know how to achieve it everywhere.



We Know We Can Do Better Can We Apply What We Know?



Small, Flat World or Big Job??

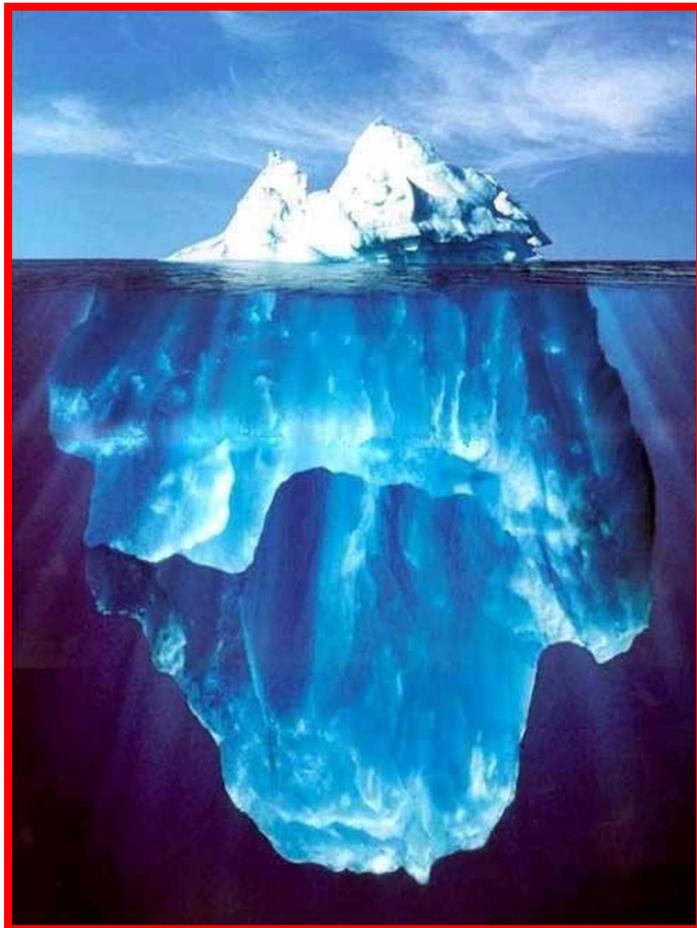


“What we have before us are some breathtaking opportunities disguised as insoluble problems.”

John Gardner
Former HEW Secretary
1965 Speech



Today's Presentation Was Intended to Highlight the "Tip of the Iceberg" of OIA Activities

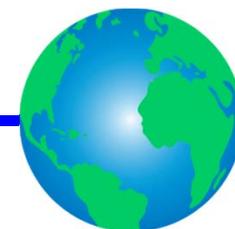


For more details on any given activity,
for a more comprehensive discussion
of OIA activities, or to get involved,
contact:

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Questions for Discussion (Joe Harford, OIA/NCI)



- **What factors should be considered in striking the balance between conducting collaborative research with those countries having such capability and building capacity for research in those countries where a deficiency exists?**
- **How best might cancer centers and other institutions in the U.S. be encouraged (incentivized?) to engage in international collaborations in cancer research and research capacity building?**
- **Should NCI consider a modest, capacity-building grants program with set-aside funding wherein only those working in low- and middle-income countries are eligible to apply?**

