

The International Cancer Expert Corps (ICEC)

Implementing a global force to address the catastrophic rise in cancer in the developing world

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(working to enhance efforts of NCI and NIH)
ICTR-PHE, Geneva
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- **DISCLAIMER**
- No financial conflict of interest
- **Views expressed are those of the presenter.**
- No endorsement by NCI, NIH, ASPR, DHHS or any other U.S. Government agencies has been given or inferred

Outline

- An obvious shortfall became an obvious global need and finally recognized as a problem to consider in 2011
- When does one have enough data to act?
- Going from a numbers problem to a systems problem
- Defining the part of the problem we aim to solve
- Assembling an organization- Government? Non-government? Global?
- Expanding the benefit of the solution to others
- Putting a team together
- Realizing that a transformational change is needed.
- Resourcing the path forward-



Above Mt. Everest
Base Camp, 1994



Mt. Everest 1994



TRIBHUVAN UNIVERSITY TEACHING HOSPITAL





Professionals Against Cancer

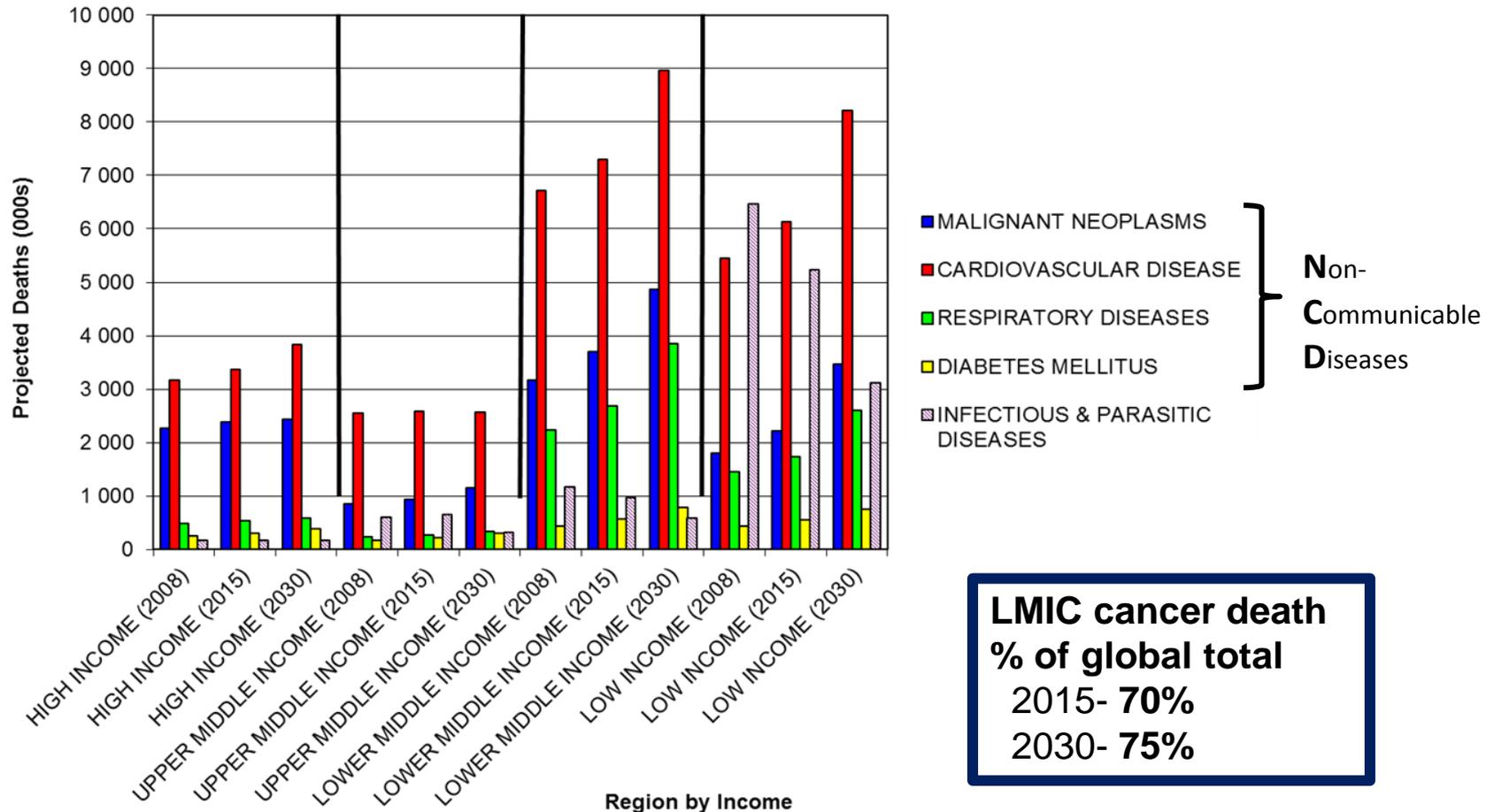


Defining the Problem:



WHO Global Burden of Disease

http://www.who.int/healthinfo/global_burden_disease/projections/en/index.html



**LMIC cancer death
% of global total**
2015- 70%
2030- 75%



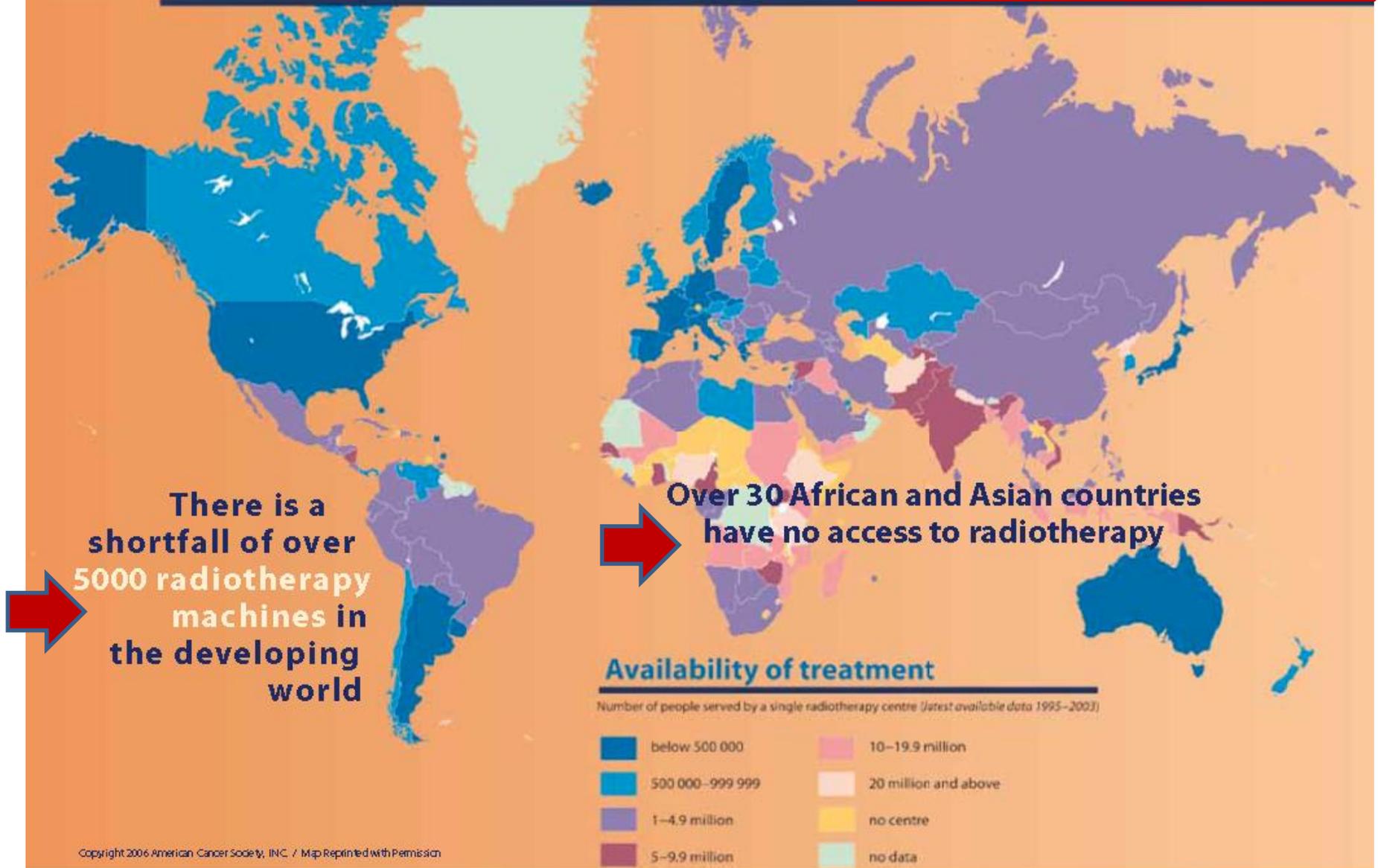
Key facts

- The WHO Constitution enshrines “...the highest attainable standard of health as a fundamental right of every human being.”
- The right to health includes access to timely, acceptable, and affordable health care of appropriate quality.
- Yet, about 100 million people globally are pushed below the poverty line as a result of health care expenditure every year.
- Vulnerable and marginalized groups in societies tend to bear an undue proportion of health problems.
- Universal health coverage is a means to promote the right to health.

Defining the problem for example

ACCESS TO RADIOTHERAPY:

Radiotherapy is an essential part of the treatment of cancer



The generic challenges in moving to just health care: “Public Health Oncology”*

- Weak underlying health systems
- Financing- for infrastructure and staff
- Transparency
- Governance (selecting right people)
- Workforce (manpower)- capacity and capability
- Incomplete knowledge about diseases, patient/host factors and cost-effective interventions
- Sustainability
- “Brain-drain” from resource-poor to resource-rich
- Top-down approaches from developed nations often not applicable to the local situation

*Love, R. Ann Oncol 23:3040- 2012

Goals (1)



- **Build capacity and capability** to reduce the burden of cancer through mentoring local champions so they can conduct stage- and region-appropriate protocols.
- **Mentoring** - some on-site visiting, mostly through weekly teleconferencing using carefully crafted “bottom up/top-down” multi-year plans so Centers in LMICs could join the international community of *clinical and translational research*.

Goals (2)



- **Implementation science:** Innovative approaches to cancer health disparities built on person-to-person sustainable mentoring and shared among projects.
- **Cultural change, big vision and sustainable accomplishments:** Multi-national partnership would create a *critical mass and spectrum of experts*, increase the likelihood of success, allow rapid response to opportunities and demonstrate the value of altruistic service.

Government

There are things each can and cannot do (well)

Non-Government Organization (NGO)

Firewall - outside activity

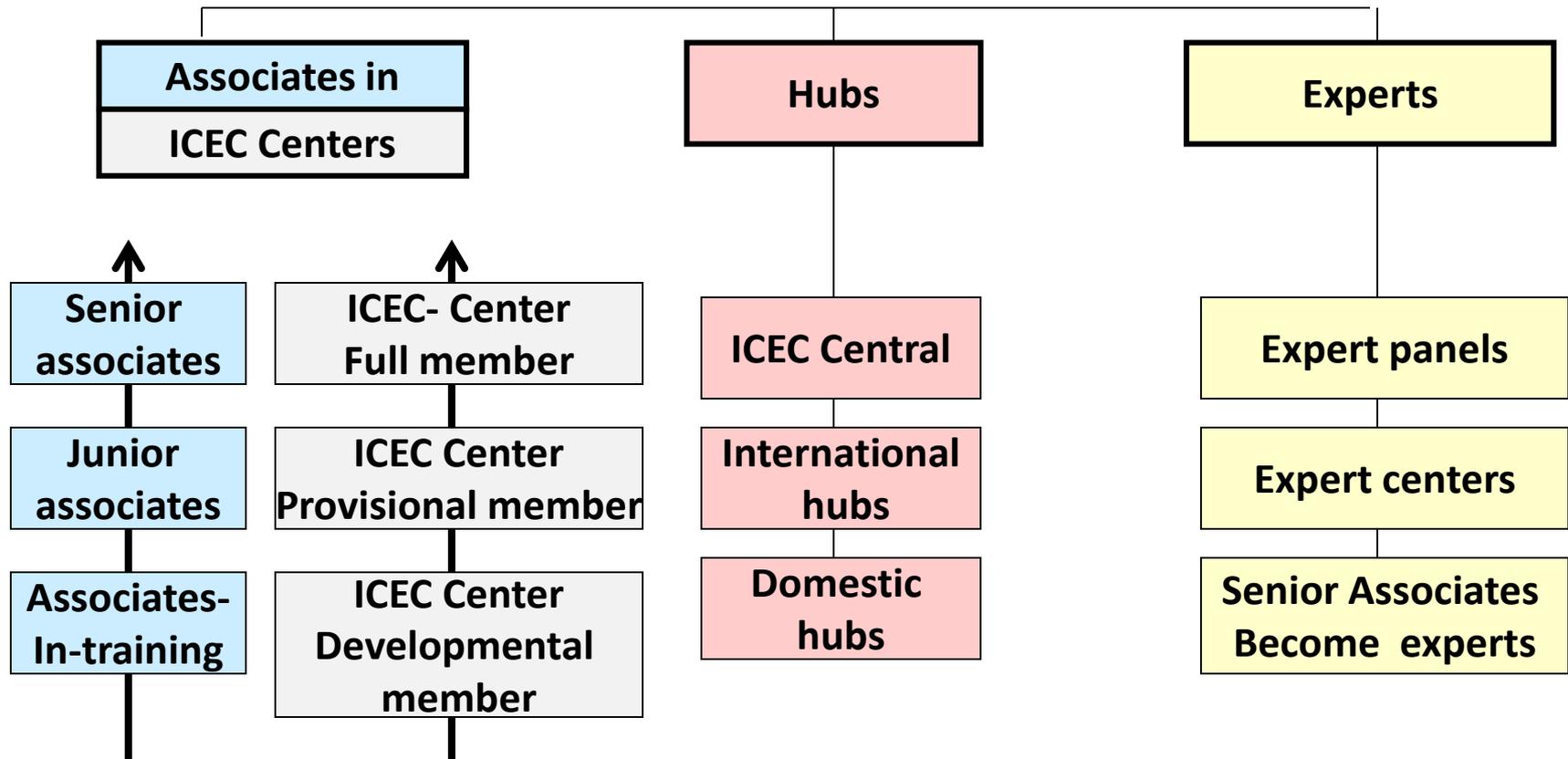


National Institutes of Health



Partnership

ICEC functional components



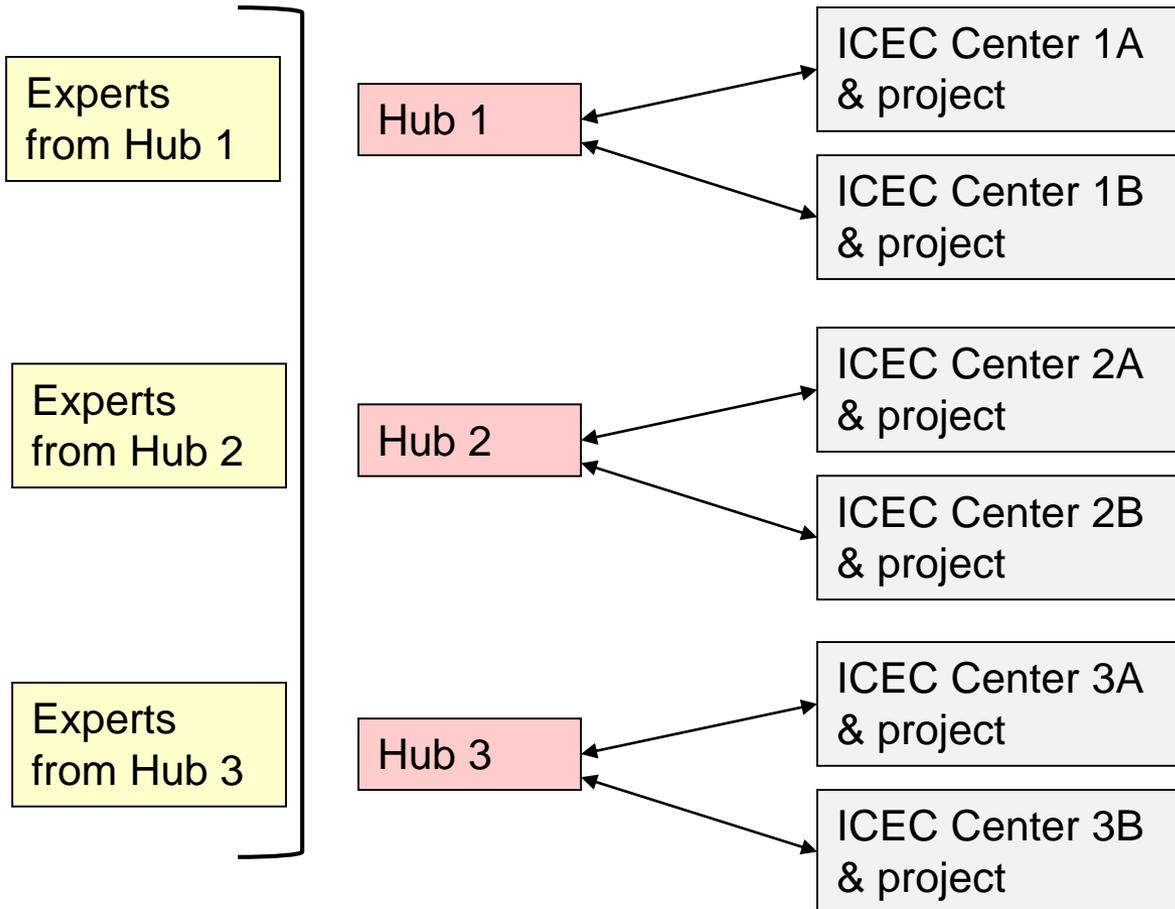
ICEC – what it would uniquely accomplish

Multi-national corps of experts, ready for assignment

Coordination and pooling of efforts, protocols, SOPs

Innovative approaches: capacity and capability-to change outcomes

Critical mass & international teams. Visible, effective



- Reduced burden of cancer
- Shared results and approaches
- Bona fide academic accomplishment
- Innovative social and business models
- Effective place to attract investment
- Career path for individuals
- Sustainable overall program in long-term



ICEC Expert Panels:

Broad spectrum of expertise for complex systems solution

Medical

- Radiation oncologists
- Medical oncologists
- Pediatric oncologists
- Surgical oncologists
- Nurses
- Pathologists
- Radiologists
- Surgeons - general
- Surgical subspecialists
- Pharmacologists
- Psychologists
- Public health

Science, non-MD

- Prevention and screening
- Epidemiologists
- Medical physicists
- Technologists
- Basic & translational scientists
- Treatment guidelines
- Statisticians
- Social scientists
- Regulatory Affairs specialists
- Pharmacists

Support

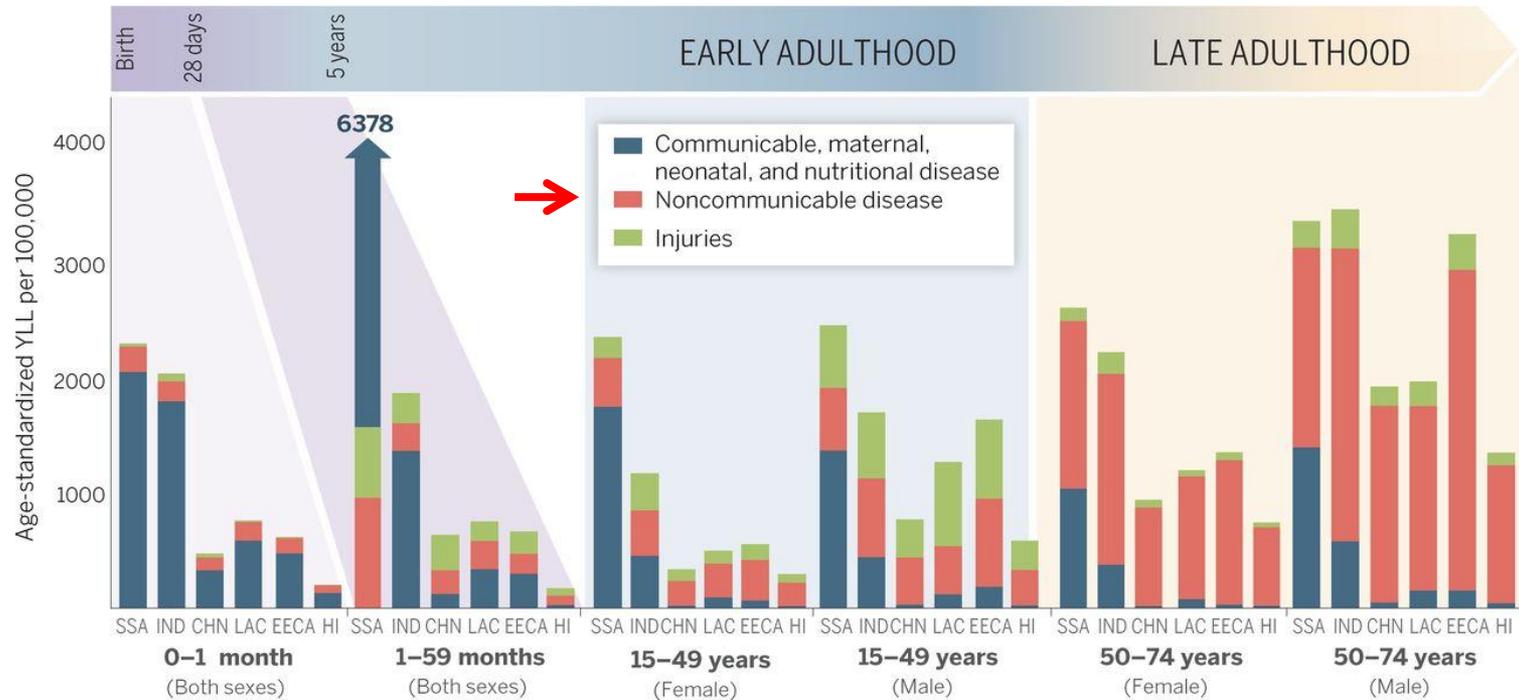
- Educational tools
- Finance
- Clinic administration
- International policy
- Patient advocacy
- Economists
- Social workers
- Communications
- Cancer survivors
- Information tech (IT)
- Data-management
- Legal

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The state of global health in 2014

J. Sepulveda and C. Murray, Sci 345:1275, 2014



YLL and DAH →

YLL- years of life lost DAH- Development assistance for health	Low income		Lower middle income		Upper middle income	
	YLL	DAH	YLL	DAH	YLL	DAH
HIV/AIDS	7.6%	41.6%	3.7%	32.0%	4.8%	41.1%
Malaria	11.2%	14.3%	4.8%	9.6%	0.0%	2.2%
Tuberculosis	3.1%	3.3%	3.5%	6.6%	1.0%	7.0%
Maternal, newborn, and child health	37.8%	17.1%	32.1%	23.7%	8.1%	7.0%
Noncommunicable diseases	20.7%	0.2%	34.0%	1.0%	65.3%	2.9%
Other	19.7%	23.5%	21.9%	27.1%	20.8%	39.8%

“Need” →
“Investment” →

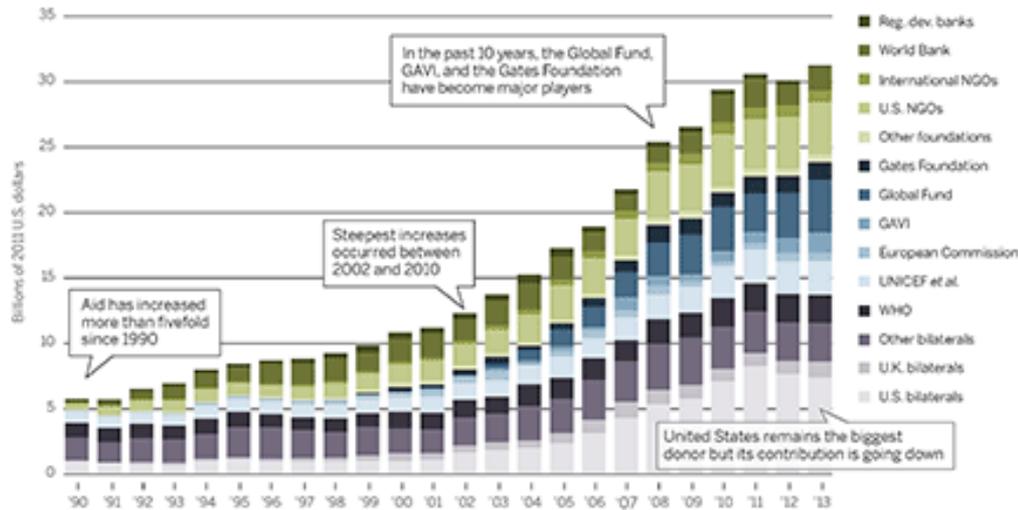
After the windfall:

Plateauing budgets for global health sharpen the focus on what really works

M. Enserink, Science 354:1258, 2014

The end of the surge

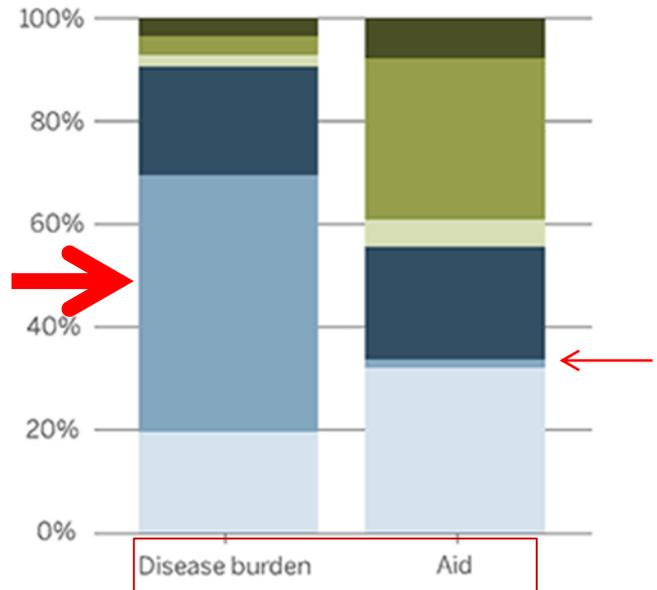
Aid for global health, by channel



Source: Institute for Health Metrics and Evaluation

Skewed funding For NCDs

The diseases that cause the highest burden—expressed in disability-adjusted life years, or DALYs—don't get most of the international largesse. In 2010, HIV/AIDS



Source: Institute for Health Metrics and Evaluation

The Lancet Oncology Commission

Lancet Oncol, 2015, 16: 1153

Expanding global access to radiotherapy

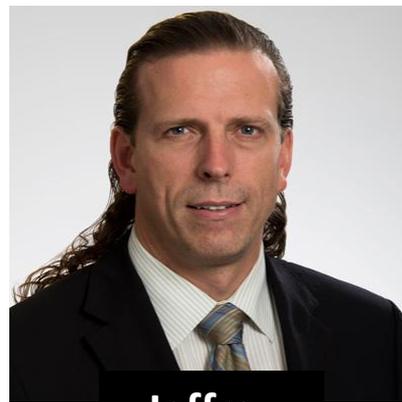
Rifat Atun, David A Jaffray, Michael B Barton, Freddie Bray, Michael Baumann, Bhadrasain Vikram, Timothy P Hanna, Felicia M Knaul, Yolande Lievens, Tracey Y M Lui, Michael Milosevic, Brian O'Sullivan, Danielle L Rodin, Eduardo Rosenblatt, Jacob Van Dyk, Mei Ling Yap, Eduardo Zubizarreta, Mary Gospodarowicz



Our results provide compelling evidence that investment in radiotherapy not only enables treatment of large numbers of cancer cases to save lives, but also brings positive economic benefits.



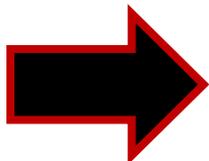
Atun



Jaffray



Gospodarowicz



The verdict is in: the time for effective solutions to the global cancer burden is now

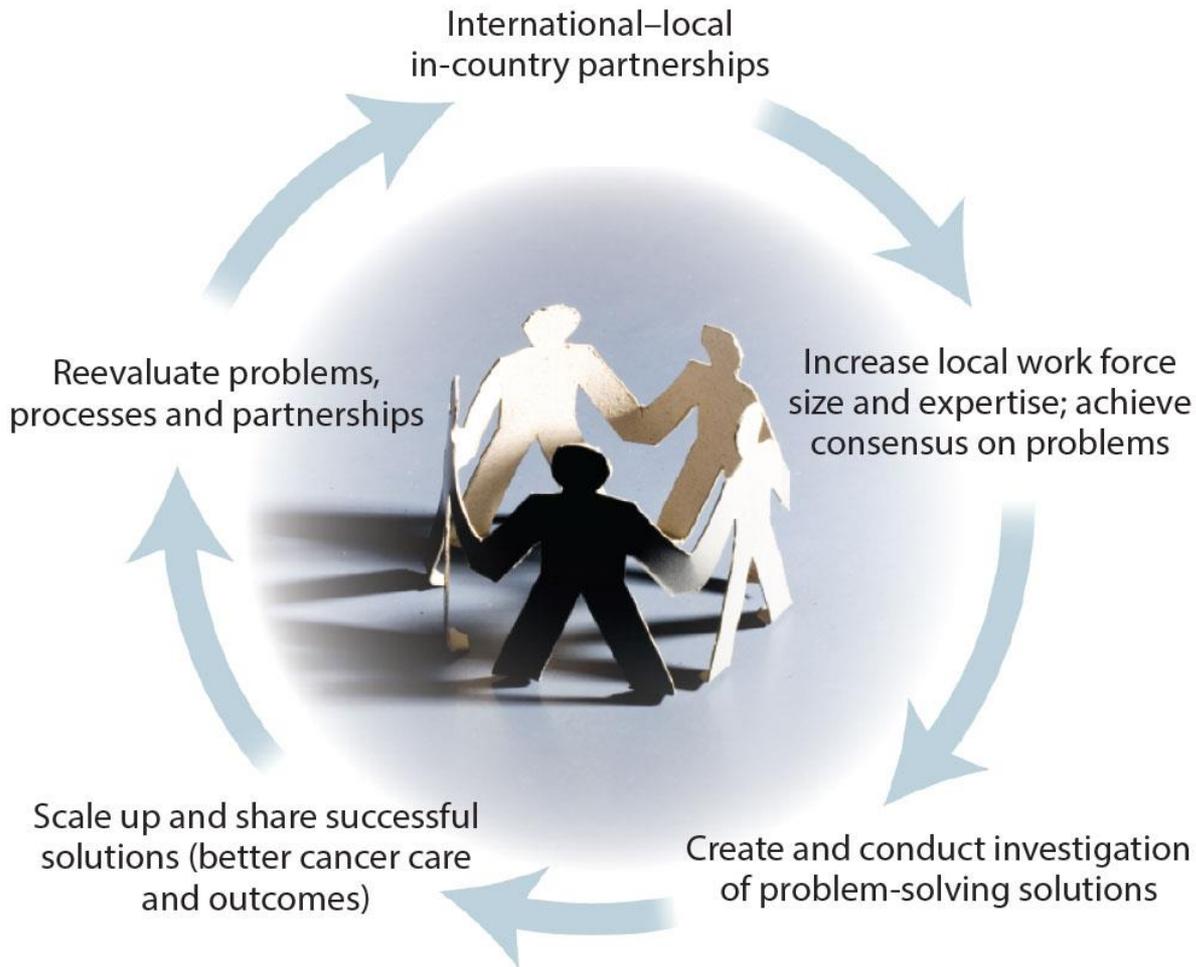
**C Norman Coleman, Bruce D Minsky*

Lancet Oncol, 2015, 16: 1146

CANCER HEALTH DISPARITIES

Transforming Science, Service, and Society

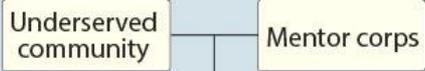
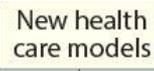
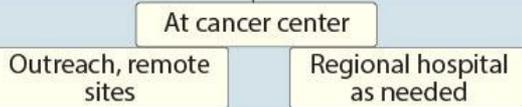
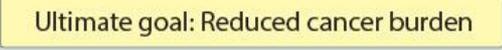
Think globally, mentor locally.



Translating intention into action.

Capacity, capability, credibility- sustainable system

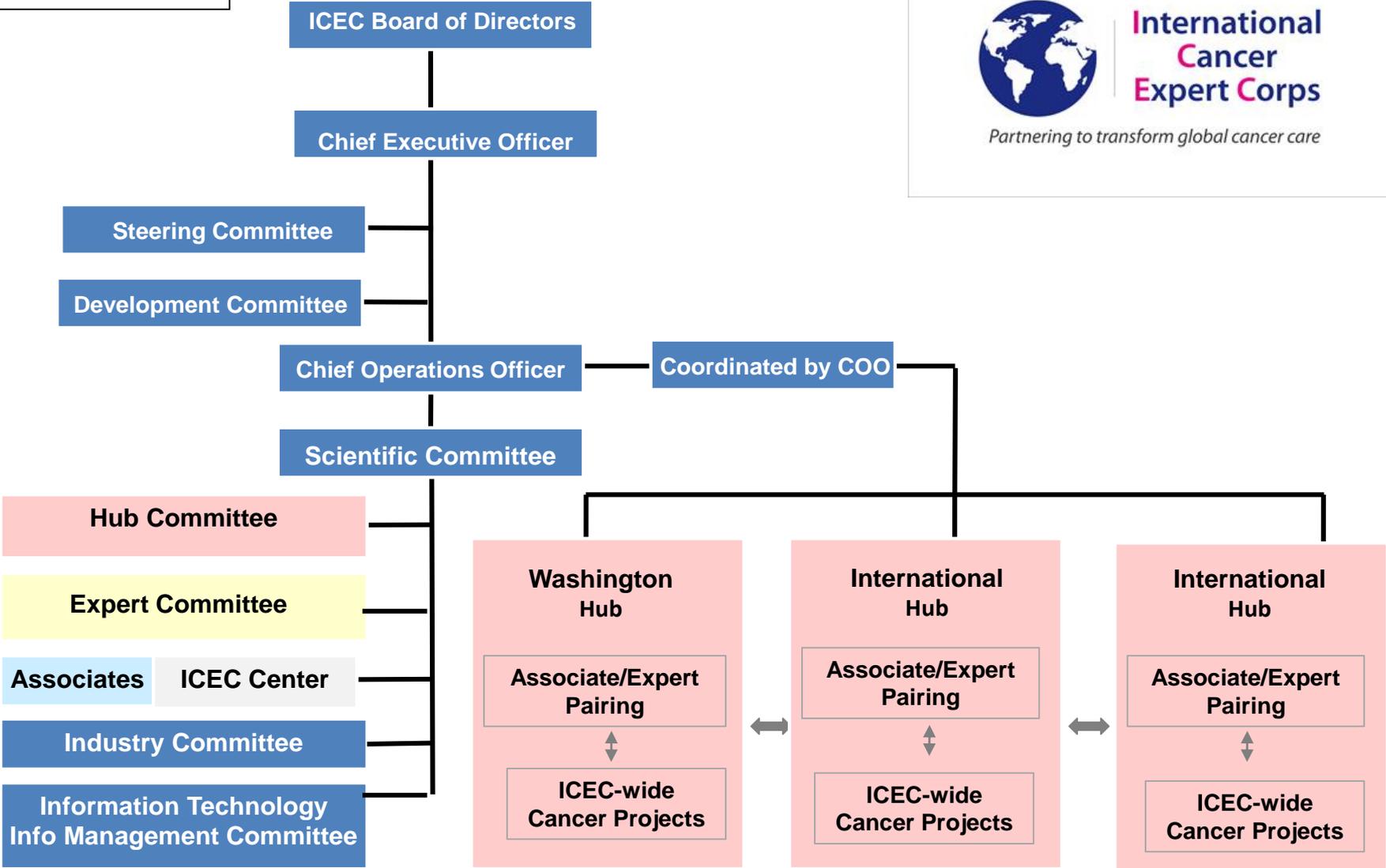
Opportunity for a broad range of sectors to contribute and benefit

Sector	Goals	The health care system	Tools and methods	Accomplishments
Expertise Resource-poor (LMICs) and resource-rich	Capability capacity; sustainable "in-country" cancer program		Mentorship; New career path; Tap into wisdom of retirees	Transform health care value system; Catalytic innovation
Implementation science	Effective use of knowledge; New systems-solutions to hard problems		Quality data bases; Appropriate metrics; Shared learning	Improvements are data driven; Shared solutions; New economic models
Technology	Best use of personnel; Remote outreach and improved access to care		Novel IT technology; Cell phone for remote outreach	Better health; New jobs; New markets
Research	Understand diseases; Targeted therapeutics and prevention		Clinical epidemiology, translational and basic mechanistic research	New knowledge; Better prevention and treatment agents and strategies
Cancer and health (applicable to NCDs)	Expandable; Exportable models; Shared resources		Shared knowledge; Economic models that support more investment	Common ground; Diplomacy; Shared accomplishments

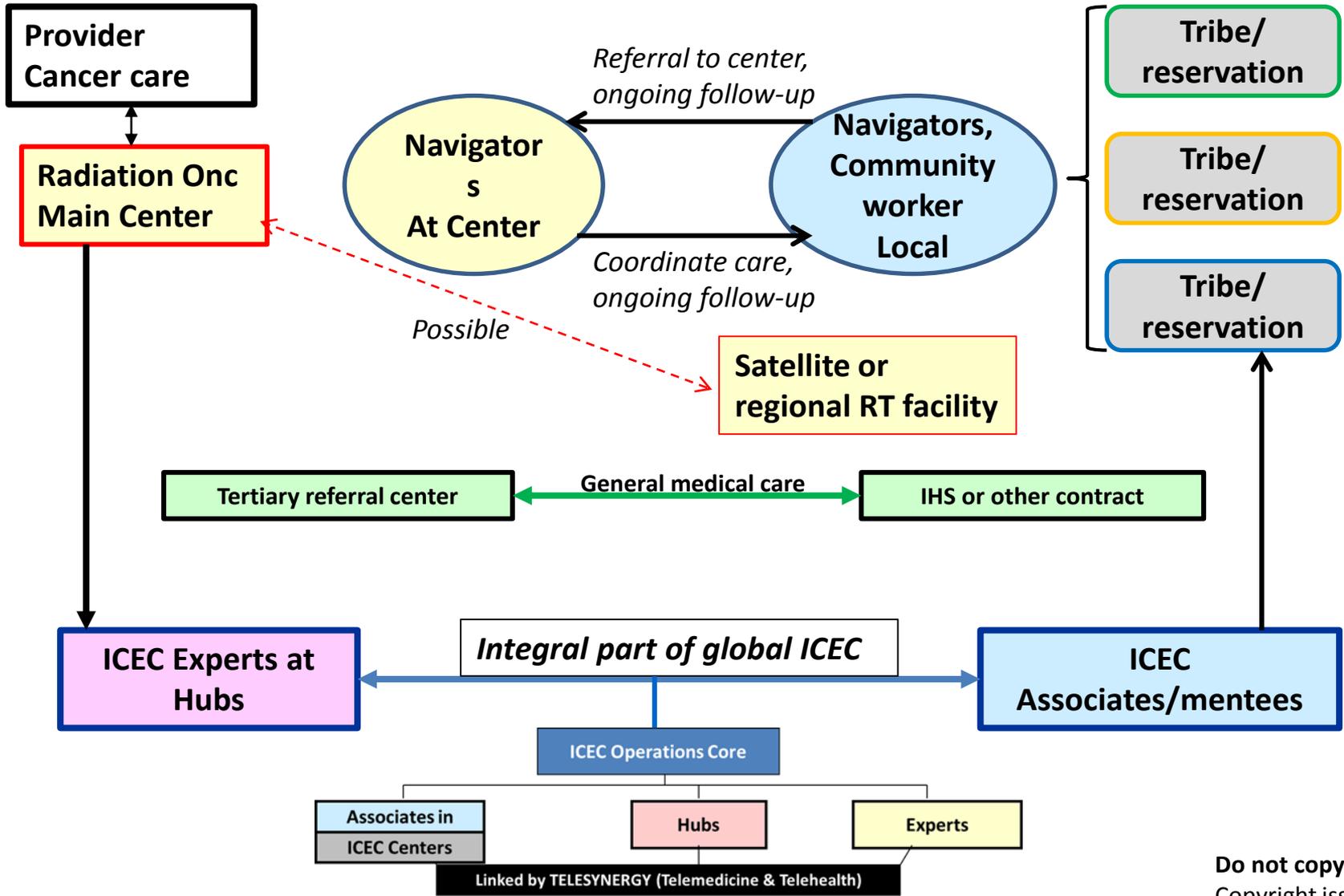
The benefits to *science and scientists* & clinicians

- **Implementation science** - *no one has solved this problem*. Complex system- collaboration among countries and disciplines
- **Translational research**- studying unique tissue sets that benefit people and science
- **Economics**- develop sustainable solution through new models and large network
- **Alpha, Omega and Psi (sustain) of careers**- inspire and sustain newcomers (α), utilize expertise of retirees as mentors and teachers (Ω) and create sustainable career path (ψ)

**ICEC
organizational
chart**

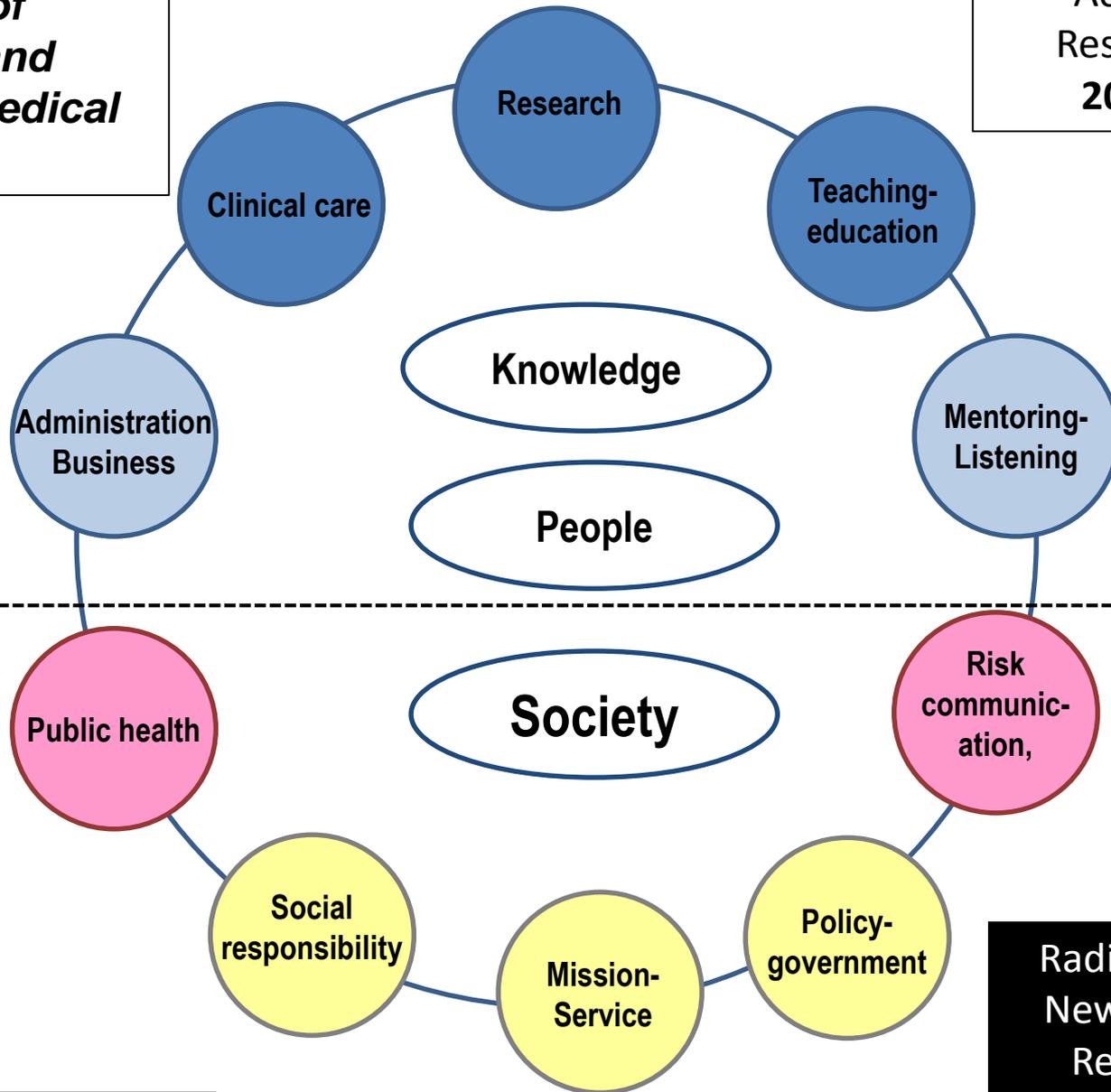


Replicating and/or adapting the *Walking Forward* model (South Dakota): indigenous people as a component of global health



What are the goals and values of healthcare and academic medical enterprise?

Radiation Research
Activities and
Responsibilities
20th Century



Radiation Research
New Activities and
Responsibilities
21st Century

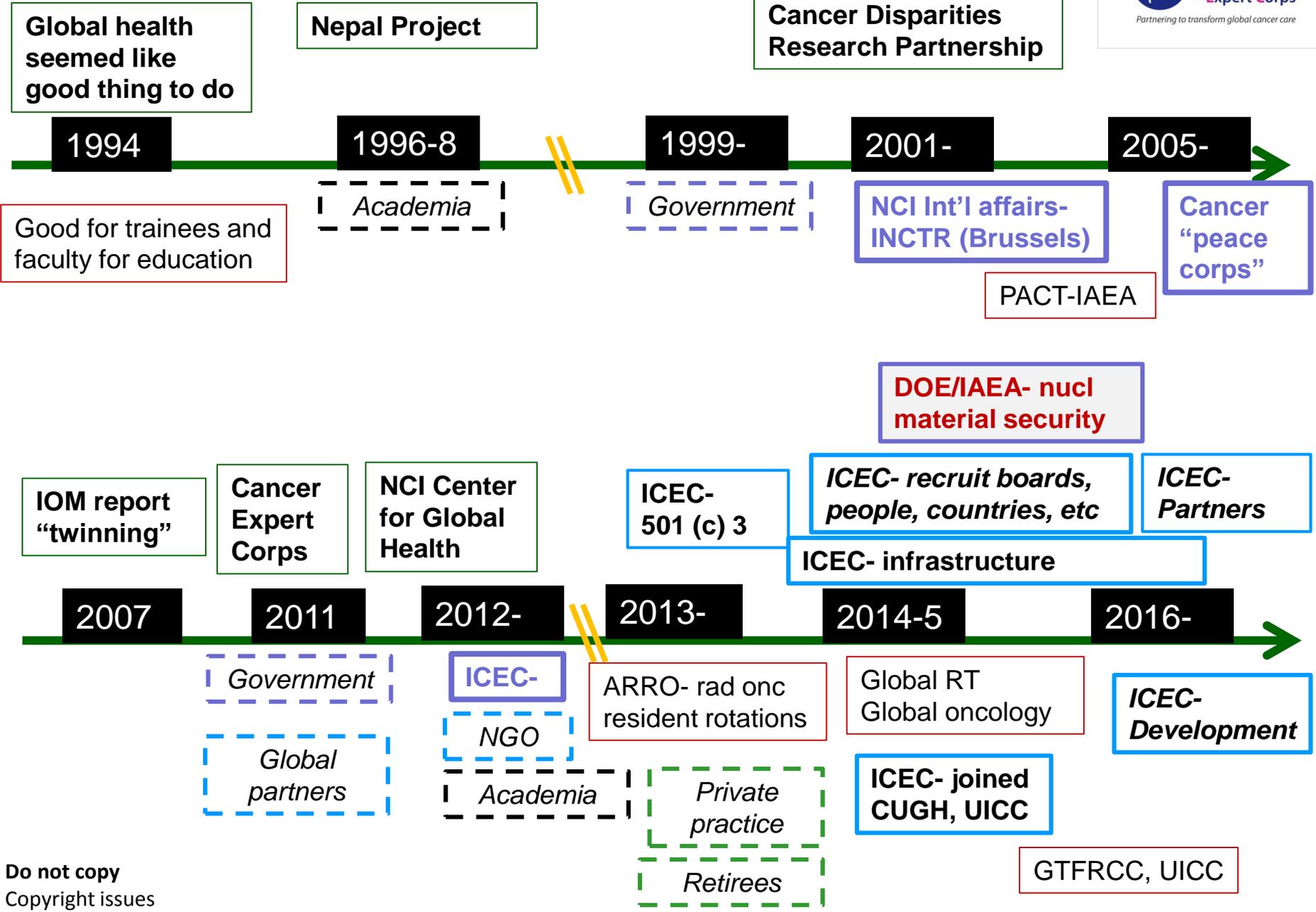
ICEC initial 3-year budget

	2016	2017	2018
Centers/Associates			
# of Active ICEC Centers	6	12	18
# of Individual Experts	24	48	72
# of Associates	24	48	72
Hubs/Experts			
# University	2	4	6
# Medical Practice Hubs	2	3	4
# Academic Experts	8	16	24
# of Independent Experts	16	32	48
Subtotal ICEC Centers and Hubs	\$ 720	\$ 1,430	\$ 2,250
Subtotal ICEC Central Hub - Experts	\$ 172	\$ 350	\$ 380
Subtotal World Headquarters (L1+L2))	\$ 524	\$ 689	\$ 776
TOTALS			
Total Investment (excluding in-kind)	\$ 1,416	\$ 2,469	\$ 3,406
Total Investment + In-Kind	\$ 2,736	\$ 5,049	\$ 7,246



In general, the expense in dollars is roughly matched by in-kind donations. The approximate annual expense for mentorship for a low-middle income facility is \$250,000 and for an indigenous center in a resource rich country, \$200,000.

Radiation oncology, global health timeline





International
Cancer
Expert Corps

Partnering to transform global cancer care



**“It always seems impossible until
it's done.”**

Nelson Mandela

Want further yakking?



**International
Cancer
Expert Corps**

Partnering to transform global cancer care

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