

Can we win the war on cancer globally?

Franco Cavalli

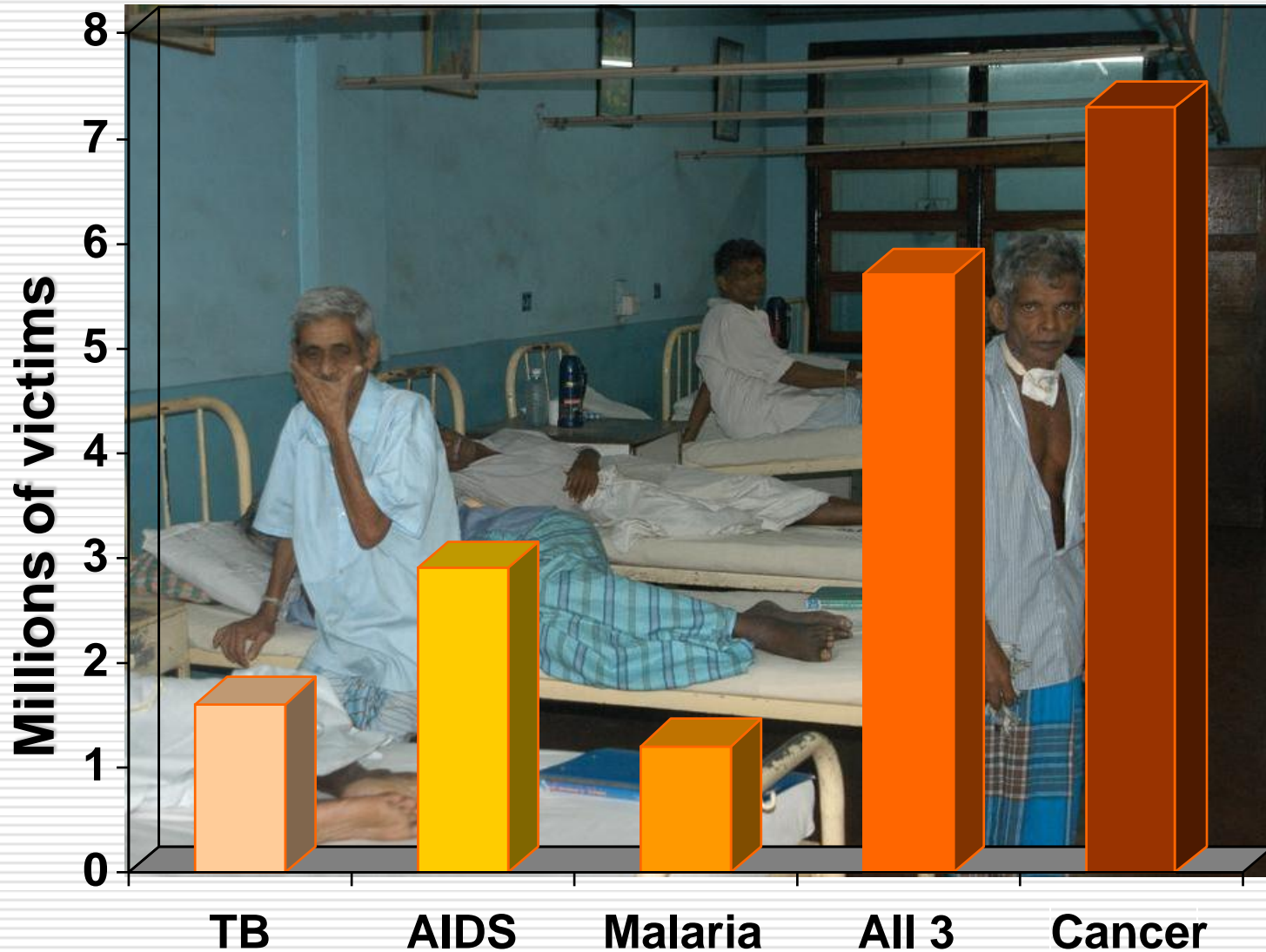
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Cancer kills more globally!



WHO (2003)

Cancer in developing countries

1970 15% of global burden

2008 56% of global burden

2030 ca. 70% of global burden

Global burden of cancers attributable to infections in 2008: a review and synthetic analysis (IARC)

- 2008 = 12.7 Mio. new cancer cases
- attributable fraction for infectious agents: 16.1%
(2 Mio. cases)
less developed countries 22.9%
more developed countries 7.4%

Variation: New Zealand 3.3% → sub-Saharan Africa 32.7%

H.Pylori, hepatitis B/C and HPV
account 1.9 Mio. cases (95%)

Cancer mortality (fatality ratio)

75%	low income countries
72%	middle income countries
64%	upper-middle income countries
46%	high income countries

P. Farmer et al. Lancet 2010; 376:1186-93

Breast and cervical cancer in 187 countries between 1980 and 2010: a systematic analysis

	Breast cancer <i>(thousands)</i>		Cervical Cancer <i>(thousands)</i>	
	1980	2010	1980	2010
cases	641	1600	378	460
deaths		425 (50-50%)*		220 (80-20%)*
deaths < 49 yrs in developing countries		68 (70-30%)*		60 (85-15%)*

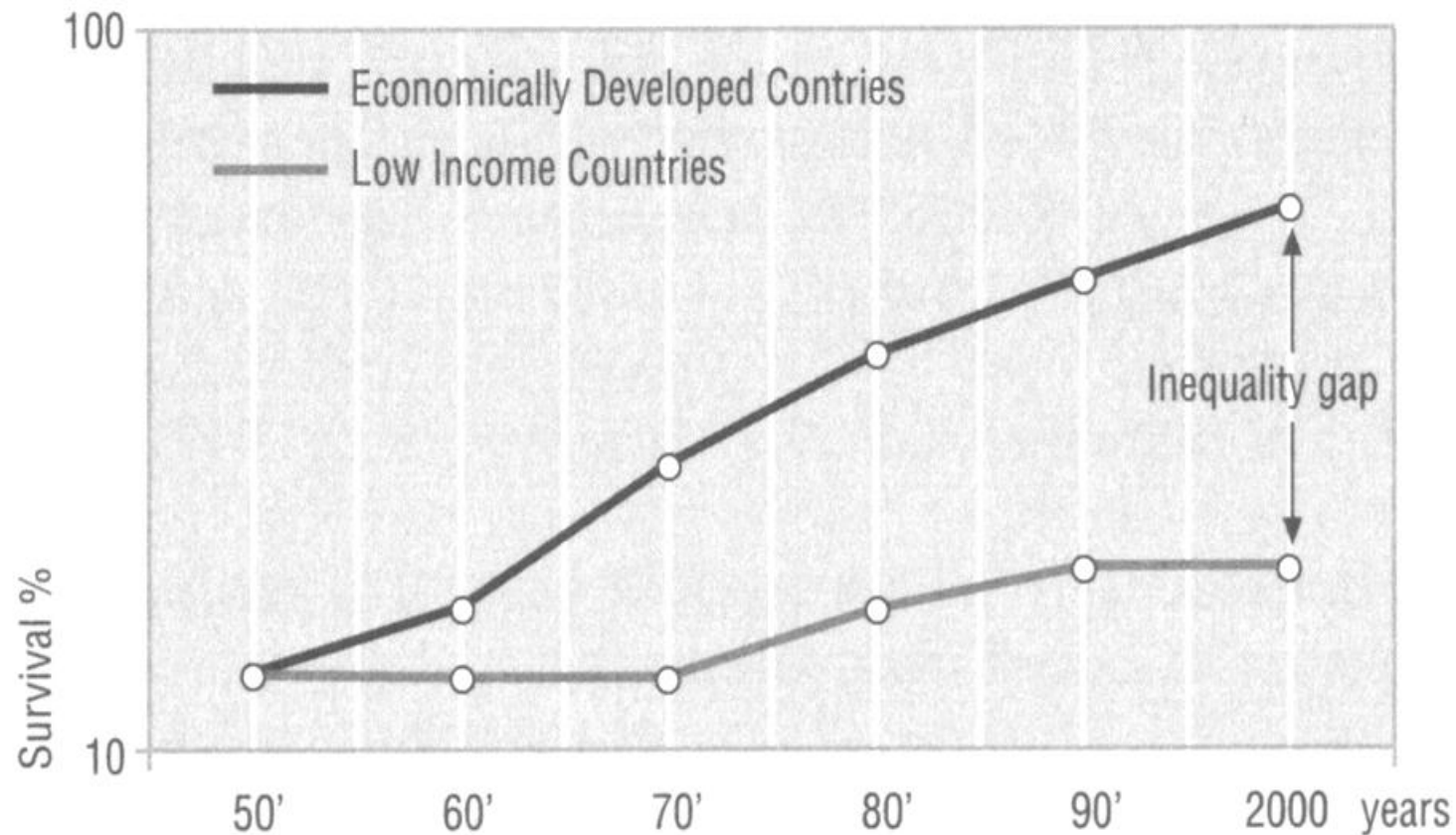
()* = proportion developing / developed countries

incidence: 1980-2010

BC	3.1% / year	↑
CC	0.6% / year	↑

MH Forouzanfar et al. Lancet 2011; 378:1461-84

Survival of children with cancer in economically developed countries and in low-income countries



ACCESS TO RADIOTHERAPY

pact@iaea.org

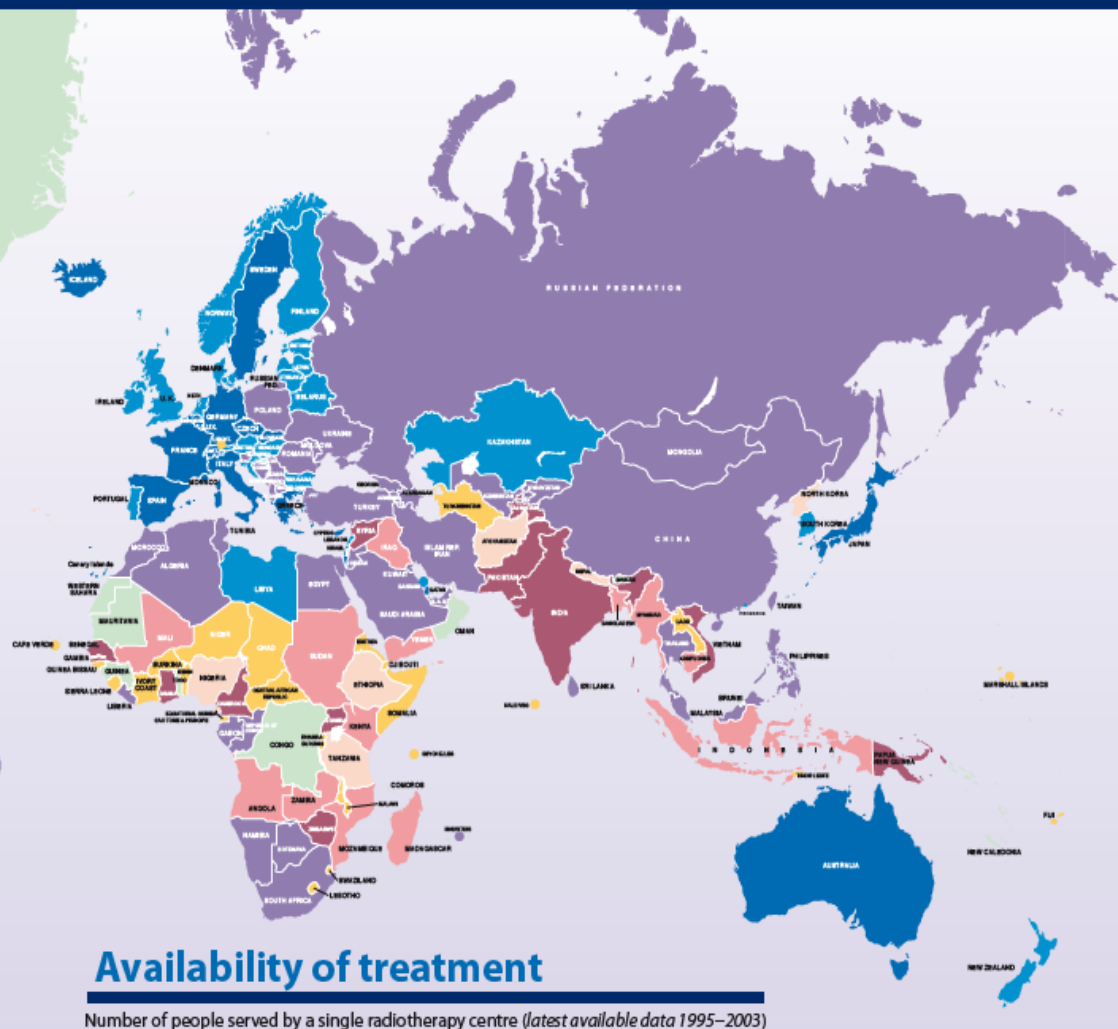
Radiotherapy is an essential part of the treatment of cancer

Over 30 African and Asian countries have no access to radiotherapy

There is a shortfall of over 5000 radiotherapy machines in the developing world

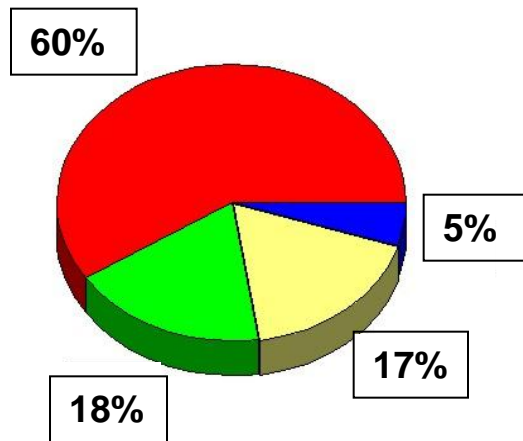
IAEA has initiated PACT to comprehensively address this urgent problem, and is moving its radiotherapy programmes to a public health model.

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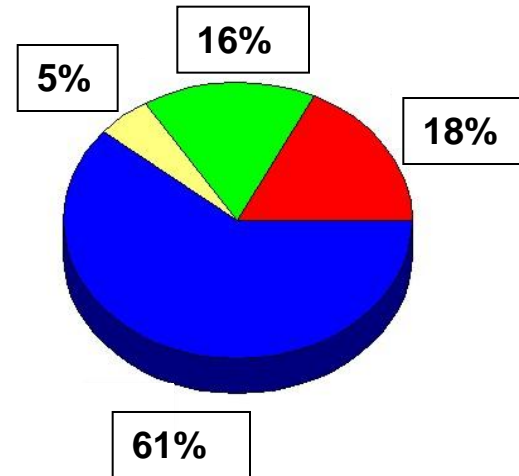


Cancer Drugs versus Cancer

Anti-Cancer Drug Sales



Cancer



The looming disaster in developing countries

- Sum of
- mainly poverty- and/or infection related tumors (cervical, oesophagus, liver)
- tumors linked to western style of life (breast, lung, prostate, colorectal)
- lack of primary and secondary prevention
- lack of resources for treatment

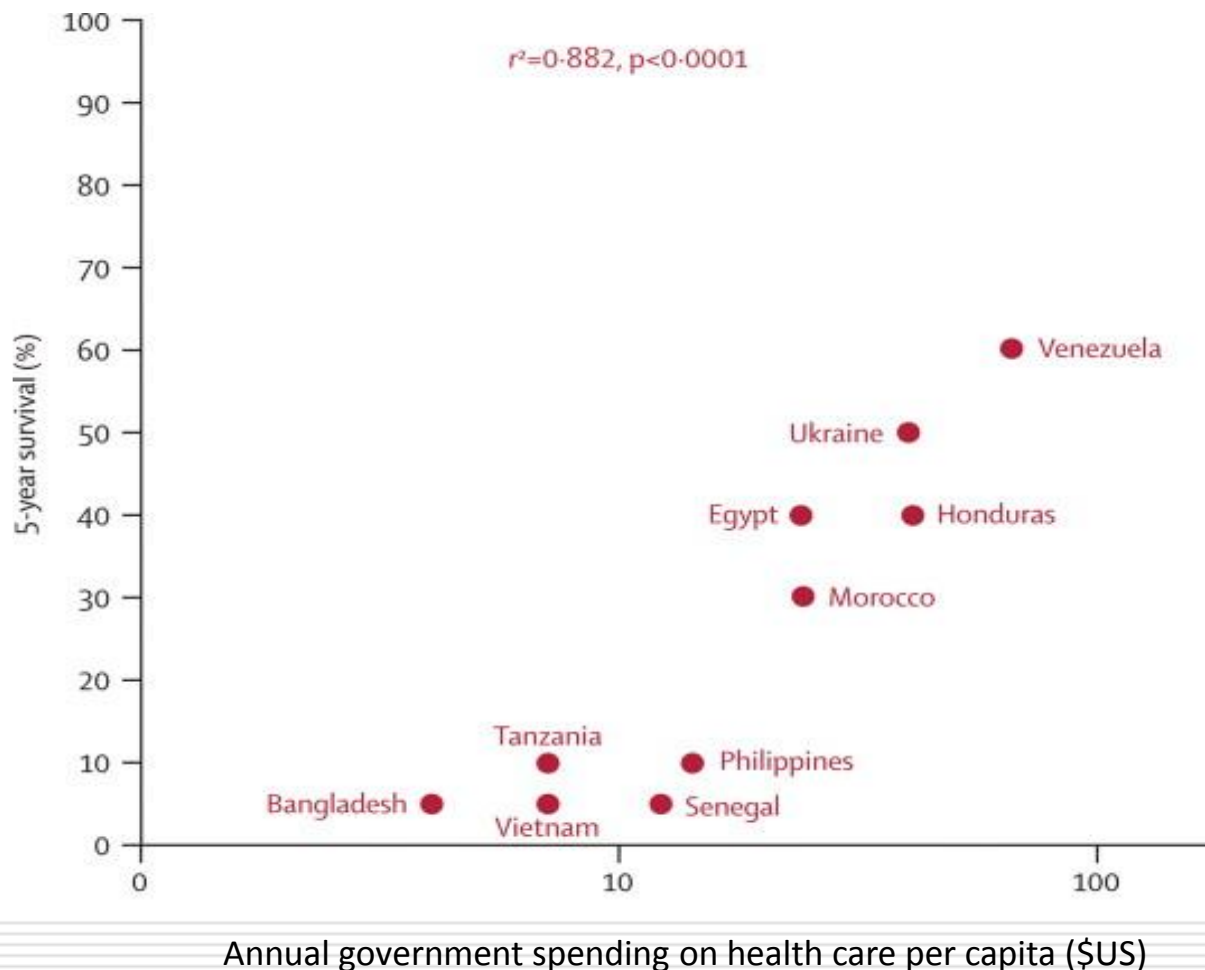
F. Cavalli. Nature Clinical Practice Oncology 2006; 11:582
F. Bray et al, Lancet Oncology, 2012

The looming disaster

	New cancer cases	deaths
2008	13 Mio.	7.6 Mio.
2030	22 Mio.	13 Mio.

UICC / WHO 2012

Correlation between government health expenditure and pediatric cancer survival



R. Ribeiro et al. Lancet Oncology 2008; 9-721-729

Structure and efficiency of
health care system, together with
universal health coverage

KEY for the fight against cancer

Lancet 2012; 379:494

Current evolution

(1)

Structural adjustments and fiscal crises are undermining health care systems in many african, asian and latin-american countries

Current evolution

(II)

Public health systems in the countries of the former Soviet Union, previously universally accessible -albeit often inefficient- have been disrupted by reductions in funding and rapid privatization.

***Health systems strengthening: current and future activities.
J. Sundvall et al. Lancet 377:1222-24; 2011***

Current evolution

(III)

Explosion of cost of systemic treatment, even for old drugs (e.g. Thalidomide, Thiotepa, etc.)

(US prize is determining world prize)

Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) has “exacerbated the problem with no gain for developing countries

R. Smith. Lancet 2009; 373:684-91

What to do?

(1)

- Prevention! (Tobacco → Africa)
Enforce FCTC
- Early detection adapted to local situation
e.g. BGHI
ESO Programs in Kazakhstan

***Cancer in developing countries: can the revolution begin?
Lancet Oncology 2011; 12:201***

What to do?

(II)

Palliative:

- twinning
- essential drugs (WHO)
- UNIQUE
- vertical programs (???, probably not)

Curative:

- change of rules!

1986: La Mascota Project

150-200K USD/year
Long-term twinning program

- training and supervision of health professionals in pediatric oncology
- use of protocols tailored to the local possibilities
- clinical research (mentality)
- use of part of resources for social help (Lost to therapy ↓)
- building inpatients - outpatients structures and laboratories facilities

Lancet 1998; 352:1923-26

Expansion of cancer care and control in countries of low and middle income: a call to action

- 3 examples (mainly Mexico):
- international partnership
- inclusion in national insurance programs
- expansion through national center of excellence

P. Farmer et al. Lancet 2010; 376:1186-93

UN SUMMIT on NCDs *(19-20 September 2011)*

The Declaration clearly acknowledges cancer as a unique disease in many respects, with specific commitments to prevention, early detection and increase access to Hepatitis B and HPV vaccines.

UN SUMMIT on NCDs *(19-20 September 2011)*

The Declaration, however, lacks specific targets including no overall goal of reducing preventable deaths and no commitments to increase the proportion of resources devoted to fight NCDs.

New WHO Resolutions

1. To reduce NCD-mortality in people <70 yrs by 25% till 2025
2. To prepare second Framework Convention (first FCTC) devoted to RD, mainly related to low income countries.
→ 0.01% of BIP to be devoted.

Geneva, May 25th, 2012

Changes of rules

- abandon principle of patents
- compensate industry for discovery
- most of research (F I → III) to be financed by public resources.

J. Stieglitz. blog "Project Syndicate"

Next step

**27-28 October 2012,
Lugano, Switzerland:**

World Oncologic Forum (WOF)
«Are we winning the war on cancer?»

Organized and sponsored by
European School of Oncology (ESO)



Thank you