

Economia del Cáncer y Marco de Valor

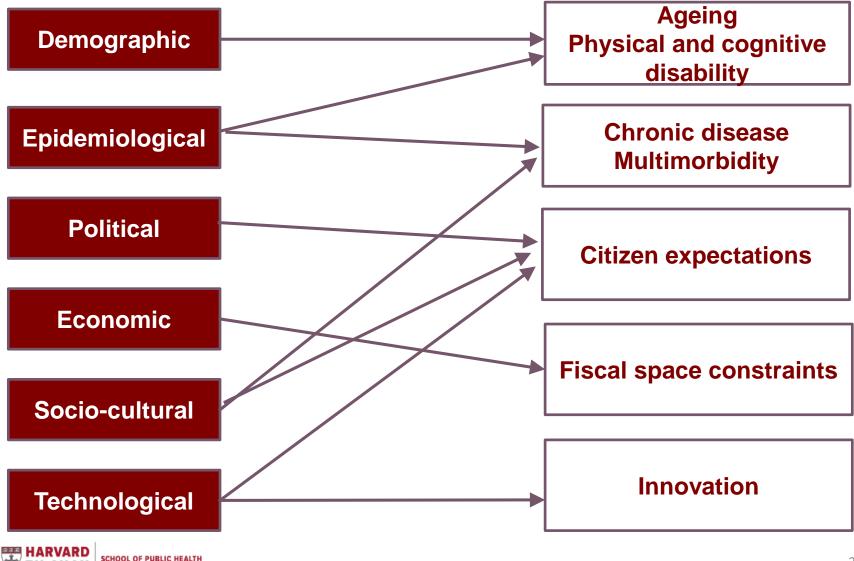
Cáncer en Chile Impacto Economico y Social: Allianzas Publico – Privada Santiago de Chile, Aug 23, 2018

Prof. Rifat Atun MBBS MBA DIC FRCGP FFPH FRCP Professor of Global Health Systems Harvard University

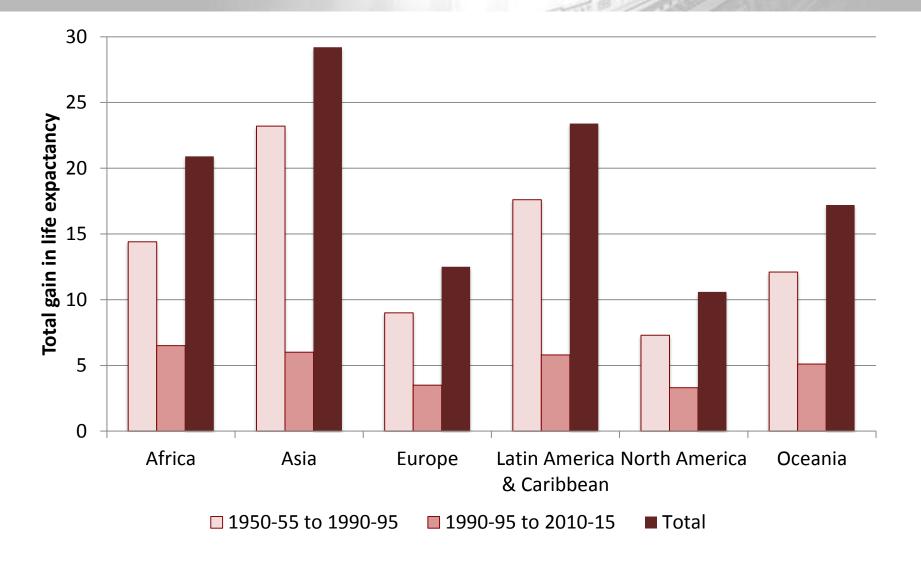


- 1. Health systems context and cancer: era of rapid transitions
- 2. Health systems: the innovation challenge
- 3. Looking for value: unlocking innovation in health systems
- 4. Investment case for cancer

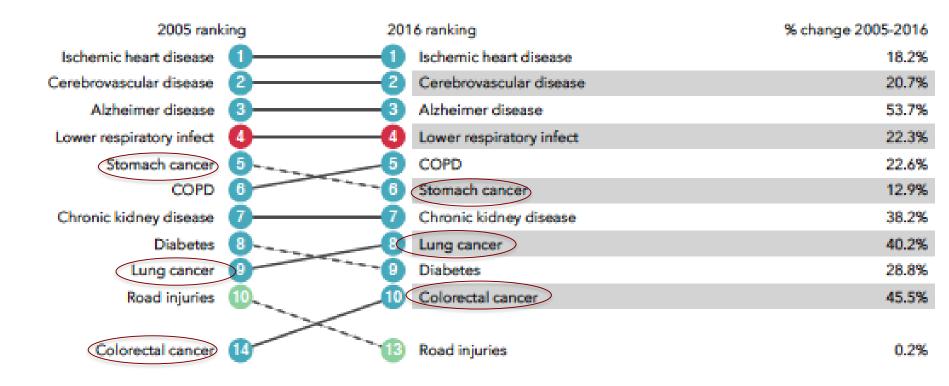
The challenge for health systems: rapidly converging contextual transitions



Total gain in life expectancy 1950-55 to 2010-15

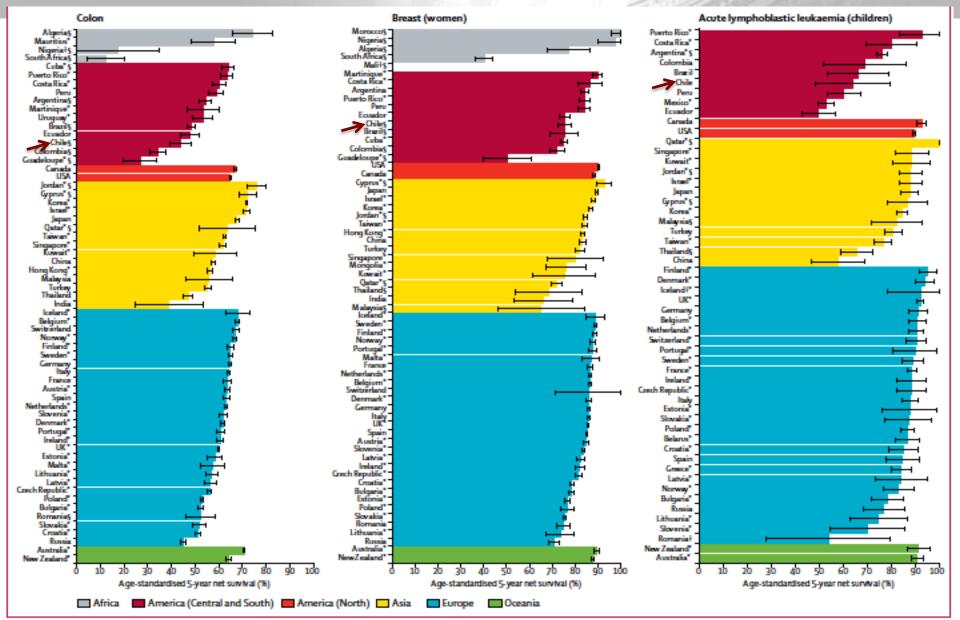


Chile: top 10 causes of death in 2016 and percent change, 2005-2016, all ages, number



Source: IHME, 2018

Concord-3: age-standardised 5-year net survival for adults (15–99 years for colon and breast cancer [in women]) diagnosed during 2010–14 and children 0-14 years; ALL)







Niels Bohr (1885-1962)

Prediction is very difficult, especially about the future

T.H. CHAN

Economic burden of cancer

Cost of Illness

\$290 Billion in 2010 \$460 billion in 2030

Value of Lost Output

\$8.3 Trillion (in 2011-2030)\$5.4 Trillion HIC & \$2.9 Trillion LMIC

Value of Statistical

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Life

\$2.5 Trillion in 2010 \$4.9 Trillion in 2030

> *Luengo-Fernandez Lancet 2013 ** Annals of Oncology 2007 *** Bloom et al WEF

Estimated economic cost of cancer in Chile

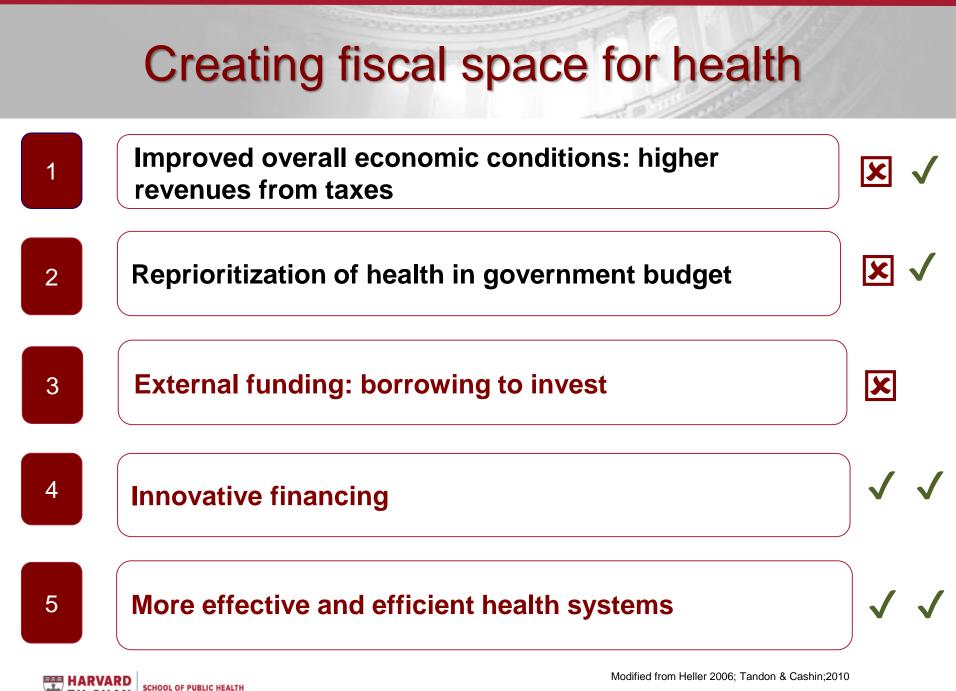
Medical cost per new cancer patient: US\$15.09 (2009 estimates)*

2 Economic cost: US\$3.5bn per year**

True answer: We just don't now...

* Goss et al .2013 ** Jimenez de La Jara 2015







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Health systems and the innovation challenge (1): Innovation paradox

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FINANCIAL TIMES

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Special Report: Innovation in Healthcare

Comment: It is time to transform healthcare delivery

Cost rises put sustainability at risk, says Prof Rifat Atun of Harvard University

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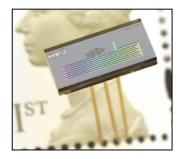
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NOVEMBER 29, 2016 by: Rifat Atun

Transformative innovation in healthcare delivery is critical for sustainability of health systems worldwide. They face a potentially crippling rise in health risks, chronic illness and disability, as well as higher citizens' expectations of better healthcare and access to innovative medicines and medical devices. With real growth in health expenditures far outstripping GDP growth and fiscal constraints, risks to sustainability are real. "...Scientific developments have spurred unprecedented "delivery of innovations" for new medicines and medical devices", but "Innovation in delivery" has faltered

Health systems and the innovation challenge (1): Delivery of innovation has outpaced innovation in delivery

Delivery of innovations





Novel treatments

Innovation in delivery



Hôtel-Dieu de Paris; founded in 651 by Saint Landry



www.alarty.com - CBYNBE



Biomarkers New diagnostics



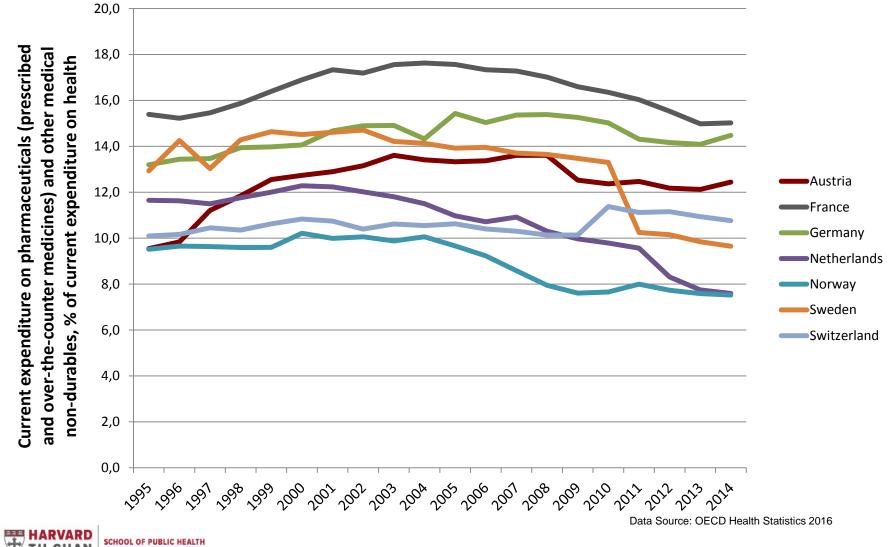
Big Data & Analytics A.I. & Machine Learning



St Bart's Hospital London; founded in 1123 by Rahere

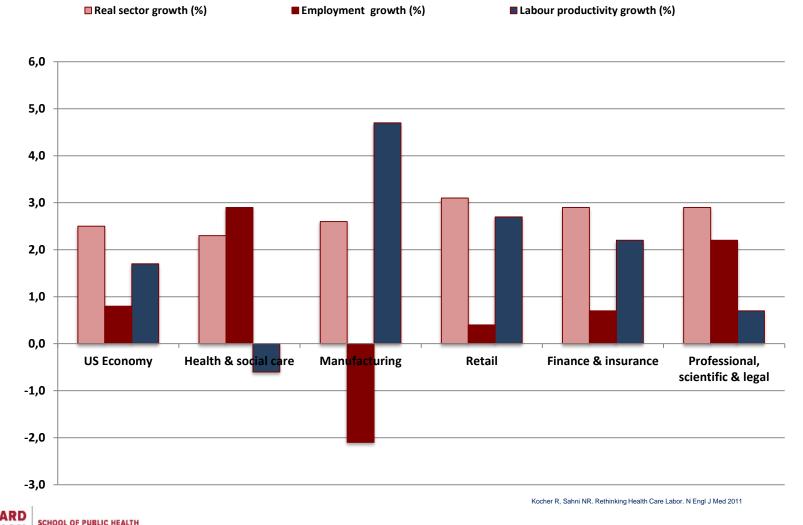
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Health systems and the innovation challenge (1): Why is *innovation in delivery* so important? Health expenditure on medicines, devices, and non-durables, as % of total

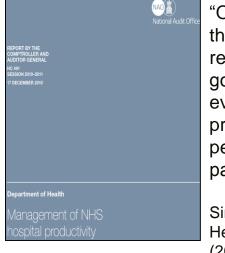


Health systems and the innovation challenge (1): Consequences of non-innovation in delivery: low productivity

US real sector growth 1990-2010



Health systems: the productivity challenge



"Over the last ten years, there has been significant real growth in the resources going into the NHS.... The evidence shows that productivity in the same period has gone down, particularly in hospitals."

Sir Amyas Morse Head, National Audit Office (2010)

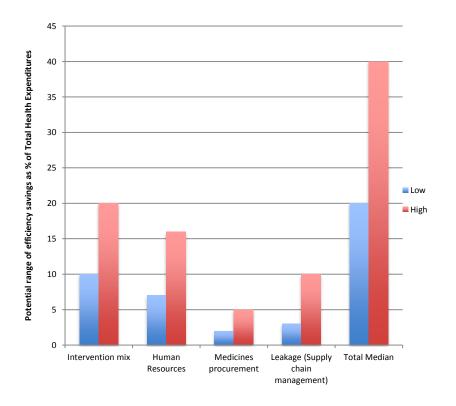
Contraction Projection

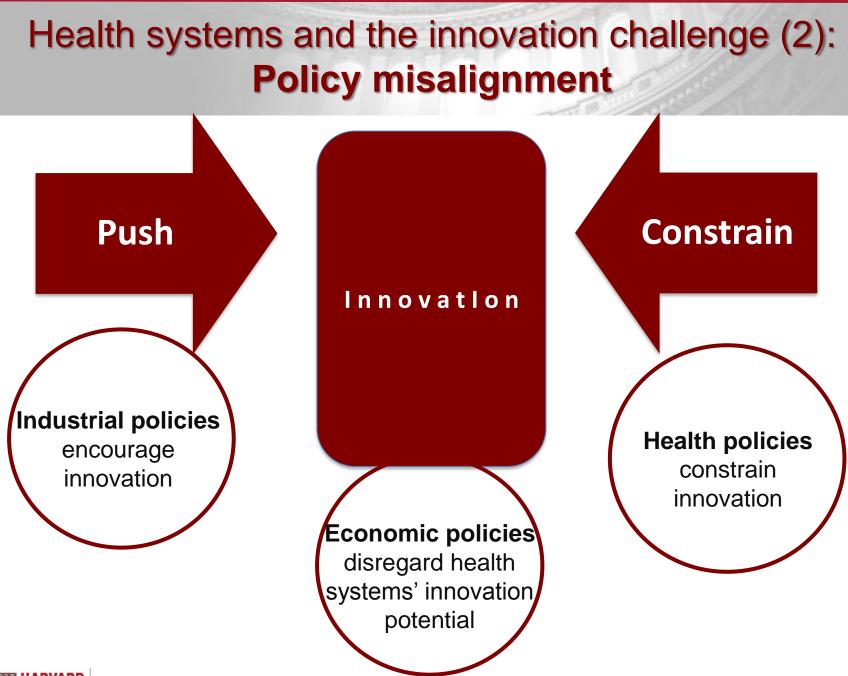
Hospital finances and productivity: in a critical condition?



exearch report

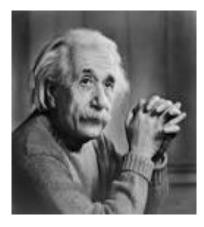
The financial performance of NHS providers in England has deteriorated sharply since 2013, and the service is projected to overspend by £626m by the end of 2014/15





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Health systems and the innovation challenge (3): Institutional logic



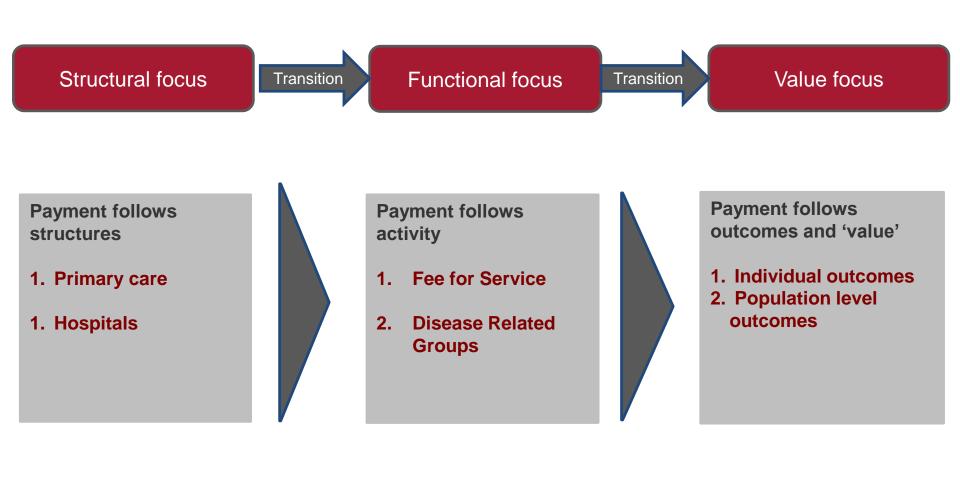
"Insanity is doing the same thing over and over again but expecting different results"

"We cannot solve our problems with the same thinking we used when we created them"



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Major provider payment trends in health systems: transition to outcome and value



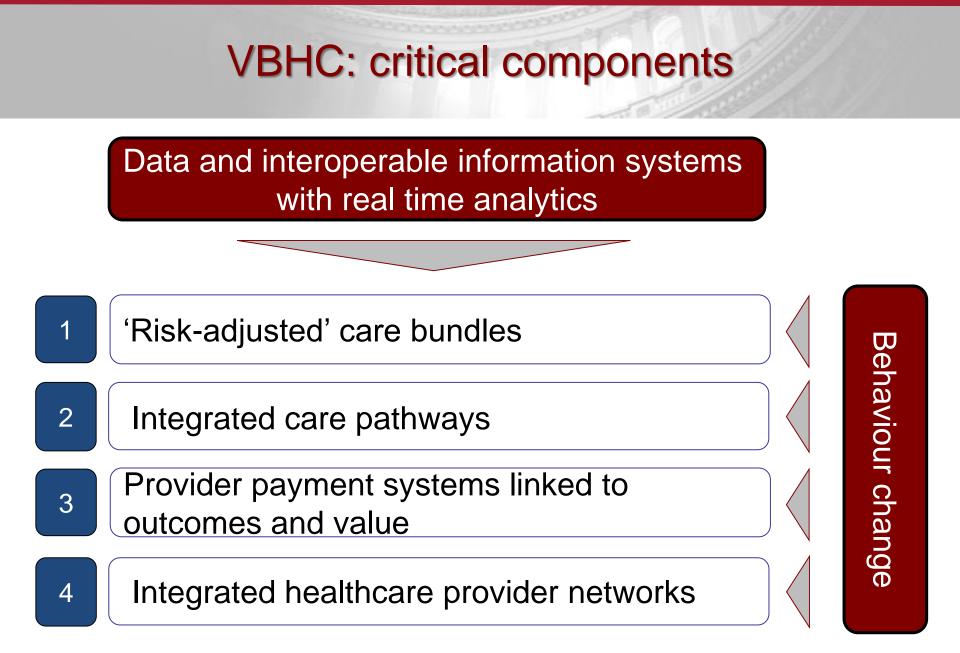
Value based healthcare: major principles

Optimized costs and outcomes

Transparency – benchmarking







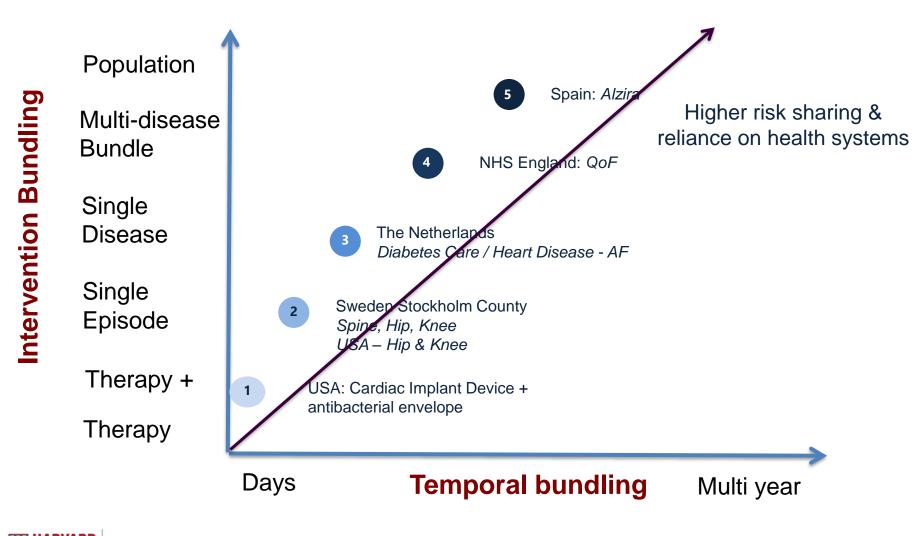
Value based healthcare: a continuum with multiple innovation opportunities



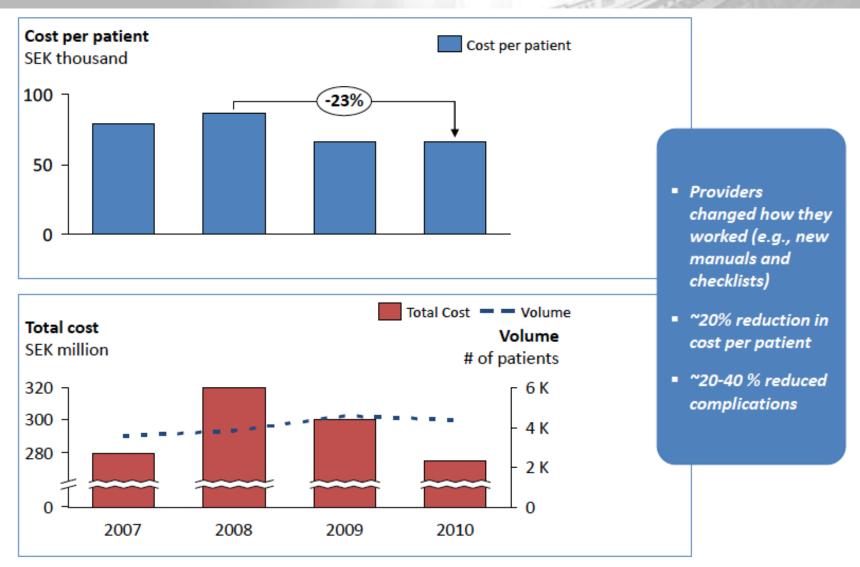


T.H. CHAN

Value based healthcare: a continuum for innovation



Stockholm County: VBHC for hip, knee and spine surgery



T.H. CHANUsed with permission of IVBAR

Journey to inclusive value creation: the 4 Cs

- **1. Consult** with stakeholders to identify problems and establish system needs
- 2. Challenge current practice by benchmarking performance
- **3. Construct** an environment for contestability and fair competition
- 4. Create an ecosystem for innovation



VBHC: A Global Assessment

Alignment with VBHC components Health systems in Sweden and the UK were the most aligned with value-based

Health systems in Sweden and the UK were the most aligned with value-based healthcare components. Most countries showed moderate or low alignment.

Very High	High	Moderate	Low	
Sweden	United Kingdom	Australia	Brazil	
Denmark		Canada	Chile	
		Colombia	China	
		France	Egypt	
		Germany	India	
		Japan	Indonesia	
Netherlands	<	Netherlands	Mexico	
		Poland	Nigeria	
		South Korea	Russia	
		United States	South Africa	
			Spain	
			Turkey	
			United Arab Emirates	

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		Japan	Indonesia	
Netherlands	←───	Netherlands	Mexico	
		Poland	Nigeria	
		South Korea	Russia	
		United States	South Africa	
			Spain	
			Turkey	
			United Arab Emirates	

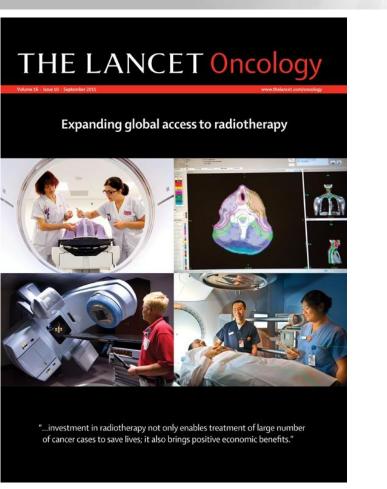


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Towards an investment case

- 1. Combines cost with benefit
- 2. Emphasises health and economic benefits of investing in cancer
- 3. Provides a clear time horizon for a core set of actions with returns
- 4. Makes a case for efficient allocation of scarce resources

Lancet Radiotherapy Commission



Atun etal, Lancet Oncology 2017

NEWS

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Millions of people globally have died unnecessarily from cancers that could have been treated by radiotherapy, according to doctors.

New figures suggest as many as nine out of 10 people in low-income countries cannot access radiotherapy treatment.

Even in high-income countries where facilities exist, experts warn that there are shortages of equipment and trained staff.

The data is being presented at the European Cancer Congress in Vienna.

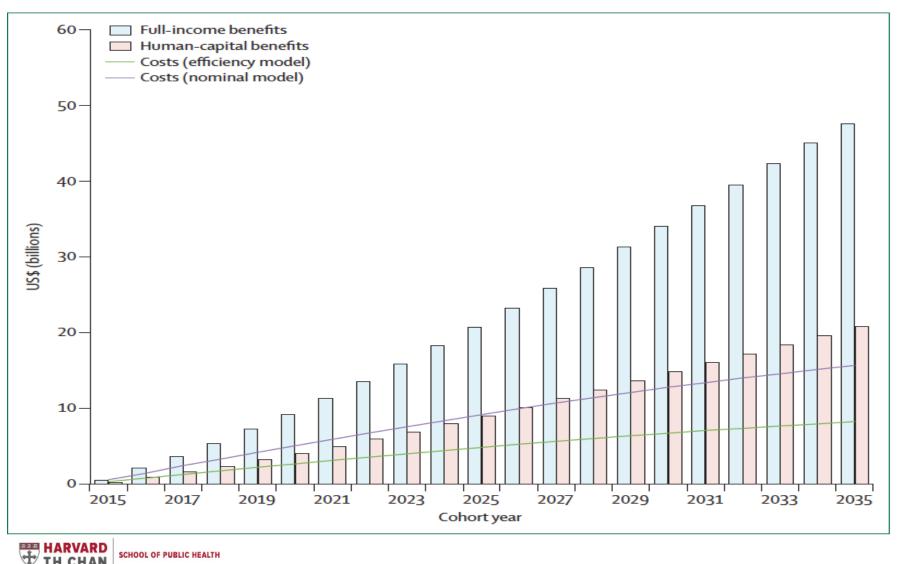
It has been compiled by a panel of international experts on a new commission set up to expand global access to radiotherapy.

Prof Rifat Atun from Harvard University in Boston in the US, said there was a widespread misconception that the costs of providing radiotherapy put it beyond the reach of all but the richest countries.

"Our work for this commission clearly shows that not only can this essential service be deployed safely and high-quality treatment delivered in low and middle-income countries, but that scale-up of radiotherapy capacity is a feasible and highly cost-effective investment," he said.

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Investment case for global expansion of radiotherapy



Atun et al., Lancet Oncology 2015

Investment case for radiotherapy: large benefits

	Low-income countries		Lower-middle-income countries		Upper-middle-income countries	
	Nominal	Efficiency	Nominal	Efficiency	Nominal	Efficiency
Net monetary benefit (US\$, billions)						
Human-capital approach	-14.9	-2.4	-18.7	10.7	50.5	95.9
Full-income approach	0.265	12.8	38.5	67.7	239.3	284.7
Return on investment (US\$, billions)						
Human-capital approach	-0.56	-0.17	-0.3	0.32	0.53	1.94
Full-income approach	0.01	0.91	0.62	2.03	2.52	5.77

Net monetary benefit=cost of investment- economic return. Return on investment=net monetary benefit/ cost of investment. Costing models are described in the text and include both operational and capital costs.



Effectively responding to the cancer challenge: making it happen



Thank you