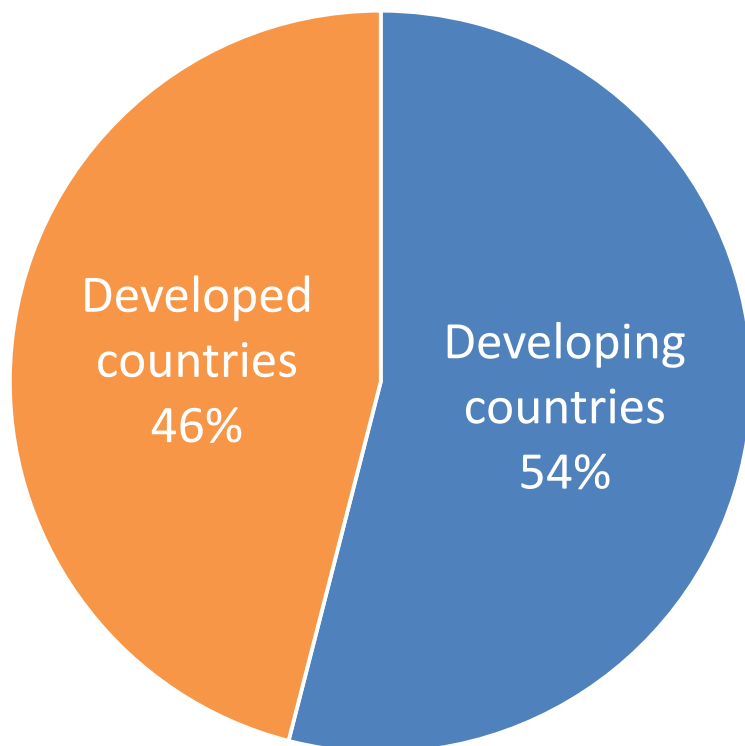


The burden of cancer in emerging economies: Productivity loss as an alternative perspective

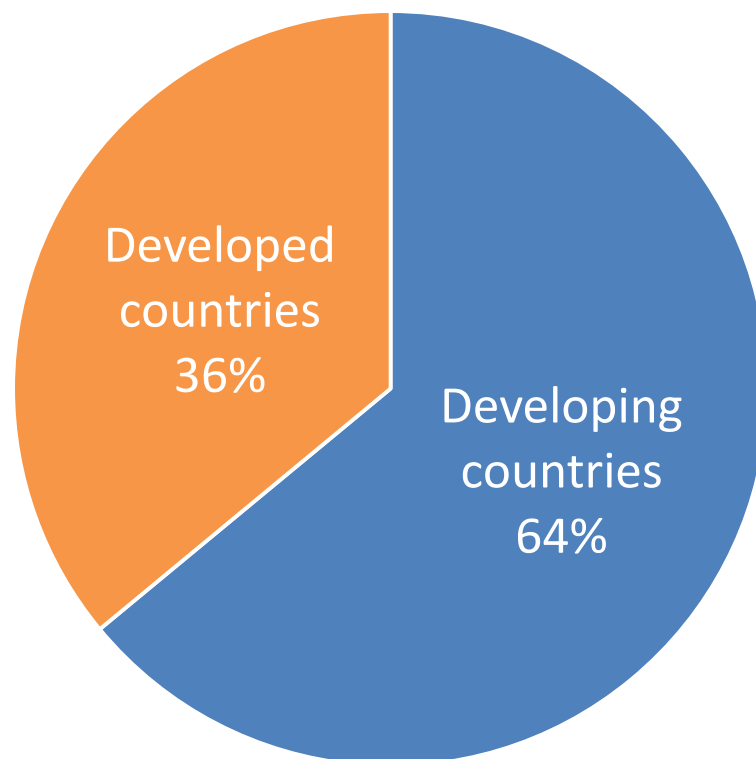
Alison Pearce, Paul Hanly,
Linda Sharp, Isabelle Soerjomataram

Cancer in emerging economies

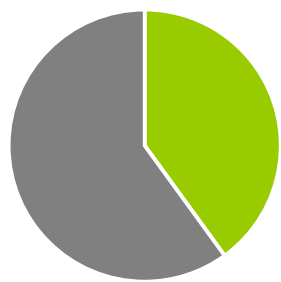
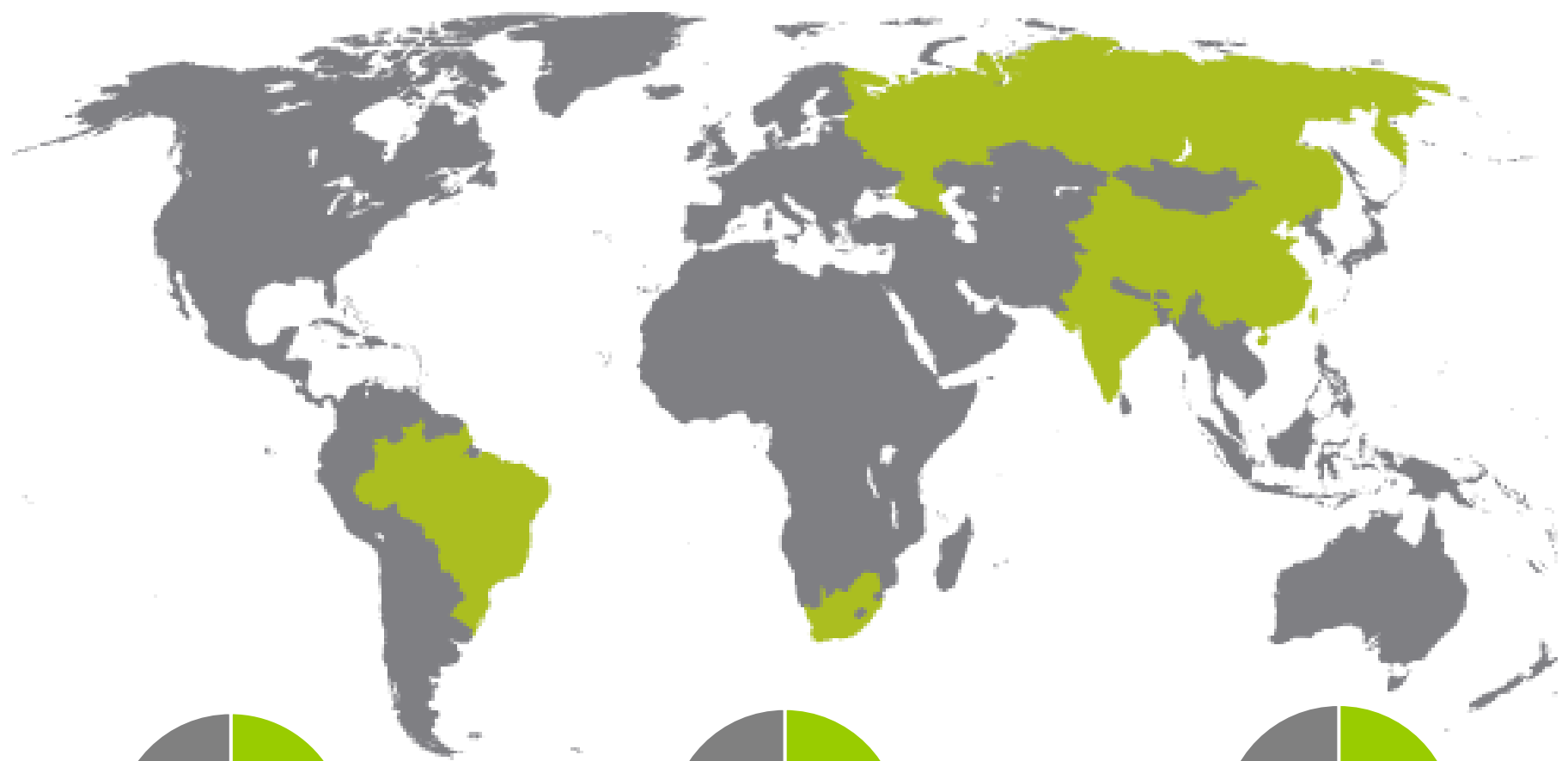
Cancer diagnoses



Cancer deaths



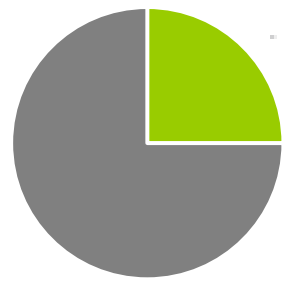
BRICS countries



World's Population



World's Land area



World's GDP

Burden of cancer

Everyone's work contributes to the economy, and not working represents a loss of this contribution to society








Aim

To estimate the value of lost productivity due to cancer-related premature mortality in Brazil, Russia, India, China and South Africa (BRICS) in 2012

Methods & Data

- Incidence-based, human capital approach
- GLOBOCAN data
 - Cancer mortality rates
- OECD & ILO data
 - Workforce participation & unemployment
 - Wages & future wage growth
 - Retirement ages
- Local currency calculations converted to USD using PPP and inflation to 2012
 - 3% discounting




Demographic inputs

	Population (millions)	Cancer deaths	Life expectancy	
	Brazil	201	222,505	73.8
	China	1,357	2,194,746	75.3
	India	1,211	673,098	66.4
	Russia	144	294,522	68.0
	South Africa	52	46,953	57.0

Wage inputs

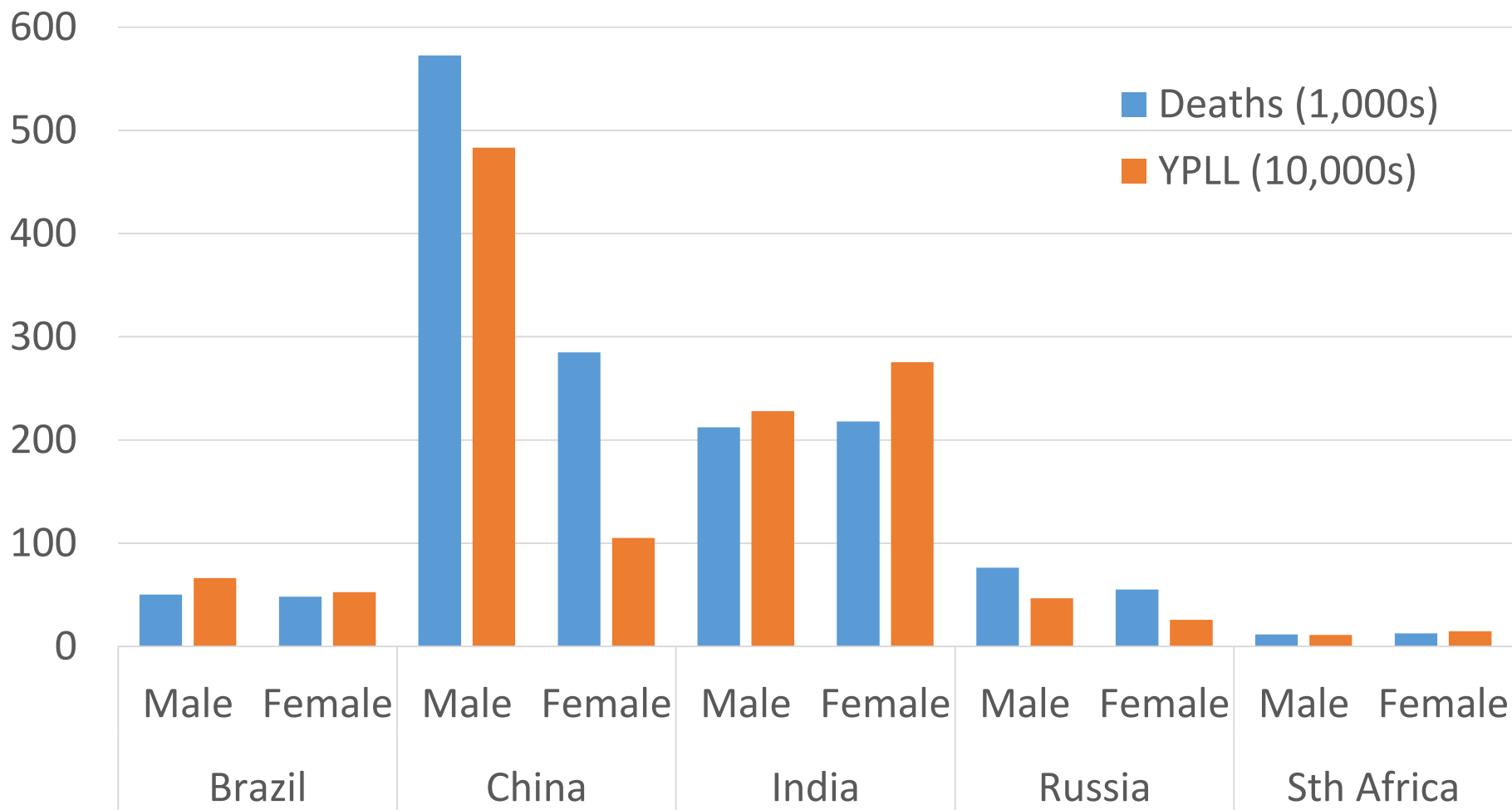
	Monthly wage (USD)	Wage growth rate	
	Brazil	\$1,069	2.0%
	China	\$172	3.7%
	India	\$415	4.2%
	Russia	\$7,100	2.4%
	South Africa	\$2,631	2.8%

Workforce inputs

	Gender	Participation (eg 40-45)	Unemployment (eg 40-45)	Retire age
	Brazil Male	93.56	2.24	65
	Brazil Female	71.44	4.83	60
	China Male	96.50	1.87	60
	China Female	84.82	2.60	50
	India Male	98.10	1.12	60
	India Female	37.10	1.35	58
	Russia Male	94.23	4.07	58
	Russia Female	91.24	3.47	55
	South Africa Male	85.45	15.96	60
	South Africa Female	67.07	17.24	60

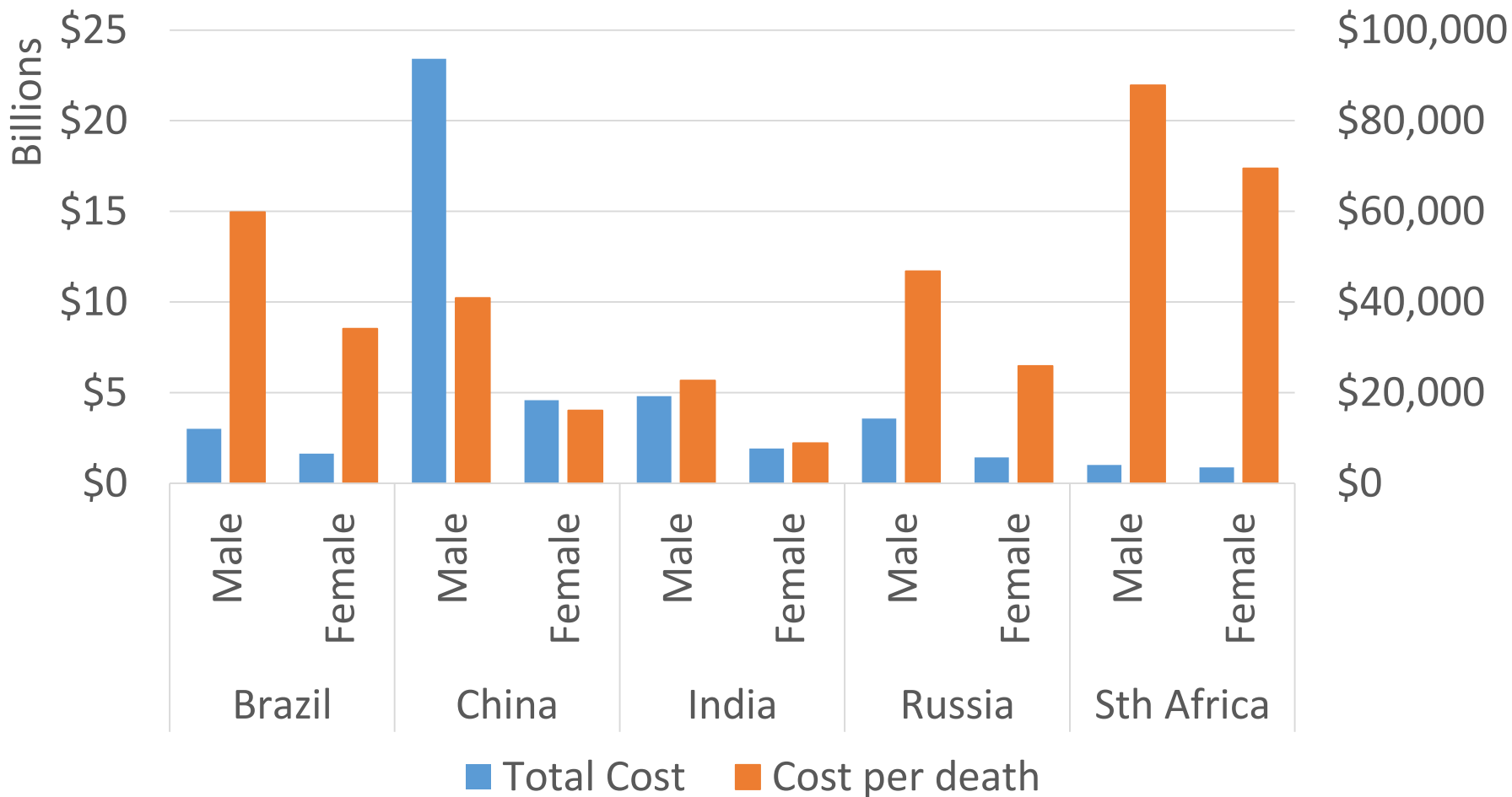
Deaths & YPLL

Deaths & Years of Productive Life Lost

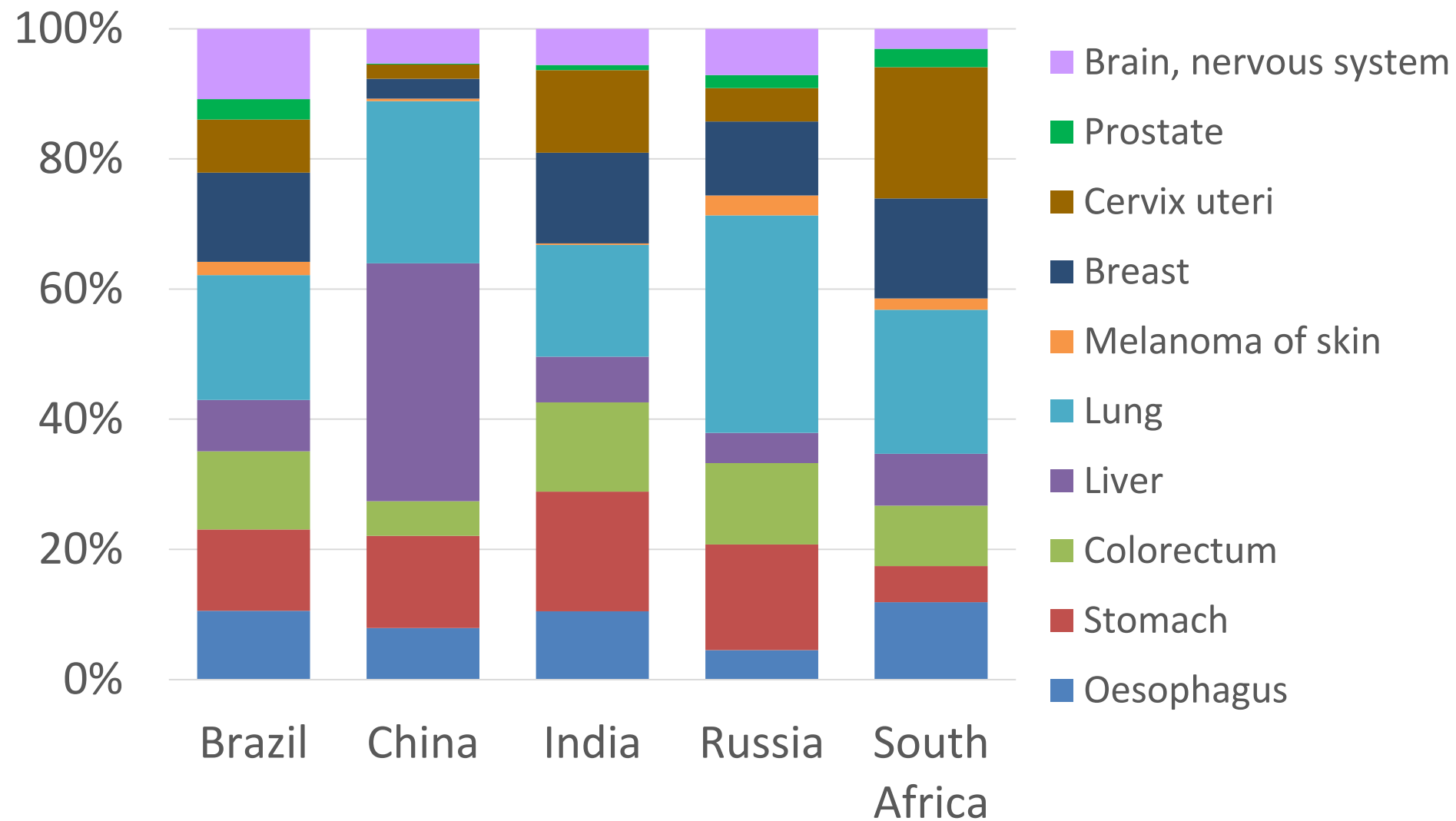


Total cost & cost per death

Total cost and cost per death

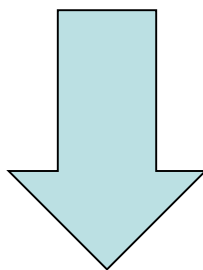


Results by cancer



Sensitivity Analyses

- Divide Chinese data by urban and rural
- Increase workforce participation in India
- Increase retirement ages in China & Russia
- Changing growth rates & discounting



No major changes to the findings

Limitations

- Concerns about equity with the Human Capital Approach
- Lack of data
- Assumptions around employment (informal economies and household production)
- But... valuing cancer related lost productivity can provide policy makers with an additional perspective when identifying priorities for cancer prevention and control

Implications

- Prevention activities are important, and need to extend beyond tobacco control
- Earlier detection and improved treatment availability to reduce mortality may be economically efficient
- Potential increase in cancer burden through ageing, urbanisation and westernisation

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Contacts

Alison Pearce

ICE Post-doctoral Research Fellow

National Cancer Registry Ireland

a.pearce@ncri.ie

@aliepea

