International Workshop and Convention in Gran Canaria, 5-8 June-2019

Key issues in Sport Economics

Prof. Beatriz G. Lopez-Valcarcel
University of Las Palmas de GC
6 June 2019

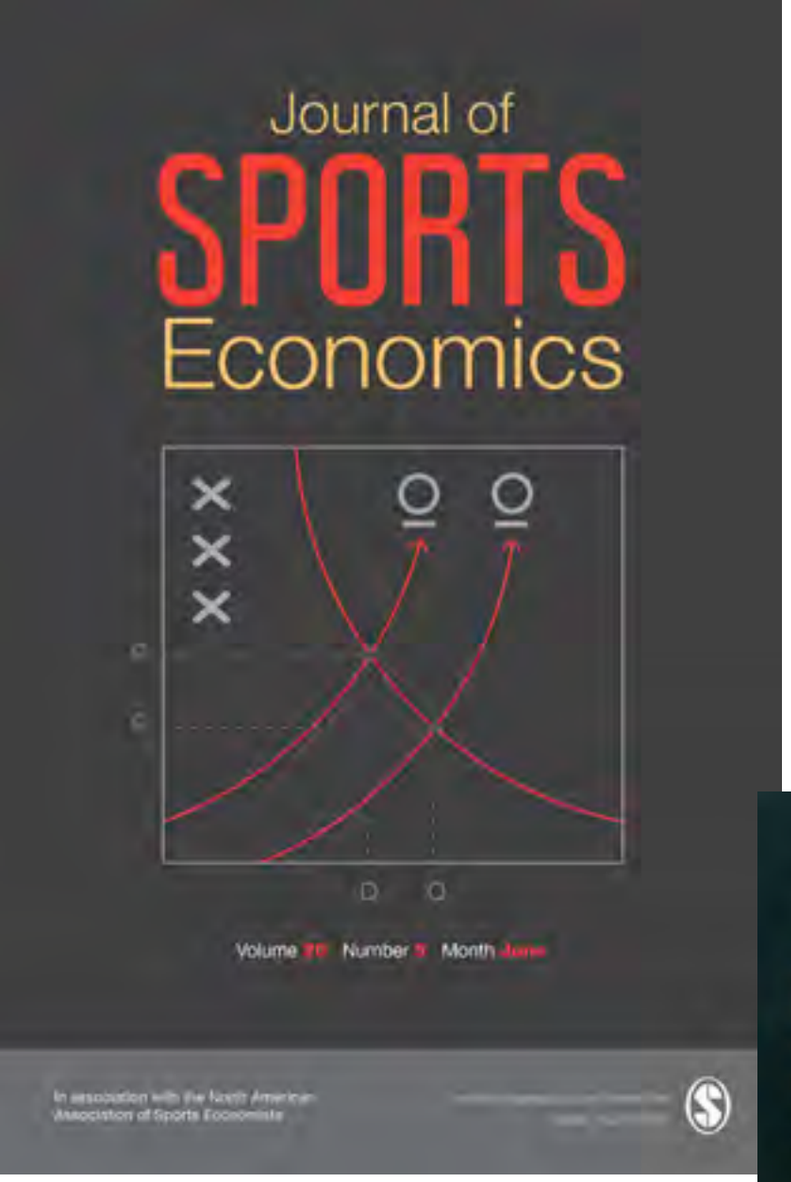
Guideline

1. Introduction to Sport Economics

2. **Sport and health**. Social cost of physical inactivity. Health in All Policies

3. **Sport and Economics**. Economic impact of sport events and infrastructures

1. Introduction:
Sport Economics



- A (relatively) new area of Economics
- Wide scope

2. Sport and health.

Social cost of physical inactivity.

Health in All Policies

The New York Times

Top Stories

TOP STORIES

Everest is having an unruly climbing season, with jostling crowds and at least 10 deaths. Experts blame increased permits and untrained climbers.

Fly-by-night adventure companies are taking up untrained climbers who pose a risk to everyone on the mountain. And the Nepalese government, hungry for every climbing dollar it can get, has issued more permits than Everest can safely handle even experienced mountaineers say.

Add to that Everest's inevitable appeal to a growing body of thrill-seekers the world over. And the fact that Nepal, one of Asia's poorest nations and the site of most Everest deaths, has a long history of shoddy regulation, mismanagement and corruption.

The New York Times

'It Was Like a Zoo': Death on an Unruly, Overcrowded Everest

By Kai Schultz, Jeffrey Gettleman, Mujib Mashal and Bhadra Sharma

May 26, 2019

NEW DELHI — Ed Dohring, a doctor from Arizona, had dreamed his whole life of reaching the top of Mount Everest. But when he summited a few days ago, he was shocked by what he saw.

Climbers were pushing and shoving to take selfies. The flat part of the summit, which he estimated at about the size of two Ping-Pong tables, was packed with 15 or 20 people. To get up there, he had to wait hours in a line, chest to chest, one puffy jacket after the next, on an icy, rocky ridge with a several-thousand foot drop.

He even had to step around the body of a woman who had just died.

"It was scary," he said by telephone from Kathmandu, Nepal, where he was resting in a hotel room. "It was like a zoo."

This has been one of the deadliest climbing seasons on Everest, with at least 10 deaths. And at least some seem to have been avoidable.

The (social) cost of Sedentarism

“low physical activity”

Conceptual framework (Economics) for Calculating the cost of physical inactivity

Perspective of analysis

- Organization (hospital)
- Funder (NHS)
- Society

Costs to include

- Healthcare costs
- Non healthcare costs

→ **Direct costs**

- Productivity loss (abseentism, premature death
- Informal care

→ **Indirect costs**

- Physical and mental suffering

→ **Intangible costs**

Los estudios del **coste de la enfermedad** aproximan la carga económica del problema

España

Enfermedad	Coste total (mill.€)	Coste sanitario			Pérdida de productividad	Cuidados informales
		AP+ambulatoria	Hosp.	Medicamentos		
ECV(1)	6.997	12 %	23 %	22 %	25 %	17 %
Cancer (2)	9.106	13 %	16 %	17 %	36 %	17 %
Demencia (3)	14.557	3 %	1 %	2 %	- (26% social care)	68 %

(1) Leal, J., Luengo-Fernández, R., Gray, A., Petersen, S., & Rayner, M. (2006). Economic burden of cardiovascular diseases in the enlarged European Union. *European heart journal*, *27*(13), 1610-1619.

(2) Luengo-Fernandez, R., Leal, J., Gray, A., & Sullivan, R. (2013). Economic burden of cancer across the European Union: a population-based cost analysis. *The lancet oncology*, *14*(12), 1165-1174.

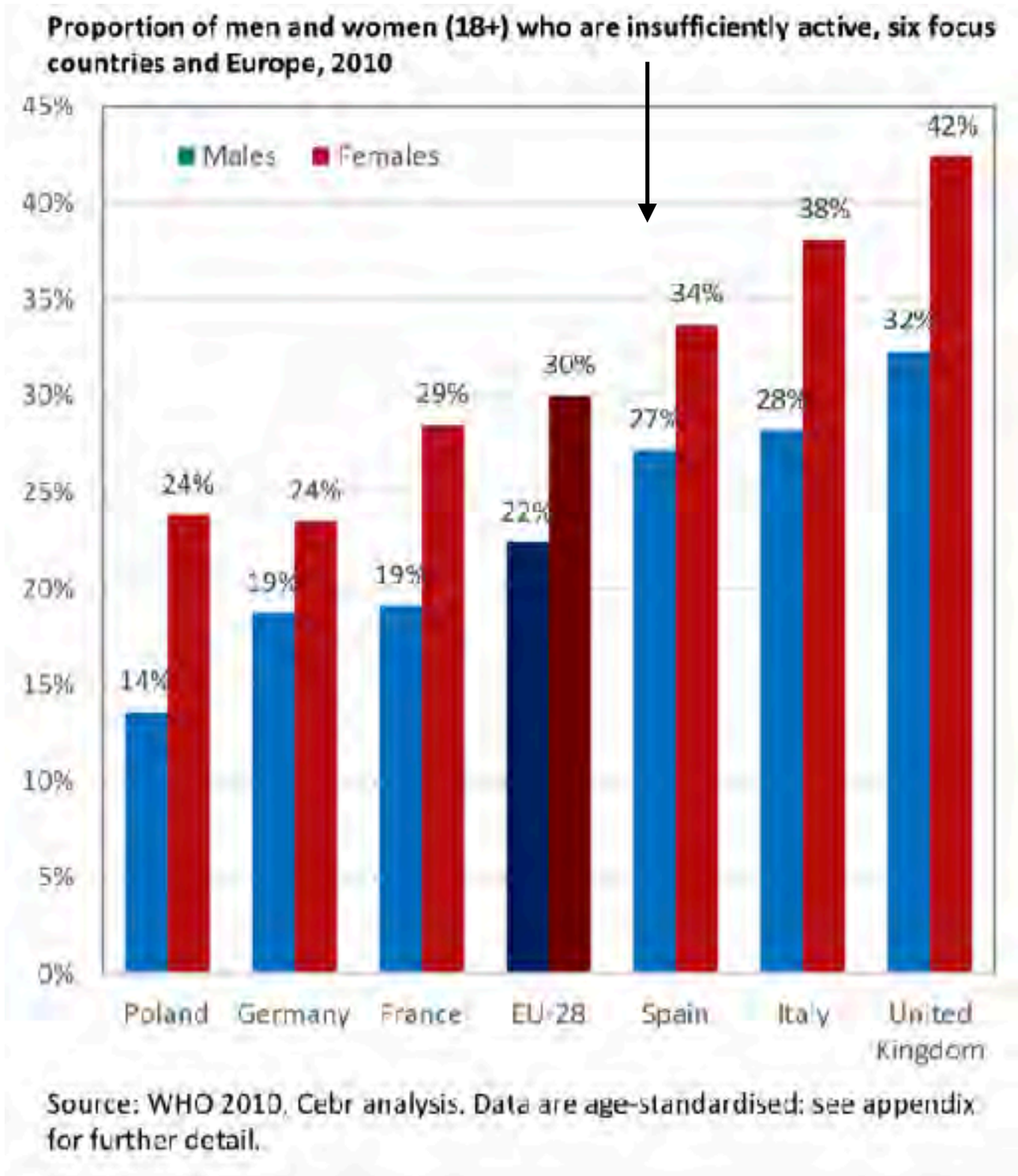
(3) Luengo-Fernandez, R., Leal, J., & Gray, A. M. (2011). Cost of dementia in the pre-enlargement countries of the European Union. *Journal of Alzheimer's Disease*, *27*(1), 187-196.

Conceptual framework (Epidemiology) for calculating the cost of physical inactivity

World Health Organization

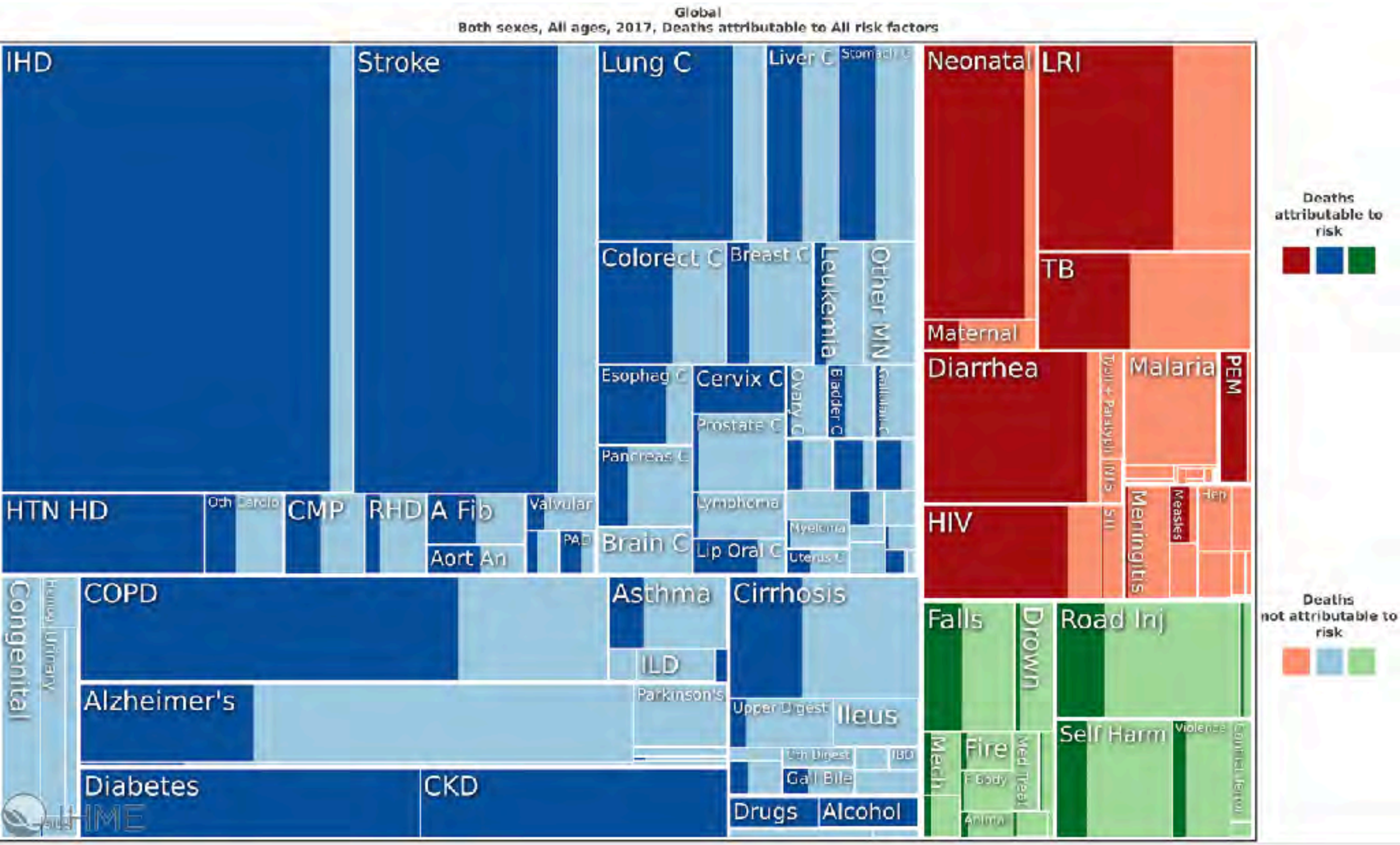
PAF = Population attributable fraction

Example:
30% of the population: low physical activity
The relative risk of death coronary heart disease is 1.9(*) for those that have low physical activity
PAF=0.3*1.9=0.57
Interpretation: If all the population do the recommended physical exercise regularly, coronary heart disease would decrease by 57%



(*) https://academic.oup.com/aje/article-abstract/132/4/612/102184

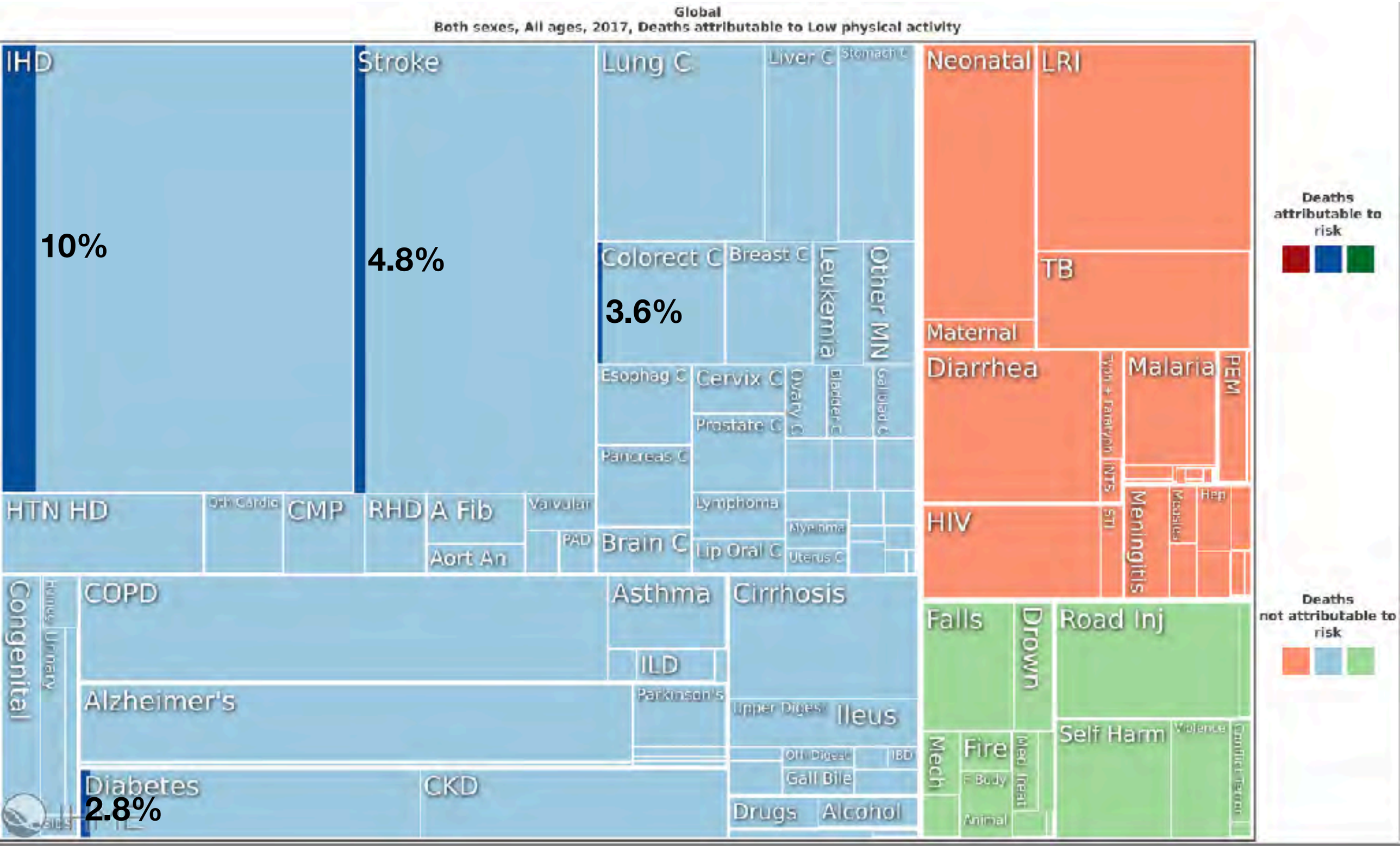
IHME



https://vizhub.healthdata.org/gbd-compare/

1.26 million deaths attributable to low physical activity

IHME



https://vizhub.healthdata.org/gbd-compare/

Global
All causes attributable to Low physical activity
Both sexes, All ages

Deaths

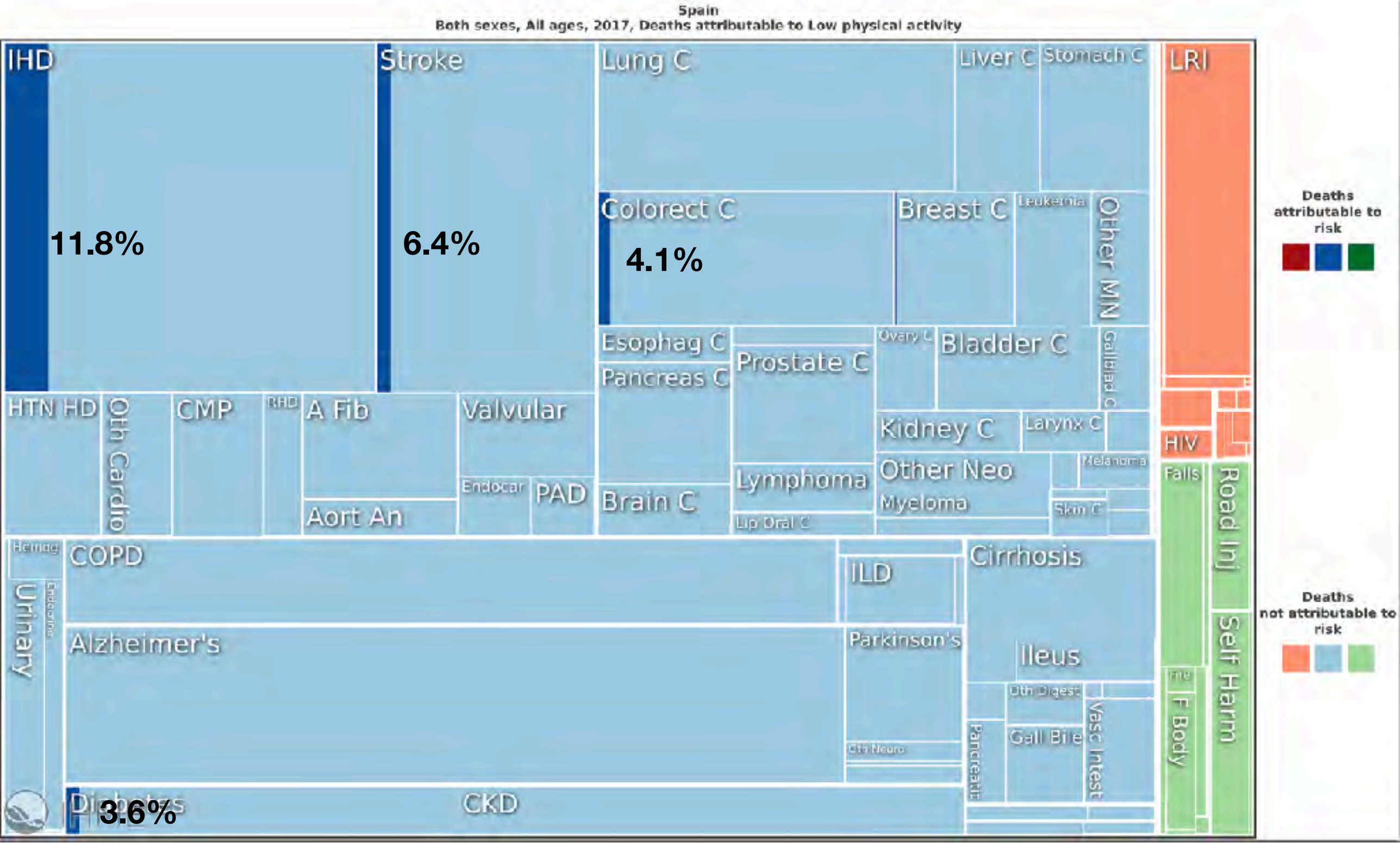
2M
1.5M
1M
500k

1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017

IHME

Spain: 9 705 deaths attributable to low physical activity

IHME



https://vizhub.healthdata.org/gbd-compare/

The economic burden of physical inactivity: a systematic review and critical appraisal

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► Additional material is published online only. To view please visit the journal online (http://dx.doi.org/10.1136/bjsports-2016-097385).

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Accepted 10 March 2017
Published Online First 26 April 2017

ABSTRACT

Objective To summarise the literature on the economic burden of physical inactivity in populations with emphases on appraising the methodologies and providing recommendations for future studies.

Design Systematic review following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines (PRISMA). PROSPERO registration number CRD42015047705).

Data sources Electronic databases for peer-reviewed and grey literature were systematically searched, followed by reference searching and consultation with experts.

Eligibility criteria Studies that examined the economic consequences of physical inactivity in a population/population-based sample, with clearly stated methodologies and at least an abstract/summary written in English.

Results Of the 40 eligible studies, 27 focused on direct healthcare costs only, 13 also estimated indirect costs and one study additionally estimated household costs. For direct costs, 23 studies used a population attributable fraction (PAF) approach with estimated healthcare costs attributable to physical inactivity ranging from 0.3% to 4.6% of national healthcare expenditure; 17 studies used an incidence-based approach, which tended to yield higher estimates than those using a PAF approach. For indirect costs, 10 studies used a human capital approach, two used a friction cost approach and one used a value of a statistical life approach. Overall estimates varied substantially, even within the same country, depending on analytical approaches, time frame and other methodological considerations.

Conclusion Estimating the economic burden of physical inactivity is an area of increasing importance that requires further development. There is a marked lack of consistency in methodological approaches and transparency of reporting. Future studies could benefit from cross-disciplinary collaborations involving economists and physical activity experts, taking a societal perspective and following best practices in conducting and reporting analysis, including accounting for potential confounding, reverse causality and comorbidity, applying discounting and sensitivity analysis, and reporting assumptions, limitations and justifications for approaches taken. We have adapted the Consolidated Health Economic Evaluation Reporting Standards checklist as a guide for future estimates of the economic burden of physical inactivity and other risk factors.

To cite: Ding D, Kolbe-Alexander T, Nguyen B, *et al*. *Br J Sports Med* 2017;**51**:1392–1409.

INTRODUCTION

Physical inactivity is a global pandemic. Every year, physical inactivity causes more than 5 million deaths[1] and costs billions of dollars to societies around the world.[2] To date, many countries have developed national physical activity plans; however, few have been fully implemented.[3] The substantial gap between policy and implementation may be due to a lack of resources, cross-sectoral partnership and clear strategies. Public health responses to address the pandemic of physical inactivity remain inadequate, uncoordinated and underfunded.[4]

Economic analysis is essential to bridging the policy–implementation gap, increasing political engagement and motivating actions. Around the world, governments are addressing many competing priorities with finite resources. Making an economic case for physical activity may help galvanise public support, inform decision making and prioritise funding allocation to develop and implement interventions to reduce physical inactivity in the population.[5] Estimating the economic burden of physical inactivity is a critical first step because it can provide comprehensive information regarding the burden of the pandemic and the costs of not taking action.[6] Conducting economic evaluation of interventions designed to mitigate physical inactivity is the key to identify strategies that are the best value for money to fully inform resource prioritisation.

It is important that studies adopt robust, standardised and transparent methods when assessing the economic burden of risk factors, such as physical inactivity. Methodological consistency between studies enables valid comparisons regarding the absolute and relative burden of physical inactivity compared with other risk factors. This can be expected to increase the confidence of decision makers to commission and use such analyses in decision making. To date, a range of studies have been published on the economic burden of physical inactivity at local, state or national levels, mostly in developed countries. In 2016, as part of the *Lancet* Physical Activity Series, we published the first global estimate that included 142 countries.[7] However, prior estimates, even for the same country, vary substantially across studies. For example, Carlson *et al*[8] estimated that physical inactivity accounted for 11.1% of the healthcare expenditure in the USA,[8] while Colditz estimated the proportion to be 2.4%.[9] The difference between 11.1% and 2.4% is enormous. Understanding and perhaps resolving such divergent estimates is crucially important to enhance the overall credibility of economic burden estimates in decision making.

The purpose of this paper is to undertake a systematic review of the current literature on the

40 studies

27 studies only direct healthcare costs

13 studies also indirect costs

38 single-country studies represented only 12 countries, of which 10 were high-income countries

Results: direct healthcare costs between 1% and 2% of the healthcare expenditure

*"There is a marked lack of consistency in methodological approaches and **transparency** of reporting. Future studies could benefit from cross-disciplinary collaborations involving economists and physical activity experts, taking a **societal perspective** and following best practices in conducting and reporting analysis, including accounting for potential confounding, reverse causality and comorbidity, applying discounting and sensitivity analysis, and reporting assumptions, limitations and justifications for approaches taken"*

Table 2 Continued

First author and year of publication	Country	Data sources	Definition of PA minimal risk counterfactual	Types of costs	Conditions included	Adjusted PAF*	Comorbidity†	Findings‡: amount (% healthcare cost), uncertainty/sensitivity analysis	Time frame	Funding/COI
International Sports and Culture Association and Centre for Economics and Business Research 2015[37]	EU-28	WHO, Organization for Economic Cooperation and Development, Eurostat, International Development Association, EUCAN and published studies	≥150 min MPA or ≥75 min VPA/week, or combinations	Direct costs: healthcare expenditure Indirect costs: DALYs	IHD, breast cancer, colorectal cancer, T2DM	No/unclear	No	UK: €1920 million (1.06%§); Germany: €1677 million (0.55%§); Italy: €1562 million (1.04%§); France: €1215 million (0.51%§); Spain: €992 million (1.03%§); Poland: €219 million (0.86%§). EU-28: €9.2 billion Converted national estimates: UK $2.4; Germany $2.2; Italy $2.1; France $1.5; Spain $1.5; Poland $0.5 billion INT	1 year (2012)	International Sport and Culture Association (contributors included various organisations and companies)/COI statement missing
Market Economics Limited 2013[38]	New Zealand	Various sources including the Ministry of Health, Statistics New Zealand, District Health Board reports, and others	≥30 min PA×5 days/week	Hospital care, pharmaceutical, outpatient, public health and other	IHD, stroke, hypertension, breast cancer, colorectal cancer, T2DM, osteoporosis, depression	No/unclear	Yes	$614 million NZD (4.6%), statistical sensitivity analysis conducted (±2%) Converted national estimate: $464.4 million INT	2010	Government commissioned/COI statement missing
Stephenson 2000[39]	Australia	Active Australia 1997 National PA Survey; RR from studies on PA and disease; Australian Institute of Health and Welfare's Disease Costs and Impact Study	Inactivity ≥150 min/week	Hospital care, pharmaceutical, medical services, allied health, research, public health and other	IHD, stroke, breast cancer, colon cancer, depression	Yes	No	$A377 million (1.1%¶), structural sensitivity analysis conducted) Converted national estimate: $433.7 million INT	1 year (1993–1994)	Commonwealth Department of Health and Aged Care and Australian Sports Commission/COI statement missing
Public Health England 2016	UK	Programme budgeting data released by NHS England in 2010–2014	Not specified	Not specified	IHD, stroke, breast cancer, colon cancer, diabetes	No/unclear	No	£455 million for England, UK (0.3%¶) Converted national estimate: $657.6 million INT	1 year (2013–2014)	Public Health England/COI statement missing

*Adjusted PAF: whether PAF used was based on relative risks adjusted for confounders. Yes=explicitly described adjustment in the paper; No/unclear=did not describe adjustment in the paper, we could not use a consistent methodology to determine whether the PAF was crude or adjusted but not stated.
†Comorbidity: whether the potential double counting among comorbidities was addressed (yes/no).
‡Findings: interpreted as the total amount of direct healthcare cost that was associated with physical inactivity (all findings referred to the general population with the exception of Garrett 2004,[40] which referred to all Blue Cross members ≥18 years). % interpreted as the percentage of overall healthcare cost that was spent on diseases that were attributable to physical inactivity. In most cases, the percentages were reported in the original studies; in some cases, the author (DD) calculated or recalculated the percentages based on national healthcare expenditure data from the WHO (available at http://apps.who.int/nha/database/ViewData/Indicators/en).
§Recalculated and corrected by the authors of the current review.
¶Calculated or recalculated percentages.
A, Australian dollars; C, Canadian dollars; CCHS, Canadian Community Health Survey; COI, conflict of interest; CVD, cardiovascular disease; CZK, Czech Koruna; DALYs, Disability Adjusted Life Years; EBIC, Economic Burden of Illness in Canada; EU-28, 28 member countries of the European Union; GBD, Global Burden of Disease; IHD, ischaemic heart disease; INT, international dollars; MET, metabolic equivalents; min, minutes; MPA, moderate physical activity; MVPA, moderate-to-vigorous physical activity; NCD, non-communicable disease; NHEX, National Health Expenditure Database for Canada; NHS, National Health Service; NZD, New Zealand dollars; min, minutes; PA, physical activity; PAF, population attributable fraction; £, pounds sterling; R, Brazil real; T2DM, type 2 diabetes mellitus; RR, relative risks; SFr, Swiss francs; VPA, vigorous physical activity.

Ding, D., Kolbe-Alexander, T., Nguyen, B., Katzmarzyk, P. T., Pratt, M., & Lawson, K. D. (2017). The economic burden of physical inactivity: a systematic review and critical appraisal. *Br J Sports Med*, *51*(19), 1392-1409.

The economic cost of physical inactivity in Europe

An ISCA / Cebr report

June 2015

ISCA
INTERNATIONAL SPORT AND CULTURE ASSOCIATION

Cebr

Los estudios del **coste de la enfermedad** aproximan la carga económica del problema

España

Enfermedad	Coste total (mill.€)	Coste sanitario			Pérdida de productividad	Cuidados informales
		AP+ambulatoria	Hosp.	Medicamentos		
ECV[1]	6.997	12 %	23 %	22 %	25 %	17 %
Cancer [2]	9.106	13 %	16 %	17 %	36 %	17 %
Demencia [3]	14.557	3 %	1 %	2 %	- (26% social care)	68 %
Physical inactivity [4]	6.612	15 %			85 %	

(1) Leal, J., Luengo-Fernández, R., Gray, A., Petersen, S., & Rayner, M. (2006). Economic burden of cardiovascular diseases in the enlarged European Union. *European heart journal*, *27*(13), 1610-1619.

(2) Luengo-Fernandez, R., Leal, J., Gray, A., & Sullivan, R. (2013). Economic burden of cancer across the European Union: a population-based cost analysis. *The lancet oncology*, *14*(12), 1165-1174.

(3) Luengo-Fernandez, R., Leal, J., & Gray, A. M. (2011). Cost of dementia in the pre-enlargement countries of the European Union. *Journal of Alzheimer's Disease*, *27*(1), 187-196.

(4) The economic cost of physical inactivity in Europe . An ISCA / Cebr report June 2015 https://inactivity-time-bomb.nowwemove.com/download-report/The%20Economic%20Costs%20of%20Physical%20Inactivity%20in%20Europe%20(June%202015).pdf

Science vs advocacy/MKT

Can Coca Cola promote physical activity?

In their *Lancet* Manifesto (March 8, p 847)[1] Richard Horton and colleagues state: "Our tolerance of neoliberalism and transnational forces dedicated to ends far removed from the needs of the vast majority of people, and especially the most deprived and vulnerable, is only deepening the crisis we face." I agree, and so do many colleagues in Brazil.

The Fifth International Congress on Physical Activity and Public Health, held in Rio de Janeiro, April 8–11, 2014, was sponsored by Coca Cola. This is the first time, to my knowledge, that a major conference on physical activity held in Brazil has been sponsored by an organisation whose policies, practices, or products conflict with those of public health. The sponsorship was not only financial; Coca Cola was everywhere—at side meetings, in the sponsors' hall, giving away its products and propaganda.

At a time when sweetened soft drinks are recognised by independent organisations as a major cause of the present uncontrolled obesity pandemic, which notably affects children and developing countries, such as China, India—and Brazil, this is worrying.

Big Food corporations are spending billions of US$ on their strategy to claim that obesity is caused by physical inactivity. Their engagement with physical activity and public health organisations and professionals is part of their corporate social responsibility strategy. Their campaigns include techniques to evade regulation and to influence science,[2] using methods similar to those used by tobacco corporations in the past.[3]

Is this a kind of retribution to Latin America—where laws to protect children against ultra-processed food were implemented in Mexico, Chile, and Costa Rica, and where civil society organisations oppose Big Food corporations to limit advertising of ultra-processed products to children in Brazil?[4]

Brazil is hosting the World Cup this month, and the Olympics in 2016. Both events are committed to sponsorships from McDonald's and Coca Cola, among others. Again, it is easy to understand why they would sponsor such events. This outrageous practice is pushed by international sports federations, putting pressure on national governments.

We cannot accept big transnational fast food and soft drinks corporations to support sports and physical activity.

I declare no competing interests. I acknowledge funding from São Paulo Research Foundation.

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1 Horton R, Beaglehole R, Bonita R, Raeburn J, McKee M, Wall S. From public to planetary health: a manifesto. *Lancet* 2014; **383**: 847.
2 Gasnier L, Jacoby E, Ibarra L, et al. Sponsorship of physical activity programs by the sweetened beverages industry: public health or public relations? *Rev Saude Publica* 2013; **45**: 473–77.
3 Moodie R, Stuckler D, Monteiro C, et al. Profits and pandemics: prevention of harmful effects of tobacco, alcohol, and ultra-processed food and drink industries. *Lancet* 2013; **381**: 670–79.
4 Brownell KD, Warner KE. The perils of ignoring history: Big Tobacco played dirty and millions died. How similar is Big Food? *Milbank Q* 2009; **87**: 259–94.
5 Jacoby E, Rivera J, Cordero S, et al. Legislation: Children, Obesity, Standing up for children's rights in Latin America. *World Nutrition* 2013; **33**: 483–516.

FITNESS

Coca-Cola Funds Scientists Who Shift Blame for Obesity Away From Bad Diets

BY ANAHAD O'CONNOR AUGUST 9, 2015 5:25 PM 1259

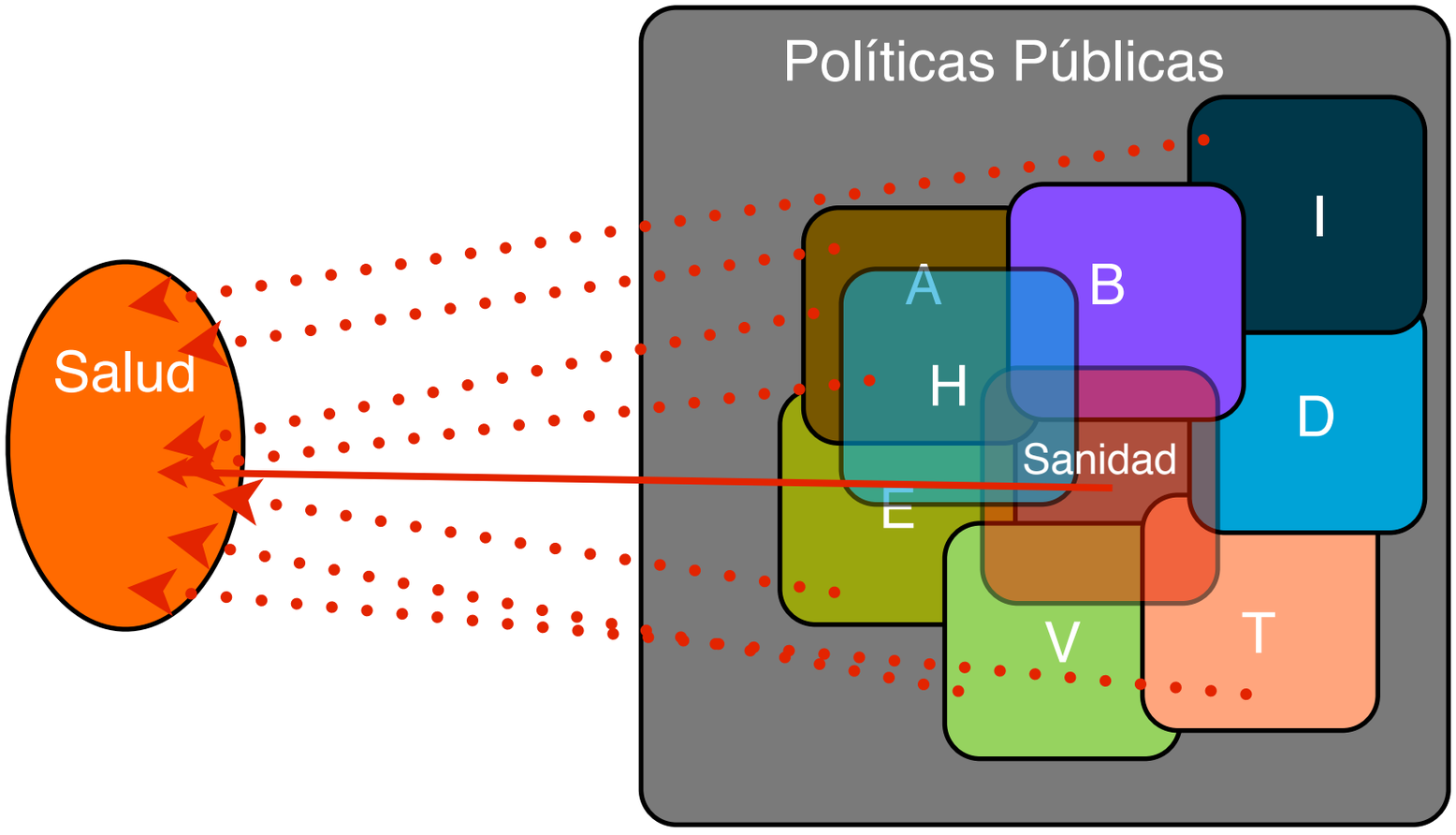
An image from a video by the Coca-Cola Foundation. In November 2012, the foundation announced a $3 million grant to Chicago's Garfield Park Conservatory Alliance. The grant was intended to establish a wellness program.

Email

Share

Coca-Cola, the world's largest producer of sugary beverages, is backing a new "science-based" solution to the obesity crisis: To maintain a healthy weight, get more exercise and worry less about cutting calories.

Ding, D., Kolbe-Alexander, T., Nguyen, B., Katzmarzyk, P. T., Pratt, M., & Lawson, K. D. (2017). The economic burden of physical inactivity: a systematic review and critical appraisal. *Br J Sports Med*, *51*(19), 1392-1409.


Políticas Públicas
Salud
Sanidad
I
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HAP

[Health in All Policies]


BIENVENIDOS
A LA CIUDAD DE MEXICO
AL PROGRAMA HOY NO CIRCULA DE LA CIUDAD

Journal of Urban Health: Bulletin of the New York Academy of Medicine, Vol. 89, No. 1
doi:10.1007/s11524-011-9628-8

Do Health Benefits Outweigh the Costs of Mass Recreational Programs? An Economic Analysis of Four Ciclovía Programs

Journal of Physical Activity and Health, 2010, 7(Suppl 2), S163-S180

Journal of Urban Health: Bulletin of the New York Academy of Medicine, Vol. 89, No. 1
doi:10.1007/s11524-011-9628-8

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doi:10.1007/s11524-011-9628-8

Do Health Benefits Outweigh the Costs of Mass Recreational Programs? An Economic Analysis of Four Ciclovía Programs

TABLE 3 Sensitivity analysis for the direct health benefit user/year (USD) of the Ciclovía programs in Bogotá, Guadalajara, Medellín, and San Francisco

Percentage of the US direct health benefit (α)	DHB (user/year, USD)	Total benefit (USD)	Benefit/operational costs	Benefit/user costs	Cost–benefit ratio
Bogotá/Ciclovía					
11.34	71.06	13,120,409–30,620,257	7.65–17.86	5.60	3.23–4.26
10.00	62.66	11,570,025–27,001,990	6.75–15.75	4.94	2.85–3.76
7.00	43.86	8,099,018–18,901,393	4.72–11.02	3.46	2.00–2.63
5.00	31.33	5,785,013–13,500,995	3.37–7.87	2.47	1.43–1.88
2.65	21.93	4,049,509–7,155,527	1.79–4.17	1.31	0.76–1.00
Guadalajara/Vía RecreActiva					
20.00	125.32	2,229,978	6.82	3.84	2.45
15.00	93.99	1,672,483	5.11	2.88	1.84
10.00	62.66	1,114,989	3.41	1.92	1.23
8.15	51.07	908,716	2.78	1.56	1.00
Medellín/Ciclovía					
10.91	68.39	2,335,898	2.38	7.93	1.83
9.00	56.39	1,926,087	1.96	6.54	1.51
8.00	50.13	1,712,077	1.75	5.82	1.34
7.00	43.86	1,498,067	1.53	5.09	1.17
5.95	37.28	1,273,357	1.30	4.33	1.00
San Francisco/Sunday Streets					
100.00	626.60	4,070,967	2.49	32.52	2.32
90.00	563.94	3,663,870	2.24	29.27	2.08
80.00	501.28	3,256,773	1.99	26.02	1.85
70.00	438.62	2,849,677	1.75	22.76	1.62
43.00	269.44	1,750,516	1.07	13.98	1.00

The Sunday Street program only occurs once per month during 9 months. Therefore, we assumed that the program occurred once per week during the year in order to attribute the yearly DHB to the physical active that are expected to meet the PA weekly recommendations. Thus, the DHB in this case should be interpreted as the projected DHB for a regularly weekly program

3. **Sport and Economics**. The economic impact of sport events and infrastructures

Is it worth investing in a new stadium?
Is it worthwhile to organize the Olympic Games?

Do the benefits outweigh the costs?

Journal of Economic Perspectives—Volume 30, Number 2—Spring 2016—Pages 201–218

Going for the Gold: The Economics of the Olympics

Robert A. Baade and Victor A. Matheson

Costs

General infrastructure such as transportation and housing to accommodate athletes and fans

Specific sports infrastructure required for competition venues

Operational costs, including general administration as well as the opening and closing ceremony and security

Benefits

Direct revenues: sponsor, ticketing, licensing, and media revenues

Short-run benefits of tourist spending during the Games

Long-run benefits or the “Olympic legacy” which might include improvements in infrastructure and increased trade, foreign investment, or tourism after the Games

Intangible benefits such as the “feel-good effect” or civic pride.

Journal of Economic Perspectives—Volume 30, Number 2—Spring 2016—Pages 291–318

Going for the Gold: The Economics of the Olympics

Robert A. Baade and Victor A. Matheson

Table 2
Costs of Hosting Recent Olympic Games

	Type of spending	*Spending (billions, 2015$)*	*Source*
Summer Olympics			
Seoul, 1988	Sports infrastructure	$2.067	Preuss (2004, Table 7.8 and Figure 9.1)
	General infrastructure	$3.523	
	Total cost	**$ 6.503**	
Barcelona, 1992	Sports infrastructure	$1.485	Preuss (2004)
	General infrastructure	$12.457	
	Total cost	**$16.409**	
Atlanta, 1996	Sports infrastructure	$.765	Preuss (2004)
	General infrastructure	$.959	
	Total cost	**$3.576**	
Sydney, 2000	Sports infrastructure	$1.761	Preuss (2004)
	General infrastructure	$1.817	
	Total cost	**$6.926**	
Athens, 2004	**Total cost**	**$13.800** (est.)	Tagaris (2014)
Beijing, 2008	Sports infrastructure	$2.315	Preuss (2004)
	Total cost (est.)	**$45.000** (est.)	Fowler and Meichtry (2008)
London, 2012	**Total cost**	**$11.401**	BBC (2012b)
Rio 2016	**Total cost**	**$11.100** (est.)	Leme (2015)
Winter Olympics			
Nagano, 1998	**Total cost**	**$15.250**	Longman (1998); *The Economist* (1998)
Salt Lake City, 2002	**Total cost**	**$2.500** (approx.)	US GAO (2001)
Torino, 2006	**Total cost**	**$4.350** (approx.)	Payne (2008); Flyvbjerg and Stewart (2012)
Vancouver, 2010	Sports infrastructure	$.715	VanWynsberghe (2011)
	General infrastructure	$3.497	
	Total cost	**$7.556**	
Sochi, 2014	Sports infrastructure	$6.700 (est.)	Farhi (2014)
	Total cost	**$51.000** (est.)	

Journal of Economic Perspectives—Volume 30, Number 2—Spring 2016—Pages 291–314

Going for the Gold: The Economics of the Olympics

Robert A. Baade and Victor A. Matheson

Benefits

Direct revenues: sponsor, ticketing, licensing, and media revenues

Short-run benefits of tourist spending during the Games

Long-run benefits or the "Olympic legacy" which might include improvements in infrastructure and increased trade, foreign investment, or tourism after the Games

Intangible benefits such as the "feel-good effect" or civic pride.

Table 3

Direct Revenues and Hosting Costs from Olympic Games

($ millions)

	IOC 2009–12	*Vancouver 2010 organizing committee*	*London 2012 organizing committee*
Revenue source			
Broadcast rights	$2,723	$414	$713
International sponsors	$475	$175 (est.)	$300 (est.)
Domestic sponsors	$0	$688	$1,150
Ticketing	$0	$250	$988
Licensing	$0	$51	$119
Total	**$3,198**	**$1,578**	**$3,270**
Hosting costs	-	$7,556	$11,401

Source: IOC (2014b).

Notes: Table 3 shows data on revenues generated by the International Olympic Committee and the organizing committees for the Vancouver and London Games over the 2009–2012, the most recent IOC budget cycle. It also shows hosting costs for the Vancouver and London Games.

Journal of Economic Perspectives—Volume 30, Number 2—Spring 2016—Pages 291–318

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"These results lend credence to a common rule-of-thumb often used by economists who study mega-events: If one wishes to know the true economic impact of an event, take whatever numbers the promoters are touting and move the decimal point one place to the left"

Table 4
Academic Studies of the Economic Impact of the Olympic Games

Study	*Event*	*Results*
Baade and Matheson (2002)	1984 Summer Games (Los Angeles) and 1996 Summer Games (Atlanta)	5,043 new jobs in Los Angeles. Between 3,467 and 42,448 new jobs in Atlanta.
Jasmand and Maennig (2008)	1972 Summer Games (Munich)	No impact on employment in host regions. Positive impact on income.
Porter and Fletcher (2008)	1996 Summer Games (Atlanta) and 2002 Winter Games (Salt Lake City)	No impact on taxable sales, hotel occupancy, or airport usage. Significant increase in hotel prices.
Baade, Baumann, and Matheson (2010)	2002 Winter Games (Salt Lake City)	Taxable sales in restaurants and hotels up by $70.6 million but taxable sales at general merchandisers down by $167.4 million.
Giesecke and Madden (2011)	2000 Summer Games (Sydney)	Household consumption in Australia reduced by $2.1 billion.
Baumann, Engelhardt, and Matheson (2012)	2002 Winter Games (Salt Lake City)	Increase in employment of 4,000–7,000 jobs for one year compared to predictions of 35,000 full-time equivalent job-years.
Hotchkiss, Moore, and Zobay (2003)	1996 Summer Games (Atlanta)	Increase in employment of 293,000 jobs. Increase in employment growth rate by 0.2%.
Feddersen and Maennig (2013)	1996 Summer Games (Atlanta)	29,000 jobs added during month of Olympics only.

There have only been two success stories: Los Angeles (1984) and Barcelona (1992)

The key to success lies in the negotiating power with the Olympic Committee

Conclusion

1. Sport Economics is a new and **wide** area of research
2. **Physical inactivity** causes worldwide mortality and morbidity, with large socioeconomic gradient, and **social costs**. The movement of Health in all Policies (HAP) advocates for *producing* health out of the healthcare system through social and economic policies
3. **Studies of economic impact of mega-events** (Olympic Games) and sport infrastructures (stadium) are generally too **optimistic** and need to gain methodological consistency as well as disclosing of funding sources

Thank you!

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