

# How to make an economic case for physical activity to politicians and decision makers

## Scotland - Costs of Physical Inactivity

You are the detective...

Identify the strategies  
Used to present  
economic information?





# Cost estimates for physical inactivity in Scotland

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# What costs Scotland more?



(£ per Scot)

[http://www.heraldscotland.com/news/15103472.Traffic\\_congestion\\_in\\_Scotland\\_cost\\_drivers\\_2\\_4bn\\_last\\_year/#comments-anchor](http://www.heraldscotland.com/news/15103472.Traffic_congestion_in_Scotland_cost_drivers_2_4bn_last_year/#comments-anchor)

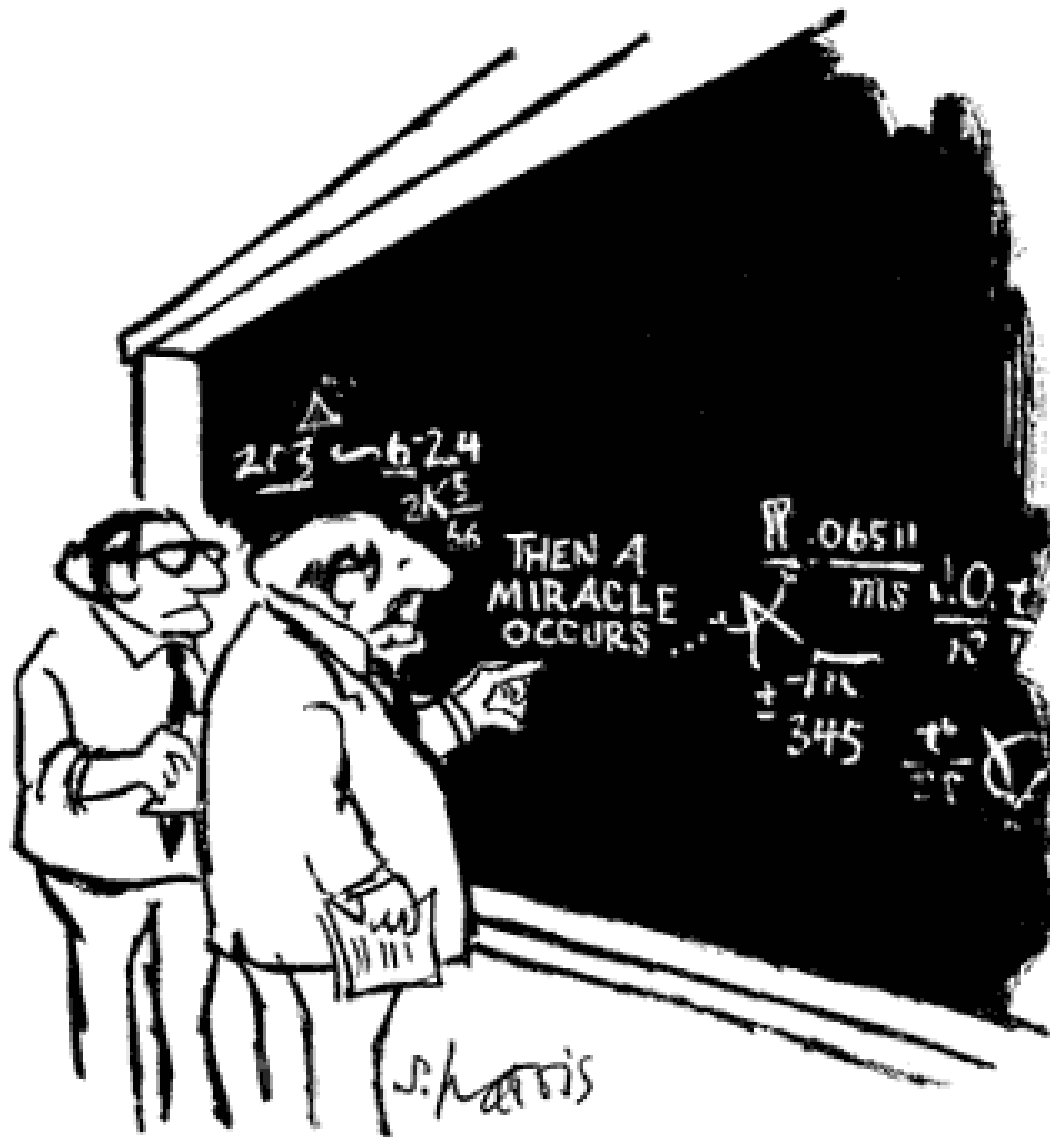
<http://www.gov.scot/Topics/Health/Services/Alcohol>

<http://www.gov.scot/Topics/Health/Services/Smoking>

# Aims

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- To outline the method, results and implications of a new estimate of the cost of physical inactivity for Scotland



"I think you should be more explicit here in step two."

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## Methods for developing cost estimates for physical inactivity

- Identify diseases related to physical inactivity (PiA)
- Identify total costs of diseases related to physical activity to the NHS Scotland
- Identify the relative contribution of PiA to each disease – the *Population Attributable Fraction (PAF)*
- Apply the PAF to the cost per disease
- Calculate overall costs



- Total cost of physical inactivity to Scotland 2012

£91.4M

£18.00 per person



## Total cost of physical inactivity to Scotland 2015

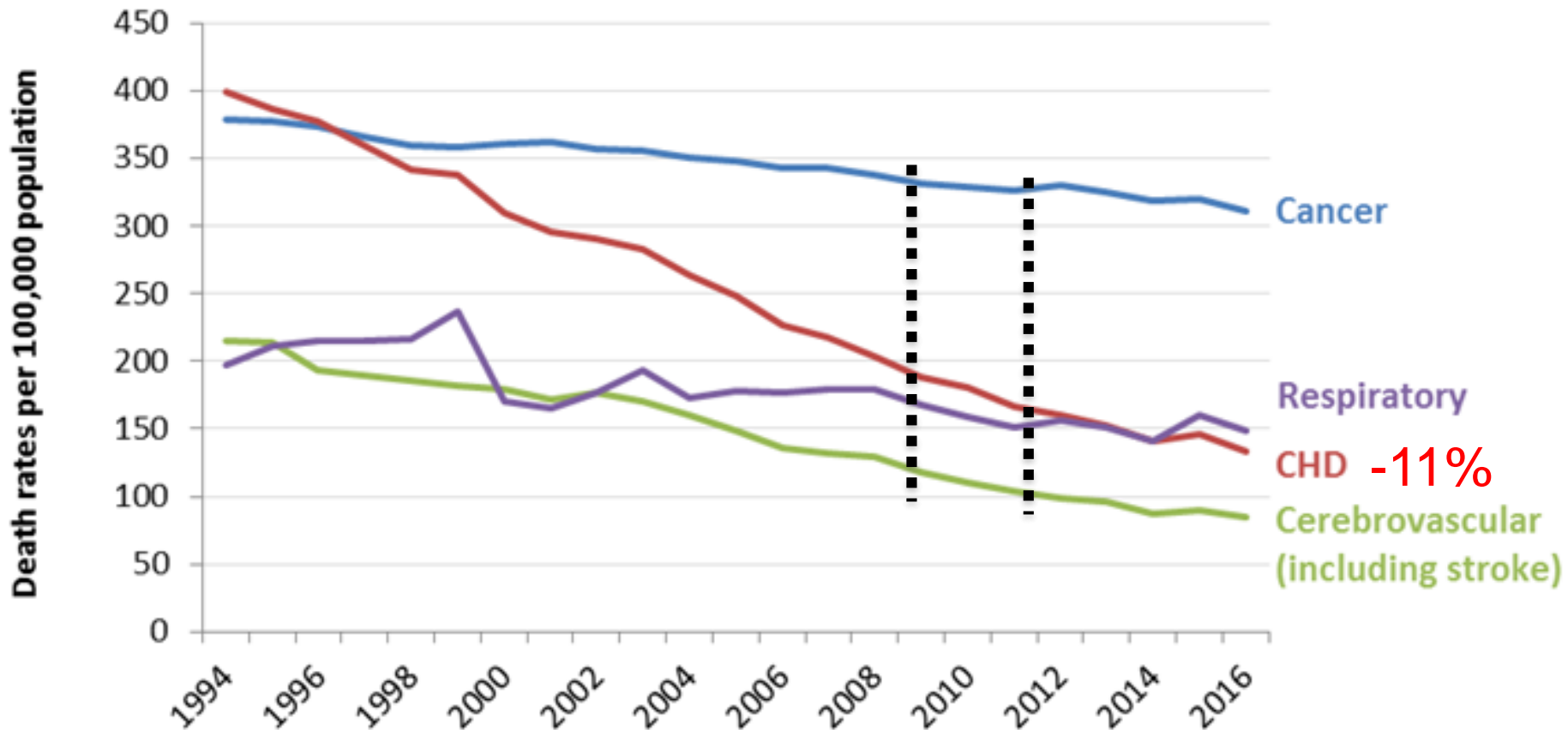
- Total cost of physical inactivity to Scotland 2015

£77M

£14.60 per person



# Mortality rates from Scotland's big 3 killers, cancer, coronary heart disease and stroke are declining



# What costs could also be added?

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- Other disease areas direct health service costs
    - Dementia & Alzheimer's Disease +74% increase
    - Mental health
    - Obesity
    - Falls
  - Indirect costs
    - Lost productivity
    - Premature mortality
  - Others?
-

# Let's make comparisons easy to understand

space required to transport 60 people



car

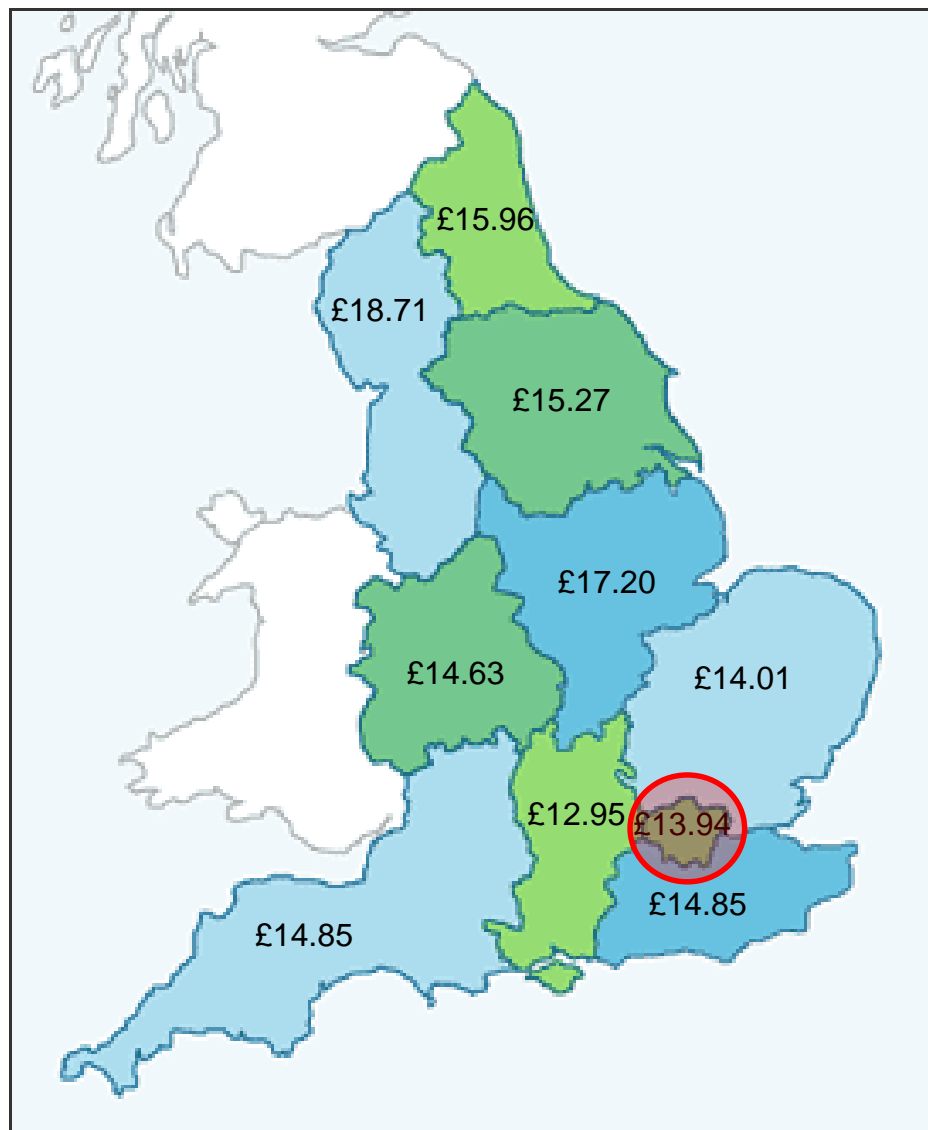


bus



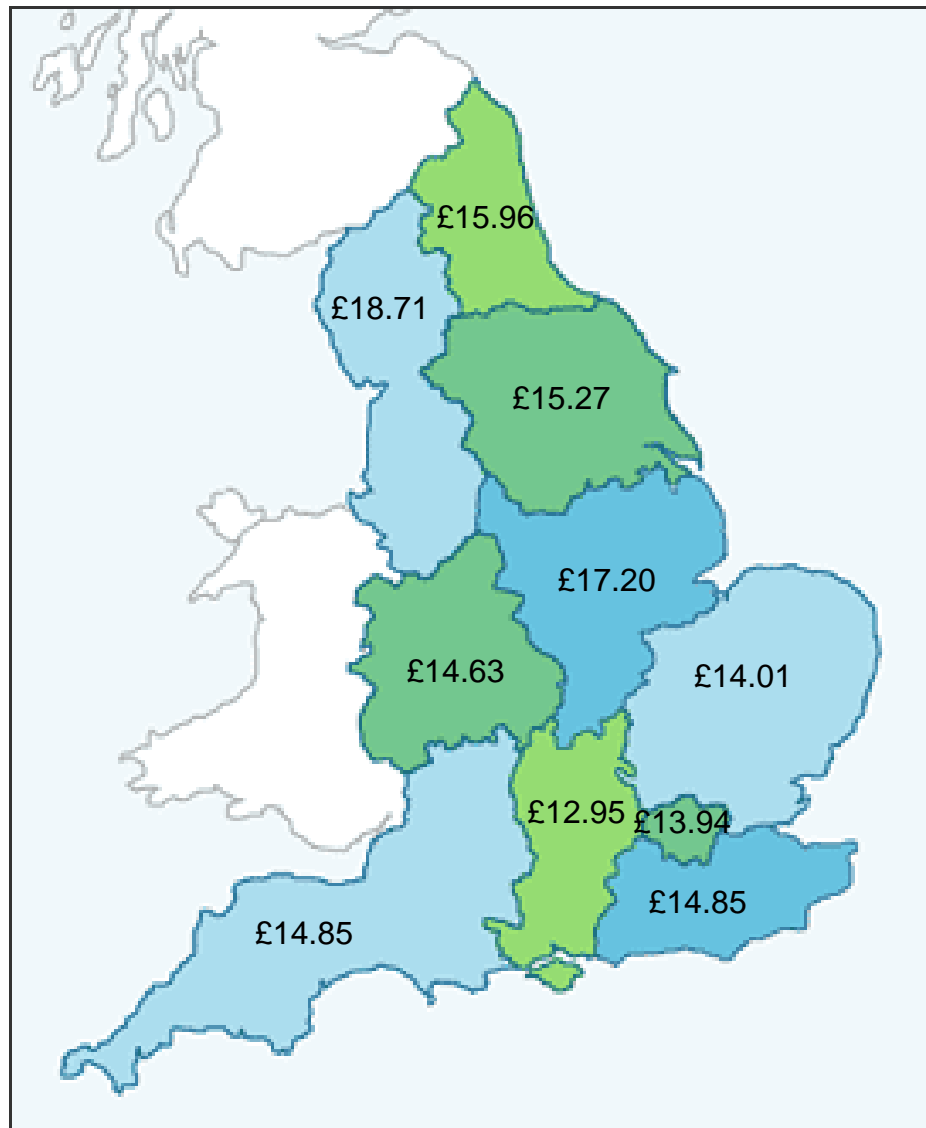
bicycle

## Cost of physical inactivity (£/population) related disease by SHA



Cost of doing  
Nothing  
£14 ~ €16.6

## Cost of physical inactivity (£/population) related disease by SHA



Spend in London  
is 85p per head  
~ €1

# Scotland's Spending Plans and Draft Budget 2017-18

## Sport

**Table 4.05: More Detailed Spending Plans (Level 3)**

Level 3	2016-17 Draft Budget £m	2016-17 Budget £m	2017-18 Draft Budget £m
<b>Sport and Legacy</b>	42.5	42.3	39.1
<b>Physical Activity</b>	3.3	3.3	3.3
<b>Total</b>	<b>45.8</b>	<b>45.6</b>	<b>42.4</b>
<b>DEL Resource</b>	45.8	36.1	42.4*
<b>DEL Capital</b>	-	9.5	-



## The Cost of Physical Inactivity to Scotland

Based on research commissioned by the British Heart Foundation

These figures do not include the costs of conditions including dementia and mental health issues



### Physical Inactivity costs the NHS in Scotland

# ~£77 million p/a

## equating to a cost of £14.60 per person!

Spend on sport and physical activity is £7.89 per person

Spend on sport and physical activity is

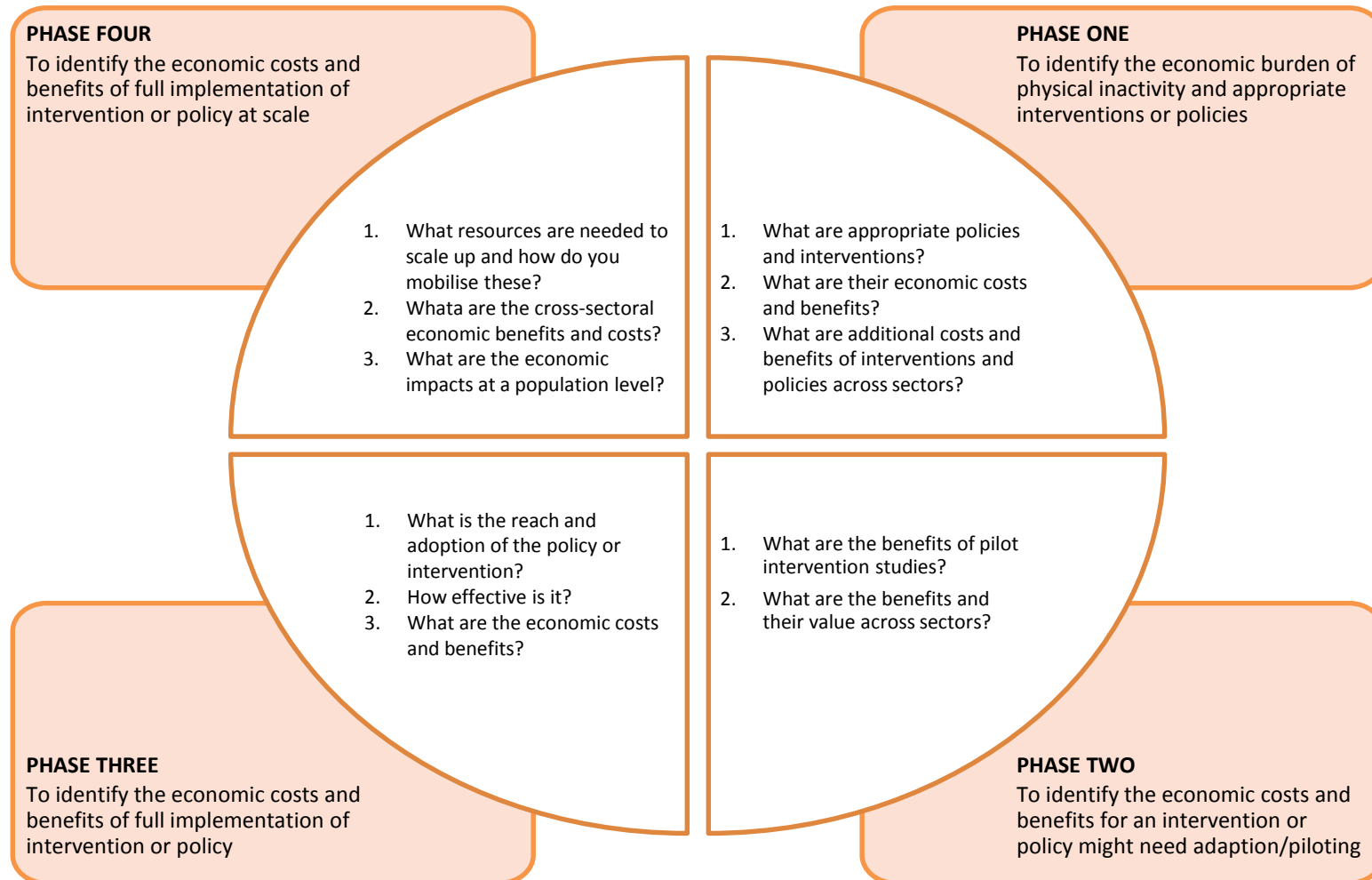
£7.89 per person

Active Transport Spend.....

£14.80 per person

**£22.69**

# Blueprint for using economic tools for physical activity implementation





Funded by the  
Erasmus+ Programme  
of the European Union

<b>Phase 2</b>	<b>What are the economic benefits /costs of adaptations and piloting of interventions or policies?</b>
<b>Aim</b>	<b>To identify the economic costs and benefits for an intervention or policy which might need adaption/piloting</b>
<b>Actions</b>	<b>What are the health benefits of pilot intervention studies? What are the benefits and their value across other sectors?</b>
<b>Tools</b>	<b>For Sport <a href="#">MOVES TOOL</a> For Active Transport <a href="#">WHO HEAT Tool</a> Workplace <a href="#">NICE Business Case Tool</a></b>

<http://ephepa.medsci.ox.ac.uk/wp-content/uploads/2016/05/EPHEPA-Blueprint-for-economic-tools-for-physical-activity-1.pdf>

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- Any estimate has limitations
- The incidence and costs of 5 main diseases are changing and are an **UNDERESTIMATE**
- New methods include costs of other PI diseases
- Use economic tools
  - EPHEPA Blueprint
- Promoting physical activity and sport is the optimal prevention spend

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## Does physical activity moderate the association between alcohol drinking and all-cause, cancer and cardiovascular diseases mortality? A pooled analysis of eight British population cohorts

K Perreault,<sup>1,2</sup> A Bauman,<sup>2,3</sup> N Johnson,<sup>2,4</sup> A Britton,<sup>5</sup> V Rangul,<sup>3</sup> E Stamatakis<sup>2,4,5</sup>

### ABSTRACT

**Objective** To examine whether physical activity (PA)

reduce alcohol consumption have involved alcohol risk reducing campaigns and measures aimed at



(£ per Scot)

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<http://www.gov.scot/Topics/Health/Services/Smoking>





## Leisure-time physical activity and lung cancer risk: A systematic review and meta-analysis

Darren R. Brenner<sup>a,b,c,\*</sup>, Demetra H. Yannitsos<sup>a,b</sup>, Megan S. Farris<sup>a,b</sup>, Mattias Johansson<sup>d</sup>, Christine M. Friedenreich<sup>a,b,c</sup>

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<sup>b</sup> Department of Community Health Sciences, Cumming School of Medicine, University of Calgary, Canada

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### ABSTRACT

**Objectives:** We conducted a systematic review and meta-analysis of the association between recreational physical activity and lung cancer risk to update previous analyses and to examine population subgroups of interest defined by smoking status and histology.

**Materials and methods:** We searched the PubMed database for studies up to May 2015. Individual study



(£ per Scot)

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## Urban design, transport, and health 2



# Land use, transport, and population health: estimating the health benefits of compact cities

Mark Stevenson, Jason Thompson, Thiago Hérick de Sá, Reid Ewing, Dinesh Mohan, Rod McClure, Ian Roberts, Geetam Tiwari, Billie Giles-Corti, Xiaoduan Sun, Mark Wallace, James Woodcock

Using a health impact assessment framework, we estimated the population health effects arising from alternative land-use and transport policy initiatives in six cities. Land-use changes were modelled to reflect a compact city in which land-use density and diversity were increased and distances to public transport were reduced to produce low motorised mobility, namely a modal shift from private motor vehicles to walking, cycling, and public transport. The modelled compact city scenario resulted in health gains for all cities (for diabetes, cardiovascular disease, and respiratory disease) with overall health gains of 420–826 disability-adjusted life-years (DALYs) per 100 000 population. However, for moderate to highly motorised cities, such as Melbourne, London, and Boston, the compact city scenario predicted a small increase in road trauma for cyclists and pedestrians (health loss of between 34 and 41 DALYs per

Lancet 2016; 388: 2925–35

Published Online  
September 23, 2016  
[http://dx.doi.org/10.1016/S0140-6736\(16\)30067-8](http://dx.doi.org/10.1016/S0140-6736(16)30067-8)

This is the second in a Series of three papers about urban design, transport, and health  
University of Melbourne,



<http://> Traffic congestion in Shanghai

<http://>  
<http://> Ralph Chapman

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## Physical Inactivity costs the NHS in Scotland

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### The Cost of the Big 5

per year due to physical inactivity

Coronary Heart Disease  
£25 million



Diabetes  
£15 million



Cerebrovascular Disease  
£15 million



Gastro Intestinal Cancer  
£12 million



Breast Cancer  
£9.5 million



### Sector Expenditure

per year due to physical inactivity

Acute Services  
£44 million



Pharmaceutical Services  
£11 million



General Medical Services  
£7.5 million



Geriatric Long Stay  
£5 million



A&E and Outpatients  
£3 million



Coronary Heart Disease costs equate to

# 32%

of all the costs incurred due to physical inactivity



The cost per person in Scotland for physical inactivity is more than **£1** higher than England

Acute & Pharmaceutical Services combined accounted for

# 90%

of the total costs to the NHS

- Use local data
- Make data simple
- Make comparisons with rivals
- Feature existing good projects so you can build on current strengths
- Present solutions as options
  - *You could v you should* (no one likes being told what to do)



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Dr Wilby Williamson

