



## HEAT analysis: United Kingdom

### Introduction

HEAT (Health Economic Assessment Tool) is an online resource made available by the World Health Organisation to estimate the economic savings resulting from reductions in mortality as a consequence of regular cycling and/or walking. It is based on best available evidence, with parameters that can be adapted to fit specific situations. HEAT calculates the answer to the following question: if  $x$  people cycle or walk  $y$  distance on most days, what is the economic value of mortality rate improvements? (HEAT, 1)

In this analysis, carried out by CTC (the UK national cycling organisation), HEAT has been used to calculate the consequences in terms of lives saved or lost and the associated costs for the hypothetical scenario of introducing a mandatory cycle helmet law in the UK (where currently no such law exists).

The calculation uses the estimate (which CTC disputes and which is also contested in a BHRF Commentary, Hynd, Cuerden, Reid and Adams, 2009) that between 10% and 16% of fatal injuries might be prevented by the wearing of helmets. This estimate is derived from the UK Department for Transport (DfT) research report 'The potential for cycle helmets to prevent injury – a review of the evidence' (Hynd, Cuerden, Reid and Adams, 2009).

### Results

<b>Benefit / costs / lives</b>	<b>No helmet law</b>	<b>With helmet law</b>	<b>Change</b>
Maximum benefits from physical activity	£ 1,242m	£ 807m	-£ 435m
Mean benefits from physical activity	£ 925m	£ 601m	-£ 324m
Lives saved through physical activity	758	493	-265
Lives saved through helmet compulsion	0	12	12
Value of helmet compulsion	0	£ 20m	£ 20m
One-off cost of equipping continuing cyclists with helmets	0	-£ 180m	-£ 180m

HEAT suggests that a law making helmets compulsory for cyclists may result in an overall *increase* in **253 premature deaths** – 265 extra deaths from reduced cycling less 12 deaths saved among the reduced pool of cyclists receiving fatal head injuries.

The overall cost of a law would be **between £ 304 million and £ 415 million per year**. In addition, there would be a one-off cost to the remaining cyclists of £ 180 million to equip them with helmets (6 million currently unhelmeted cyclists might continue cycling, each buying a £ 30 helmet. There would also be ongoing replacement costs for helmets that become life expired (after 5 years according to some recommendations).

A similar cost, of USD 400 million, was estimated by de Jong, 2009 for the costs of helmet compulsion in the UK.

The saving in lives from helmets is based on there being 115 cyclists killed per year (2008 figure) and therefore a reduction of around 12 fatalities. This uses the conservative (10%) reduced quoted in the DfT report. However, the



overall reduction in cycling will not result in proportionally the same reduction in cyclist deaths because the 'safety in numbers' (BHRF, 1186) effects suggest that risk when cycling is greater with lower levels of cycling.

The above calculations assume that a helmet law would result in 35% fewer people cycling. This is similar to reductions experienced in Australia, New Zealand and Canada. (Robinson, 2006)

## References

### **BHRF, 1186**

[Safety in numbers.](#)

<http://www.cyclehelmets.org/1186.html>

### **de Jong, 2009**

de Jong P, 2009. [Evaluating the health benefit of bicycle helmet laws.](#) Macquarie University NSW . **External Link**

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1368064](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1368064)

### **HEAT, 1**

[HEAT economic assessment tool for cycling and walking.](#) World Health Organisation. **External Link**

<http://tinyurl.com/3k8syj2>

### **Hynd, Cuerden, Reid and Adams, 2009**

Hynd D, Cuerden R, Reid S, Adams S, 2009. [The potential for cycle helmets to prevent injury - a review of the evidence.](#) Transport Research Laboratory PPR446. [Link includes commentary.](#)

<http://www.cyclehelmets.org/1230.html>

### **Robinson, 2006**

Robinson DL, 2006. [Do enforced bicycle helmet laws improve public health?.](#) BMJ 2006;332:722-725.

<http://www.cyclehelmets.org/1146.html>

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The Bicycle Helmet Research Foundation (BHRF), an incorporated body with an international membership, exists to undertake, encourage and spread the scientific study of the use of bicycle helmets. Also to consider the effect of the promotion and use of helmets on the perception of cycling in terms of risk and the achievement of wider public health and societal goals.

BHRF strives to provide a resource of best-available factual information to assist the understanding of a complex subject, and one where some of the reasoning may conflict with received opinion. In particular BHRF seeks to provide access to a wider range of information than is commonly made available by those that take a strong helmet promotion stance. It is hoped that this will assist informed judgements about the pros and cons of cycle helmets.

For more information, please visit [www.cyclehelmets.org](http://www.cyclehelmets.org).

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