Health Economic Assessment Tool (HEAT) for Walking and Cycling
The motivation

- Economic appraisals are fundamental in transport planning
- The broad advantages of walking and cycling for transport, environment and, in particular for health are often not considered
- Much greater health gains from shifting to walking and cycling than from improving fuel and vehicle efficiency
The question

- If $x$ people walk/cycle a distance of $y$ kilometers on most days, what is the economic value of the health benefits that occur as a result of the reduction in mortality due to their physical activity?
The partnership

Core group
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9th session of the Steering Committee of THE PEP
The answer

http://www.euro.who.int/HEAT
The features

- Step-by-step online tool to calculate the economic value of the health benefits of regular walking and cycling
- Various data entry options
- Explanations, tips and hints on every step
- Print and save results
The features

• Effective public health:
  – action outside as well as within the health sector
  – identify levers and work upstream
  – Helps efficient use of public resources

• Evidence-based, transparent and adaptable

• Conservative
HEAT estimate

Reduced mortality as a result of changes in cycling behaviour

| The walking data you have entered corresponds to an average of 3 km per person per day. |
| This level of walking provides an estimated protective benefit of 26.54% (compared to persons not walking regularly) |
| From the data you have entered, the number of individuals who benefit from this level of walking is: 60,000 |
| Out of this many individuals, the number who would be expected to die if they were not walking regularly would be: 436.27 |
| The number of deaths per year that are prevented by this level of walking is: 115.79 |

Financial savings as a result of walking

Currency: EUR

| The value of statistical life in your population is: 1,000,000 EUR |
| The annual benefit of this level of walking, per year, is: 115,769,000 EUR |
| The total benefits accumulated over 10 years are: 1,157,888,000 EUR |
| When future benefits are discounted by 5% per year: |
| The current value of the average annual benefit, averaged across 10 years is: 89,409,000 EUR |
| The current value of the total benefits accumulated over 10 years is: 894,090,000 EUR |

It is important to remember that many of the variables used within this HEAT calculation are liable to be estimates, and therefore liable to some degree of error.

In order to be sure of the validity of the figures outlined above, you are advised to rerun the model.
HEAT estimate

Reduced mortality as a result of changes in cycling behaviour

The cycling data you have entered corresponds to an average of 450 km per person per year. This level of cycling provides an estimated protective benefit of: 9.31% (compared to persons not cycling regularly).

From the data you have entered, the number of individuals who benefit from this level of cycling is: 60000.

Out of this many individuals, the number who would be expected to die if they were not cycling regularly would be: 436.27.

The number of deaths per year that are prevented by this level of cycling is: 40.64.

Financial savings as a result of cycling

Currency: EUR

The value of statistical life applied is: 1,000,000 EUR.

The annual benefit of this level of cycling, per year, is: 40,635,000 EUR.

The total benefits accumulated over 10 years are: 406,353,000 EUR.

When future benefits are discounted by 5% per year,

The current value of the average annual benefit, averaged across 10 years is: 31,377,000 EUR.

The current value of the total benefits accumulated over 10 years is: 313,775,000 EUR.

It is important to remember that many of the variables used within this HEAT calculation are liable to be estimates, and therefore liable to some degree of error.

In order to be sure of the validity of the figures outlined above, you are advised to rerun the model entering slightly different values for variables where you have provided a 'best guess', for example.
The applications worldwide
Dissemination events

- Plenary presentation at:
  - Walk21 (November 2010)
  - VeloCity 2011 (March 2011)

- THE PEP side event at ITF Forum (May 2011)

- THE PEP side event in Astana (September 2011)

- Forthcoming:
  - POLIS conference (November 2011) – abstract submitted
THE PEP side event at International Transport Forum, 25 May 2011, Leipzig: Launch of HEAT for walking and cycling
THE PEP side event

• ITF topic: transport for society

• High-level representatives from Russia, France, UNECE and WHO

• WHO press release on road safety and HEAT
Programme

• **Transport, Health and Environment Pan-European Programme (THE PEP)**
  - Chair: Vadim DONCHENKO, Russia
  - Eva MOLNAR, UNECE
  - Francesca RACIOPPI, WHO/Europe
  - Philippe MALER, France
Why walking and cycling?
- Francesca RACIOPPI, WHO/Europe
• **Health Economic Assessment Tool (HEAT) for walking and cycling**
  – Sonja KAHLMEIER, University of Zurich, Switzerland
  – Nick CAVILL, Cavill Associates, UK

• **Past and planned applications of HEAT in Member States: Austria, France, United Kingdom**

• **Open floor discussion, including statements from UITP, ECF, WALK21**
national transport awards

highly commended 2011

Contribution to Sustainable Transport awarded to

World Health Organisation Regional Office for Europe – Health Economic Assessment Tool (HEAT) for cycling and walking

David Reay
Publisher of Transport Times,
Chair of the Judging Panel

Heathrow
Making every journey better
Next steps

- **Improvement of usability**
  - Translation of website to Russian and French
  - Direct technical support
  - Discussion and support forum
  - Trainings

- **Continued methodological refinements based on newly available and assessed research**