

Training course

Module 4

Measuring Impact of a change in air pollution on citizens' health

- *Introduction health impact assessment*
- *Demonstration tool*

Health Impact Assessment = the calculation of health effects due to air pollution



- 'Ambient (outdoor air pollution) in both cities and rural areas was estimated to cause **4.2 million premature deaths** worldwide in 2016.'
- 'In Europe, exposure to particulate matter (PM) **decreases the life expectancy of every person by an average of almost 1 year**, mostly due to increased risk of cardiovascular and respiratory diseases, and lung cancer.'

Policy more focused on citizen's health

Health impact assessment:

- Improves public awareness
- Acceptance of 'inconvenient' measures
 - E.g. Low Emission Zone, high parking rates
- Tool for comparing different policy options

Partnership Air Quality 2018 tool

For Who?

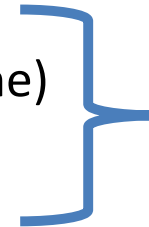
- European cities

What?

- Calculates health benefit of an intervention
- Calculates health impact of a pollutants at one moment in time

Required data on your city:

- Concentrations PM10, PM2.5, EC, NO2 (at least one)
- Population characteristics
- Baseline incidence of health indicators



Option for EU
default values

Epidemiological studies



**World Health
Organization**

REGIONAL OFFICE FOR **Europe**

Health risks of air pollution in Europe – HRAPIE project

ehp

ENVIRONMENTAL
HEALTH
PERSPECTIVES

<http://www.ehponline.org>

Air Pollution and Mortality in Seven Million Adults: The Dutch Environmental Longitudinal Study (DUELS)

Paul H. Fischer, Marten Marra, Caroline B. Ameling,
Gerard Hoek, Rob Beelen, Kees de Hoogh, Oscar Breugelmans,
Hanneke Kruize, Nicole A.H. Janssen, and Danny Houthuijs



[tp://dx.doi.org/10.1289/ehp.1408254](http://dx.doi.org/10.1289/ehp.1408254)

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CrossMark

REVIEW ARTICLE

OPEN

Quantifying the health impacts of ambient air pollution: Recommendations of a WHO/Europe project

Marie-Eve Héroux · H. Ross Anderson · Richard Atkinson ·
Bert Brunekreef · Aaron Cohen · Francesco Forastiere · Fintan Hurley
Klea Katsouyanni · Daniel Krewski · Michal Krzyzanowski ·
Nino Künzli · Inga Mills · Xavier Querol · Bart Ostro ·
Heather Walton

Long-term Concentrations of Nitrogen Dioxide and Mortality

A Meta-analysis of Cohort Studies

Richard W. Atkinson,^a Barbara K. Butland,^a H. Ross Anderson,^{a,b} and Robert L. Maynard^c

Int J Public Health (2015) 60:619–627
DOI 10.1007/s00038-015-0690-y

ORIGINAL ARTICLE

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Discuss with your neighbour



- What HIA tools could my organisation use for calculating the benefits/ loss of a certain policy intervention?
- How could HIA helps to idenity the measures that would result in the largest improvement of public health for the local population?

Demonstration of the PAQ2018tool

Casus city of Utrecht:

- 352.000 inhabitants



- What are the health benefits for our inhabitants if 50% of the cars in Utrecht are banned?

Casus city of Utrecht

What are the health benefits for our inhabitants if 50% of the cars in Utrecht are banned?

- 231 less new asthma cases among children
- 2114 less working days lost
- On average life expectancy increased by 21 days
- 178 gained Years of Life Lost
- 15 million saved



The PAQ2018tool is available at:
[Ec.europa.eu/futurium/en/air-quality](https://ec.europa.eu/futurium/en/air-quality)

The package includes the following documents:

- Tool
- Instructions
- Background document

