Main results of the Aphekom project

Closing the gap between science and action

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Outline

• The Aphekom project
• Objectives
• Main results
  – Public health burden of air pollution in Europe
  – Influence of traffic
  – Evaluation of public policies
  – Stakeholder involvement
• Relevance
Overview

- Despite a major decrease in pollutant levels in Europe since the 1950s and the successive implementation of EC Directives on ambient air, important disparities in exposure to air pollution still remain between and within European countries.

- Through a set of interrelated work packages, Aphekom developed and delivered consistent, evidence-based, actionable information and tools on the health impacts and monetary costs of urban air pollution in 25 European cities.

- By including complex scientific evidence in HIAs (health impact assessments) and developing more effective communication tools for stakeholders, Aphekom sought to improve urban health governance and accountability enabling:
  - decision makers to set more effective local and European policies
  - health professionals to advise vulnerable groups better
  - and individuals to make better-informed decisions
The Aphekom project

• 3-year EU project (2008-2011)
  – Coordinated by InVS in collaboration of Umea University
  – 12 countries, 25 cities
  – 60 scientists
  – co-funded by the EC Programme on Community Action in the field of Public Health (Grant Agreement n° 2007105)
Objectives

- Update HIAs (health impact assessments) of urban air pollution in Europe
- Take into account recent findings on the health impacts of traffic
- Evaluate the impact of public policies: EU legislation on SO\textsubscript{2}
- Share methods, tools and good practices
- Facilitate stakeholder involvement
HIA of urban air pollution in Europe

- HIA in 25 cities
  - Data 2004-2006
  - Short-term effects of PM$_{10}$ and ozone on mortality and hospitalisations
  - Long-term effects of PM$_{2.5}$ on mortality
  - Economical valuation
    - Direct and indirect costs

- Standardised guidelines and tools
  - [http://si.easp.es/aphekom](http://si.easp.es/aphekom)

- Key findings
  - Air pollution continues to be a significant public health burden in European cities
  - Long-term effects >>> Short-term effects
Compliance with WHO AQG (10 µg/m³) would result in:
- nearly 19,000 premature deaths avoided per annum (15,000 from cardiovascular causes)
- €31.5 billion saved annually
Taking traffic into account in HIA

- Exploratory HIA in 10 cities
  - % of population living near roads travelled by 10,000 or more vehicles per day
  - influence on the development and exacerbation of chronic diseases

- Living close to traffic is responsible for:
  - 15 to 30% of all new asthma cases in children
  - 15 to 30% of asthma attacks in children
  - Similar or larger percentages for COPD and coronary heart diseases in adults >65 years
  - Added cost of €310 millions every year
Effectiveness of EU policies: review of air quality legislation with respect to sulphur content in fuels

- **SO\textsubscript{2}** mean levels decreased by about -66%

- Associated HIA:
  - 2,200 premature deaths avoided annually
  - €192 millions saved each year
Stakeholder involvement

- Decision-support tool to help decision-making by
  - Sharing opinions on uncertainties associated to the HIAs
  - Choosing common criteria to identify and prioritize stakeholder's needs and interests
  
  [http://aphekom.kertechno.net](http://aphekom.kertechno.net)

- Case studies in Paris Ile-de-France area and Brussels
Relevance

• At national and city levels
  – communication on the benefits of reducing air pollution
  – contribution to national and local plans for better air quality
  – dissemination of methods and tools

• At the EU levels and beyond
  – contribution to current revision of EU directive on air quality
  – dissemination of methods and tools
• Review of literature and guidelines on innovative methods that integrate into HIAs emerging evidence of air-pollution health effects
 • Paper on HIA case studies that use traffic exposure and sub-clinical impacts of air pollution and related costs
 • Paper on health impacts of air pollution in 25 European cities and related costs
 • Paper on review of literature on intervention studies http://www.springerlink.com/content/8114254516v20565/abstract/
 • Paper on health impacts and monetary benefits of a chosen strategy to reduce air pollution in Europe
 • Paper on informing the decision-making process through stakeholder deliberative involvement in AQ management
 • Guidelines and tools (including online tool) for performing local HIAs of air pollution in European cities
 • Guidelines on monetary cost calculations related to the health impacts of air pollution
 • Guidelines for conducting intervention studies, for determining health impacts and for calculating monetary costs of health impacts of a strategy implemented to reduce air pollution in Europe
 • Guidelines for better dissemination of scientific findings for use by policy makers and other stakeholders in decision making processes
 • Interactive online tool for multiparty discussions in decision making processes