



Definition criteria and development of indicators for environment and health assessments

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European Environment Agency

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Mandate of the EEA

To help the Community and member countries make informed decisions about improving the environment, integrating environmental considerations into economic policies and moving towards sustainability



European Environment Agency

dedicated to providing sound, independent information on the environment



- 32 member countries
- 6 collaborating countries



Data and maps — EEA - Microsoft Internet Explorer provided by EEA

http://www.eea.europa.eu/data-and-maps

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Data and maps — EEA


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Data and maps ← **Data and maps**

» **Datasets**
 » **Maps and graphs**
 » **Interactive maps**
 » **Indicators**
 » **Data providers and partners**
 » **European data centres**

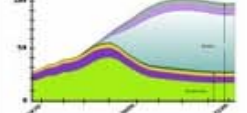
Sharing European environmental datasets, maps, charts and applications.




Global search




Datasets




Maps and graphs




Interactive maps



Indicators



Data providers and partners



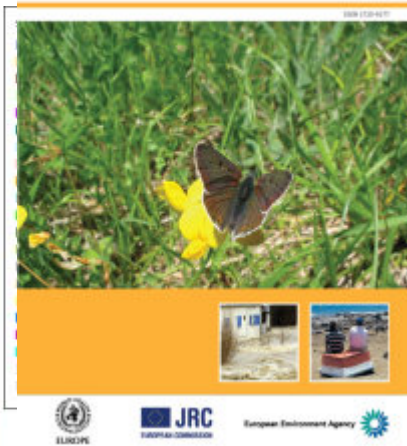
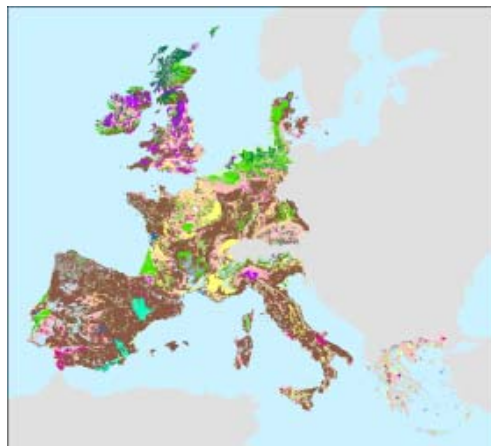
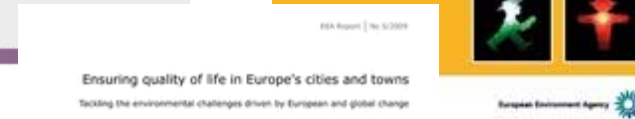
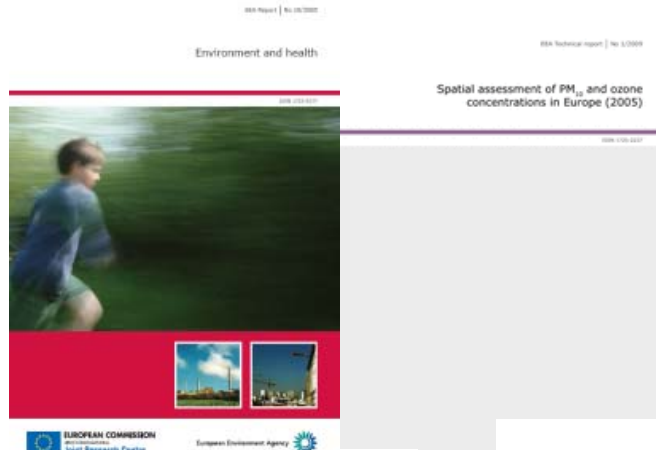
European data centres

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Start Data and maps — EEA...

Up-to-date information and assessments

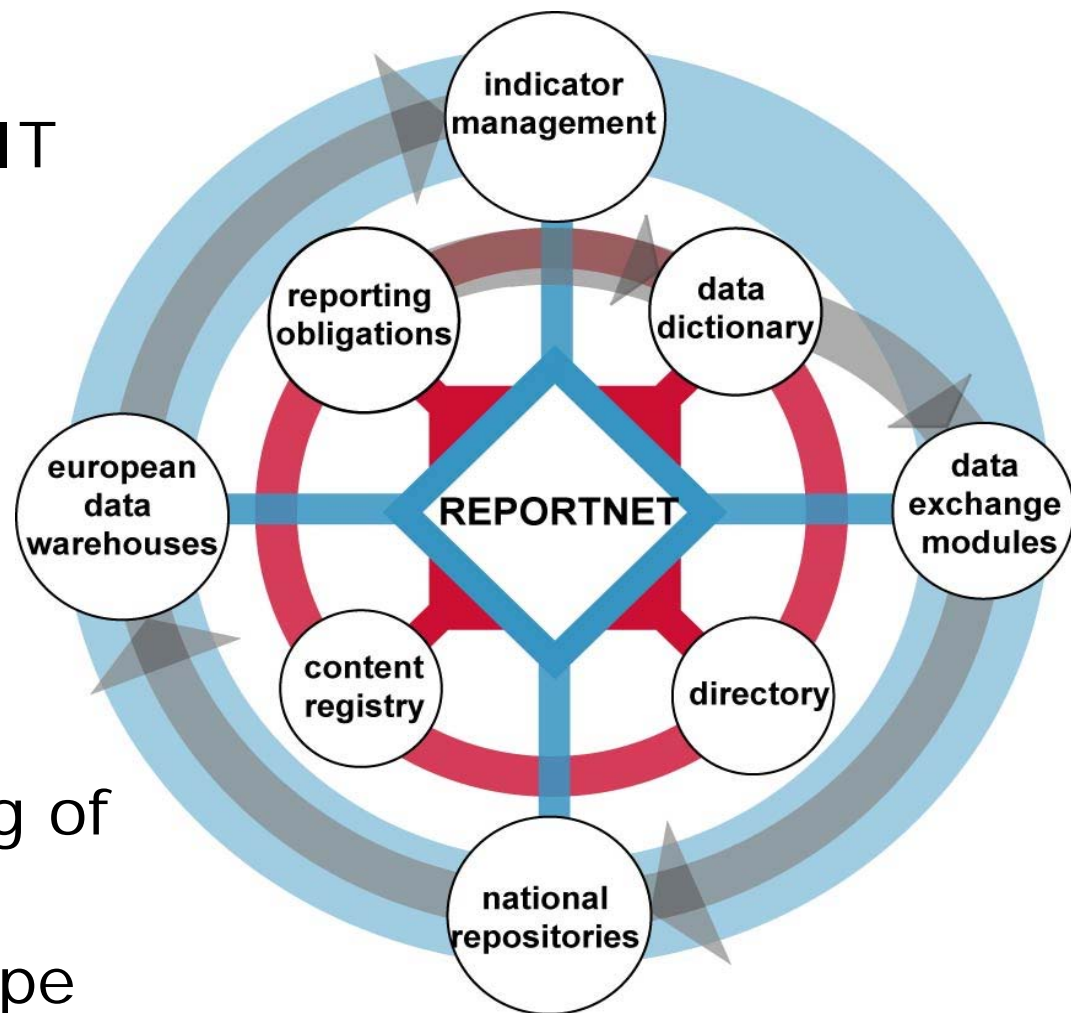


Infrastructure and tools: Reportnet

A system of integrated IT tools and processes

A shared information infrastructure

To support the reporting of environmental data and information in Europe



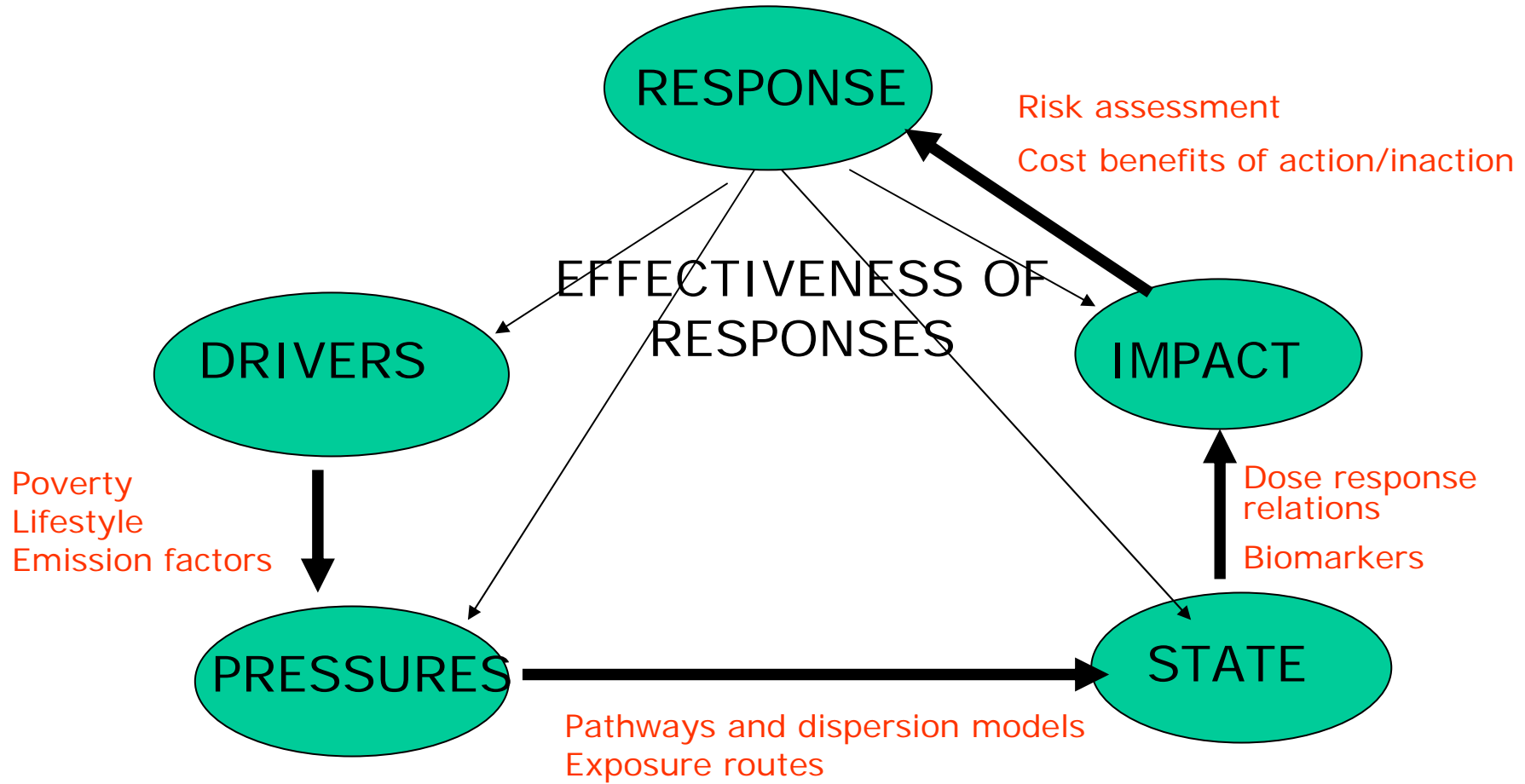
Analytical frameworks

Improve the organization, structuring and analysis of environmental information

To increase the use of the information and the consistency of its handling

And to help avoid gaps in analysis and assessments

It is useful to focus on the LINKS



The purpose of using indicators

- Supply information on environmental problems so that policymakers can evaluate their relevance
- Support development of policies and priority setting
- Monitor the effectiveness of policy responses

What are indicators

- A simplified picture of a complex reality, focusing on certain aspects for which data are available
- Meaningful only as part of a framework or a story
- Necessary part of the stream of information used to understand issues, make decisions, and plan actions
- Powerful communication tool, but **ONLY** if put in context

What indicators can't do

Replace scientific studies on cause and effect relationships

Replace statistical analyses of data

Are not meant to develop and test hypotheses



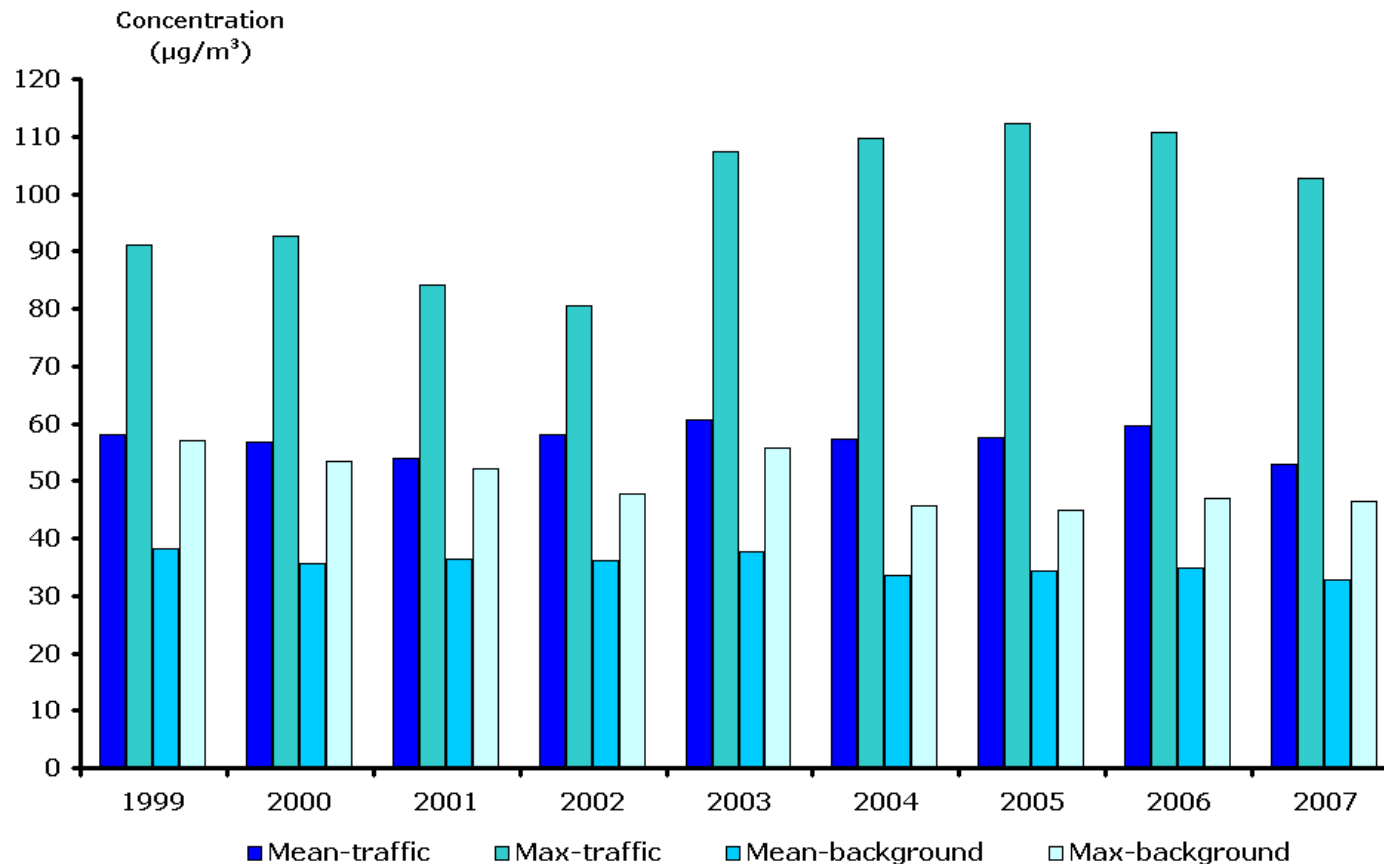
Steps in developing indicators

- ✓ agree on a story
- ✓ specify policy questions
- ✓ select indicators
- ✓ define and compile data
- ✓ interpret indicators
- ✓ modify, adapt, and iterate

Example - transport

Key policy question: Is the contribution of the transport sector to air quality reducing?

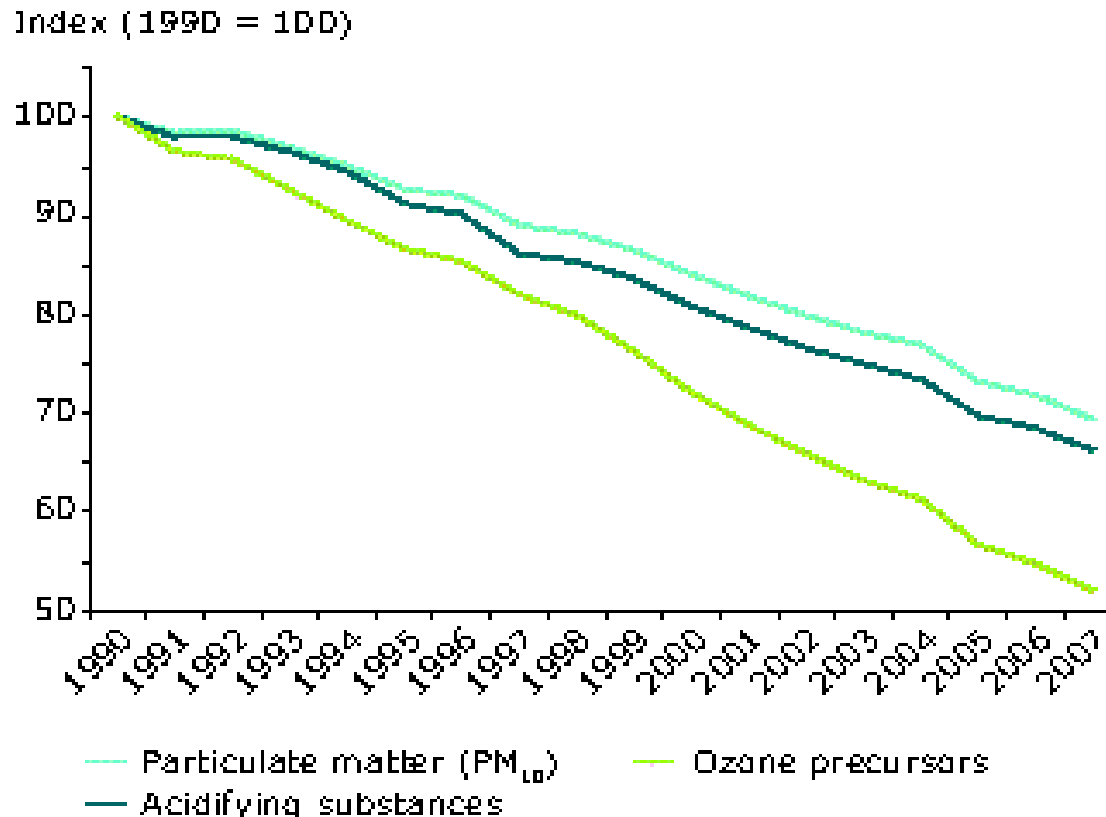
DPSIR



NO₂ mean and maximum values of annual averages for traffic and urban background stations

Example - transport

Key policy question: How did EEA-32 emissions of particulate matter, acidifying substances and ozone precursors from transport change over time?

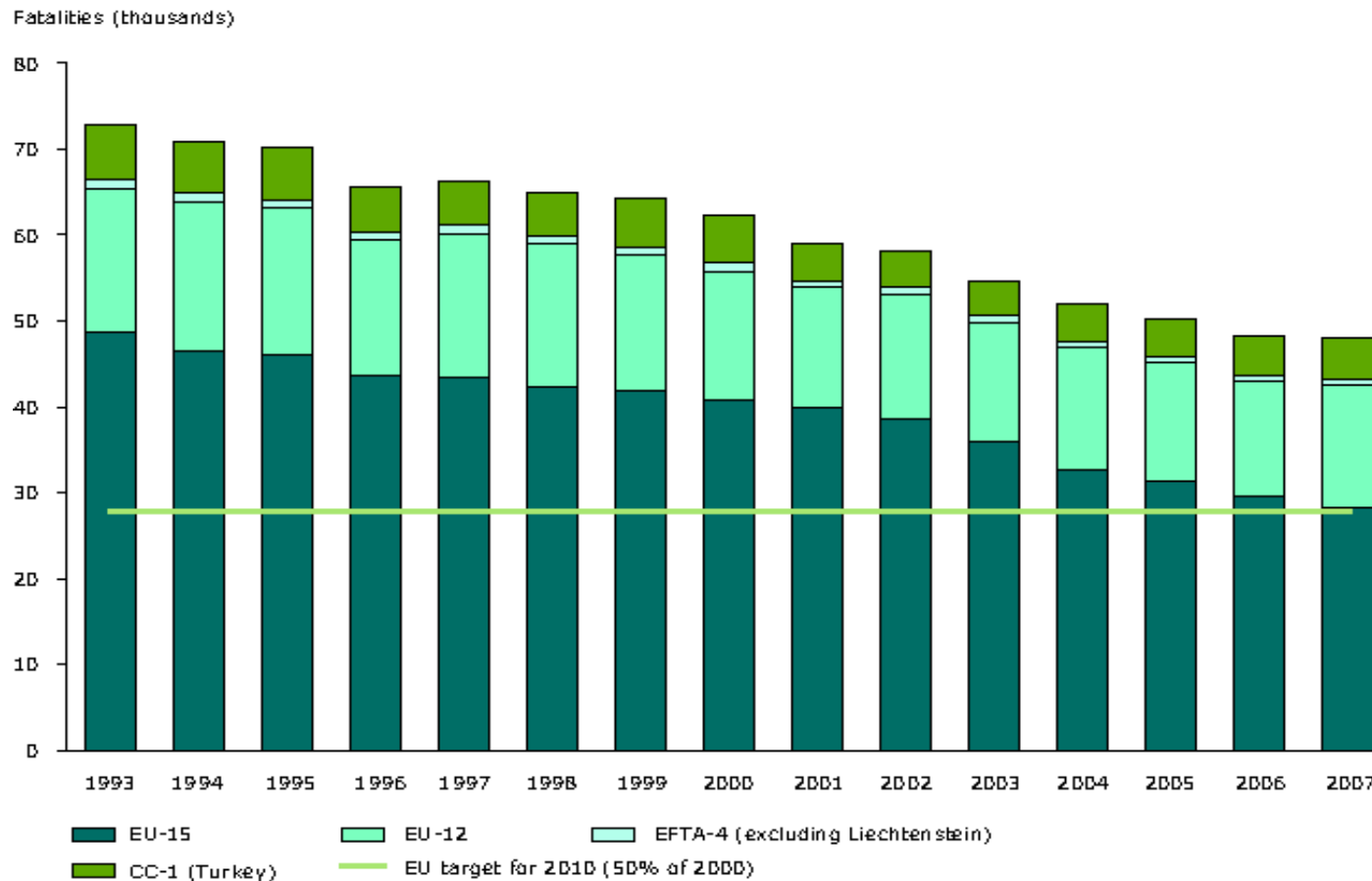


DPSIR

Transport emissions of regulated air pollutants in EEA member countries

Example - transport

Key policy question: Are transport accident fatalities decreasing?



EEA - Core Set of Indicators

- Agreed upon in 2004
- 37 indicators in 10 thematic areas
 - Air pollution
 - Biodiversity
 - Climate change
 - Energy
 - Agriculture
 - Water
 - Waste
 - Transport
 - Soil/terrestrial
 - Fisheries

EEA Core set of indicators - selection criteria

- Policy relevance
- Progress toward the targets
- Available and routinely collected data
- Space and temporal coverage
- National scale and representativeness
- Understandability
- Methodologically well founded
- Timeliness
- Well documented and qualitative
- Topics covered and priorities

Environment and health indicators – a European picture



INFANT MORTALITY FROM RESPIRATORY DISEASES

FACT SHEET 3.2 • December 2009 • CODE: RPG3_Air_E2

Annual death rate due to respiratory diseases in children over one month (post-neonatal) and under one year of age

This summary gives an overview of death rates in early childhood due to respiratory diseases and changes over time in countries of the WHO European Region. It provides information about possible environment-related risk factors and relevant policy action.

MESSAGE

Over 12% of infant deaths in the Region are due to respiratory diseases. However, there are considerable variations in the rate across the Region, with a gradual increase from western to eastern European countries. Infant death rates from respiratory diseases declined in nearly all countries in the period 1997-2006. Several countries have eliminated respiratory diseases as the cause of post-neonatal death.

MESSAGE

The indicator gives an indirect assessment of the adverse effects on health of environmental factors in a vulnerable age group. The post-neonatal infant death rate from respiratory diseases depends on many different factors, including indoor and outdoor air pollution.

DESCRIPTION OF DATA

Fig. 1 presents the post-neonatal infant death rate due to respiratory diseases for the last available year for 25 countries. Data are available in the WHO mortality database (1) and the WHO European health for all database (2) for 34 Member States of the Region, although for certain countries (Israel and the former Yugoslav Republic of Macedonia) the latest available data are for 2000 and before. The average for all countries is 0.5 per 1000 live births.

Fig. 2 shows changes in the post-neonatal infant death rate due to respiratory diseases in the Region from 1997 to 2006. The average number of post-neonatal deaths due to respiratory diseases is presented in a logarithmic scale. Four countries (Austria, Finland, Luxembourg and Slovenia) had no neonatal deaths from respiratory diseases during the period; this is not shown on the graphs.

www.euro.who.int/enhiss

WHO 2010

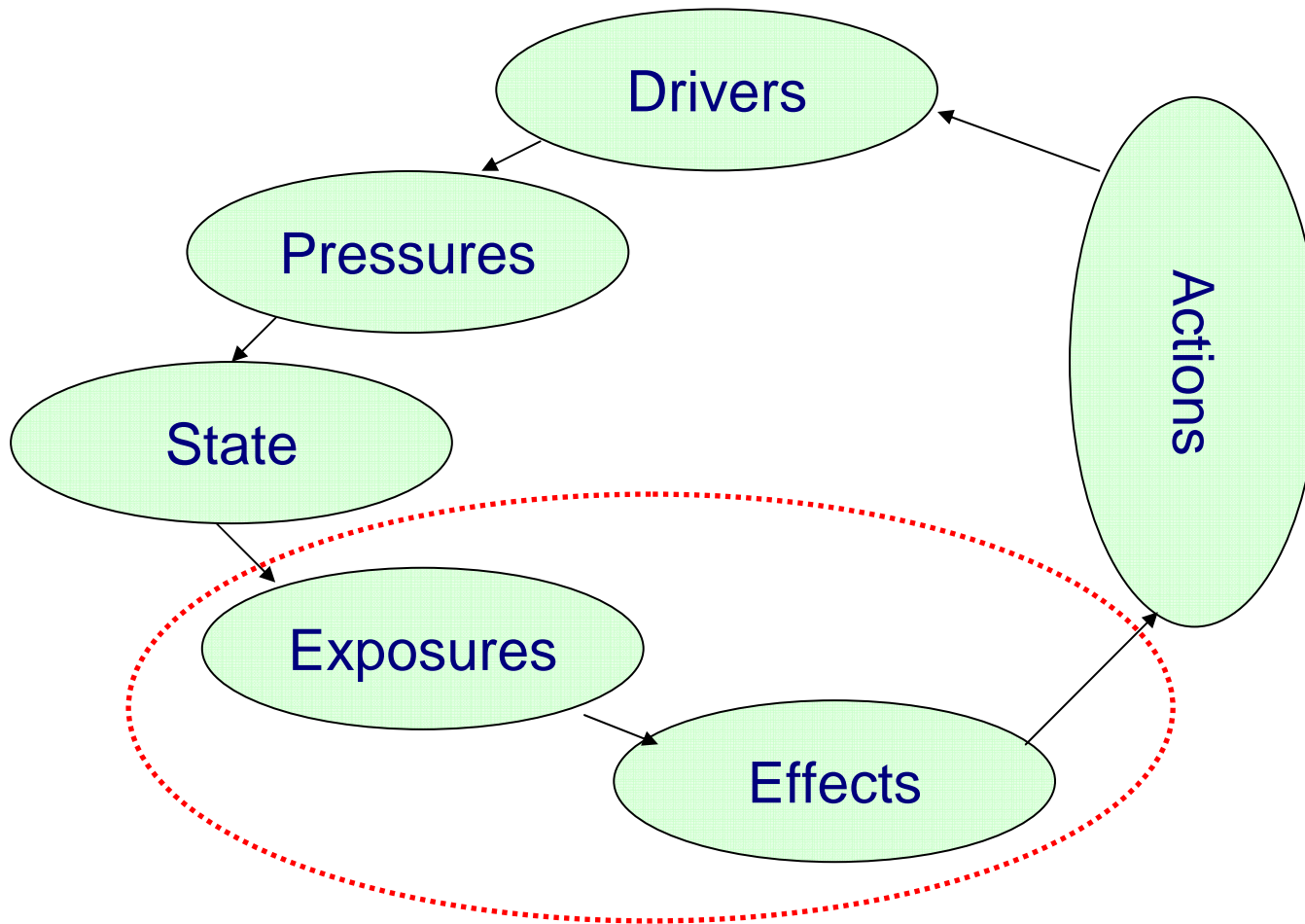


Environment and health indicator

An expression of the **link between** the environment and human health, targeted at an issue of specific policy or management concern, presented in a form which facilitates interpretation for effective decision-making

... based on a clear relationship between the environmental hazard and the health effect....

DPSEEA – an environment and health assessment framework



WATER

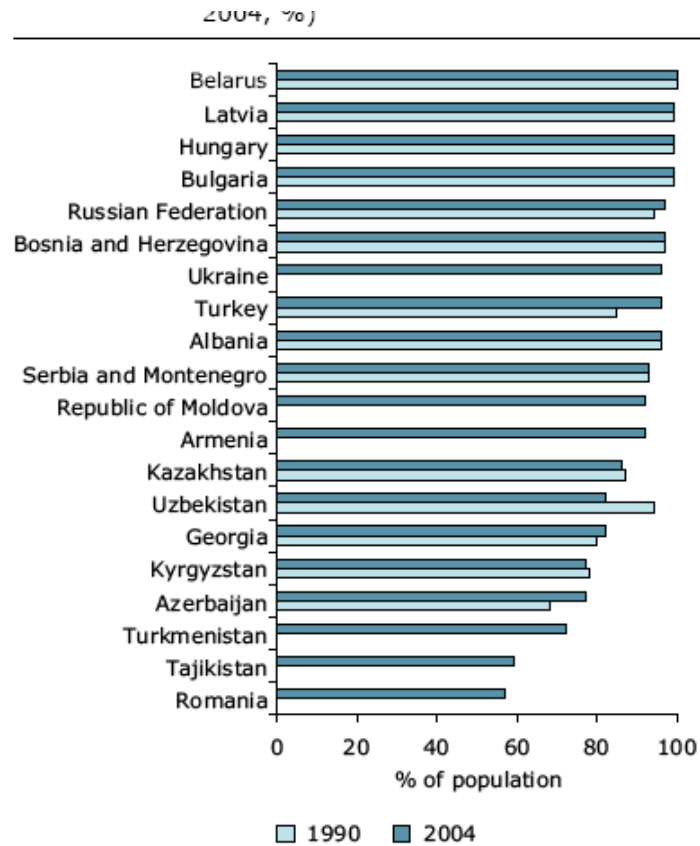
EEA Core Set Indicators

- Use of freshwater resources
- Urban wastewater treatment
- Bathing water quality
- Nutrients in ... waters
- Chlorophyll in ... waters
- Oxygen consuming substances

WHO ENHIS

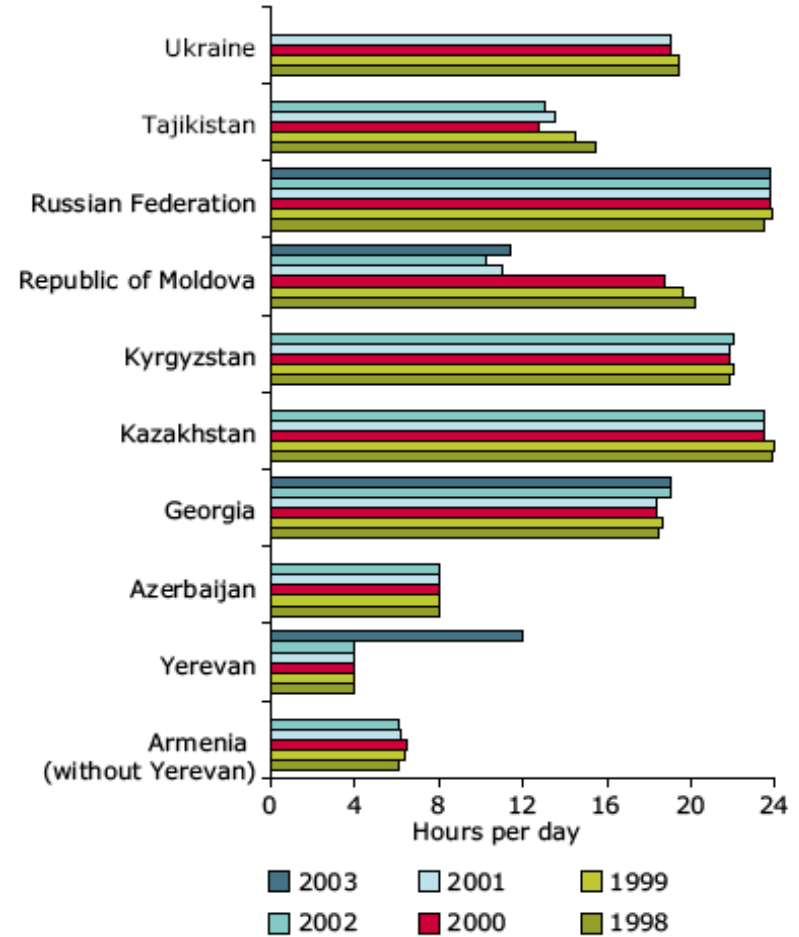
- Public water supply, access to safe water
- Wastewater treatment, improved sanitation
- Bathing water quality
- Outbreaks of waterborne diseases

Population with access to improved source of water



Notes: All of the population of AD, AT, BG, CH, CY, DE, DK, FI, IS, LU, MT, NL, NO, SE, SK have access to improved water supply. No information from BE, EE, FR, GR, IE, IT, LV, MC, PL, PT, ES, UK.

Continuity of water supply



Source: OECD, 2005.



Outbreaks of waterborne diseases

Between 2000 and 2007 in 14 European countries, there were 354 outbreaks of waterborne diseases related to drinking-water

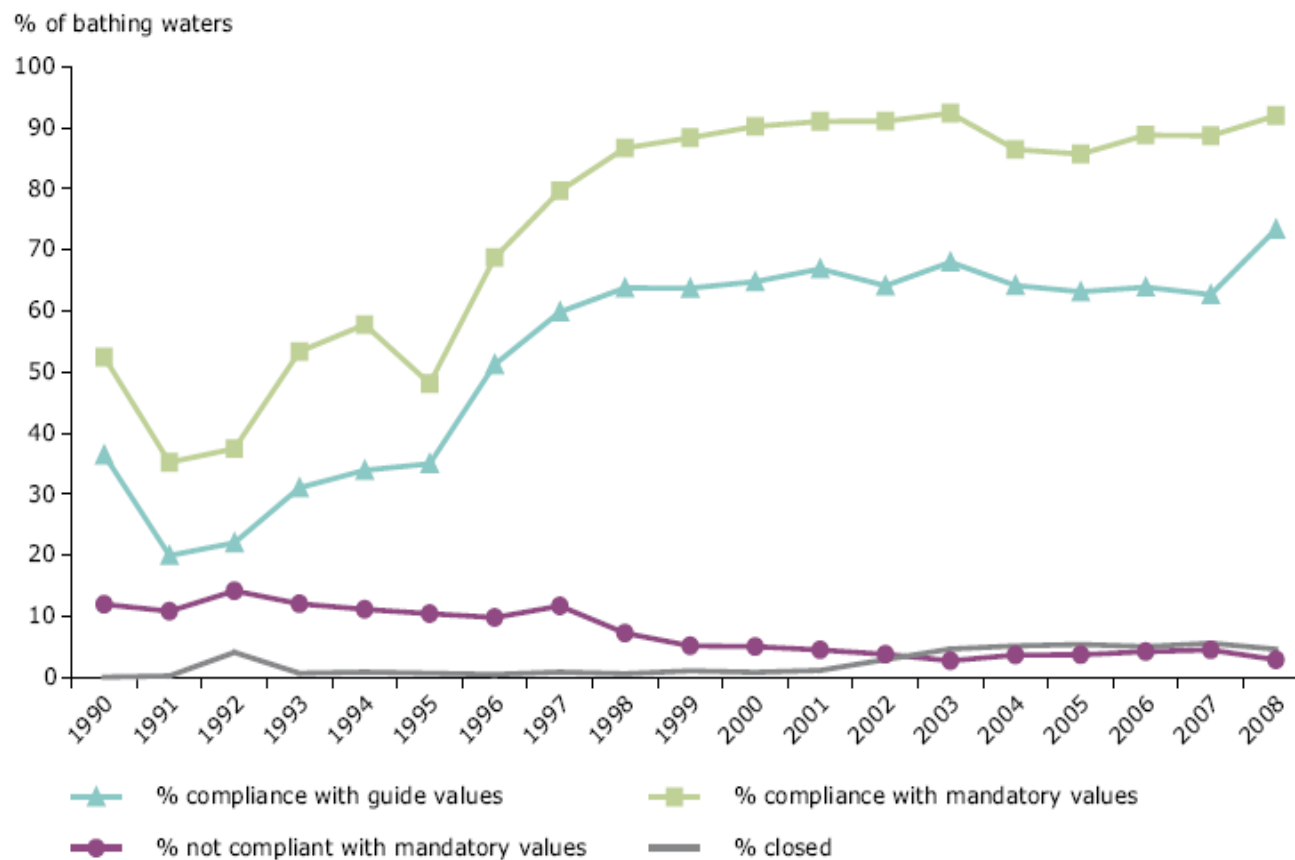
The data must be interpreted cautiously, as differences between countries are likely to reflect the efficiency of surveillance systems rather than differences in outbreaks

Indicator based on surveys of various national agencies

More widespread and effective surveillance systems are needed



Bathing Water Quality - Inland



Source: WISE Bathing Water Quality database based on annual reports by EU Member States.

DPSIR
Performance i.



Road Aerial Labels Views

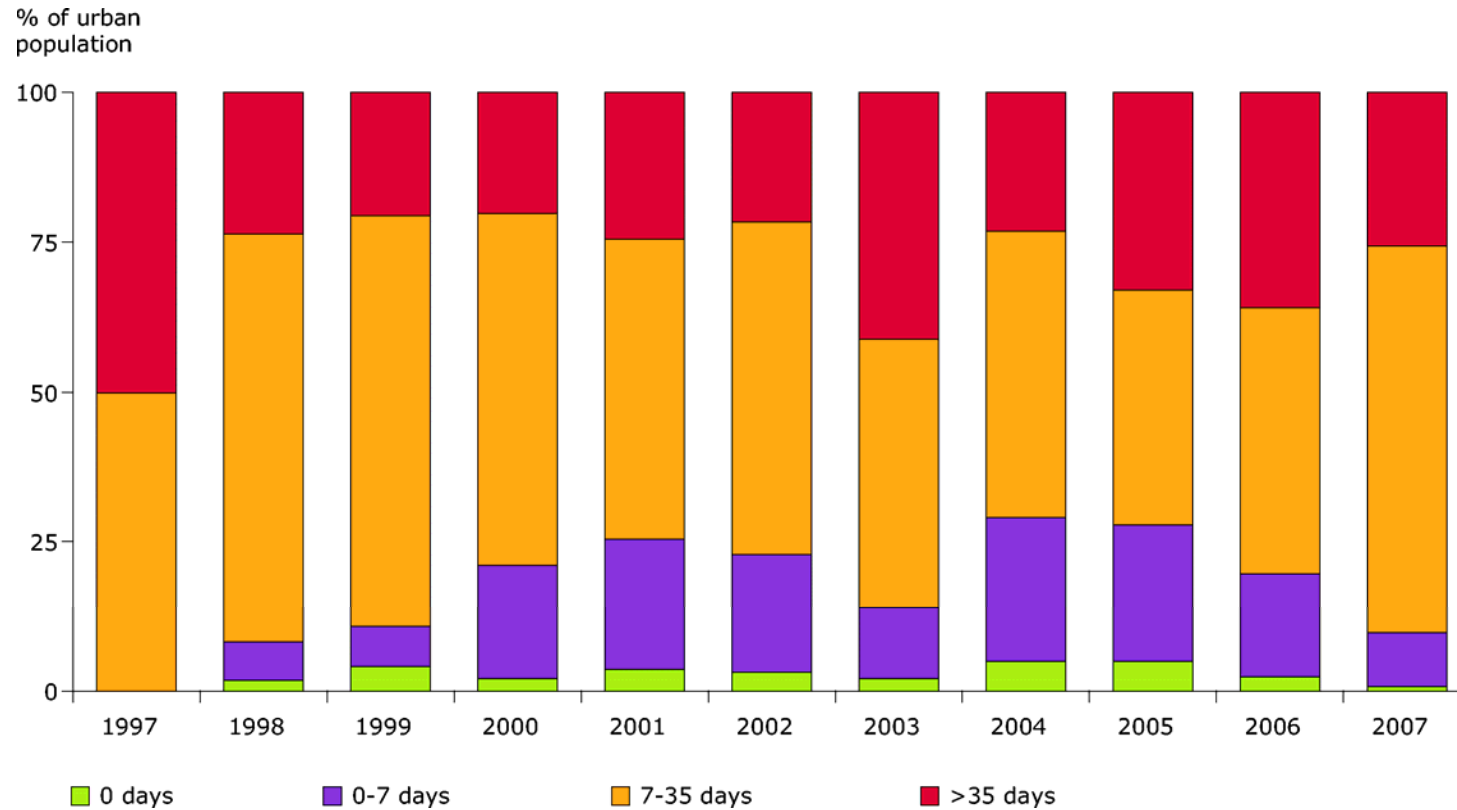
ZON EN VREUGD
EEA RATING: 1
USER FEEDBACK: ★★★★★ (7)
Water0 Water1
Water2 Water3 Water4
Water5 Water6
Water7

WQI
Updated: 17-8-2009 0:0

10 Kilometre

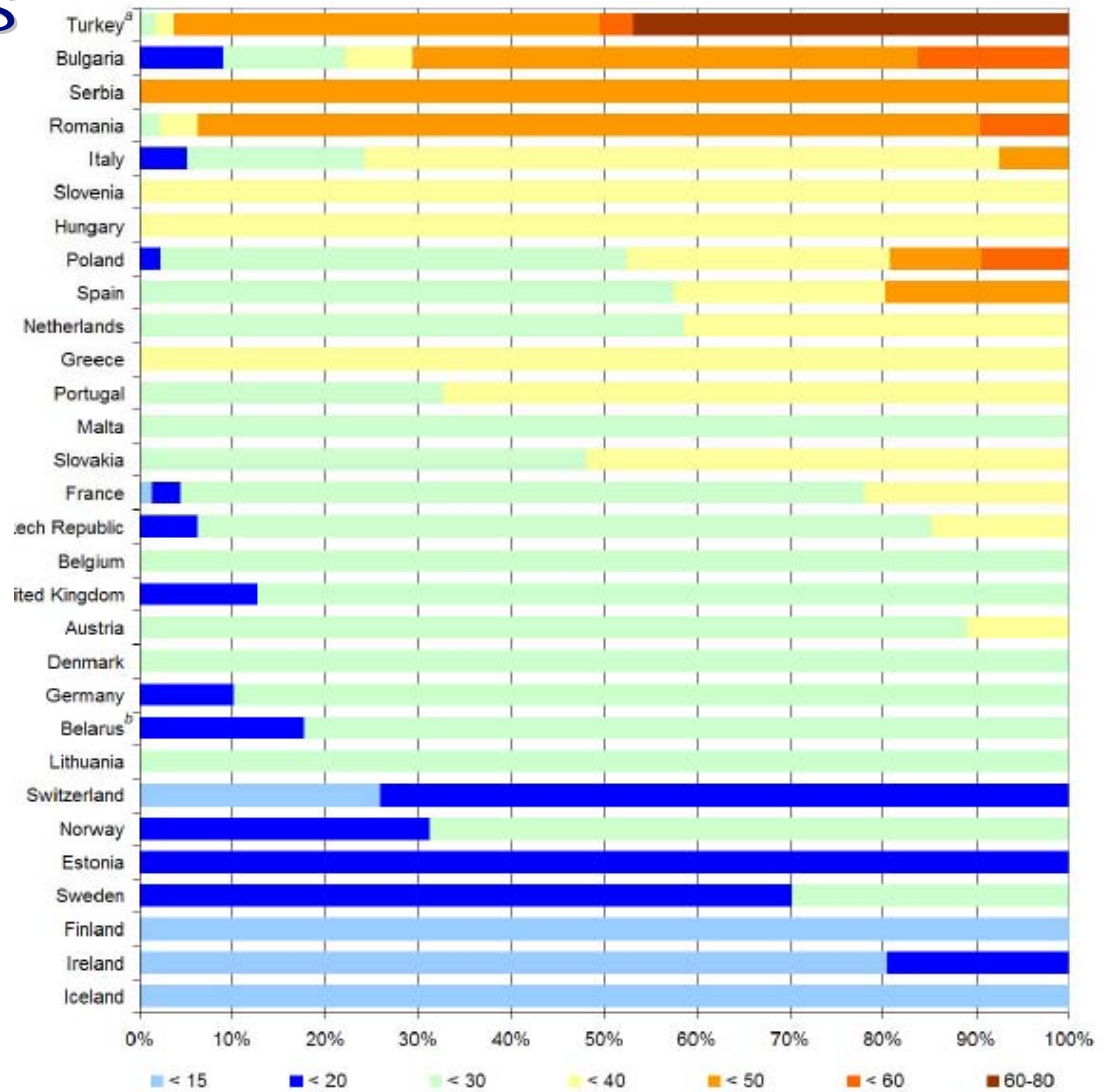
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Example – air pollution

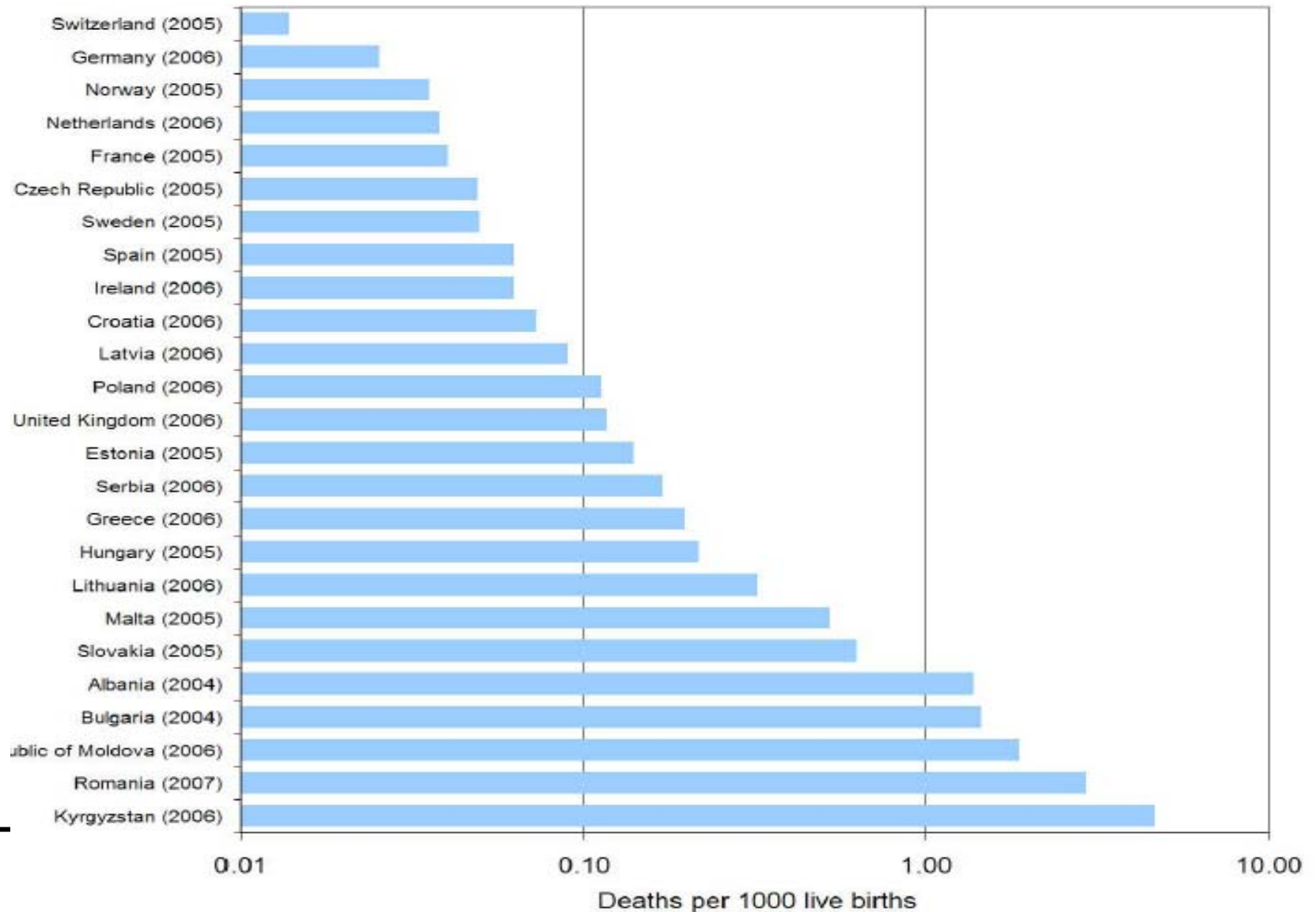


Percentage of population resident in urban areas potentially exposed to PM10 concentration levels exceeding the daily limit value, EEA member countries, 1997-2007

Percentage of people living in cities with various PM10 levels



Infant death rates due to respiratory diseases in countries of the WHO Europe, most recent year since 2004



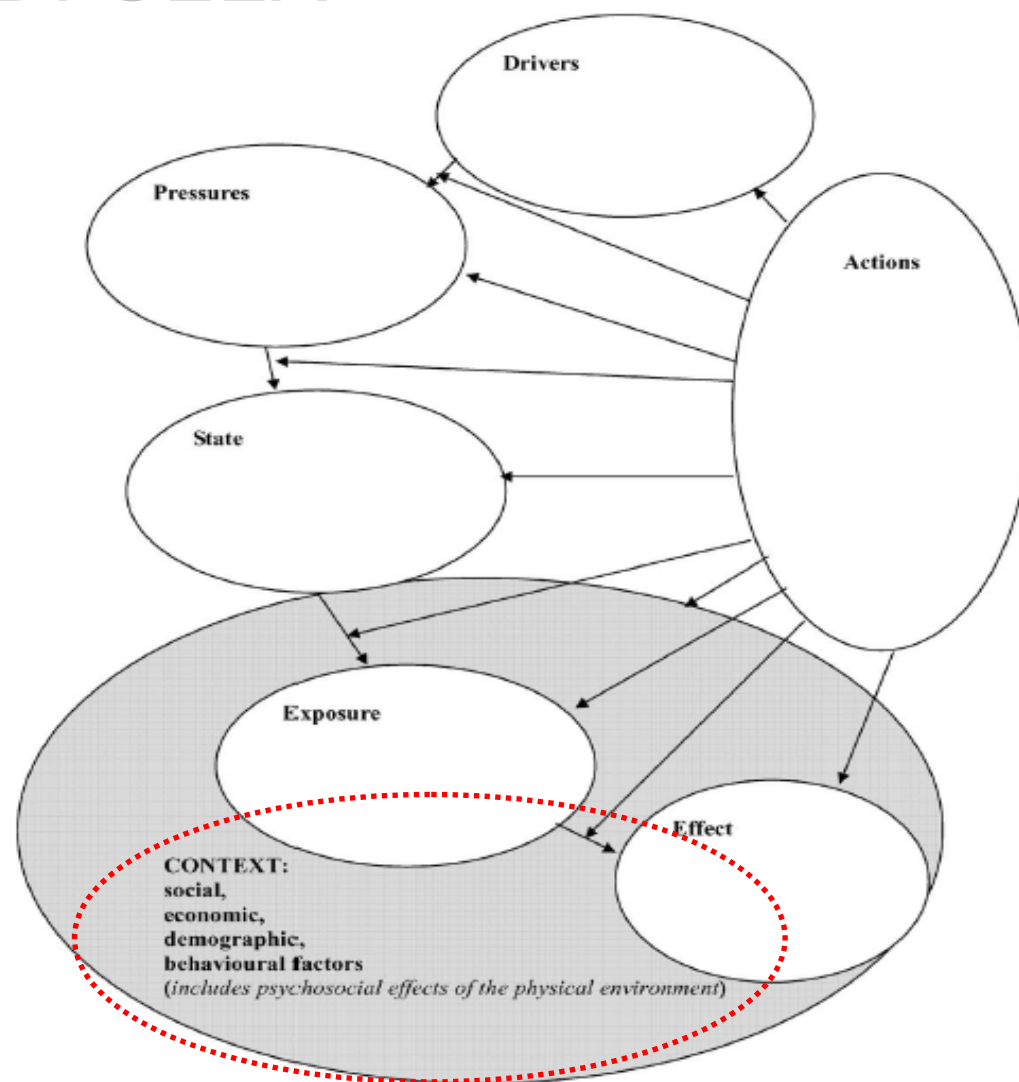
Indicators on environment and health in Europe

- EEA – health relevant subset of indicators
- WHO – E&H indicators (EHIS process)
- DG Sanco - ECHI process
- Eurostat – SDI – subset of public health indicators
- OECD health indicators
- EDEN project - Emerging Diseases in a Changing European Environment
- other indicators projects (e.g. urban health...)

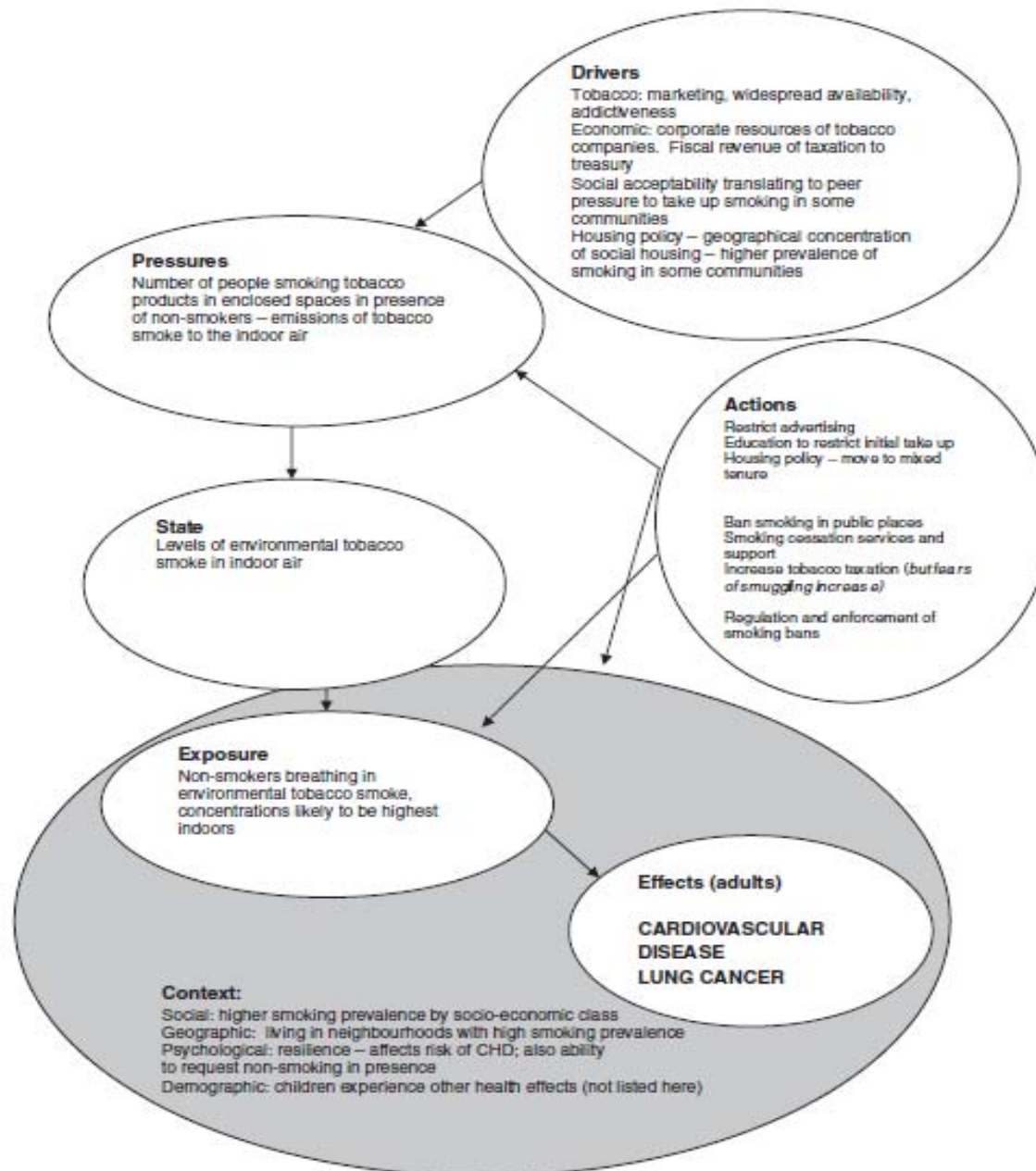
The context of E&H assessments ...

- Complexity and multicausality
- Insufficient data
- Insufficient/lacking evidence base
- Analytical frameworks
- Uncertainty
- Communication needs among various audiences....

Modified DPSEEA



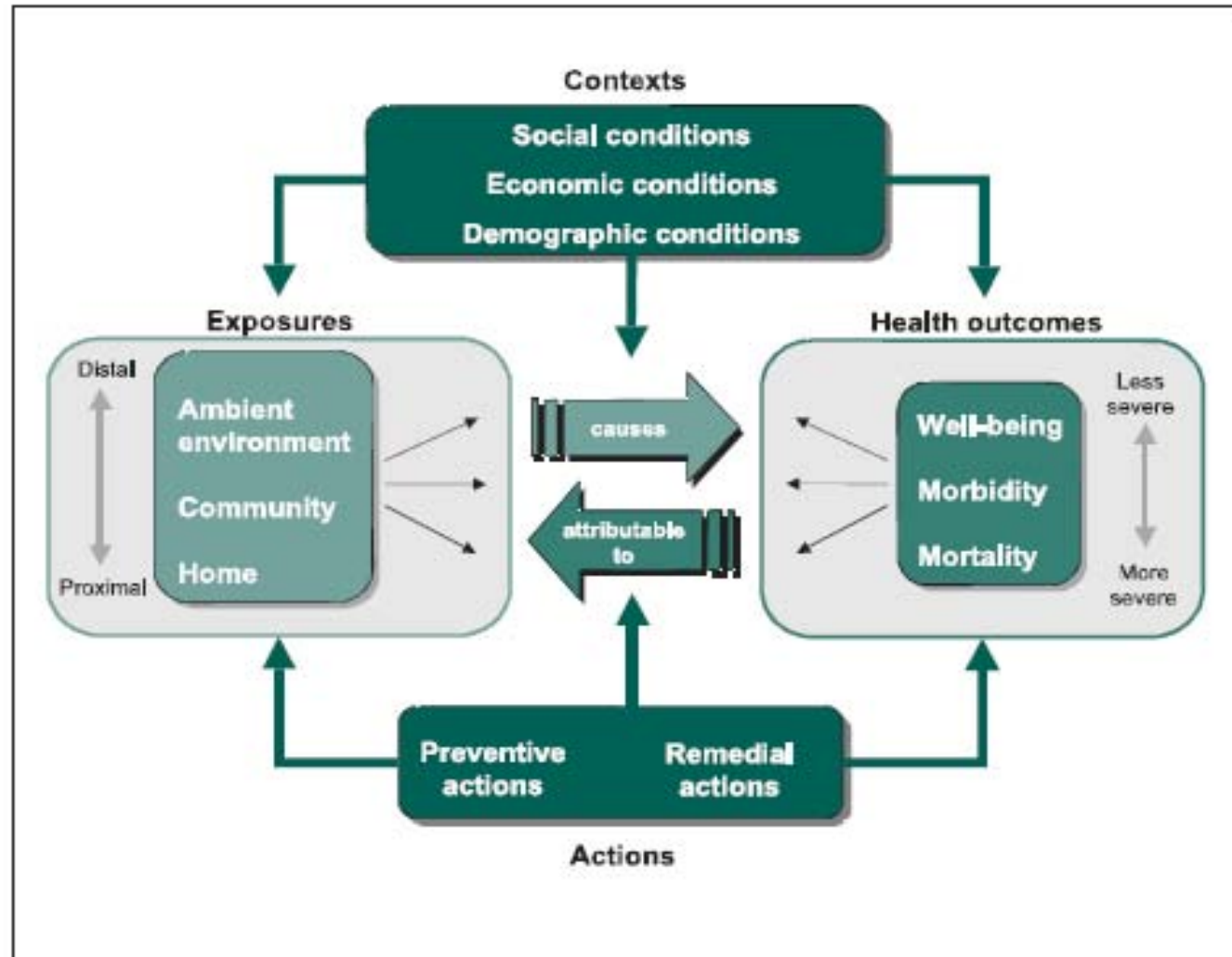
Modified DPSEEA – smoking and adult coronary heart disease



Morris et al., 2006



The MEME model



Assessment

- a modular approach
- language to reflect the level of certainty
- language to put the indicators into context

A role of indicators in integrated assessments –
need to utilize a range of scientific data and
evidence sources

Use of various knowledge and evidence source

Enhancing inclusion of health in SEA – conclusions and recommendations

- An expert meeting on health and SEA, WHO Europe, 2009
- SEAs currently already consider health aspects, with a focus mainly on biophysical impacts
- Distributional aspects are rarely considered and public health experts are rarely involved in the SEA process
- Opportunities for health as well as other sectors for applying health inclusive SEA need to be outlined more clearly.



Enhancing inclusion of health in SEA – conclusions and recommendations

- Institutional factors
- Methodological factors
- Procedural factors

To enhance health consideration in SEA



The Composite Environmental Index

A single measurement for the environment would help foster a more balanced public debate on societal objectives and progress. Close candidates are the ecological and carbon footprints, but both are limited in scope.

- Methodologies for composite indices sufficiently mature, a pilot version of an index on environmental pressure to be ready in 2010.
- This index will reflect **pollution and other harm** to the environment within the territory of the EU **to assess the results of environmental protection efforts**. A fall in the value of the index will show progress on environmental protection. It will comprise the major strands of environmental policy:
 - climate change and energy use
 - nature and biodiversity
 - air pollution and health impacts
 - water use and pollution
 - waste generation and use of resources



Thank you!

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