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International
conference

ENVIRONMENT AND HEALTH

**International Society of
Doctors for the Environment
(ISDE)**

*18-19 Aprile 2008
Salsomaggiore (PR)*

IV SESSION: 14.30-18.30

Chronic diseases: the case for urgent global action

Chairs: Leda Nemer (WHO); Fabrizio Bianchi (Pisa CNR; ISDE Italy)



Chronic diseases: the case for urgent global action?

critical notions

1) GLOBAL ACTION ↔ LOCAL ACTIONS

2) ENVIRON&HEALTH PRIORITY LIST DEFINITION

Equality / Inequality

General population / vulnerable groups



equalitarian vs. utilitarian approach



ENVIRONMENT-EXPOSURE-HEALTH EFFECTS CHARACTERIZATION

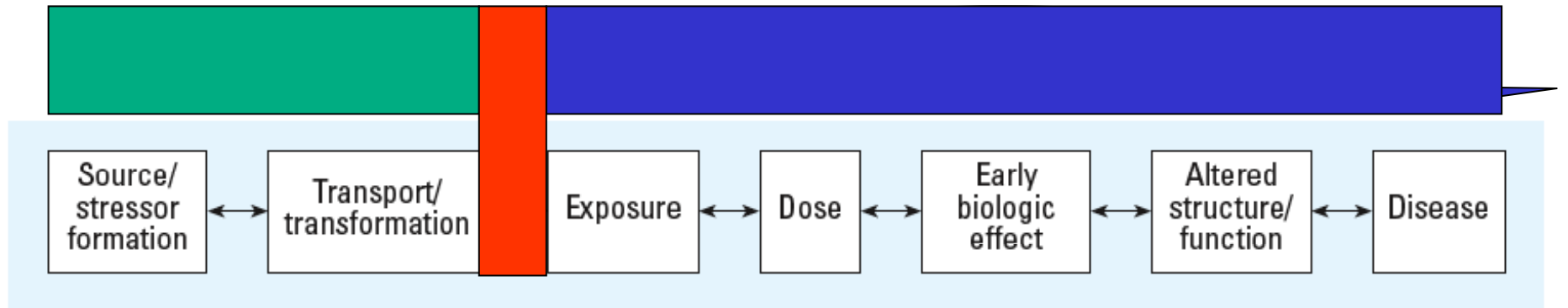


Figure 1. The environmental public health continuum (EPHC).

Albertini et al. **The use of biomonitoring data in exposure and human health risk assessments.**
Environ Health Perspect. 2006;114(11):1755-62.



PRIORITY ISSUES

- FROM EMISSION TO HEALTH EFFECTS CHARACTERIZATION
 - ❖ ENVIRONMENT
 - ❖ EXPOSURE
 - ❖ DISEASE

- METHODS AND TOOLS
 - ❖ EPIDEMIOLOGICAL DESIGNS
 - ❖ GEOGRAPHIC INFORMATION SYSTEMS (GIS, GPS)
 - ❖ STATISTICAL METHODS

- MULTIDISCIPLINARY APPROACH

- ASSURE ETHICAL ASPECTS

- COMMUNICATION AND PARTICIPATION

- FUNDING



ENVIRONMENT-EXPOSURE-HEALTH EFFECTS CHARACTERIZATION

❖ ENVIRONMENT

- Pollutants with environmental & health relevance

❖ ENVIRONMENT-EXPOSURE

- Pathways
 - ✓ Way of exposure (inhalation, ingestion, contact, indirect)
 - ✓ food chain contamination (bio-accumulation, bio-degradation: biomagnification)



ENVIRONMENT-EXPOSURE-HEALTH EFFECTS CHARACTERIZATION

❖ EXPOSURE

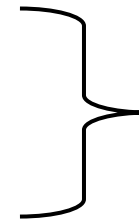
MAIN ISSUES: TIMING, LATENCY, LOW-DOSES

Difficulty to detect effects of low-level exposure, but there have been important successes in the field. [*Vineis P. The challenge of low levels of exposure. Prev Med. 2007;44(2):107-8.*]

- ESTIMATING (proxi)
- MEASURING
- MONITORING

❖ ENVIRONMENT

❖ HUMAN AND ANIMAL



biomarkers



ENVIRONMENT-EXPOSURE-HEALTH EFFECTS CHARACTERIZATION

❖ DISEASE

- **Definition and diagnostic criteria**
- **Etiopathogenesis**, particularly concerning environment role
- **Availability by current statistics or by ad hoc collection**
- **Classification (splitting and lumping)**
- **Coding**



PRIORITY NEEDS IN RESEARCH

- **MULTIDISCIPLINARY APPROACH**
Collaboration among experts of different discipline
- **ETHICS**
 - transparency, confidentiality, conflict of interest....
- **COMMUNICATION AND PARTICIPATION**
 - Key questions just in waste-health setting
- **FUNDING**



Three crucial issues in the current debate in research and public health setting

1) REDUCTIONISM OF MULTICAUSATION

Using deterministic instead of probabilistic approach in chronic disease setting

Individual risk factors cover environmental RF
--> risk individualization --> guilty for damage
(attributing blame)

2) CAUSATION OR ASSOCIATION?

Accumulating and interpreting the evidences

No study is able to give the answer YES/NO
Several studies can add evidence on evidences

3) UNCERTAINTY UNDERSTANDING AND MANAGEMENT

Not estimated, not understood, not correctly used,
not included into decision making



Final remark

“Com’è noto negli ambienti scientifici, il modo migliore per impedire, o almeno ritardare, una decisione in tema di sanità pubblica è quello di elevare il rumore di fondo con la pubblicazione di risultati contrastanti e contraddittori, in modo da iniettare dubbi sulla validità di dati scomodamente positivi”

Renzo Tomatis, *L’ombra del dubbio*, Sironi Editore, marzo 2008

