

# Narrative overviews

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# Carrying Out a Narrative Review

## **task**

To investigate the likelihood that there is an association between an environmental or occupational exposure or other hazard and an adverse health outcomes in humans

## **by**

Reviewing all available studies relevant to the exposure and/or health outcome and preparing a qualitative and/or quantitative assessment

# To Investigate an Association Between an Exposure and Human Health Impact Need to Consider

- Exposure
  - environmental levels
  - personal monitoring
- Toxicology
  - mechanisms
- Human health effects
  - epidemiology
  - volunteer studies
  - public health impact

# What Makes a Good Critical Review?

- Clear presentation of the question
- Clear presentation of how review conducted
- Accuracy of data reported
- Scientific rigor – data, argument
- Clarity and transparency – presentation, argument
- Clear conclusion

# Conduct of Review

- Like any other scientific effort should be reproducible
- Establish scope at outset
- Systematic and recorded literature searches and other methods of obtaining information
- Criteria for selection and inclusion of studies
- Criteria for reporting/summarising studies

# What Data to Use

As far as possible should be available to reader

- Peer-reviewed
- Publicly available
- In final form
- Source identified

# Evaluating and Summarising Individual Studies

- Rigorous scientific presentation of data
- Clear explanation (even of first principles if necessary)
- Constructive criticism (include what is good and relevant)

# Description of Human Study

- Where
- When
- Study population
- Reference populations/controls
- Exposure
- Study design
- Basic data – numbers of cases observed /expected,
- exposed / unexposed
- Outcomes, variables
- Statistical methods

# Exposure Data

- Clear description of agent(s)
- Past, present, possibly projections of future exposure
- Details of how exposures measured
- Temporal and spatial differences and trends
- Applicability of exposure measurements to
  - individuals/populations of concern (time and place)
- Fate, behaviour, persistence, bioaccumulation
- Regulations, controls, guidelines

# Toxicological Data

- Relevant experimental studies
- Pharmacokinetics and pharmacodynamics
- Mechanisms

# Presentation of Individual Study Summaries

Group in a logical structured way

- Time
- Place
- Study Type
- Health Outcome
- Exposure variable
- Confounders
- Statistical methods
- Results
- Biases

Which studies are relevant to an evaluation of causality?

# Evidence for Causality

- Strength of association
- Consistency
- Exposure-response

## Weighing the evidence

- Expert judgement
- Quantitative methods

TITLE: RECREATIONAL EXPOSURE TO SUNLIGHT AND LACK OF INFORMATION AS RISK FACTORS FOR CUTANEOUS MALIGNANT MELANOMA. RESULTS OF AN EUROPEAN ORGANISATION FOR RESEARCH AND TREATMENT OF CANCER (EORTC) CASE-CONTROL STUDY IN BELGIUM, FRANCE AND GERMANY  
AUTHOR: AUTIER (1994)

## HYPOTHESIS:

[illegible]