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Health impact assessment (HIA) as a tool for *Agenda 21* and Environmental Health action plans - Typology and quality criteria

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Overview

1. **Background & HIA outline**
2. **HIA examples**
3. **HIA typology**, incl. complexity levels
4. **HIA quality criteria**, incl. integration
5. **Conclusions**

1. Background & HIA outline

Background:

- *Agenda 21* (Rio de Janeiro 1992)
- Environmental Health Action Plan for Europe (Helsinki 1994)
- Amsterdam Treaty of European Union (1998)

Agenda 21, Chapter 6: Protecting and Promoting Human Health

D. Meeting the Urban Health Challenge

Activities: (c) Strengthen EH services

(i) Adopt health impact and environmental impact assessment procedures

1998 Amsterdam Treaty, Art. 152

A high level of human health protection shall be ensured in the definition and implementation of all Community policies and activities

Health Impact Assessment

a combination of procedures, methods and tools by which a policy, program or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population (Gothenburg consensus paper, WHO-ECHP 1999)

HIA components

- Screening: Where is HIA needed ?
- Scoping: What to include?
- Prediction: “What - if” analysis
- Value judgement: “Like” or “dislike”?
- Participation & communication, with different target groups
- Evaluation: What to improve?

2. HIA examples

- HIA of projects, e.g. extensions of airports, highways, waste facilities ...
- “Strategic” HIA of plans, programs, policies, e.g. transport planning, agricultural policy ...

Examples: HIA of projects

1. Extension of the Manchester airport (UK)
2. Extension of the Schiphol airport (NL)
3. Construction of the Rotherham Sheffield motorway corridor (UK)
4. Construction of the Livorno – Civitavecchia (Tuscany) highway (I)
5. Tunnel of Somport project (F, E)
6. Extension of waste disposal facility in Heinde (D)

Examples: Strategic HIA

1. EU agricultural policy (S)
2. Merseyside Integrated Transport Study (UK)
3. Health costs due to road traffic-related air pollution (CH, A, F)
4. Privatization of drinking water provision (D)

3. HIA typology

- Typology related to topic of HIA

- Typology related to HIA approach chosen

Typology re: topic

Topic: Project / plan, program, policy / technology

Responsibility: activity of public sector / private business / NGO

Levels: (inter-)national / state / region / local

Legal basis: yes / no (voluntary), incl: within / outside the framework of Environmental Impact Assessment (EIA)

Typology re: approach

Timing: prospective, concurrent, retrospective

Direction: exposure-based (begin with exposures - try to estimate impacts) vs. outcome-based (finding explanations for "burden of disease")

Scope: single-issue (e.g. speed limit) vs. scenario (e.g. modal mix)

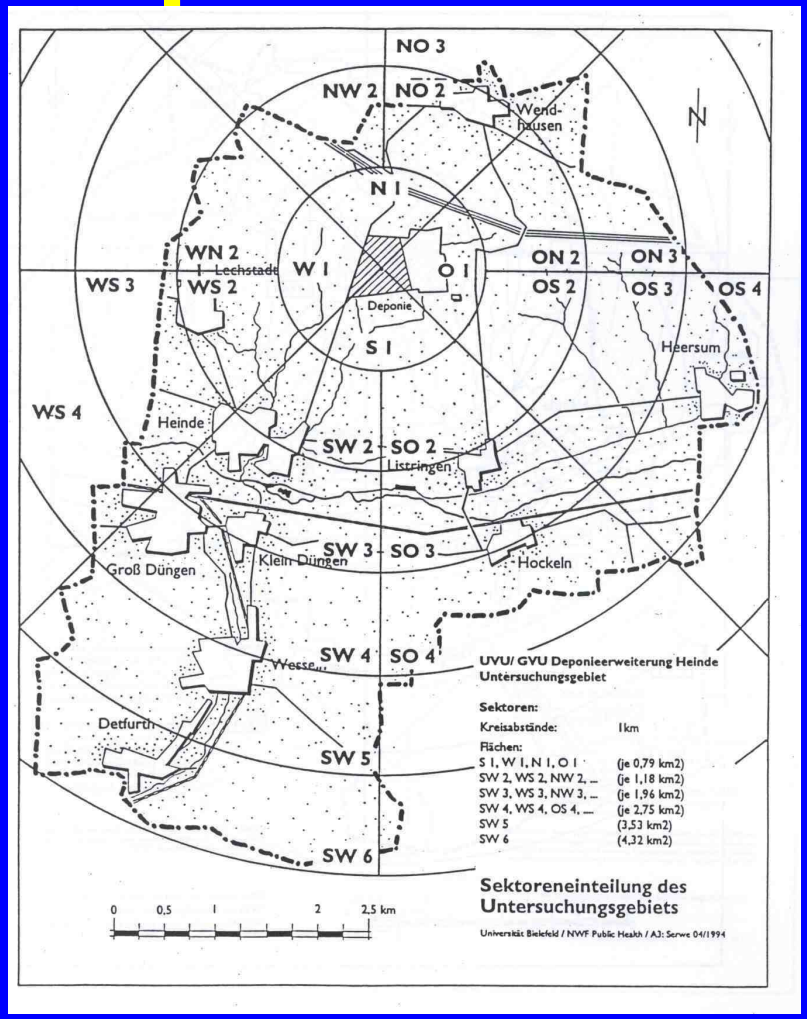
Dealing with variation & uncertainty: worst-case vs. probabilistic

Impact dimensions in HIA

- Positive / negative
- (In)direct
- Short-, long-term
- (Ir-)reversible
- (Non-)cumulative
- Differential impacts on different populations

HIA methods of prediction

- Educated guesses, informed opinion, expert opinion, rating
- Analogy (similar situations)
- Meta-Analysis, systematic review
- Modeling, computer simulation



HIA tools (selection)

- *Aides memoire*
- Checklists, matrices
- Mathematical models
- PC programs for Risk Assessment
- Geographic Inf. Systems (GIS)
- Inquiry systems, factual databases
- Reference data (cf. data warehouse)
- Exposure factors compendia

4. HIA quality criteria

- General quality criteria for HIA: transparency, objectivity, model validity
- Integration of: agents, media, pathways, effects,
  risk &
  benefits

General quality criteria for HIA

1. **Transparency**, which makes it pos-sible to follow the various steps of the assessment
2. **Objectivity**, which means that different per-sons would reach similar results
3. **Model validity**, which means that the models used in the assessment have been evaluated and have been found to perform well

Integration in HIA

1. Integration of impact of multitude of agents / factors; need to consider synergisms
2. Integration of environmental media and exposure pathways for a given noxious agent
3. Integrated coverage of all stages of life-cycle of projects, etc.
4. Integration of different health effects, i.e. adequate summarization
5. Integration of both hazardous and beneficial impacts (rarely done in HIA)

5. Conclusions

Status quo:

- Lack of access to completed impact assessment statements
- Lack of standardization of methodology
- Lack of tools tailored closely to support impact assessments
- Current focus on "acceptable burden" instead of "alternatives assessment"

HIA complexity levels

HIA level	Basis	Strength	Weakness
zero	none	no cost	missed opportunity
ad hoc	improvised procedure, combining various approaches and opinions	low cost, fast	subjective, unreliable
qualitative	expert rating(s), based on explicit body of knowledge	widely applicable, moderately time-consuming	limited transparency on how experts reach their conclusions
quantitative	prognosis based on modeling; assessment based on explicit standards	ideally: best use of existing knowledge, high transparency	adequate models and / or standards may be unavailable
integrated	in addition: common metric, e.g. DALYs, Euros	allows to summarize & compare different health impacts	re-introduction of subjectivity

Priority needs of HIA development

- Systematic post-project evaluations as a basis for gradual improvement over time
- Better access to completed assessments
- Focus on "acceptable burden" to be extended towards "alternatives assessment”
- (Moderate) standardization of methodology
- “Good practice of HIA”; guidelines

"In 10 years' time we will regard HIA as important as doctors now regard clinical trials”

Noel Olsen, quoted in: Beecham, L. (1998): All policies should be assessed for effect on health.

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