

Analysis of Health in Environmental Assessments - A Literature Review and Survey with a Focus on Denmark

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Focus

Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA)

The EIA Directive (2014/52/EU) and the SEA Directive (2001/42/EC)

- Terms "**Population and human health**" were added in the amended Directive (2014/52/EU)

Health integration into environmental assessments within Europe, but with a focus on Denmark

Objectives

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1. Establish the status quo of health/HIA in EIA and SEA via a scientific and grey literature review.
2. Comparing perceived needs of researchers and practitioners to integrate health/HIA in EIA and SEA with a survey.

Definition of health

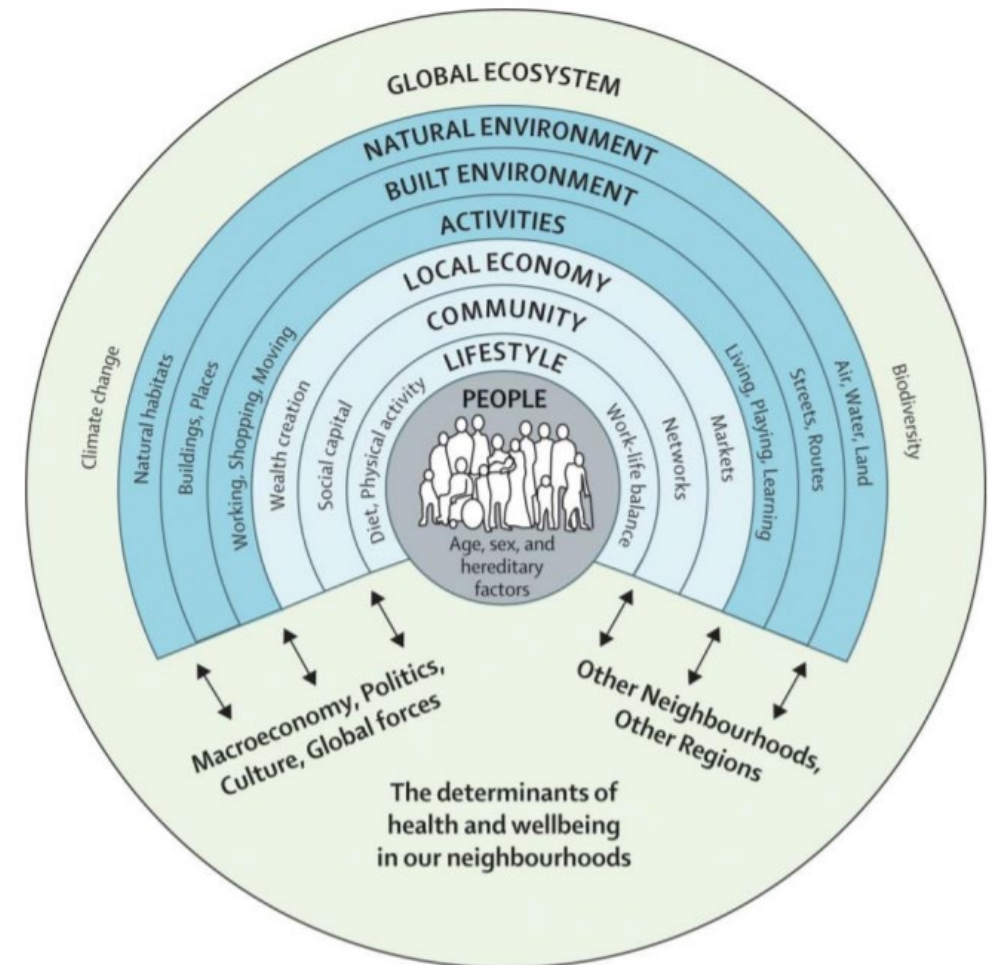
Health and health determinants

Model by Dahlgren and Whitehead, further developed by Barton and Grant

Comprehensive inclusion of all relevant health determinants

Definition of human health by WHO:

“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.” (WHO Constitution, 1946)



Literature review

Databases and combined results:

- Pubmed and Science Direct
- 2.167 total scientific articles

Excluded:

- N = 2.113 on basis of title and abstract
- N = 33 on basis of wrong subject, not available in full text, not in English, repeated information from another article

Included for review:

- Scientific articles: N = 21
- Grey literature extracted from articles: N = 18

International Assessments

Background

- Transposition of EIA Directive (2014/52/EU) and SEA Directive (2001/42/EC) is different in all member states

SEA conducted on an urban development plan for the expansion of Tivat airport in Montenegro¹

- Mainly environmental determinants
- Referred to vulnerable facilities (education and medical institutions)
- Economic benefits, especially due to an increase in tourism

SEA conducted on a railway line at the Lithuanian and Latvian border²

- Engagement of the Ministry of Health
- Environmental factors; social factors; specific mental health impacts
- Positive impacts, such as the impact of tourism on social and economic issues

¹ B. Josimović, N. Krnić, and M. Nenковиć-Riznić, 'The impact of airport noise as part of a Strategic Environmental Assessment, case study: The Tivat (Montenegro) Airport expansion plan', *Transportation Research Part D: Transport and Environment*, vol. 49, pp. 271–279, Dec. 2016.

² S. Carvalho, M. Partidario, and W. Sheate, 'High speed rail comparative strategic assessments in EU member states', *Environmental Impact Assessment Review*, vol. 66, pp. 1–13, Sep. 2017.

Danish Environmental Assessments

Background:

- Danish law merges EIA Directive (2014/52/EU) and SEA Directive (2001/42/EC)
- Limited or no definition of *population* or *human health* in the law or guidance documents
- No tradition for HIA in DK
- Effort for increasing social factors assessed by Danish Centre for Environmental Assessment

EIA of a railway workshop in Fredericia by DSB¹

- Lack of focus on positive impacts of electrical trains
- Mainly environmental factors such as noise and increased traffic

EIA of biogas plant at a farm in Svendborg²

- Positive impacts from lower levels of bacteria in fertilizer
- Mainly environmental and biological factors assessed

¹ VVM Rapport DSB NYT VÆRKSTED FREDERICIA [Internet]. COWI; 2019 Feb [cited 2019 May 2] p. 128. Available from: https://mst.dk/media/173553/miljoevneerapport_fredericia_vt.pdf

² NGF Nature Energy A/S. VVM - Redegørelse og miljørapport for biogasanlæg [Internet]. Odense, Denmark: NGF Nature Energy A/S; 2014 [cited 2019 Feb 11]. Available from: <http://www.kost-lynde.dk/media/28915/01VVM-%20ind%C3%A6g%20med%20dokumentation%20redog%C3%B8relse%20og%20supplerende%20noter%20.pdf>

Survey

To reveal needs and challenges of researchers and practitioners to integrate health into EIA/SEA

Researchers:

- Produce scientific background on EIA/SEA utilisation and implementation
- Focus on researchers from European Union

Practitioners:

- Conduct EIA/SEA upon request of the industry/authority
- Focus on Danish practitioners

Characteristics:

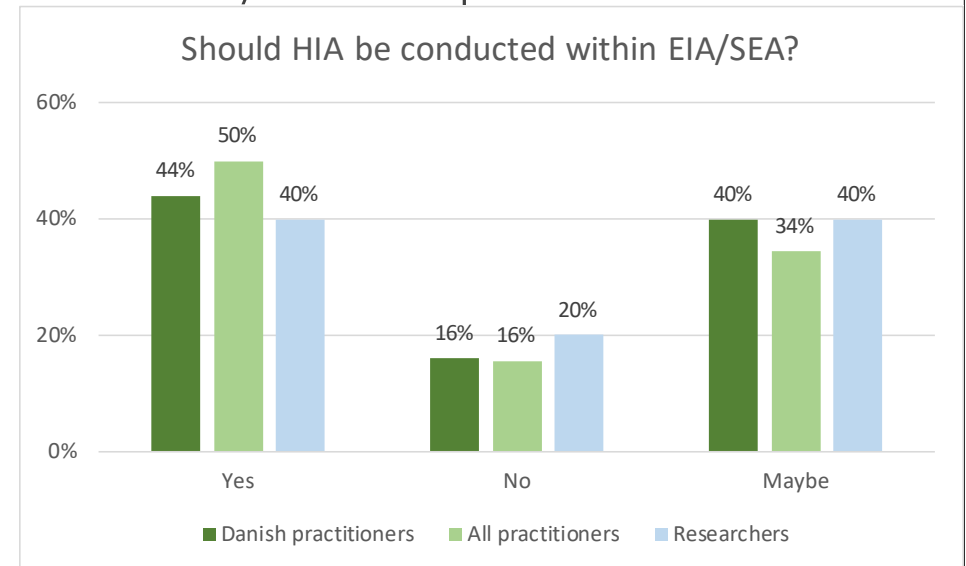
- Researchers: 10
- Practitioners: 32
 - Danish practitioners: 25
- Total number of respondents: 42

- Average age: 46
- Age range: 29 - 64

Integrating health into environmental assessments

Survey results:

- Majority was in favour of conducting HIA within EIA/SEA (or depending on the context of the case)
- Additional health assessment could impede EIA/SEA report
 - Approval process in DK is already long
- Health is already sufficiently covered within EIA/SEAs



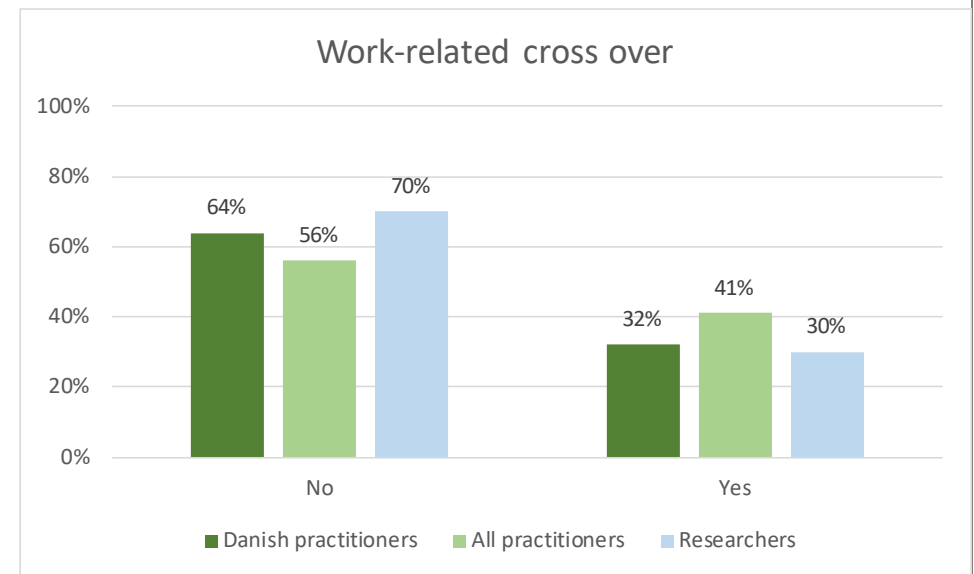
Engagement of health professionals

Collaboration between environmental and health sectors:

- Limited

Integration of public health professionals:

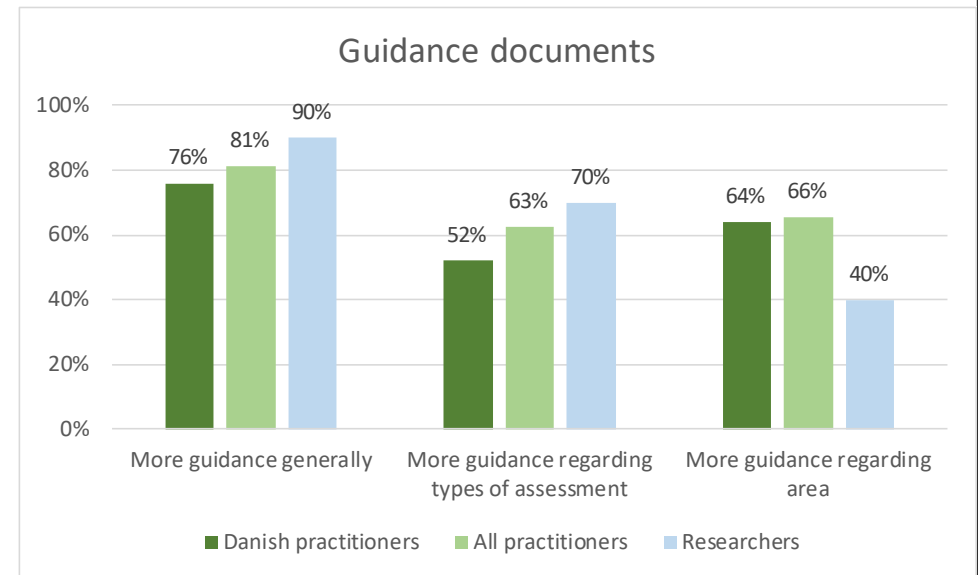
- Establish entry points for public health professionals
- Health-related training
 - Enhanced knowledge sharing
 - Better understanding of health factors



Guidance documents

Content of guidance documents:

- Need for more guidance
 - specific to the types of assessments: plans, programs and projects
 - specific to the areas: Infrastructure, energy, water, waster etc.



Political support

Survey results:

- Clear official formulation and regulations for the inclusion of health into EIA/SEAs
- Support for more HIA, guidelines and research

Way forward

- Cross-sectoral collaboration
 - Establish entry points for public health professionals
- Health-related training
- Shaping the political agenda
 - promoting HIA, guidelines and research
- Want to know more?
 - <https://www.mdpi.com/1660-4601/16/22/4570>