



## Strategic Environmental Assessment as catalyst of healthier spatial planning: The Danish guidance and practice

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### ABSTRACT

A wide range of factors within spatial planning can affect health. There is therefore an important scope for Strategic Environmental Assessment (SEA) of spatial plans to protect and improve human health. Due to the EU Directive 2001/42/EC on SEA, health has been made explicit in Danish legislation and guidance. This paper examines the inclusion of health as a formal component in impact assessment of spatial plans. Based upon a documentary study of 100 environmental reports, the paper analyses and discusses how health impact considerations are incorporated in SEA practice. It is found that health impacts are included in SEA practice and are being interpreted in a broader sense than what the national guidance exemplifies. The frequent included health aspects are noise, drinking water, air pollution, recreation/outdoor life and traffic safety. The primary determinant for health is transport—whether it is at the overall or local planning level. The main conclusion is that SEA shows a potential to catalyse healthier spatial planning. Despite the broad inclusion of health in SEA practice the examination shows potential improvements, hereunder qualification of assessments by better explaining the nature and significance of impacts and by including the distributional aspects of human health impacts. Inclusion from the health sector is put forward as an important institutional mean to secure cross disciplinarily and higher quality assessment.

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### 1. Introduction

In a historical context human health has been one of the core elements in planning (Corburn, 2007; Rosen, 1993; Duffy, 1990), for example tackling problems such as sanitation, air pollution, and light in urban areas. The experience with urban and spatial planning as a determinant for human health is long rooted and traces back to the 1800s documentation of mortality distributed differently due to different social and physical conditions (Rosen, 1993). Securing human health, especially in urban environments, is still today viewed as one of the major challenges for spatial planning and urban governance. One example of the present political and administrative focus is 'the healthy cities' movement' (International Healthy Cities Foundation, 2008), which in the WHO European Region now includes more than 1200 cities working with the linkages between public health and urban governance (WHO Regional Office for Europe, 2007; De Leeuw, 2001). Land use and transport strategies affect air quality and noise; industrial waste can affect, both directly and indirectly, human health through the influence on e.g. water quality and land contamination; housing strategies affect access to adequate housing for all groups in society, and use of building materials influence physical health; mobility planning affects the choice of different

transport modes such as walking and cycling and the access for people with impairments. These are a few examples of linkages and indicate that almost every planning decision potentially affects human health.

However, today we find organisational structures in which a division of responsibility and foci exists. In a Danish context spatial planning is, in almost all cases, undertaken in technical departments with professionals such as planners, engineers and architects, who are not familiar with 'determinants for health' and other related terms. Health, on the other hand, is the responsibility of the health department, with other professions having the primary focus on providing service and treatment instead of prevention, and most likely rarely consider spatial planning, nor have heard of 'Strategic Environmental Assessment'. This type of traditional government structure has met criticism for not being able to promote inter-sectoral and organisational integration in spatial planning to tackle complex, crosscutting issues like health (e.g. Harris and Hooper, 2004; Cowell and Martin, 2003; Kidd, 2007). The experience with institutional barriers to the assessment of human health within EIA is analysed in a study across EU member states, and the experienced barriers are e.g. "Sectoral working and lack of multidisciplinary working and coordination between health and environmental professionals. Different and antagonistic perspectives between environmental and health experts need to strengthen the role of health experts within EIA" (Hilding-Rydevik et al., 2007). To solve the complexity of urban problems there is a need for a holistic and comprehensive approach to planning. However, the different levels and the horizontal division of governance make the

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necessary interaction in planning difficult. This professionalism and how it is part of creating specialised bureaucracies and thereby hinder the inclusion of health in spatial planning, is also underlined in the critical historical analysis of the connections, and disconnects between planning and public health in the U.S. (Corburn, 2007). Due to the experiences that removal and displacement of problems do not necessarily improve public health, Corburn (2007) points to precautionary and preventative strategies: "...the precautionary approach demands that preventive and protective actions should be taken even in the face of uncertain science and that the burden of proof of safety rests with those who create risks" (Corburn, 2007). To reconnect the two, Corburn suggests that the precautionary principle and a social justice frame should guide decision making and planning (2007).

SEA is one example of a planning practice based upon the precautionary principle. SEA with a legal demand for a systematic and documented assessment, according to a broad concept of the environment including health, can be seen as a step in the direction of providing more comprehensive and healthier planning solutions in a divided planning system.

The European political agenda has for more than two decades highlighted the necessity for including health issues in planning and decision making (WHO & Health Canada, 1986; WHO, 1997; CEC, 2004; European Commission, 1994) and supports it by legal requirement, for example the EU Directive 2001/42 on the assessment of the effects of certain plans and programmes on the environment (SEA Directive), and provides practical guidance for how to do more comprehensive integration in planning (WHO, 1988; Barton and Tsourou, 2000; WHO, 2003; UNECE, 2007; Aicher, 1998). The SEA Directive and the Protocol on SEA (UNECE, 2003) deals specifically with human health as a component of the assessment, and thereby stimulates the integration of health in planning and decision making above the project level. There is though a significant difference between the SEA Protocol and the SEA Directive regarding the requirements for the assessment of health impacts. The SEA Protocol accents health issues, while requiring consultation with the health authorities. This consultation requires likely capacity building for the spatial planning or environmental authorities (Stoeglehner and Wegerer, 2006).

### 1.1. Strategic Environmental Assessment and healthy planning

The SEA directive covers plans and programmes "...prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use and which set the framework for future development consent of projects..." (EU Commission, 2001).

In the SEA Directive a broad concept of the environment is found covering aspects like biodiversity, population, human health, fauna, flora, soil, water, climatic factors, material assets etc. The same broadness is not found in the European EIA legislation which does not explicitly require human health to be assessed. Furthermore, despite international attention on health in EIA several studies have found that health is not sufficiently assessed and documented in EIA practice (Noble and Bronson, 2006; Steinemann, 2000; Davies and Sadler, 1997). Instead of integrating health into the overall assessment of impacts, another approach is to assess health impacts in the separate Health Impact Assessment (HIA). HIA is an established approach and parallels the standard environmental assessment process with screening, scoping, impact prediction, mitigation etc. However, in a European context, HIA is only a recommended assessment. On the contrary SEA, with its legal basis, forms a stronger incitement for the inclusion of health impact considerations in planning (Birley et al., 1998).

The EU Directive 2001/42 was implemented in Denmark in 2004 in an independent Act for all plans and programmes covered by the directive—Act No. 316 of 5th May 2004 (The Ministry of Environment, 2004). Since the implementation of the act, thousands of screenings

have been undertaken and more than 100 environmental reports have been written. In 2006, a national guidance was published, and a 'best practice guide' with good examples was published in 2007. In both documents the broad concept of the environment, including human health, is emphasised as new and important for planning.

The point of departure for the paper is the municipal practice regarding assessment of impact on human health in SEA of spatial planning: How and to what extent are health aspects included, assessed and documented? Whether the SEA is effective in integrating health in spatial planning is not to say based upon a study of the environmental reports only. The environmental report is the written product of the assessment, and the effectiveness of the SEA with respect to leading to better human health is not necessarily related to the content of the reports. To evaluate effectiveness, concerned with both the direct and indirect outcomes of the SEA, another research approach is needed (Thissen, 2000). The presented analysis, which concentrates on the health content of the assessment reports, can therefore not be used as a measure for effectiveness. Instead it shows how different criteria related to the content are performed in planning practice. The criteria are listed in the next section. Before presenting the analysis of practice, the paper will firstly present the Methodology and data, and secondly the inclusion of health in the national SEA Guidance.

## 2. Methodology and data

The paper covers the research question related to the assessment of human health in SEA in spatial planning: How are impacts on human health assessed in practice? The basis for answering the question is a documentary study of 100 environmental reports. All the reports cover environmental assessment of spatial plans at the two levels of spatial planning: municipal plans and local plans. The municipal plan is the comprehensive and coordinated plan for land use in towns and in the countryside, and the local plan is for smaller parts of the municipality legally binding for each individual and property owner. The analysis of environmental reports focuses on the listed questions reflecting the different analysis criteria. The methods associated with answering each one of the questions are described.

### 1. How "human health" is interpreted in practice.

The answering is based upon a documentary analysis of the 100 environmental reports. During the reading the author has marked all health related impacts assessed in the environmental reports. The starting point for the interpretation has been the health objectives provided by the Ministry of the Environment (presented in Section 3.2).

### 2. How often health parameters are assessed, and if the planning level and plan content influence the frequency.

The analysis is based upon a comparison of the results from the above described analysis and the categorisation of planning level (municipal or local plan) and the plan content (housing, industry etc.).

### 3. How the impacts on health are assessed (qualitative/quantitative, positive/negative, and distributional).

The answering is based upon a documentary analysis of the 100 environmental reports. Regarding the analysis of the distributional dimension included in the reports, the author has registered whether or not the authorities explain which areas and groups potentially will be affected by the plan implementation.

### 4. How the assessment of human health is presented in the environmental reports.

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