Chapter 6

The Ruhr metropolitan area in Germany: rapid health impact assessment of novel spatial planning

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Introduction

As underlined by authoritative sources (for example, the Commission on Social Determinants of Health 2008), spatial planning offers unique gateways to health protection and promotion. Compared to the opportunities, current practice lags behind. This chapter outlines a specific planning process and describes the input originating from a rapid health impact assessment (HIA) as well as the reactions received from the planning authorities. It goes on to investigate how to strengthen the position of the health sector for improving the consideration of health in such situations.

This chapter endorses a comprehensive and integrative approach to HIA, based on human ecology, to adequately consider 'human health' as a subject of societal efforts of protection and promotion.

Background

Population health is known to be influenced by activities in multiple societal sectors. Public planning aims to accommodate a range of societal goals (Fürst 2008). In this context, impact assessments (IAs), for example strategic environmental assessment (SEA), play a key role (Scholles 2008). The involvement of health professionals in planning is geared towards harvesting the opportunities and optimizing the health impacts of planning decisions, including spatial planning. In many regions, including the state of North Rhine-Westphalia (*Nordrhein-Westfalen*, NRW), this is also required by public health law (*Gesetz über den öffentlichen Gesundheitsdienst des Landes Nordrhein-Westfalen*; ÖGDG NRW 1997).

With approximately 18 million inhabitants, NRW is the most populous federal state of Germany. More than 25% of the state population live in the metropolitan region called the Ruhr area (*Ruhrgebiet*)—the 'German megacity' and the place of residence for 5 million inhabitants. Many of the Ruhr area cities previously were centres of heavy industry, and they are now undergoing conversion.

Not surprisingly, spatial planning in the Ruhr area poses considerable challenges. There are several planning processes here, intertwined with one another. One example is the 'Concept Ruhr' initiative, involving more than 40 cities/communities and three counties, which focuses on economic development (Wirtschaftsförderung metropoleruhr 2011).

Around the turn of the millennium, in a research and development project entitled City 2030 (*Stadt 2030*), the Technical University of Dortmund coordinated a project called Region of Ruhr Cities 2030 (*Städteregion Ruhr 2030*), featuring the motto 'Cooperation and Self-Will' (*Kooperation und Eigensinn*). Based on this project, the network Region of Ruhr cities 2030 (*Städteregion Ruhr 2030*) was formed, which today comprises 11 cities (Städteregion Ruhr 2030 2011a). Activities include a Master plan Ruhr (Städteregion Ruhr 2030 2011b), a coordinated monitoring activity of the housing market (*Regionale Wohnungsmarktbeobachtung*), a joint initiative Ruhr valley (*Gemeinschaftsinitiative Ruhrtal*), and other related activities.

In the beginning, the project required the participating cities to contractually agree to coordinate their spatial planning. In 2003, a city–regional contract (*Stadtregionaler Kontrakt*) was negotiated and enacted. In this contract, a joint Regional Land Use Plan (*Regionaler Flächennutzungsplan*, RFNP) was listed as a key project (Städteregion Ruhr 2030 2011c). This novel approach of joint spatial planning is the topic of the case study described in this chapter.

Case study

Policy being examined

As mentioned, in 2005 six cities of the Ruhr area established a planning consortium (*Planungsgemeinschaft*) in order to prepare a joint RFNP. The consortium members were the cities of Bochum, Essen, Gelsenkirchen, Herne, Muelheim/Ruhr, and Oberhausen. The population of these cities in 2005 was 1.8 million (area = 680 km^2, population density = 2664 per km^2). The cities represent a core area of the Ruhrgebiet.

The RFNP is unique because it combines the function of a regional plan (*Regionalplan*) and a joint local spatial plan (*gemeinsamer Flächennutzungsplan*). This type of plan had been introduced in 2004 to state planning legislation. In 2006, a concomitant committee (*Verfahrensbegleitender Ausschuss*) was formed to facilitate regional coordination. In 2007, the formal planning procedure started. Several steering bodies were involved: one

consisting of chief officers (*Amtsleiter*), one of heads of planning departments (*Bau- und Planungsdezernenten*), one project group for RFNP, and one for environment.

In 2007, there was early public and stakeholder participation. In addition to legal requirements and the state planning framework, a range of technical specialist documents (*Fachbeiträge*) was utilized in preparing the RFNP, including ones on nature conservancy, soil protection, water management, agriculture, forests, regional climate, industry, crafts, and trade.

There were two waves of public and stakeholder involvement (*Öffentlichkeits- und Trägerbeteiligung*). The 'early' involvement from November 2007 until February 2008 included 19 public meetings, spawning approximately 6000 suggestions for change. Also, 256 agencies and institutions, including those dedicated to public interest (*Träger öffentlicher Belange, TÖB*), were involved, producing 115 statements with approximately 590 suggestions. Secondly, there was 'formal' involvement of stakeholders and the public, in the period October to December 2008. This included public display (*Auslegung*) and debate (*Erörterung*) of the draft RFNP, the Environmental Report, and the responses received so far.

In the draft version, the spatial plan consisted of 45 different items, including maps and texts. The planning policy was subject to SEA, necessitating an environmental report (*Umweltbericht*) accompanied by additional maps (Box 6.1).

After the two waves of public and stakeholder involvement, in the period from May to June 2009 the city councils of the six RFNP cities resolved to approve the RFNP (now consisting of 43 items) and submitted it to the NRW Ministry of Economics, Small- and Medium-sized Businesses, and Energy for approval (*Genehmigung*). The ministry then defined some constraints, necessitating another round of cities' resolutions. Finally, the RFNP was officially published. It was the first such plan in Germany, and came into force on 3 May 2010.

The RFNP replaced existing land utilization plans and sections of the regional development plans. Incidentally, the NRW State Planning Act (*Landesplanungsgesetz*) of 2010 does not provide the option of RFNP. Instead, there will be a regional plan for a larger area. For the interim period, the planning consortium is authorized to update the RFNP.

Box 6.1 Materials reflecting the RFNP draft plan of 2008

- Proposed resolution (*Beschlussvorlage*)
- Map (*Plankarte*)
- Rationale (*Begründung*) with 10 additional maps (*Erläuterungskarten*)
- Environmental report (*Umweltbericht*)—required by SEA—with 12 thematic maps (*Themenkarten*)
- Seven summaries of characteristics (*Steckbriefe*)
- Several further summaries, listings, overviews, and synopses

Rapid HIA of the novel RFNP

In this comprehensive RFNP planning process, LIGA.NRW was asked to act as the 'institution responsible for public concerns' (*Träger öffentlicher Belange*) and to support the coverage of health aspects in this policy procedure. (LIGA.NRW was the Institute of Health and Work North Rhine-Westphalia. Since 1 January 2012 it has been transformed into the NRW Center for Health, <http://www.lzg.gc.nrw.de.>). This was done by providing a rapid health impact assessment, based primarily on the 45 items of the draft RFNP (Fehr and Welteke 2008; Volmer et al. 2010).

For this situation, it was decided to focus on the following aspects:

- evaluation of health-related topics already touched upon in the planning process so far
- where appropriate, pinpoint additional topics, indicating both health risks and opportunities associated with the RFNP
- suggest ways to gain a fuller coverage of health, beyond what was possible in this 'rapid' assessment.

It was decided to apply the following methods: document analysis, process participation, and expert judgement. The planning materials were examined in detail and assessed from the background of international experiences with planning involvement and HIA at large. It was found that the environmental report in particular, prepared as part of the pertinent SEA, contained comprehensive descriptions, assessments, and map-based visualizations concerning human health. This was related to both the status quo and the impacts of future designations of residential areas, commercial areas, and transport infrastructure.

In summary, the environmental report discussed a range of different health issues, including mortality, life expectancy, hospitalization, land use, soil pollution, brownfields, ground-, surface, and drinking water, floods, air pollution (including particulate matter), NOx, local climate, disaster prevention and response (Seveso II-Council Directive, 1996), noise and vibrations, especially from highways, railways, industry, light pollution, offensive odours, electro-magnetic fields, waste disposal, recreation, and leisure activities.

To some extent, the rapid HIA evolved as a response to how health topics were handled in the set of RFNP documents. Other parts of the HIA report refer to additional substantive and procedural issues, including a set of recommendations from a population health perspective. The structure of the HIA statement is shown in Box 6.2.

Suggestions were made about how to integrate suggested changes into the existing documents. The substantive issues raised included population health status, physical activity, gender issues, and diversity. As for population health status, it was stated that existing health statistics and local health reports should be integrated into the RFNP procedure, especially for describing the status quo of population health, for identifying areas of particular concern, potentially for deriving health targets, and for developing specific improvement strategies. Taking it further, it was suggested that the concept of burden of disease including prevention potentials, be applied and to relate it to opportunities arising from the RFNP.

An example of such opportunity refers to physical activity. The RFNP was seen as an occasion to significantly increase the spatial requirements and facilitating factors for physical activity. As a third area of substantive topics, the rapid HIA addressed gender issues, high-risk groups, and disabled persons. The spatial plan was seen as an occasion to promote social inclusion, thus fostering health-related equity.

Box 6.2 Structure of LIGA.NRW's rapid HIA report

Title: Expert statement concerning the draft of RFNP City region Ruhr (*Stellungnahme zum Vorentwurf des RFNP Städteregion Ruhr*), January 2008

Report structure

1. Planning region and health situation
2. Impacts of the planning project on population health determinants, as found in the environmental report, including noise, mortality, and morbidity, expertise on human health, environmental impacts of low-/high-frequency electro-magnetic fields
3. Concise summaries of characteristics (*Steckbriefe*) concerning specific areas
4. Additional explanations concerning topics with special significance for health, which should be elaborated on in the emerging RFNP
   - 4.1 Physical immobility and planning—preventive strategies to promote physical mobility in the spatial planning context
   - 4.2 Gender issues and diversity

Appendix: Text elements suggested to complement the rationale of the RFNP, concerning (i) housing and (ii) the economy.

Concerning amendments to the body of RFNP documents, LIGA.NRW suggested that in order to underline the relevance of health for regional development and in analogy to other topics, a section on human health should be included in the planning document, and a separate report or technical paper on this issue should be prepared. Concerning the environmental report, it was pointed out that existing text passages on environmental risks and resources (including noise, recreation, green spaces, and so on) needed to be interpreted much more explicitly with respect to their health implications, i.e. changes of the burden of disease. In order to strengthen the weight of health concerns for fair balancing, the concise summaries of characteristics (*Steckbriefe*) would need to include health considerations more extensively.

Finally, several procedural issues were raised, for example a need to balance different targets and values (including health), legal requirements to be fully exploited, and health issues to be given more weight than they received in the past.

As mentioned above, numerous agencies and institutions were involved in the process. From the planners' perspective, LIGA.NRW was merely one of more than 250 such institutions, alongside private enterprises including energy providers, various agencies (especially from transport sector), religious groups (Catholic, Protestant, Jewish), chamber of architects, association of architects, universities, and sports clubs.

The rapid HIA was regarded by the planning officials as one of the 115 statements received altogether, and the HIA report was seen as representing 14 different specific suggestions (from a total of 590 suggestions received). As part of the RFNP planning process, planning officials explicitly responded to the suggestions received. Concerning the rapid HIA, the suggestions identified by the planning officials as well as their responses are shown in Table 6.1.

The responses to HIA-related suggestions can be summarized as follows. Six (out of 14) suggestions were turned down, for a variety of reasons. One suggestion was merely declared

Table 6.1 Rapid HIA: suggestions identified by planning officials and the official responses

	Category	Suggestion (headline) in rapid HIA	Reaction from planning officials
1.	Miscellaneous	Additional text on health, if possible a whole section dedicated to health	Suggestion not accepted
2.	Miscellaneous	Gender issues and diversity a) More attention should be given to diversity	Suggestion partially accepted
		b) Gender mainstreaming should be heeded	Statements taken notice of
3.	Miscellaneous	Give special attention to the promotion of physical exercise within spatial planning	Suggestion not accepted
4.	Housing	Additional text on 'healthy housing'	Suggestion is already accepted
5.	Economy	Add text on the societal role of health and health economy	Suggestion partially accepted
6.	Environmental assessment	The environmental report needs to be more precise concerning the influence on health determinants and on human health, including interactions	Suggestion accepted to a large extent
7.	Environmental assessment	Intensive usage of existing data, information, and reports on regional mortality and morbidity	Suggestion not accepted
8.	Environmental assessment	Technical paper dedicated to human health	Suggestion not accepted
9.	Environmental assessment	In the environmental report, the coverage of humans/human health needs to be extended and specified	Suggestion accepted
10.	Environmental assessment	Final treatment and interpretation of the partial results concerning the Seveso II directive	Statement taken notice of The safety areas and safety distances will be accounted for in the environmental assessment

(*continued*)

Table 6.1 *(Continued)*

	Category	Suggestion (headline) in rapid HIA	Reaction from planning officials
11.	Environmental assessment	Need to ensure that the contents of the 'Summaries of characteristics' are heeded in future planning steps	Suggestion not accepted
12.	Environmental assessment	Identify foreseeable noise conflicts and earmark for conflict resolution in next planning phase	Statement is taken notice of
13.	Environmental assessment	In the environmental report, the role of environmental resources (including open space) needs to be discussed in more detail	Suggestion accepted (to some extent)
14.	Environmental assessment	Add information on low-/high-frequency radiation	Suggestion not accepted

'taken notice of', four suggestions were accepted partially, and three were accepted without (major) qualification, with one of them seen as 'already accepted'.

In summary, this rapid HIA was embedded in a novel joint planning process on a regional level. The results were directly used to inform the planning and policy procedure, with a limited but noticeable influence on the regional plan.

Conclusions

From the experiences gained in this rapid HIA (and other HIAs), the following can be concluded. Spatial planning offers a variety of opportunities to promote and protect human health. In a country with no explicit HIA programme, it is technically possible to contribute, from a health perspective, to a regional planning process. The planning procedures—especially in a densely populated area—involve large numbers of institutions and comprehensive public involvement. In such a situation, the number of statements and suggestions received by planning officials can be substantial, making the HIA contribution just one out of many.

For those testifying for health it is a challenge to adequately understand the ramifications of the planning process and to adequately cover the health issues at stake, especially in the absence of standard procedures and tools. For those managing the planning process, it is likewise challenging to evaluate and integrate the multitude of suggestions received. Even if the overall response to the HIA is not unfavourable, the success can turn out to be limited, from a public health perspective, and may seem to be not commensurate with the weight that the topic would deserve.

In our experience, the situation described here is not a singularity but rather a 'typical' case, therefore structural changes and adjustments appear necessary. The HIA exercise reported here was instrumental in establishing the need for strengthening 'health' and the health sector in inter-sectoral cooperation. From this and other HIA examples, we concluded that there is a need to strengthen the position of the health sector and to streamline health-related contributions to planning processes. Current efforts to do so include: (i) establishing closer connections between HIA and other governance tools, including health targets, health reporting, health conferences, and health awards, (ii) preparing departmental health plans (*Fachpläne Gesundheit*), in analogy to other sectoral plans on local and regional level, e.g. housing plan, sports plan, educational plan, and (iii) better understanding of the commonalities, differences, and interrelationships of various types of IA (e.g. in the environmental arena), and promotion of closer cooperation among them.

Generic learning points

For public health practitioners and policy-makers

- Opportunities worth being used: HIA, for example as it is applied to spatial planning, offers significant entry points to promote and protect human health. These opportunities can constitute a key element of regional and local health policy development. They deserve to be used systematically.
- Utilization gap: In Germany, and apparently in many other countries, the health opportunities offered by HIA are under-used. This 'utilization gap' is not entirely surprising. As illustrated above, planning is a complex procedure, involving large numbers of stakeholders and comprehensive discussions.
- Growing agreement to 'close the gap': There is growing consensus among planners and health professionals to close this gap. Spatial planning could evolve into a major, and universally accepted, approach to health protection and promotion, and a key component of professional toolkits. Partially related to the experience described in this chapter, health experts together with planners and environmental impact assessors in Germany now continuously cooperate in a working group and prepare guidelines.
- Flexibility: HIA needs to be seen as a *flexible* tool—situations for applying HIA differ considerably, so the tool has to be adjusted. The basic HIA idea is straightforward. The adaptations require creativity and endurance but are feasible and potentially rewarding.

- Supporting activities: In the inter-sector debate in Germany, numerous sectors support their case with specific departmental plans (*Fachpläne*), e.g. on housing, sports, or nature conservancy. Current efforts to establish such plans for the health sector can contribute to strengthening HIA.

For educators and researchers

- As illustrated by the case presented here, HIA takes place at the intersection of different 'cultures', especially (health) science on one side and (e.g. regional) planning on the other. Planners often receive large numbers of suggestions. In this situation, successful interdisciplinary communication is crucial, therefore interdisciplinary communication in HIA contexts should be introduced to the curricula of both public health and planning professionals.
- Beyond communication, curricula for planners should provide a basic understanding of physical and social health determinants as well as of health-related impact assessments.
- For public health professionals, both the HIA 'vision' and the specific methodologies need to be taught, practiced, critically discussed, and integrated into the professional toolkit, alongside other types of advanced health assessments.

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