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## Community participation in Health Impact Assessment. A scoping review of the literature



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### ABSTRACT

Currently, the engagement of local communities in Health Impact Assessment is becoming more and more important. A scoping review was performed to take stock of visions, methods and experiences in this field.

A combined Scopus and Medline search yielded 100 articles in scientific journals. The final selection consisted of 43 papers, including case studies, evaluation studies, reviews, and opinion papers. After analysis, consultation of four experts was performed to check preliminary study outcomes. A grey literature web search was performed to check and complement the results.

Results show that community participation is generally considered a core element in HIA. Views as expressed in the papers concern, firstly, the need for and value of local knowledge, secondly, the adherence to or application of democratic values and, thirdly, empowerment of communities. Three categories of methods are used in relation to community participation, often in combination: methods to facilitate knowledge elicitation, to ensure the inclusion of communities in the HIA process, and to build community capacity to participate in policy development. However, the theoretical or practical underpinning of the choice for specific methods is mostly not presented. The experiences described in the papers mainly focus on the access to local knowledge and its usability as a source of evidence in the HIA process. Described effects of community participation are (improved) relations between communities and local agencies, policy makers and professionals and the empowerment of community members. Although these effects are ascribed to community participation, many papers do not provide support for this conclusion beyond the retrospective perception of participants. Expert consultation and additional analysis of the grey literature supported the results derived from the scientific literature and provided more in-depth knowledge. In the grey literature theoretical frameworks, methods and tools for community participation in HIA were more extensively reported as compared to the scientific literature.

We conclude that the visions, methods and experiences concerning community participation show that a participative approach may contribute to better, context specific knowledge. It appears that participative HIA has health promotion potential as it helps develop responsive policies.

To accomplish this, HIA should, firstly, be better embedded in broader health promotion programmes. Secondly, the methods and approaches for community participation applied in HIA should be theory-informed and well described. The grey literature offers entry points. Finally, more robust and systematic evaluation and research is needed to assess the impact of HIAs on communities and policies.

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## 1. Introduction

Living and working circumstances are meaningful determinants of health, but are largely shaped by policies outside the health sector itself. Therefore, protecting and improving the health of populations requires intersectoral cooperation, or ‘Health in All Policies’. Over the past 20 years, Health in All Policies has become an approach that is widely recognized and advocated in public health (Baum et al., 2013). One important milestone is the report of the Commission on Social Determinants of Health, proposing intersectoral action in several work fields such as education, employment, and urban planning in order to reduce socioeconomic health inequities (CSDH, 2008). The Health in All Policies approach includes Health Impact Assessment (HIA) as a key tool. Although HIA was – and is - also practiced outside the framework of HiAP, the development of HiAP provided an important boost. HIA stimulates other sectors to include health in their policy consideration, it creates transparency and accountability for decision-making, and it provides evidence that demonstrates the impacts of non-health policies on population health. As such, HIA helps to create health-enhancing policies, programmes or projects through intersectoral cooperation (Stahl et al., 2006; Bos, 2006; Simos et al., 2015; Health in All Policies (HiAP) framework for country action, 2014; Kemm, 2012). HIA is ‘a combination of procedures, methods and tools by which a policy, programme 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’ (WHO European Centre for Health Policy, 1999, p.4). Over the past 20 years, HIA has become an established process in many parts of the world. The basic steps of HIA are screening, scoping, appraisal and reporting. The exact methods applied and the depth of the assessment can vary. A large number of guidelines and directions have been produced to date, to ensure quality of HIA (see, for example, World Health Organization, 2016). In line with the HiAP principles, most guidelines recommend that HIAs should engage communities that are affected by the plan, programme or policy assessed (Mindell et al., 2008).

Currently, the engagement of local communities in HIA is becoming more and more important. On one hand, because the economic crisis placed the ‘welfare state’ under pressure: citizens in ‘participation societies’ are expected to take more charge of their own, and other people’s well-being than before (Delsen, 2012). On the other hand, there is a call for transparency and inclusiveness of policy processes. This is, for example, reflected in the field of environmental planning; national and international legislation nowadays require that communities be engaged in the planning process. Participation is defined as ‘a process by which people are enabled to become actively and genuinely involved in defining the issues of concern to them, in making decisions about factors that affect their lives, in formulating and implementing policies, in planning, developing and delivering services and in taking action to achieve change’ (World Health Organization Regional Office for Europe, 2002).

Given its growing importance in both health and environmental planning, it is important to take stock of visions, methods and experiences with community participation in HIA. Although the topic is often included in broader evaluation studies, views and practices of HIA researchers and practitioners regarding community participation have not yet been studied in a systematic way. Therefore, the aim of our study is to learn more about how community participation in HIA is currently perceived and how it is put to practice. Of course, community participation is also practiced in other types of Impact Assessment, like Environmental Impact Assessment (EIA). However, there are important differences that may shape views, methods and experiences regarding community participation, linked to the different work fields from which the various types of IA originate. For example, there are differences in legal frameworks, but also differences in methods and procedures. In this paper, we focus on HIA to gain a deeper understanding of this specific type of IA.

We focused on three questions:

- How do practitioners and researchers view community participation in HIA?
- What methods are used for community participation in HIA?
- What are the experiences and effects of community participation in HIA?

## 2. Methods

We carried out a scoping review (Arksey and O’Malley, 2005), a method that allows to study different kinds of literature in order to gain a broad overview of a specific work field, including, for example, views, procedures and points of debate (Daudt et al., 2013). For the data charting and analysis stage we applied the more extensive process described by Levac et al. (Levac et al., 2010).

We initially focused on publications in the scientific literature; these could include different types of publications, for example original research, review, or opinion articles. Based on guidance provided by the researchers, a library scientist (WtH) developed a proposal for an electronic database search strategy in MEDLINE and Scopus. After review and fine-tuning of this proposal by the researchers this search was implemented (Table 1). Two researchers independently carried out title screening and subsequent abstract screening. Categories were ‘include’, ‘exclude’, and ‘uncertain’. Differences in categorization were discussed

**Table 1**  
Search strategy: applied mesh terms and key words.

AND		
Health Impact Assessment Community health impact	Co-creation Community participation	Engagement process Participation
Community health	Community involvement	Consumer participation
Impact assessment	Involvement	Community-institutional relations
Public health impact Outcome and process assessment (health care)	Community partners Community stakeholders	Community networks Interinstitutional relations
Risk assessment	Local stakeholders Community engagement Engaging communities Community opinion Community empowerment Empowering communities Community-based participation Population engagement Engaging population Public involvement Involvement persons Social participation Public participation Population participation Civic participation Civic engagement Focus group Diverse partnership Human rights Participatory approach Participatory process Participatory mechanism	Cooperative behavior Public opinion Social responsibility Social values Interviews Sociology Medical Community members or citizen Civilian Inhabitants Lay people Lay participation Lay participants Local group Neighbourhood Neighbourhood committee Residents Publics Populations. Community opinion Community concern Community level

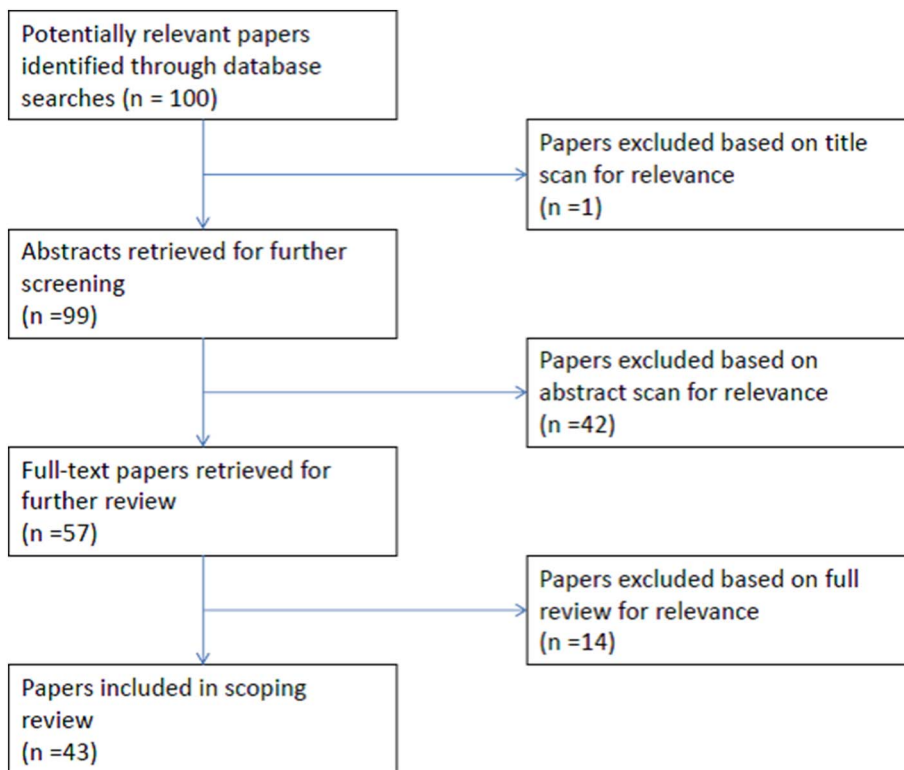


Fig. 1. Selection process (scientific literature).

and final decisions were taken by consensus (LDB, EU).

Exclusion criteria were:

- Paper does not provide information on visions, methods or experiences and impact regarding community participation in HIA
- Paper was not published after 2000 in peer-reviewed journal (in English)
- Paper does not concern HIA in OECD countries.

An excel data chart and criteria for data charting were developed and proofed by simultaneous pilot data extraction from four papers. Further data charting was carried out as an iterative process, providing space for the researchers to adapt the chart and criteria during the charting stage. We charted the following background data: date of publication, setting and country, type of paper and aim of the paper/study. We used these data to create a descriptive overview of the papers included in our study – Levac et al. refer to this as ‘quantitative’ analysis (Levac et al., 2010).

To enable thematic analysis or, in the wording of Levac et al., ‘qualitative’ analysis, concerning views, (first research question) we charted data on: definition of participation, reasons/values for community participation, disadvantages of community participation. For thematic analysis concerning methods (research question 2) we charted data on: methods applied for community participation, description of people/communities involved. For analysis concerning experiences and impacts (research question 3) we charted data on: experiences, results and gaps, recommendations regarding community participation. For the analysis relating to the first two research questions, we utilized data extracted from all papers; for the third research question, we utilized only the data extracted from the papers describing HIA case studies. The data charted, for each category, included both descriptive summaries of the information provided in the papers as well as relevant text fragments.

Output tables of each data category were produced and studied. For each table, the data included were given thematic labels (coding). The last step consisted of further elaborating the themes identified by

revisiting the original papers (LDB) and discussion in the project team (LDB, EU, JS, AW). In this step, close reading was applied as a way to recognize implicit issues that were ‘hidden’ in the text.

The results and a set of implications for the broader field of HIA practice and research were presented to four HIA experts with expertise in the field of community participation in HIA for member checking, as recommended in the scoping review method. These experts were recruited through our own networks (opportunity sampling). We ensured that we found persons with extensive knowledge about HIA and community empowerment, demonstrated by relevant publications in this field. An important criterium was that that we had no joint interests with these persons. They received an expert consultation file containing information about the study, a summary of the results and a set of implications for policy, practice, research. In addition, the file contained four questions:

1. Do you recognize these outcomes in general?
2. Are there any elements that you find surprising?
3. Are there any issues relating to the broader implications for research and practice that need to be adapted or amended?
4. What other comments do you wish to provide?

Each question was accompanied by the explicit invitation to explain one's answer.

In addition, we carried out a web search for grey literature. Search terms were identical to those applied in the scientific literature. Exclusion criteria were:

- Document does not provide information on visions, methods or experiences and impact regarding community participation in HIA
- Document was not published after 2000 (in English)
- Document does not concern HIA in OECD countries.

Data were extracted using the same categories as applied to the scientific literature. The extracted data were studied to identify insights that were additional to, or distinctly different from, the results of the analysis of the scientific literature.

**Table 2**  
Descriptive information of the included studies.

		Number of papers
Countries	United Kingdom	14
	United States	11
	Not applicable	8
	Canada	4
	Israel	2
	Ireland	1
	Australia	1
	Spain	1
	Hungary	1
	Year of publication	2001
2003		2
2004		3
2005		3
2006		1
2007		3
2008		2
2010		2
2011		5
2012		5
2014		4
2015		7
Duration of HIA	< 2 months	2
	2–12 months	3
	> 12 months	3
	Not applicable/not clear	33
Guidelines mentioned	Yes	20
	Not mentioned	23
Type of paper	HIA case study	21
	Opinion paper	9
	Methodological paper	4
	Review	5
	Other	4

**3. Results**

In this section, we first discuss the outcomes of the scientific paper search and analysis. Then we describe the outcomes of the expert consultation and the grey literature check.

The final selection of scientific papers consisted of 43 papers (Fig. 1). All papers are listed in Additional file 1. In 17 out of 43 papers, community participation was the main topic. Table 2 shows an overview of the background features of the papers.

The qualitative analysis of the data resulted in the identification of 11 themes (Table 3). These themes are discussed in Section 3.1.

**3.1. Views on community participation in HIA**

Although community participation is an important topic in all papers and the central theme in 17 out of 43 papers, an explicit definition

**Table 3**  
Themes per study question.

Study question	Themes			
1 Views on community participation in HIA	1A Participation as a core element in HIA	1B Knowledge produced by participation	1C Democratic values	1D Empowerment
2 Methods applied for community participation in HIA	2A Variation of methods	2B Methods for knowledge elicitation, for community influence and for capacity building	2C Description and theoretical underpinning of methods	
3 Experiences with community participation in HIA	3A Community based knowledge	3B Relations between communities and other stakeholders	3C Empowered communities	3D Measuring impacts of community participation in HIA

is only given in one paper. Elliott and Williams state that “Public participation means inclusion in arguments about knowledge and science as much as it means involvement in decision making, and it means above all the critical questioning and sometimes debunking of experts’ claims to privileged understanding” (Elliott and Williams, 2004: 233). In addition, one other paper commented exactly on this absence of clarity in defining community participation (Mahoney et al., 2007). The authors of this paper argue that vague and inconsistent use of different terminology, leads to controversies in the HIA community about whether and how community participation should be part of HIA. They propose replacing the term community participation by ‘public involvement’ as an alternative umbrella concept, providing more space for various participation practices and less room for misunderstanding between representatives of different streams or traditions in HIA.

Nevertheless, community participation is generally, but not unanimously, considered as a regular aspect or core element of HIA (theme 1A). This does not mean that it is also considered unproblematic: many authors are aware of practical disadvantages and difficulties: organizing effective community participation is considered ‘difficult’ or ‘complicated’. Lack of resources, in terms of time, funding, but also skills of the assessment team, is frequently mentioned as a major barrier. Some authors state that, in some instances, participation is undesirable, for example in the case of extremely technical and complicated assessments (Mittelmark, 2001) or in cases where collecting and reviewing reliable evidence is the core aim of the HIA (Mahoney et al., 2007).

The views on community participation do not only concern the (quality of) the HIA itself, but also the potential effects of the HIA on communities and policies. There are three broad categories of considerations that shape the views on community participation of HIA researchers and practitioners. These categories are, firstly, access to local knowledge, secondly, democratic values and inclusive decision-making and thirdly, empowerment of communities (respectively, theme 1B, 1C and 1D). Within these broad categories, different authors have different points of view, and the relative importance given to these categories of considerations differ.

**3.1.1. Views referring to access to local knowledge**

Many papers, firstly, refer to local knowledge and the potential contribution of community participation to tap this knowledge to strengthen the evidence base for decision-making. This evidence base, according to many authors, is not always complete and data may not be available: collecting information from the community may fill this gap. It may furthermore help identify issues or problems otherwise overlooked. Community participation is considered as a good method to gather specific information about local circumstances, adding up to expert knowledge and providing a deeper insight into the impact of a project or policy on the personal lives of people, their experiences, concerns, and opinions. Several authors claim that such knowledge will improve insight into how the social determinants of health are impacted in specific contexts. In addition to these advantages, that relate to evidence that can be used to underpin decision-making, it transpires from the papers studied that community participation may challenge



the nature and valuation of knowledge itself. It serves as a way to examine expert knowledge (Negev et al., 2013), share power between researchers and communities (McDowell et al., 2014) and promote objectivity by including knowledge from different sources (Negev, 2012).

At the same time, some authors express doubt about the reliability of the knowledge presented by community members. They question the accuracy of that knowledge; for example Parry and Stevens state that community knowledge may not be ‘true’ (Parry and Stevens, 2001). According to Parry and Stevens, and others sharing their vision, this endangers the objectivity and impartiality, and consequently the value of the assessment.

### 3.1.2. Views referring to democratic values

Strengthening local democracy and implementing democratic values seems to be a major driver for the inclusion of communities in the HIA process. According to many authors, community participation in HIA can contribute to social and environmental justice and equity. It may promote accountability and transparency in decision-making and lead to policies that include community needs and incorporate or respect local values. For example Iroz states: “Relationships, capacity, and empowerment may offer benefits to community development that are distinct from those that result from the incorporation of community priorities in planning decisions – *though the latter remains the primary goal of HIA practice (italics LdB)*” (Iroz-Elardo, 2015 p. 284).

Equity is commonly seen as a basic value in HIA: it is mentioned as such in many papers and referred to ‘between the lines’ in others. Nine papers explicitly state that equity is promoted by participation, in particular of underprivileged, migrant or traveller communities. However, this requires thoughtful planning and application of processes and some state that these need better consideration or development. For example, McCallum, Ollson and Stevanovic state that, although community engagement is vital to promote equity, there is inconsistency in methods applied to attain this (McCallum et al., 2015).

More generally speaking, community based HIA is sometimes perceived as a practical mechanism to set off more generic improvements in decision-making processes. A paper describing the HIA of the Commonwealth Games in Glasgow, 2014, for example, describes that policy makers may change their public engagement routines because of participative HIA (McCartney et al., 2010). In addition, several authors claim that community based HIA has practical advantages for democratic processes, by helping to build public support for decisions, trust, a reduction of conflict and of conflict-related financial costs, and reducing delays in project execution. However, some authors state that stakeholders in politically sensitive situations may perceive community based HIA as a threat. For example, Bacigalupe et al. explain that in southern European countries decision makers, having little or no experience with HIA, may be concerned that the process will damage their position (Bacigalupe et al., 2010).

Although most authors see community participation as a contribution to the application of democratic values in decision making and as an opportunity to enhance local democracy, some, on the contrary, state that it can be a threat as well. For example Parry and Stevens raise an ethical concern that communities, in particular those that are disadvantaged or vulnerable, might be pressurized to agree on decisions that negatively impact their well-being (Parry and Stevens, 2001). Others warn for poorly performed engagement processes that can hinder meaningful community participation, and instead lead to tokenism, disappointing and harming these communities (Negev et al., 2013: 113).

### 3.1.3. Views referring to empowerment

Empowerment, in particular of disadvantaged groups, is the most frequently mentioned benefit of community participation in HIA. It is perceived as a necessary condition for the democratic decision-making mentioned above, because it contributes to building community

capacities to influence decision-making processes, during and after the HIA process. The expectation is that this can effectuate social and political change. In addition, participation in HIA, according to many authors, helps to educate and inform communities. It may increase communities’ health awareness and their interest in the HIA. According to several papers, participation in HIA may have a healing effect on groups that have been neglected; it may improve social cohesion and, eventually, contribute to better health. Mahoney et al. (2007), mentioned before, therefore state that HIA often seems to be a way of health promotion.

Appropriate engagement methods for such groups are perceived as an important condition for these effects to take place; a specifically important issue is recruitment of groups that are considered hard to engage, distrusting the process or feeling disengaged from decision-making. A related concern is the representativeness of participants; this is also seen as a threat to the quality of the evidence base for the HIA: underrepresentation of specific groups may result in one-sided knowledge.

Moreover, it is agreed that the benefits for communities do not happen automatically; capacity building, in particular training of the community representatives engaged in the HIA – and sometimes of other stakeholders like decision makers or experts- is considered as a key component of the participation process.

## 3.2. Methods for community participation

The papers studied show that there is not one method of community engagement that is considered to fit all contexts or populations: a large variety of methods (Table 4) for community participation is described (theme 2A). They also show that methods are combined in different ways and for different aims.

### 3.2.1. Types of methods applied

The methods applied for community participation in HIA can be divided in three main categories (theme 2B).

First, knowledge or opinion elicitation methods, in particular, focus groups and interviews are frequently mentioned, with community meetings and workshops coming next. Although a survey under HIA practitioners in the UK showed a preference for focus groups (Chilaka, 2015), frequently different knowledge elicitation methods are combined. For example, one HIA case study, concerning water and sanitation, describes how a lack of data on different aspects of the local water and sanitation system and its performance is amended: by organizing public meetings and conducting interviews with key persons, a survey, focus groups, and individual discussions (Hargrove et al., 2015).

The second category of methods includes specific procedures and structures to promote and secure the community’s influence in the HIA. An example of such methods, frequently described, is inclusion of community representatives in an HIA Steering Group.

Thirdly, methods are described that are instrumental in building capacity for communities to participate in the HIA process, in particular training.

### 3.2.2. Description of methods in case studies

The majority of the HIA case studies provide little detail about the methods applied (theme 2C). For example, many papers report that public meetings were organized, but do not describe the exact focus of the meetings, how the meetings were structured and who participated in the HIA. There is large variety in the number of community members involved, ranging from two to ‘over 450’ persons. Exact numbers of participants are provided in four papers. Participants are reported to be recruited from ‘the community’ or ‘stakeholders’ without a specific definition of the selected group. In many cases, the selection criteria for participants are not described, or there is no selection, for example, when larger, public events are organized to provide for the participation of a community. The case studies also do not describe on what

**Table 4**  
Overview of methods in relation to community participation.

Methods	Papers	# Papers
Knowledge elicitation methods		
Focus groups	6, 9, 10, 18, 28, 31, 42, 56, 61, 67, 73, 80, 83, 90	14
Interviews:	6,18, 28, 31, 47, 56, 61, 67,73, 78, 98	11
Broad community meetings	18, 28, 6,9, 38,44,60,61,67, 99	10
Survey	6,9,38,42,67,73	6
Workshops (a.o. rapid appraisal workshop)	18, 28, 38, 41, 56, 73	6
Engagement in data analysis/ interpretation/report writing	16,21, 98	3
Informal discussions	33, 9, 61	3
Small group meetings (Mittelmark, 2001) or discussion groups (Gauvin and Ross, 2012)	18,47	2
Walking tour (44: walkability assessment)	33, 44	2
Engagement in research tool development	9,83	2
Representatives consult community outreach through trained resident scientists	16 61	1 1
Photovoice	44	1
Group interviews	31	1
Engagement in evidence analysis	98	1
Methods to warrant community influence		
Steering Group/decision making participation <sup>a</sup>	9, 21, 25, 31, 33, 55, 72	7
Community invited to comment on draft report	18, 47, 67, 72	4
Public communication	31, 38,67	3
Stakeholders/key informants included in scoping	31, 90	2
Community members participate in developing recommendations	21, 41	2
Establish community networks	31	1
Methods for capacity building		
HIA training	21, 55, 83, 72	4
Other		
e-mail	18	1
Summer camp	28	1

<sup>a</sup> In one case, participants were representatives of community based organisations.

theoretical or practical grounds specific methods were applied, and the underlying assumptions about their efficacy are usually not made explicit. Exceptions were, for example, a case study that described why the locations where community meetings were held were selected (MacLennan et al., 2012) and a case study that provided details on methods applied to recruit participants (McDowell et al., 2014).

A number of papers in our selection explicitly address the lack of detail in the description of methods applied, stating that current processes and methods to engage communities in HIA fall behind what is considered good HIA practice and recommending that guidance or new methods should be developed (Parry and Stevens, 2001; McCallum et al., 2015; MacLennan et al., 2012; Jones et al., 2014; Lester and Temple, 2004; Kemm, 2005). Other authors refer to existing frameworks from other work fields, that could guide community participation in HIA, for example McCartney et al. who mention the National Standards for Community Engagement (Scottish Community Development Centre, 2005) (McCartney et al., 2010). One paper describes a set of criteria for effective participation in HIA developed in a two-day expert meeting (Parry et al., 2005).

### 3.3. Experiences and effects

In this section, we describe experiences and effects that came

forward in the papers studied. Many of the case study papers included in our study contain accounts of ‘what happened’, what went well and what barriers for meaningful community participation were encountered, how the input of the community was used and what role the HIA played in the decision making process. In general, the case studies tend to focus on describing successes in procedures and outcomes. The reviews that we found provide a more generic overview. Three topics stand out when studying the experiences reported. The first of these is access to lay or local knowledge (theme 3A). Secondly, experiences are reported concerning relations between communities and local agencies (theme 3B), policy makers and professionals. Thirdly, we found experiences concerning development of community empowerment (theme 3C).

#### 3.3.1. Experiences concerning access to local knowledge

The access to local knowledge is an important topic, discussed in HIA case studies. A review, carried out in the UK, looked into the use in HIA of different types of evidence, including community knowledge. This survey under 52 HIA practitioners showed that community knowledge was the second most utilized source of evidence, after review of existing literature, but before expert opinion (Chilaka, 2011). Bourcier et al. state, based on their study of 23 cases in the United States combined with interviews and a survey, that effective community participation is a key factor for HIA to be successful in integrating health considerations non-health policies (Bourcier et al., 2015).

Case studies report that the participation of the community provided insight in the community's needs and concerns. The information collected is considered ‘useful’ or ‘valuable’ and authors report that it helps deepen the understanding of context specific conditions and impacts. A case study about an HIA on housing and area renewal in an underprivileged Welsh neighbourhood describes the engagement of residents in the HIA steering group, as key informants and as participants in a public meeting. According to the authors, the residents' role was not only to provide information, but also to contribute to the interpretation of that information and the other evidence collected; they were ‘sense-makers’ that helped combine scientific with experiential knowledge. For example, they underlined the importance of family and community relationships for the sense of belonging of the people in this neighbourhood, and this helped to better understand the concerns they had about the implications of interventions in the local environment (Elliott and Williams, 2008). Another case study provided examples of contextual knowledge that helped ‘rank’ the importance of several impacts of a project, e.g. safety at home versus safety in public space (Douglas et al., 2001). Several authors describe experiences where the knowledge of community members is essentially different from expert knowledge and combining these two types of knowledge is challenging. In one case, a steering group consisting of community members and professionals was split up, as the gap between the two different paradigms was considered counterproductive. In addition, the authors state that not only the knowledge put forward differed but that the community members also lacked the skills for effective participation. They conclude that effective community engagement is difficult to accomplish in HIA practice (Pursell and Kearns, 2013). Kearney interviewed community members and other stakeholders to assess, prospectively, how their views would influence the feasibility of a planned community based HIA on a regeneration masterplan and concluded that the knowledge put forward by the community would enrich the process, but that professionals had little confidence in the capacities of community members to ‘responsibly’ participate in the HIA (Kearney, 2004). Some authors report that they had difficulties engaging a representative or large enough group of people from the community and therefore the reliability of the community input was poor.

#### 3.3.2. Experiences concerning relations between communities and other stakeholders

Most authors report that the participation of communities in HIA

helped create a common understanding and that it resulted in new organizational structures that supported the relations between communities and policy makers and other local stakeholders, during, but also after the HIA. They also describe that this enabled higher policy involvement of residents. An example is a paper describing an HIA on water and sanitation in an underprivileged area at the Mexican border of the US. A high proportion of the population were migrants and the population experienced a feeling of having been neglected. The HIA prompted residents to become interested in the water issues and to visit Council meetings to hear more about the issue. In addition, residents set up a local policy initiative for community safety. The authors state that the HIA, because of its open way of communicating and engaging people, increased trust of the community in policy actors (Hargrove et al., 2015). However, some authors describe how a lack of trust, on the contrary, hampered the participation process. They describe communities with specific social and historical backgrounds, or communities that had been disappointed by policy development procedures or outcomes. One example is the case study about an HIA on a waste incinerator where the planning process was organized in such a way that the HIA could not realise its potential to effectively address the community's concerns or engage the community in the considerations about the project. The resulting anger and suspiciousness added up to pre-existing feelings of powerlessness in this community (Chadderton et al., 2013).

### 3.3.3. Experiences concerning empowerment

The third topic is the empowerment of communities. Gilhuly et al. (Gilhuly et al., 2011) describe three case studies where communities gained access to information and data that they could use to influence decision-making. The residents in these communities were actively involved by contributing to the research and disseminating the outcomes. Several studies describe how the HIA led to the development of community advocacy groups that lasted after the HIA was finalized. Empowerment was also reported to be accomplished through learning processes. In some cases, these learning processes were actively stimulated by providing HIA training to community members. In one case, the training was provided after the actual HIA to further enhance the learning that had occurred during the process (Pursell and Kearns, 2013). The learning processes described in the papers do not only concern knowledge about a specific issue, like water or waste, or participation capacity, but also insight in health and its broader determinants. Several papers report that health awareness was created both in communities and under decision makers.

It is striking that the studies focusing on one, or a few, specific HIAs, claim that the HIA contributed to empowerment, learning, health awareness or policy engagement, but that most of the papers do not describe how these effects were assessed (theme 3D). Instead, the effects reported are mainly backed up by a description of specific steps taken by community members or by citing remarks or personal accounts of participants in the HIA. It is also striking that the question whether the participation of communities in the HIA, had a detectable influence on policy decisions is hardly addressed. One exception is an evaluation study of 55 HIAs in Australia and New-Zealand that reported that the involvement of the community was one of the factors that contributed to the effectiveness of HIAs to influence policies (Haigh et al., 2015).

## 3.4. Expert reflections and grey literature check

In this section we describe the expert reflections on the preliminary results and the grey literature check.

### 3.4.1. Expert reflections

The experts consulted recognized the summary of the results presented to them. They provided a few specific comments, which we summarise here:

- *Public participation is very much driven by tradition, habits, culture of different countries.*  
Although only one paper refers to this, it is an important issue and we reflect on it in our discussion of limitations in Section 5.
- *How can participation in HIA harm communities? What examples are there of such cases?*  
This question is briefly addressed in Section 3. However, it is true that concrete examples counterproductive effects of the participation are almost absent in the papers. In relation to this, we feel that one other expert made a valid point:
- *There may be a positive publication bias resulting in an over-representation of successful cases of participation.*  
We reflect on this in our discussion of limitations in Section 5.
- *It seems that equity, as a basic value in HIA is missing in the results.*  
We carried out a rapid review of all papers in our study and concluded that this is a relevant question as the issue was often mentioned. We have included the findings in Section 3.
- *Community capacity building is an important issue, in addition to empowerment.*  
This issue is addressed in Section 3.
- *Community participation helps add new knowledge that cannot otherwise be accessed.*  
This aspect was not touched upon on detail in the expert consultation file, but is addressed extensively in Section 3.1.1.
- *The absence of theoretical or practical underpinnings on choice of methods or appropriateness needs to be viewed against the context and goal of the paper at the time.*  
This observation is addressed in the Discussion (Section 5).
- *What criteria was used to make the judgement about 'random' evidence for the effects of participation on the community?*  
We had used the term 'random evidence' in the expert consultation file to summarise the types of information (see Section 3.3.3) given to support the reported impacts of participation.

### 3.4.2. Grey literature check

The grey literature search yielded 18 documents. Of the documents identified, we excluded 5 that did not concern participation in HIA. Another 2 documents were excluded because they were PowerPoint presentations that provided little information. We excluded 1 document which turned out to be a web site and 1 additional document as this (web based) document was no longer available. We excluded one document which turned out to be published as a scientific paper, already included in our scientific paper search. We added 1 document which was identified as the second and additional part of an included document. In total, we studied 9 documents (additional file 2) focusing on what additional or different information these documents provided as compared to the scientific literature studied.

The data extracted from the grey literature showed a similar picture as the data from the scientific literature search. Two aspects however, were slightly different. Firstly, in the grey literature there seems to be more extensive reference to theoretical frameworks underpinning community engagement in HIA as compared to the scientific literature. For example, the Human Impact Partners & Group Health Research Institute (Human Impact Partners and Group Health Research Institute, 2016) gives an overview of different participation levels in HIA, building on the classification of participation of the International Association for Public Participation (International Association for Public Participation, 2007). Another document, a book chapter about the PATH (People Assessing Their Health) method, elaborates on the theoretical foundations of the methods applied in community meetings (Coady, 2014). In particular, storytelling as a way to relate people's personal experiences to the policy assessed was explained, building on theories of Freire, Labonté and Kolb. And the National Collaboration Centre for Healthy Public Policy (Canada) promotes further development of the theoretical foundations of community engagement in HIA (Gauvin and Ross, 2012). Secondly, methods and procedures were



explained more in-depth as compared to the scientific papers studied. In particular, five documents that were prepared as instruction or guidance for HIA performance provided detailed methodological information (Coady, 2014; Gauvin and Ross, 2012; Gauvin, 2013; Stakeholder Participation Working Group of the 2010 HIA of the Americas Workshop, 2011; Antigonish Town and Community Health Board, 2002). The report of Human Impact Partners & Group Health Research Institute, mentioned before (Human Impact Partners and Group Health Research Institute, 2016), looked into the impact of community based HIA on civic agency. By evaluating a range of HIAs in the North Americas, it shows that not the application of specific engagement methods, but rather the number of approaches applied had an impact on effective community participation. Moreover, the authors recommend not only that local networks and key persons should be involved in the HIA process, but also that long term community engagement should be promoted to realise community empowerment. A similar recommendation is given in Coady's book chapter (Coady, 2014).

#### 4. Discussion

This scoping review was carried out to assess 1) how practitioners and researchers view community participation in HIA, 2) what methods and tools are used for community participation in HIA and 3) what the experiences and effects of community participation in HIA are.

In relation to the first question, we found that community participation is generally considered a core element in HIA. Only few authors think this is not necessarily the case in *all* HIAs as this may be unpractical or the topic is too complicated. The three main reasons why communities should be included in HIA are, firstly, the opportunity to gather new or additional (local) knowledge, secondly, the adherence to or application of democratic values and, thirdly, empowerment of communities. The Gothenburg Consensus Paper (WHO European Centre for Health Policy, 1999) seems to have been particularly influential in its recommendations that communities should participate in HIAs. It is frequently mentioned to substantiate claims about the value of, and need for, community participation.

In relation to the second study question, we found that, in the papers included in our study, the methods applied show high variation. Several methods are combined within one HIA, or one method is applied to serve several different aims at once. The focus is on methods for knowledge elicitation, structures and procedures to ensure the inclusion of communities in the HIA process, and capacity building. The theoretical or practical underpinning of the choice for specific methods and their appropriateness for application in a given HIA is mostly absent in the scientific papers. However, grey literature provides more detail as to methods as well as to their theoretical basis.

In relation to the third study question, we found that, in the papers included in our study, experiences with community participation in HIA are mostly described in positive terms. The experiences concern the value of the knowledge brought into the HIA process by communities, the cooperation between communities and other local actors and the empowerment of the community. It is often unclear how the effects on communities and policies reported in case studies are measured, although some random information is usually provided to support such claims.

Overlooking the results of our study, three generic aspects stand out. These are, firstly, the importance ascribed to lay knowledge, secondly, the value-based nature of community participation in HIA, and, finally, the lack of conceptual and methodological clarity.

In relation to the value of lay knowledge, the first aspect, we found that such knowledge is considered as useful and important for the field of HIA, enriching and amending expert knowledge about the potential health impacts of a project, plan or programme on a population. The practices described in the papers included in our study confirm this. The methods applied to engage communities clearly aim at gathering such

local and lay knowledge for the HIA process and the experiences reported show that such knowledge is considered useful. However, it remains unclear whether the value of lay knowledge equals that of expert knowledge – no cases were described where lay and expert knowledge 'clashed'.

The second aspect, the emphasis on values in promoting inclusion of communities in HIA, is demonstrated by the two most important reasons authors mention for the inclusion of communities: putting democratic values to practice and empowerment of, in particular, underprivileged groups. These are two reasons that refer to moral, and in some cases political considerations, and not necessarily to quality of the HIA itself. Even the knowledge gathering dimension of community based HIA, apparently a more 'technical' aspect, is less instrumental as it might seem; the way that lay knowledge is discussed seems to relate to similar values, for example amending expert knowledge with new, community-based perspectives that would otherwise have been neglected. This is a strength of HIA; Raphael argues that what makes public health effective is its embedment in a system of values (Raphael, 2000). In addition, participation is one of the core elements in the Ottawa Charter's strategies for Health Promotion (Jackson et al., 2006; World Health Organization, 1986). It appears that HIA has the potential to contribute to health promotion by engaging and empowering communities. To fulfil its health promoting potential, HIA, which is currently carried out as a 'stand-alone' exercise, should be embedded in broader health promotion programmes, as health promotion can only be effective as a coordinated approach (Rantala et al., 2014; World Health Organization, 2014). This seems to be confirmed by the grey literature (Human Impact Partners and Group Health Research Institute, 2016; Coady, 2014).

The lack of conceptual and methodological clarity, the third aspect, surprised us. Although community participation is perceived as a core element, few scientific papers define what that really means. More importantly, it remains unclear how the values related to community participation in HIA are implemented in practice and what the effects are. Decisions on participation processes seem to be made based on pragmatic considerations and apparently there is little focus on evaluation of the participatory processes and their outcomes. Claims regarding impacts of the community participation on the people concerned are not often supported by strong evidence. This resembles the situation in other types of impact assessment, for example (Strategic) Environmental Impact Assessment (EIA) (O'Faircheallaigh, 2010; Glucker et al., 2013; Gauthier et al., 2011). Impact assessment, in general, is carried out to inform decision-making, and not primarily for scientific purposes. This may explain the apparent lack of attention for theoretical underpinning and thorough evaluation of the methods applied and their (expected) results. Moreover, a number of papers were written at a time where HIA was a newly developing process in the region concerned; therefore their focus may have been on explaining what HIA is and what its benefits are, rather than on in-depth description of methodological issues. In addition, scientific papers provide much less space for such extensive descriptions and elaborations than grey literature such as reports and guidance documents.

Now that HIA has become more widespread as a process in several parts of the world, there is space for its further development. For the engagement of communities in HIA this could mean a stronger focus on the theoretical underpinning of methods - and a reflection of that focus in scientific publishing about HIA. The guidance documents we identified in the grey literature provide important starting points. In addition, procedures and principles as developed for Participatory Action Research can be helpful. Like participatory HIA, this approach aims at combining knowledge development with social action, it contains an element of joint learning, and capacity building for communities (Baum et al., 2006).

Better description and evaluation of possible benefits of community engagement in HIA for knowledge as well as for communities is equally important at this stage of HIA development. Examples of possible

frameworks for evaluation are available both from the HIA field itself (Parry et al., 2005) as well as from related work fields such as Citizen Science (Den Broeder et al., 2016).

A limitation of our study was, initially, that we focused on papers that were published in scientific journals. We were aware that that we might have missed, for example, cases that present a robust evidence base for the methods applied, or where claims made about empowerment are supported by thorough evaluation. The member check carried out by consulting four experts in the field, as well as the search in grey literature, confirmed our findings, but also provided additional information that helped to obtain a more balanced view on these issues.

A second limitation is the search for papers in English. This may have provided a skewed image. In English-speaking countries like the United Kingdom, Canada and Australia, participatory HIA is common; therefore, we are not surprised that the majority of the papers identified concerned those countries. However in other countries, for example, in Germany and in the Netherlands, a strong focus in HIA development has been on modelling and participation is weakly developed (den Broeder and Staatsen, 2012; Fehr and Mekel, 2013). Country-specific scoping reviews in non-Anglo-Saxon countries, for example Franco-phone, Spanish speaking, or German speaking countries, may produce a different 'landscape' of views and practices.

## 5. Conclusions and recommendations

Our study shows that community participation in HIA is claimed to have important impacts on the knowledge produced by the HIA as well as on communities that participate. However, are these claims realistic? Overlooking the results, we conclude that they are partly supported by practice, as represented in our study of scientific (and grey) literature. Community participation does seem to contribute to better, context specific knowledge. But how certain are these impacts on communities? For example, as community empowerment is a long-term process that requires sustained and systematic support (Israel et al., 1994; Laverack and Labonte, 2000), it seems improbable that one stand-alone HIA could empower a community when no other actions are taken. It is also striking that, where community participation is concerned, procedures do appear to be pragmatic rather than systematic, while HIA itself is claimed to be systematic and evidence-based.

We believe that community participation in HIA links up to the value system of a democratic and egalitarian society. Moreover, it has the potential, in addition to its other goals, to contribute to health promotion. Community participation in HIA contributes to policies that, building on local knowledge, and engaging target groups, address issues that are important, for these groups - in ways that are locally acceptable and appropriate. In other words, it contributes to responsive policies. However, this does not happen automatically. Therefore, we recommend that, firstly, community based HIAs link up more closely to existing health promotion programmes or strategies. Secondly, theory-informed and explicit decisions should be made on methods and approaches concerning the inclusion of communities in HIA. Thirdly, work should be undertaken to establish more robust evaluation of the possible effects of community participation in HIA on knowledge, communities and policies.

## Conflict of interest statement

The authors declare that they have no conflict of interest.

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## Appendix A. Supplementary data

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