Evaluating public health interventions

How can it be done to promote intersectoral collaboration?

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“Thesis submitted as a part of the Master of Philosophy Degree in Health Economics, Policy and Management”

June, 2016
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Trykk: Reprosentralen, Universitetet i Oslo
Abstract

**Background:** Public health interventions (PHIs) are crucial for promoting health and reducing health inequities, while intersectoral collaboration (IC) often is essential for implementing these interventions. It has been suggested that the evaluation of PHIs can influence the prospects for IC, but little is known about how the evaluation process can be designed to foster such collaboration.

**Objective:** With this thesis I seek to examine how the evaluation of PHIs can best promote IC?

**Methods:** I conducted a literature review, policy-document analysis, and semi-structured interviews. The literature review examined specific strategies for promoting IC through the evaluation of PHIs. The policy-document analysis considered today’s evaluation processes in six focus countries – Austria, Denmark, England, Germany, Norway, and Switzerland. The interviews elicited the views of 15 key informants from these countries on the current processes for evaluating PHIs and on the specific strategies for promoting IC.

**Results:** Several strategies for evaluating PHIs that promote IC have been suggested in the literature. Prominent among them are to include non-health benefits, to include actors outside the health sector in the evaluation of PHIs; to establish a designated national body for evaluation of PHIs; to harmonize methods for evaluating PHIs across sectors; and to use Health Impact Assessments (HIAs). At the same time, the current processes for evaluating PHIs in the six focus countries vary widely, and many of the strategies identified in the literature appear far from fully implemented. The interviewees judged many of the strategies identified in the literature review as promising for promoting IC, emphasizing the inclusion of non-health benefits and actors outside the health sector. However, the interviewees also pointed to preconditions for successfully promoting IC through the evaluation of PHIs, including sufficient political power and a general willingness of actors outside the health sector to support a health agenda. Several respondents also warned against emphasizing the term “health” when actors from the health sector interact with actors from other sectors.

**Conclusion:** There is ample room for making the evaluation of PHIs better promote IC. The findings of this study provide several options for how this can be done. Given the importance of PHIs and IC, optimizing the evaluation of these interventions can help improve population health and reduce inequities.
Acknowledgements

Writing this master thesis was an interesting educational experience for me which contributed not only to improve my scientific knowledge, but also to personal progress. Therefore I would like to take this opportunity to express my thanks to the people who substantially contributed to this experience.

I would like to start by expressing a special gratitude to my supervisor Trygve Ottersen. His constructive feedback and support made a decisive contribution to the development of this thesis. He invested a lot of time in the supervision and shared his founded knowledge with me. A big thank you for always being available for any questions or advises during the whole process. I could not imagine having a better supervisor for my master thesis.

I would also like to say thank you to my co-supervisor John-Arne Røttingen for his advice and support. Also a great thank you to Unni Gopinathan for his methodological support and general advises to improve the thesis.

A big thank you goes to all my interviewees for taking their time and being available for an interview. It was very interesting to hear the opinion and professional experiences on the research topic of each of them.

Most of all, I would like to take the opportunity to thank my family and friends, especially my parents, for their continuous support and faith in me not only regarding this master thesis, but during my entire studies.

Sabrina Kriegner

Oslo, June 2016
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Abbreviations

HIA – Health Impact Assessment
HiAP – Health in All Policies
IC – Intersectoral collaboration
PHI – Public health intervention
SDGs – Sustainable Development Goals
1 Background

PHIs (public health interventions) are crucial for promoting health and reducing health inequities. They often generate multiple outcomes which not only lie in the area of the health sector, but span across a range of areas of human lives (Drummond, Weatherly, & Ferguson, 2008; Weatherly et al., 2009). Nearly every behavior pattern and environmental aspect has an effect on the health of humans (Faust & Menzel, 2012). Past improvements in health outcomes have primarily come from nonmedical determinants of health, including social determinants (McGinnis, Williams-Russo, & Knickman, 2002). This underscores that protecting and promoting health cannot be left to the health sector alone. Much stronger intersectoral collaboration (IC) is needed for meeting the grand challenges to population health in all countries (Lurie, 2002; Public Health Agency of Canada, 2007; World Health Organization, 2011).

The importance of public health and IC has recently been underscored by the adoption of the Sustainable Development Goals (SDGs). These goals position the health goal and its targets much more firmly in the context of the broader determinants of health than the preceding Millennium Development Goals (Buse & Hawkes, 2015).

Thus, action across sectors is key for improving populations’ health and definitely needs to be strengthened. There are many ways to promote IC. Among them are evaluation processes (St-Pierre & Hamel, 2008). Hence, a key question is how the evaluation of PHIs best can promote IC. To answer this question, the relationship between PHIs, IC and evaluation needs to be examined thoroughly.

1.1 Public health interventions

**Definition:** PHIs aim “to promote or protect health or prevent ill health in communities or populations” (Rychetnik, Frommer, Hawe, & Shiell, 2002, p. 119). Thus, public health includes all activities with the goal to ensure healthy conditions and environments for all individuals. The focus is not directly on the individual but rather on improving health and extend life for the population as a whole (World Health Organization, 2016b). PHIs also tend to be preventive. In line with this, in the following PHIs will be understood as population-based preventive measures (World Health Organization, 2000).
Examples: The chief contrast is curative services targeted directly at individuals. Many clinical services fall into this category, but clinical services can also be preventive (Duran & Kutzin, 2010). The following examples of PHIs will clarify the difference between clinical and preventive measures: public health policies include for example taxes and regulations on tobacco, advertisements about healthy nutrition and diet, and infrastructure improvements.

Why important: Population-based preventive measures are of crucial importance, because they generate multiple outcomes which not only lie in the remit of the health sector, but touch upon various areas of human lives. What is more, a great amount of public health activities target the distribution of health effects within the population, trying to tackle the inequalities in health (Drummond, Weatherly, & Ferguson, 2008; Weatherly et al., 2009). Health inequalities are “differences, variations, and disparities in the health achievements of individuals and groups” (Kawachi, 2002, p. 647). Investing in reducing such inequalities can contribute a great deal to improve the health of the population (Braveman, Egerter, & Williams, 2011; Woolf & Braveman, 2011; Woolf, Johnson, Phillips, JR, & Philipsen, 2007).

Special challenges for PHIs: However, when it comes to resource allocation, public health policies are often worse off compared to other interventions, as for example clinical ones. To strike the right balance between curative services or population-based preventive interventions is critical, but challenging (Schmidt, Gostin, & Emanuel, 2015). The reasons for this might be the “unique characteristics of public health interventions” (Hauck & Smith, 2014, p. 184). As already mentioned, PHIs generate multiple outcomes, including health as well as non-health benefits, which are often only visible after long-term (Goldsmith, Hutchison, & Hurley, 2004; Hauck & Smith, 2014). This clearly underlines the need for IC to better tackle the wider determinants of health.

1.2 Intersectoral collaboration

Definition: There are many terms used for describing the cooperation between actors from different sectors, such as IC, action across sectors or intersectoral action. In the area of health this mostly consists of one actor coming from the health sector and one or more actors from other areas of government or society. All of them aiming at more or less the same: enhancing public health by working together across the structural borders of sectors to tackle the broader risk factors and wider determinants of health (Rantala, Bortz, & Armada, 2014).
**Why important in general:** As already mentioned, when considering the recent post-2015 development agenda, it gets apparent that the focus is on a much wider array of determinants of health. Influence factors do not longer co-exist next to each other, but rather are seen as a network of interrelated determinants (Pronyk & Lutz, 2013). In fact, many countries are already seizing this opportunity, and governments are trying to adapt the SDGs to national contexts and lay out concrete actions pertaining to multiple sectors, for achieving the goals. Among them are for example Norway, Switzerland and Sweden (Grønningsæter & Stave, 2015; Swiss Federal Council, 2016; Weitz, Persson, Nilsson, & Tenggren, 2015).

**Why important for implementing PHIs:** As already pointed out, policies implemented in the field of public health not only influence aspects within the health sector, but also many factors which lie outside its remit. Thus, policies implemented by the health sector are related to many other actors outside the health sector automatically (Smith & Petticrew, 2010) as well as policies implemented by actors outside the health sector have tremendous impacts on the health of populations (World Health Organization, 2012). This clearly demonstrates the importance of IC for improving the health of populations. There is a strong need for ending working in silos and collaborating together across the structural borders of sectors (Allin, Mossialos, McKee, & Holland, 2004). The awareness of the potential positive or negative influence non-health aspects have on the wellbeing of humans as well as the interrelatedness of health determinants have to be strengthened (World Health Organization, 2012). IC can help to foster communication and coordination across different actors and to build a stronger network among them (World Health Organization, 2012). Through action across sectors it is possible to examine all potential impacts interventions may have on the health of the target group (Weatherly et al., 2009). Resulting, it is crucial to evaluate the attained outcomes and impacts of actions and report them to the collaborative stakeholders. On the one side this is of major importance to improve the health of populations, but on the other side also to function as best practice example for others (Loewenson, 2013).


1.3 Evaluation

**Importance of evaluation:** The need for evaluation of PHIs has long been acknowledged. There is mutual agreement that PHIs need to undergo rigorous evaluation in order to underline their value as well as help prioritizing them. But there is no general agreement on the methods which should be used (Phillips et al., 2011).

**Challenges for the evaluation of PHIs:** So far mostly already existing tools of economic evaluation were favored for the evaluation of PHIs. Nevertheless, the question if such methods are appropriate for interventions in the field of public health is highly discussed. This is mostly due to the fact that applying economic evaluation methods for public health is often accompanied with risks. Again, the reason for this is the special nature of public health policies compared to clinical ones. The fact that PHIs are targeted at populations instead of individuals makes it hard to use randomized control trials as evaluation method. Furthermore, public health actions mostly include a wide range of benefits and costs across sectors. Thus, evaluating all benefits and costs is in need of an intersectoral approach to consider a broad range of perspectives. What is more, due to the broad range of outcomes standard measures such as quality-adjusted life years\(^1\) might be not appropriate to use for expressing health gain. Additionally, a lot of PHIs are concerned with equity rather than efficiency. Yet, economic evaluation is devoted to examine the efficiency of policies (Kelly & McDaid, 2005; Payne, McAllister, & Davies, 2013; Weatherly et al., 2009).

Concluding, economic evaluation techniques do not reflect all outcomes policies in the area of public health might generate (Benning et al., 2015; Lorgelly, Lawson, Fenwick, & Briggs, 2010; Marsh, Phillips, Fordham, Bertranou, & Hale, 2012). Thus, applying only economic evaluation to assess PHIs bears the risk of not sufficiently pointing out all possible benefits (Pinto, Molnar, Shankardass, O’Campo, & Bayoumi, 2015). Grosse, Teutsch and Haddix underlined that cost-effectiveness analysis should support the decision making process rather than being the rule of it (Grosse, Teutsch, & Haddix, 2007).

Therefore, it is crucial to broaden the evaluation to also consider the implementation process as well as detect the identifiable impacts after short-term as well as long-term (Bauman, King, & Nutbeam, 2014; Benning et al., 2015; Drummond et al., 2008; Smith & Petticrew, 2010;

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\(^1\) Quality-adjusted life year is “[a] measure of the state of health of a person or group in which the benefits, in terms of length of life, are adjusted to reflect the quality of life.” (NICE (2016))
Wanless, 2004; Waters et al., 2011). There are two options to deal with this issue. Some attempt to modify economic evaluations and try to also include non-health benefits in these approaches (Benning et al., 2015; Borghi & Jan, 2008; Lorgelly et al., 2010; Prenger et al., 2013). Others leave this type of evaluation behind and are searching for new ways to best evaluate PHIs within a broader perspective (van Mastrigt, Paulus, Aarts, Evers, & Alayli-Goebbels, 2015).

Resulting, assessing the potential outcomes of PHIs may influence the prospects for IC. Evaluating the broader array of benefits and disseminating them to other actors outside the health sector which might be affected by it can incentivize them to participate in and foster cooperation (Johansson & Tillgren, 2011; Pinto et al., 2015; Rychetnik et al., 2002).

1.4 The key question

To sum up, in the preceding discussion, three points were made clear: PHIs are crucial for population health and for reducing inequalities; IC is essential for implementing many PHIs; and the evaluation of PHIs may influence the prospects of IC. However, it was also emphasized how little is known about how the evaluation of PHIs may do so. Thus, a key question now is: how can the evaluation of PHIs promote IC?

Objective of this thesis: With this thesis I wanted to examine how the evaluation of PHIs best can promote IC. Specifically, the aim is to examine key strategies for the design of evaluation processes that help promote IC.

Overview: This remainder of thesis consists of six main chapters. The next, second chapter describes the methods used, while the three subsequent chapters describe the results. Specifically, the third chapter lays out the strategies for making the evaluation of PHIs promote IC found in the literature. The fourth chapter covers the current evaluation processes of public health policies of the six focus countries. The fifth chapter summarizes the findings of the interviews. Chapter three, four and five will lay the basis for drawing some overall results and recommendations as well as considering potential limitations of the study in chapter six. These results and recommendations can be useful for policy makers and researchers who are seeking better ways to promote IC and PHIs. The final chapter will sum up the main findings of the thesis.
2 Methods

This thesis involves a qualitative study building on data from three different sources: a literature review, policy-document analysis, and key informant semi-structured interviews. More specifically, the literature review examined specific strategies for promoting IC through the evaluation of PHIs. The policy-document analysis considered the current situation of processes for evaluating PHIs in the six focus countries – Austria, Denmark, England, Germany, Norway, and Switzerland. The semi-structured interviews elicited the real-world experience and views of key informants in these countries.

2.1 Literature review

A literature review was conducted to identify specific strategies for promoting IC through the evaluation of PHIs, which will be discussed in chapter three (Aveyard, 2014). The search strategy was non-systematic and the main areas of search were evaluating PHIs, their relation to IC and options to promote IC through evaluating PHIs. I primarily used Google Scholar and the electronic library databases of the University of Oslo and the University of Innsbruck to find literature. Google Scholar was chosen because it includes not only standard but also grey literature, which was a valuable source of information for this research purpose.

2.2 Policy-document analysis

A policy-document analysis was conducted to examine the current processes for evaluating PHIs in the six focus countries (Bowen, 2009; Mayring, 2002). The analysis focused on approaches for evaluating PHIs as well as the current status of the specific strategies. The policy-document analysis supported the interviews by providing background and context, while the interviews helped verify and elaborate on central findings of the policy-document analysis.

To identify the relevant policy documents, I used Google Scholar, government websites, and the web pages of other important organizations in the field of public health. In particular, one of the policy documents included for every focus country was the Health system review. These reports are provided by the European Observatory on Health Systems and Policies (World Health Organization, 2016a). The results of this analysis informed chapter four.
2.3 Semi-structured interviews

I conducted 15 semi-structured interviews to gather real-world experience and views of key informants from six European countries on the research purpose. The focus was on examining the current methods for evaluating PHIs, their relation to IC and potential avenues for improvement to better promote IC. It was of especial importance to let the interviewees assess the prospects of the specific strategies. Additionally, the role cost-effectiveness should play for PHIs and how to better prioritize public health policies were examined.

A semi-structured interview makes it possible to decide which particular topics should be covered, while offering enough flexibility for the interviewee to determine the course and topics addressed during the interview (Bryman, 2004). It also permits the interviewee to probe into topics that were not anticipated to emerge prior to conducting interviews. Semi-structured interviews were therefore judged as the appropriate methodology to explore key informants perspectives and real-world experiences about evaluating PHIs in general as well as to examine the specific strategies further, as the existing literature is very limited. The results of the semi-structured interviews are reported in chapter five.

2.3.1 Sampling

The six focus countries were selected on basis of the following three criteria:

- Criteria 1: The country has an identifiable government unit that is active on evaluating PHIs.
- Criteria 2: The set of countries have a geographical spread across Europe.
- Criteria 3: Recent change in the approach to evaluating PHIs was of extra interest.

In each of the selected focus countries, I identified potential informants on the basis of their employment or published research. Additionally, European institutions in the area of public health were asked to recommend potential interview candidates. This resulted in a snowballing effect where interviewees or contact persons recommended other important key informants from their or other countries. Overall, 61 persons were contacted. 16 of them were requested to provide information about the research topic in general and recommendations for key informants. 31 persons were invited for an interview, and 14 were contacted for both
purposes. The contact procedure and following correspondence was mainly via email. 15 of the ones who were invited for an interview accepted and completed the interview.

The study includes interviewees from Austria, Denmark, England, Germany, Norway and Switzerland. Depending on how many key informants were available for an interview, the number of interviews per country range between two and four. In total 15 interviews have been conducted and included in the study. Table 1 summarizes the main characteristics of the respondents.

Table 1: Respondent characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>N</th>
<th>Gender</th>
<th>Background/Position</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Countries</strong></td>
<td></td>
<td>Male</td>
<td>University</td>
</tr>
<tr>
<td>Austria</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Denmark</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>England</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Germany</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Norway</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Switzerland</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>15</td>
<td>8</td>
<td>7</td>
</tr>
</tbody>
</table>

Six interviews were conducted by phone, eight via Skype, and one was conducted in person. Interviewees from German speaking countries could choose between English and German as preferred language for the correspondence and also for the interview. Six interviewees chose German as their preferred language for the interview.

2.3.2 Interview guide

To ensure that all important topics were covered in the interview, an interview guide was developed. The development of the guide was informed by the literature review on strategies for making the evaluation of PHIs promote IC and Alan Bryman’s checklist for interviews (Bryman, 2004, Chapter 15). The interview guide had the following parts: 1) Introduction, 2) “Facesheet” information, 3) Current situation, 4) PHIs and IC, 5) Specific strategies promoting IC, 6) Ranking of specific strategies promoting IC, and 7) Other questions.

In part one, I explained the purpose of the interview series and defined PHIs and IC, while part two included the personal information about the interviewees. Part three covered the
current approaches for evaluating PHIs in the six focus countries. The connection between PHIs and their evaluation and IC was discussed in part four. In part five, I exposed the interviewees to different specific strategies retrieved from the literature and asked the respondents to assess the strategies potential to promote IC. Following, the interviewees were challenged to rate the specific strategies for promoting IC through the evaluation of PHIs in part six. In part seven, the interview was concluded with general questions about the role of cost-effectiveness for PHIs and how to better prioritize public health policies. The interview guide is included in the Appendix.

2.3.3 Data collection

The interview guide was piloted in two interviews prior to the 15 interviews included in this study. Thereafter iterative changes to the questions in the guide were made based on own experiences and suggestions from the pilot interviewees.

The interviews took place from the end of March until the beginning of May. A deliberate attempt was made to schedule the interviews within a narrow timeframe. This enabled the interviewer to become acquainted with the interview guide, and develop a routine. Both aspects ensured a comparable interview situation between all interviews. The length of the interviews varied between 35 minutes and two hours.

Information about the background of the interviewees was written down and the rest of the interview was tape-recorded without questions about any personal information. No electronical data that identified the interviewees was therefore stored, and the transcribed data was kept separate from the background information of each interviewee. The NSD - Norsk senter for forskningsdata has granted permission for this study.

2.3.4 Data analysis

For analyzing the qualitative data the thematic synthesis methodology was used, in general following the five-cycle phase described by Yin: 1) Compiling, 2) Disassembling, 3) Reassembling, 4) Interpreting, and 5) Concluding (Yin, 2011).

The compiling phase included transcribing the interviews and removing potential identifiable personal content. Generally, the analysis focused on the real-world experience and views of
the interviewees. Consequently, they were transcribed in a denaturalized way, not including every reformulation or pause (Oliver, Serovich, & Mason, 2005). Translating interviews from one language to another entails substantial risks. This was the reason for transcribing the interviews in the language they were held as well as for keeping the transcripts in the original language as long as possible during data analysis (van Nes, Abma, Jonsson, & Deeg, 2010). If necessary, the interviewees have been asked how they would translate certain statements into English already during the interviews.

In general, the data was assessed “analyst-driven” and clearly searched to answer a specific research question. In line with the interview guide, the interviewees were asked for their viewpoints on pre-defined themes: the current processes for evaluating PHIs, the relation between PHIs and IC, the specific strategies promoting IC through the evaluation of PHIs, the role of evaluating cost-effectiveness of PHIs and how to better prioritize PHIs. These themes were used as categories for the data analysis.

The goal was to extract key informants real-world experience and opinions on key issues addressing each of the pre-defined themes. This means the analysis followed a essentialist method and used semantic codes (Braun & Clarke, 2006). The disassembling and reassembling phase followed a three-stage process where the first round coded broader, individual statements of the interviewees and the second round sought to summarize the first analysis into very short statements. The third round combined results from round one and two to identify common patterns across all interviews. The results from ranking the specific strategies were demonstrated in an Excel sheet. The reassembled data was used to extract the most important findings around the study questions, divided in the before mentioned categories. After these phases, the interpretation stage followed. During the process of interpreting the qualitative data the option of revising the disassembled and reassembled phase was kept in mind. The data analysis was ended with the final stage of concluding.

To sum up, findings from the literature review about specific strategies for promoting IC through the evaluation of PHIs informed the interview guide. Results from the interviews were used for a comprehensive and structured overview of important considerations for evaluation processes. The findings from the literature review, the policy-document analysis and the semi-structured interviews enabled to draw some general recommendations and implications. In these ways, the thesis ultimately seeks to help promote population health and reduce health inequities.
3 Specific strategies promoting intersectoral collaboration

The literature review identified several proposals for strategies to promote IC through the evaluation of PHIs. Among them, six are particularly relevant in the context of this study: 1) to include non-health benefits, 2) to include actors outside the health sector in the evaluation of PHIs; 3) to establish a designated national body for the evaluation of PHIs; 4) to harmonize methods for the evaluation of PHIs across sectors; and 5) to use HIAs. These strategies will be presented in the following and further explored in the interviews.

3.1 Non-health benefits

The traditional approach for evaluating PHIs is to focus solely on health outcomes (Smith & Petticrew, 2010). However, public health policies can generate a broad array of benefits. These include not only outcomes directly related to health, but also improvements in non-health fields (Drummond et al., 2008; Weatherly et al., 2009). Although a number of non-health outcomes are generally accepted as outcomes of PHIs, they are mostly not targeted in the evaluation (Benning et al., 2015). Nevertheless, scholars have suggested that non-health benefits need to be better captured in the evaluation of public health policies (Lorgelly et al., 2010; Prenger et al., 2013; Smith & Petticrew, 2010; Weatherly et al., 2009).

Thus, the question arises why this has not been the case so far. One reason is that it is rather hard to identify and decide on the non-health benefits which are important to capture for PHIs. Furthermore, existing methods used for evaluating PHIs, like economic evaluation tools, are not designed to include such indicators (van Mastrigt et al., 2015). Additionally, in many cases the main target of the actor financing the intervention is improving health. Thus, often no other aspects than those favored by the contracting actor are considered (Drummond et al., 2008; Weatherly et al., 2009). However, a broader evaluation of PHIs is crucial in order to identify all possible impacts the intervention might have. Actors from different sectors need to see the outcomes policies have on their remit (Pinto et al., 2015; Rychetnik et al., 2002). Furthermore, taking into account a broader perspective, and not only cost-effectiveness, might motivate actors to engage in intersectoral action for health in general (Pinto et al., 2015).
Capturing this wider array of benefits generated by PHIs is especially important in the area of public health policies, because a lot of policies intervene at a societal or system level. But the measures taken to examine their effectiveness are often targeted at the level of individuals or the health field (Smith & Petticrew, 2010). To put it in the words of Smith and Petticrew, there is the need to “focus more on evaluation of the wider range and distribution of direct and indirect effects upon individuals, communities and populations” (Smith & Petticrew, 2010, p. 7).

Some examples for non-health benefits of PHIs which would be important to take into account are summarized in table 2. The table is based on the outcomes of a study by van Mastrigt et al. examining non-health benefits which need to be included in the economic evaluation of public health policies according to “leading scientific experts in the field of health economics and public health” (van Mastrigt et al., 2015, p. 9). The benefits are divided into three different levels: important for the individual targeted by the PHI (individual level), for individuals in the direct social environment of the person targeted by the PHI (direct social level) and the society as a whole (societal level) (van Mastrigt et al., 2015).

**Table 2: Potential non-health benefits from public health interventions**

<table>
<thead>
<tr>
<th>Individual level</th>
<th>Direct social level</th>
<th>Societal level</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Educational achievements</td>
<td>• Educational achievements</td>
<td>• Labor participation &amp; productivity</td>
</tr>
<tr>
<td>• Social life</td>
<td>• Healthy behavior</td>
<td>• Justice &amp; security</td>
</tr>
<tr>
<td>• Healthy behavior</td>
<td>• Social life aspects</td>
<td></td>
</tr>
<tr>
<td>• Perceived life control</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: own representation, based on: van Mastrigt et al., 2015*

Results from a similar study from Benning et al. in a way support these important non-health benefits. Interestingly, economic aspects (welfare, financial status) have not been among the leading ones in both of the studies (Benning et al., 2015; van Mastrigt et al., 2015).
3.2 Non-health actors

Traditionally, the health sector alone tried to tackle potential health threats. In former times when infectious diseases were more widespread in high-income countries, this was in large a sufficient strategy. However, the increasing burden of chronic diseases and multiple, interrelated health threats require tackling a wider array of health determinants (Smith & Petticrew, 2010), as described above. These determinants do not stay within the remit of the health sector, but have roots in many sectors beyond the health sector. Some of them are within the same governmental level, others can be found on different levels of government and society (Danaher & Wellesley Institute, 2011).

Recently, there has become an increasing understanding that interventions in the area of public health are related to many other sectors than health (Smith & Petticrew, 2010). Involving actors outside the health sector in the evaluation of PHIs can therefore increase the awareness of the interrelated nature of public health among the collaborators in general (St-Pierre & Hamel, 2008). Findings of two studies examining the most common sectors of collaboration are summarized in table 3 (Public Health Agency of Canada, 2007; Rantala et al., 2014).

Table 3: Sectors outside the health sector that are relevant for public health interventions

| • Social affairs   |
| • Education       |
| • Environment     |
| • Agriculture     |

Source: own representation, based on: Public Health Agency of Canada, 2007; Rantala et al., 2014

One way to motivate actors outside the health sector to engage in collaborative action might be to demonstrate potential benefits for their areas of interest (Johansson & Tillgren, 2011). In order to be sustainable, collaborative action must include the evaluation process (Baum et al., 2014; Khayatzadeh-Mahani, Sedoghi, Mehrholhassani, & Yazdi-Feyzabadi, 2015; Larsen, Rantala, Koudenburg, & Gulis, 2014; Waters et al., 2011). It is more beneficial if actors come together for a joined up evaluation with several perspectives, rather than every actor focusing solely on their primary goal (Smith & Petticrew, 2010; World Health Organization, 2015a). Involving all relevant actors in the evaluation guarantees the applicability, ensures that every
actor can identify themselves with the outcomes and that the results are implemented in practice (Waters et al., 2011).

Every actor participating in IC will bring their own tools for implementing and evaluating. Hence, action across sectors can not only be more efficient, but collaborators have the opportunity to learn new approaches and perspectives from other sectors (Public Health Agency of Canada, 2007; Smith & Petticrew, 2010; World Health Organization, 2015a, 2015b). Furthermore, the systematic review of Ndumbe-Eyjoh and Moffatt found out that the results of evaluations might differ depending on whether only one sector or more are responsible for the whole process of the project (Ndumbe-Eyjoh & Moffatt, 2013). Thus, collaborating to evaluate PHIs might generate a more holistic picture of the intervention under consideration and its achieved outcomes.

### 3.3 Designated body

In most European countries the public health field is rather fragmented and the responsibility for public health is not on the national level. Thus, evaluation in this field is often decentralized and very diverse. In fragmented systems like these, quality control and pertaining an overview over existing methods and approaches is challenging. This seems to be different for countries with actors on the national level taking over responsibility in evaluating PHIs as well as clinical interventions (Allin et al., 2004).

Some relevant examples include England and Switzerland. These two countries have units on the national level taking over parts of the responsibility in the area of evaluating PHIs as well as clinical interventions. This can either be done by publishing guidelines and offering methodical support for evaluation (GOV.UK, 2015; NICE, 2014b) or by commissioning them (Federal Office of Public Health FOPH, n.y.; Gesundheitsförderung Schweiz, 2016b).

Similarities can be drawn to the development of health technology assessments. Health technology assessments, so far focusing on clinical interventions, are often integrated on the national level, thereby facilitating strengthened coordination, utilization and progress (Banta, 2003; Corbacho & Pinto-Prades, 2012). It can therefore be assumed that embedding public health policies on the national level would also strengthen the evaluation of PHIs. This can be done in two possible ways: either PHIs are included in the already existing bodies which
currently only focus on clinical policies or new bodies which solely focus on the field of public health can be established.

In general, a designated body which is responsible for connecting actors and managing the collaboration has been identified as a strong support factor for the functioning of IC (Danaher & Wellesley Institute, 2011). Larsen et al. examined the process of IC for public health in the municipality of Varde in Denmark. In the case of Varde “health networks” have been established in the different sectors responsible for sharing information (Larsen, Joudenburg, & Gullis, 2014; Larsen, Rantala et al., 2014).

It is important that such a national body consists of people with different backgrounds, coming from different sectors. This can not only lower costs in general, but also bring together a greater variety of capabilities and facilitate exchange and learning from each other (McQueen, 2012). It is also crucial that the unit operates independently from the government. This is the case of the National Institute for Health and Care Excellence, which through the Health and Social Care Act 2012, “[became] a Non Departmental Public Body” (National Institute for Health and Care Excellence, 2016).

### 3.4 Harmonized method

Very different methods are used to evaluate interventions across sectors, including interventions that can be classified as PHIs. Even if the same methods are applied, they might be used in different ways (Smith & Petticrew, 2010). The motivation for evaluating interventions is not the same among different actors. Stakeholders involved favor different primary outcomes as well as applying different approaches for evaluating. These differences clearly demonstrate the need to agree on shared methods which fit the multi-sector approach (Public Health Agency of Canada, 2007; Smith & Petticrew, 2010). Having a shared approach for working greatly contributes to the success of collaboration (St-Pierre & Hamel, 2008). The process of defining shared methods can lead to also pooling financial resources together and thus, enable to evaluate a wider range of different outcomes (Smith & Petticrew, 2010).

However, the “one-size-fits-all” approach definitely does not work for PHIs (Kelly & McDaid, 2005; Public Health Agency of Canada, 2007; Smith & Petticrew, 2010). Generally, it seems like a mixed methods approach is gaining importance in the area of public health. This means applying a mixture of qualitative and quantitative methods to help to
answer “complex and multifaceted” research questions in the field of public health (Tariq & Woodman, 2013). Thus, aligning methods should not result in applying one methodological tool to every intervention related to health, but it should lead to establishing certain guidelines or criteria to fulfill when evaluating interventions in specific areas (Public Health Agency of Canada, 2007; World Health Organization, 2015a). This should make it easier to compare the outcomes and effectiveness of interventions.

Findings from cooperation between the health and education sector in the area of health promotion in schools underscore that without “mutually beneficial outcomes, feasible implementation strategies and compatible monitoring and evaluation methods” (Rowling & Jeffreys, 2005 in Public Health Agency of Canada, 2007, p. 9) collaborative actions can most likely not be successfully attained (Public Health Agency of Canada, 2007).

### 3.5 Health impact assessment

Whereas the first strategies focused on going beyond health benefits or beyond the remit of the health sector in general, the strategy Health Impact Assessments (HIAs) looks at promoting IC through evaluation from another perspective. It takes the viewpoint of actors outside the health sector assigned with the task to consider health outcomes.

As stated in the Gothenburg consensus paper in 1999 “Health Impact Assessment is a combination of procedures, methods and tools by which a policy, program or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population” (European Centre for Health Policy, 1999, p. 5). Already in 1998 the British Medical Association stressed the importance of HIAs and underlined the need to incorporate health in already implemented actions (Beecham, 1998). Thailand is an example of how the implementation of HIAs and action across sectors can be ensured, as here HIAs are written down as necessary requirements in the Constitution of Thailand (Kang, Park, & Kim, 2011). However, the focus of HIA should be to assist the decision making process rather than being the key decision making factor (Kemm, 2013).

A methodology encouraging actors outside the health sector to consider their potential influences on the health of the population (Lock, 2000) clearly demands to rethink the existing approach and consider the health effects of policies in the broadest possible way (Krieger et al., 2003).
HIA is widely accepted not only as mechanism to evaluate policies, but also as an option to foster the understanding of the wider determinants of health among actors outside the health sector (St-Pierre & Hamel, 2008). Thus, HIA “may be the means to improve attainment of healthy public policy, enhance intersectoral collaboration, and make more appropriate use of finite public resources in evidence based policy making” (Lock, 2000, p. 1398). The possibility to enhance the awareness of the fact that health is strongly influenced by health and non-health factors, and an increase in action across sectors are among the benefits determined in a study examining advantages of HIA (Public Health Agency of Canada, 2007).

Therefore, HIAs seem to have potential power in terms of strengthening the importance of action across sectors. Thus, it is of major importance for promoting IC (Kang et al., 2011; Kemm, 2013, 2013; Krieger et al., 2003; Lock, 2000; St-Pierre & Hamel, 2008).

### 3.6 Discussion

Several strategies for evaluating PHIs in a way that promote IC have been suggested in the literature. Among the six strategies considered above, non-health actors and HIAs appear to receive most attention in the literature and harmonizing methods and a designated body the least. However, for all six strategies there is limited in-depth study and assessment of their effectiveness and promise to successfully promote IC.
4 Current approaches

The policy-document analysis shows that the approaches to evaluate PHIs vary widely across the six focus countries. Specifically, differences were observed with the respect to allocation of responsibility, the importance attributed to IC, the extent the specific strategies identified in the literature review were implemented and recent or ongoing changes. It is also clear that the strategies identified in the literature review are implemented to a varying degree and to a limited extent overall. Key aspects of the approaches are summarized in table 4.

Table 4: Current approaches to the evaluation of public health interventions in six countries

<table>
<thead>
<tr>
<th>Topic Country</th>
<th>Responsibility for PHIs</th>
<th>Importance assigned to IC</th>
<th>Implemented specific strategies</th>
<th>Recent or ongoing changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>Federal states; no harmonized national approach; many different actors</td>
<td>IC implemented in form of HiAP and national framework health goals</td>
<td>Requirements for evaluation only within institutes; attempt to implement HIAs more often</td>
<td>More emphasis on the wider determinants of health; Austrian health targets were established</td>
</tr>
<tr>
<td>Denmark</td>
<td>Municipalities; no harmonized national approach; many different actors</td>
<td>Non-health actors not required to consider health, but intersectorality is of importance</td>
<td>HIAs are widely implemented</td>
<td>More emphasis on reducing fragmentation; national clinical guidelines were established</td>
</tr>
<tr>
<td>England</td>
<td>Local authorities; national guidelines and support, but responsibility is local</td>
<td>Action across sectors is increasing</td>
<td>National agencies provide guidelines and bring together actors from the local level</td>
<td>Reducing fragmentation gets more important; responsibility has been transferred to local authorities in 2012</td>
</tr>
<tr>
<td>Germany</td>
<td>Federal states; no harmonized national approach</td>
<td>Different non-health actors consider health issues, but limited cooperation among them</td>
<td>Limited cooperation between actors addressing health; increasing use of HIAs</td>
<td>Awareness for the need for IC is increasing, national health targets were established</td>
</tr>
<tr>
<td>Norway</td>
<td>Ministry of health and also municipalities; no harmonized national approach</td>
<td>Non-health actors not required to consider health; IC is clearly linked with barriers</td>
<td>HIAs are an issue; process for establishing a competence center</td>
<td>Awareness for the need for IC is increasing</td>
</tr>
<tr>
<td>Switzerland</td>
<td>Federal Office of Public Health and cantons; evaluation is legally consolidated</td>
<td>IC is of importance; non-health actors include health factors in their interventions</td>
<td>Non-health actors are included in the evaluation</td>
<td>Attempt to implement HIA in all cantons was not successful</td>
</tr>
</tbody>
</table>

Source: own representation based on the chapter "Current approaches"
4.1 Austria

In Austria there is a national public health service which has the responsibility to “coordinate and supervise”. Nevertheless, the responsibility for public health, implementation and evaluation, lies within the remit of the federal states (“Bundesländer”) (Hofmarcher & Quentin, 2013; Österreichisches Bundesministerium für Gesundheit, 2014). This is cited as one reason why the area of public health activities is rather fragmented in Austria (Hofmarcher & Quentin, 2013).

At the national level there is the Austrian Health Promotion Foundation (“Fonds Gesundes Österreich”) which supports projects in the area of “health promotion and primary prevention that are limited in time and that are based on a holistic concept of health” (Fonds Gesundes Österreich, 2013, p. 3) This foundation also has clear requirements and guidelines regarding evaluation for projects funded by them (Gesundheit Österreich GmbH, Geschäftsbereich Fonds Gesundes Österreich, n.y.).

Furthermore, the Health in All Policies (HiAP) approach is implemented for two policies (“improving the health of children and young people and reduction in nutrition-related illnesses by 2020”) (Hofmarcher & Quentin, 2013). In 2011, so-called Austrian health targets have been implemented by a variety of different stakeholders from government and society. These goals should ensure that the wider determinants of health are targeted at a federal level in all political areas (Bundesministerium für Gesundheit, 2013).

Due to the fact that HIAs are implemented not that often in Austria, the Austrian Ministry for Health decided to establish a framework for introducing HIAs based on international experiences. In this framework the implementation of HIA goes along with the need to increase the awareness of the importance for IC. It clearly states that health is not only influenced by decisions in the health sector, but also from other actors. Thus, it cannot be considered in isolation (Horvath, Haas, Knaller, & Sax, 2010).
4.2 Denmark

In Denmark public health is on the one hand organized as part of the curative interventions and on the other hand as own standing field. Before 2007, public health has been among the responsibilities of the regions. In course of a structural reform in 2007, this remit was transferred to the municipalities. There is no national approach for organizing or evaluating public health policies. However, better coordination of the fragmented health system has been of growing interest the recent years (Olejaz et al., 2012).

The policy “Healthy throughout Life” introduced in 2002 by the Ministry of the Interior and Health clearly states that since the first public health policy in 1989, IC is important in this field of work (The Ministry of the Interior and Health, 2003). IC seems to be important when it comes to decision making as well as establishing comprehensive PHIs. However, it is not required for other sectors to include health aspects in their work (Olejaz et al., 2012).

Every year, the Danish Health Authority implements various campaigns targeting some of the major influence factors of health (The Danish Health Authority, 2016a). Furthermore, they establish and regularly update a number of national clinical guidelines ensuring harmonized approaches for certain health issues (The Danish Health Authority, 2016b).

In 2013, the Center for prevention in practice (“Center for Forebyggelse i praksis”) has been created. This Center functions as assistance for all municipalities to guarantee quality assurance and evidence-based working in the field of prevention. Evaluating the initial phase of the center showed that it was successful in increasing the general performance in the area of prevention (Kommunernes Landsforening, n.y.).

HIAs are widely known in Denmark and also implemented. But the results are not freely accessible to third persons and there is no nationwide approach or guidance for it (Kemm, 2013).
4.3 England

In England, the responsibility for public health has been transferred to the local authorities in the course of the Health and Social Care Act 2012. Regional agencies are in charge for public health in their areas. It was believed that the decentralization of public health also makes it possible to better cope with the broad array of influence factors of health. It has been suggested that IC has been increasing over the last few years in England (Cylus et al., 2015).

The Health and Social Care Act 2012 also contained a new focus for public health. The aim is to strengthen this area with the help of IC as well as “streamline a fragmented public health system” (Department of Health, 2012).

In 2013, Public Health England, an “executive agency of the Department of Health”, was established to bring together experts in the field of public health from all over England (GOV.UK, 2015). Public Health England sees the possibility “to take a leadership role in [evaluating public health interventions], developing and advocating a coordinated and systematic approach locally and nationally” (Clark, 2014, p. 5).

The National Institute for Health and Care Excellence is, since the Health and Social Care Act 2012, a non-governmental body of the Department of Health in England and is responsible for developing “national guidance, standards and information on providing high-quality health and social care, and preventing and treating ill health” (NICE, 2014a, p. 1). The function to also establish guidelines for issues in the public health field, such as obesity or smoking, has been assigned to the National Institute of Health and Care Excellence in 2013 (NICE, 2014b).

Public Health England developed so-called “standard evaluation frameworks” for certain health issues. These frameworks are guidelines on how the evaluation of PHIs should be done and what it should contain (Public Health England, 2016). The guidelines have been found useful in assisting evaluations in these specific areas. Thus, it has been suggested that widening this concept and also establishing such frameworks for other areas should be considered (Clark, 2014).

As already mentioned, the importance of HIA was recognized early in England (Beecham, 1998; Scott-Samuel, 1996). HIA Gateway is part of Public Health England and its task is to offer information and assist actors interested in implementing a HIA (APHO, 2007).
4.4 Germany

In Germany the responsibility for public health is mainly among the duties of the federal states. Attempts in trying to reorganize the responsibilities of different actors in this area in 2005 got dismissed by the Federal Assembly (Busse & Blümel, 2014).

A recently published report about public health in Germany underlined the high importance of IC. It clearly states that a broader perspective needs to be chosen in order to be able to tackle the wider determinants of health, with emphasize on intersectoral action and HiAP. Furthermore the report mentioned the need to strengthen public health with increased political power as well as funding for research (Leopoldina, acatech, & Union of the German Academies of Sciences and Humanities, 2015). Germany also developed national health targets and the work priorities introduced in 2013 include not only to establish new health targets, but also to enhance the implementation and evaluation of the already existing targets (Gesellschaft für Versicherungswissenschaft und -gestaltung e. V., 2015).

Health issues are discussed in different federal departments and also considered in their work. For example the Ministry of Environment is also in charge for “environment-related health”. However, the direct cooperation and interplay between the sectors of the federal ministries is quite limited (Busse & Blümel, 2014). Nevertheless, some kind of collaboration is existent when it comes to establishing health targets. “A broad variety of providers, payers and self-help groups [is brought together at the federal level] in order to agree on health targets and to improve coordination of prevention measures” (Busse & Blümel, 2014, p. 69).

Although the promising capability of HIAs has been realized long ago, the application of the tool is rather limited. Similar as for IC the attention towards HIAs seem to increase in the last few years (Kemm, 2013).
4.5 Norway

In Norway the responsibility for public health mainly is within the remit of the Ministry of Health. More precisely, public health programs are implemented at the national level as well as from actors on the municipal level (Ringard, Sagan, Sperre Saunes, & Lindahl, 2013).

There are no regulations which oblige other ministries than health to consider health in their direct work (Ringard et al., 2013). However, recently there is a clear understanding of the need for IC in order to improve population’s health. The Norwegian Public Health Act, introduced on the 1st of January in 2012, “(…) provides a broad basis for the coordination of public health work across various sectors and actors and between authorities at the local, regional and national level” (Øien & Nylenna, 2014, p. 10).

It clearly states that health is not only a matter for the health sector and action across sectors is crucial for working in the area of public health. To ensure this, the act states that the approach HiAP should be implemented as the center of public health. However, working collaboratively is also seen as including some potential barriers (Norwegian Ministry of Health and Care Services, 2013).

Shortly after the introduction of the SDGs attempts have been started to apply them to the national context. Although Norway is a rich country, there is always room for improvement, as a recently published discussion paper stated. Thus, it has been suggested that it is important that the authorities adopt the SDGs to the national setting and ensure their implementation to contribute to successfully achieve them not only on the national, but also on the international level (Grønningsæter & Stave, 2015).

The Norwegian Public Health Act also included an article on HIAs. It states that HIAs should be undertaken on behalf of the municipalities, but only “if the inconvenience caused by the assessment is in a reasonable proportion to the possible health impact indicating that the situation should be studied” (Norwegian Ministry of Health and Care Services, 2013, p. 75).

The public health report 2013 included a statement that a “competence center” will be established on the governmental level “to evaluate initiatives based on health registries and other public health analyses” (Norwegian Ministry of Health and Care Services, 2013, p. 54).
4.6 Switzerland

In Switzerland, the Federal Office of Public Health and the cantons together are responsible for public health (Federal Office of Public Health FOPH, 2013). What is interesting in this respect is that evaluation is embedded in the federal constitution. Already in 1999 it was written down that the federal assembly has to guarantee that state measures are tested in regards to their performance. In 2000 the regulation on the organization of the Federal Department of the Interior stated that in pursuit of its objectives examining the effectiveness of legislative and other measures for health is necessary (Bundesamt für Gesundheit BAG, 2015).

There seem to be a number of institutes on the national level important for the evaluation of PHIs. Among them are the division evaluation of the Federal Office for Public Health (Federal Office of Public Health FOPH, n.y.), the Foundation Health Promotion Switzerland (“Gesundheitsförderung Schweiz”) (Gesundheitsförderung Schweiz, 2016a) as well as the Swiss Evaluation Society (Swiss Evaluation Society, SEVAL, 2012).

All of them defined some guidelines for the process of evaluation. Among the guidelines of the division evaluation of the Federal Office for Public Health for example there is also one which is of great interest with regard to the specific strategies promoting IC through evaluating PHIs. This guideline states that stakeholders also need to be included in the process of evaluating the intervention (Federal Office of Public Health FOPH, n.y.). The intent of this principle is related to the broad definition of public health. The outcomes of interventions might not only be of interest for the ones who implemented it, but also for others who are affected by the intervention in some way, either financially or because of the benefits (Federal Office of Public Health, 2005).

Intersectoral action to improve health seems to be of importance in Switzerland. Actors outside the health sector also include health factors in their interventions (DePietro et al., 2015). The recently published Sustainable Development Strategy 2016-2019 adopts health as one of nine action areas and underlines the importance of collaboration between actors of different levels of government as well as from the society or scientific area. This Strategy for the upcoming years is closely linked to the SDGs on the international level (Federal Office for Spatial Development ARE, 2016; Swiss Federal Council, 2016).
The Health Ministers from the cantons wanted to implement HIA all over Switzerland seamlessly. This attempt was not successful in all cantons, but resulted in the introduction of the Swiss Association for HIA (Schweizer Verein für Gesundheitsfolgenabschätzung). This association supports interested institutions with methodological and theoretical advices for implementing HIAs in Switzerland (Kemm, 2013; Schweizer Verein für Gesundheitsfolgenabschätzung, n. y.). However, HIAs are implemented in Switzerland and especially the three cantons Geneva, Jura and Ticino have substantial know-how and practice in this field (DePietro et al., 2015).

4.7 Discussion

As table 5 shows, there are both considerable differences and similarities across the six focus countries in terms of: responsibility for PHIs, importance of IC, implemented specific strategies and recent or ongoing changes.

The distribution of responsibility for PHIs is one of the main differences between the focus countries. Comparing countries where power for evaluating PHIs resides mostly on the local and/or regional level with countries where this is shared between the national and regional and/or local level suggests that a coordinated and harmonized field of PHIs and their evaluation requires distributing at least some responsibility at the national level. This can be seen especially in the case of England and Switzerland, because both of them have actors on the national level publishing guidelines for or commissioning the evaluation of PHIs. In some countries, there is an ongoing discussion and desire to streamline the approaches for evaluating public health and transfer more power to the national level. Austria and Germany developed national health targets, which can be seen as a first attempt to start harmonizing the area of PHIs.

It can be said that IC is on the agenda in every of the six focus countries, which is one of the main similarities among them. The difference here is that some are further in this progress than others. In terms of intersectorality, England and Switzerland seem to be ahead of the other focus countries. Nevertheless, these other countries try to improve by increasing the awareness of how important action across sectors is.

Information regarding the pre-defined specific strategies promoting IC through evaluating PHIs was rather limited, but also indicated important similarities and differences. Non-health
benefits was not mentioned in any of the examined policy-documents of the focus countries and including non-health actors was highlighted only in the examined policy-documents of Switzerland. England and Switzerland have some form of designated national bodies for the evaluation of PHIs and Norway shows current attempts to establish such body. Furthermore, England and Switzerland have harmonized guidelines for such processes in place. Denmark established frameworks for the assessment, but these only cover clinical interventions so far. What is similar among the focus countries is the fact that HIAs are on the agenda everywhere. In Denmark, England and Switzerland HIAs seem to be, at least in some of the regions, common practice. Austria, Germany and Norway appear to have some challenges. However, Austria and Switzerland already realized the need to provide support for implementing HIAs as straightforward as possible. They published concrete guidelines how to establish HIAs and Switzerland also introduced a platform for HIAs.
5 Findings from interviews

The interviews provided key stakeholders’ views on: the current situation of evaluating PHIs, the relation between PHIs and IC, the specific strategies to promote IC through the evaluation of PHIs and the two more general questions about the role cost-effectiveness should play in the evaluation of PHIs and how to better prioritize public health policies.

5.1 Current situation

Interviewees were asked about the current situation of evaluating PHIs in the country they are representing. This included stating main actors involved in the process, methods or approaches used, benefits considered and questioning if there is a systematic link to the evaluation of clinical interventions. Finally, interviewees were asked about recent or current changes in the approach for evaluating PHIs in the country represented by them.

In general, there were some similarities but also some clear differences across the countries. In most of the focus countries there seem to be very fragmented and heterogeneous approaches for coordinating and evaluating PHIs. The interviewees from countries where little or no coordination of public health resides at the national level gave the impression that harmonized approaches would be desirable. Some interviewees also mentioned that in their opinion this task could be taken over by already established organizations. For example in Austria the Austrian Health Promotion Foundation could be assigned with this task. According to the interviewees, introducing generally applicable guidelines and frameworks could help to streamline the approaches for evaluating public health policies. Interviewees from countries where PHIs are coordinated to some extent at the national level clearly stated that this is very important. Generally, there seems to be a growing interest and also demand for more rigorous evaluation as well as harmonizing the current heterogeneous approaches for evaluating public health policies.

The interviewees reported that the actors involved in the evaluation of PHIs mostly come from the health sector or are professional evaluators like universities or private companies. In general, health benefits are the primary concern of the evaluation of public health policies. However, economic benefits and assessments regarding overall effectiveness also seem to be
of importance. Similar to the benefits included in the evaluation also the methods strongly depend on the intervention and their aim.

According to the interviewees, there is no systematic link between the evaluation of PHIs and clinical interventions in most of the focus countries. Only in England it seems that those two types of interventions are closely intertwined. As one interviewee from England made clear, this can generate better health outcomes: “Because actually we can gain so much more in terms of a public health benefit at a population level by some of the individual (clinical) interventions that health or healthcare colleagues would put in place” (Interviewee 15, England).

However, many interviewees mentioned the lack of rigorous assessments of PHIs. They expressed their concern that public health policies often don’t undergo rigorous analysis and evaluation many times lacks assessment of effectiveness. Especially interviewees from Austria and Germany expressed the feeling that for PHIs, evaluation tools or approaches are often not developed or used properly. One interviewee even says that: “not everywhere – to be more precise rather rarely - where evaluation is labeled, evaluation is really inside” (Interviewee 9, Germany). However, the interviewees also mentioned that this could change in the near future, because a lot of people get trained in public health. As a result, they would know the importance of evaluation.

Every country included in the study has IC on the agenda. Often it was stated that the awareness about the need for cooperation is increasing among actors outside the health sector, and therefore interviewees assumed that action across sectors will certainly increase in the upcoming years. Nevertheless, some interviewees stated that the necessity for action across sectors would be acknowledged, but stressed that there is insufficient political will. Especially interviewees from Germany were critical regarding political support for IC.

According to the information found in the policy-document analysis there are reports stating that IC has to be strengthened in nearly every country, but the interviewee’s responses reflect that these changes have not progressed as far as would have been expected. This clearly shows that there are some problems in the practical implementation of such attempts.
### 5.2 Public health interventions and intersectoral collaboration

The interviewees were asked if they saw a connection between PHIs, their evaluation and IC. Furthermore, they were asked about the importance of evaluating PHIs to promote IC in general as well as the importance compared to other approaches for promoting IC. At the end, the interviewees were challenged to think about specific strategies how to change or adapt the way of evaluating PHIs in order to better promote IC.

Most of the interviewees could imagine the possibility of promoting IC through the evaluation of PHIs. At least, the process of evaluation can point out where action across sectors would be possible and/or necessary. So to say, IC can be a “by-product of the evaluation process” (Interviewee 10, Norway), as stated by one interviewee. The three interviewees who did not support this idea, either questioned why this should be a task of evaluation or stated that for its success a great political power would be needed. The latter is also supported by the literature saying that political support for IC is of crucial importance (Danaher & Wellesley Institute, 2011; Larsen, Rantala et al., 2014). However, as already stated some interviewees could not imagine that this political power would be provided. One interviewee also stated that this is not a question of changing the way of evaluation, but rather how to disseminate the results of evaluation. Furthermore, one interviewee stressed even if the political will would exist, the way ministries operate must be reorganized.

What is more, two interviewees expressed that in their opinion not including stakeholders outside the health sector in the process of evaluation contains the risk of not seeing the whole picture. The experience of one interviewee showed that only by including all important actors from the early stage it can be guaranteed that the results of the evaluation will be applicable for everyone involved in the intervention and thus, will be translated into practice afterwards.

Factors mentioned to possible hinder IC are unclear competencies or evaluating monetary units. The latter could also be seen as a factor to promote IC, because it can help seeing where the money comes from and where it goes and how to better adjust this. A clear advantage of IC preconditioning a broad understanding of health was to learn from each other.

Interestingly, including non-health actors was mentioned most frequently as the interviewees were challenged to think of specific strategies to promote IC through the process of
evaluation. This may be linked to the importance of a participatory approach for evaluation mentioned by interviewees from the three German speaking countries. According to the interviewees, various actors are important for promoting public health and operating jointly should also be more efficient. Nevertheless, one interviewee stressed that it should not be forgotten that working across sectors successfully is a demanding process which certainly requires resources, financially and time wise. Additionally one interviewee also came up with the idea to harmonize methods for the evaluation of PHIs.

According to the majority of the interviewees evaluation plays a role in promoting IC. But comparing it to other approaches of promoting IC, like HiAP or cross-sectoral forums, was hard for the interviewees. The reason mentioned is that they are intervening at different levels. Most likely it needs a mixture of both.

5.3 Specific strategies promoting intersectoral collaboration

Interviewees were asked for their opinion regarding the specific strategies promoting IC, which were examined in the literature review and discussed earlier in chapter three. In case the interviewees thought that the strategy would be able to promote IC, they were asked further questions; as for example which benefits or actors would be most important to involve in the process of evaluation or about important qualities for a designated body.

5.3.1 Non-health benefits and non-health actors

For many interviewees non-health benefits and non-health actors are strongly connected. This means that including actors outside the health sector might automatically lead to taking non-health benefits into consideration as well and vice versa. Every interviewee, except one, who ranked the specific strategies allocated place one or two either to non-health benefits or non-health actors. 14 interviewees said that including non health-benefits in the evaluation of PHIs can promote IC. One interviewee said it can be seen as kind of a starting point to detect where collaboration would be useful. A precondition for the functioning of the strategy non-health benefits is the need of sufficient political will to support intersectoral action. 13 interviewees believed that the strategy non-health actors can promote IC. For example one interviewee said: “What then is the motivation for them to get involved if they can’t have any say or
influence on what we decide to do” (Interviewee 12, England). One interviewee drew the attention to the fact that it might be hard to find a common “language”.

Which non-health benefits or non-health actors would be most important to include in the evaluation was hard to answer. There is not one set of benefits or actors which is essential, it rather strongly depends on the intervention to decide which benefits need to be considered and which sectors should be involved. In case interviewees decided which non-health benefit or non-health actor would be most important, it can be said that their choice mainly reflects table 2 “Important non-health benefits” and table 3 “Important non-health actors” mentioned in chapter three. Benefits like socio-economic and social benefits, youth education and economic benefits were mentioned each once. The social sector was considered most important by two interviewees and the education, job, environment, economic, academic sector as well as the provider of the service each by one interviewee. The reasons stated for mentioning especially the first ones was the strong correlation between health and the stated actor or benefit.

It seemed like the answer regarding which benefits are most important was also dependent on the interviewee’s background. Working in public health often requires having a quite broad definition of health. This made it hard for some interviewees with a background in public health to understand the concept of non-health benefits, because they principally have a wide concept of health determinants.

In general, the responses regarding involving non-health benefits or actors in the process reflected the statements from the literature mentioned above. As also stated by some interviewees, especially important is to involve the actors from the very beginning until the evaluation process in order to be effective as well as sustainable (Baum et al., 2014; Khayatzadeh-Mahani et al., 2015; Larsen, Rantala et al., 2014; Waters et al., 2011). One way to motivate them to engage in collaborative action might be to demonstrate potential benefits for their areas of interest (Johansson & Tillgren, 2011).
5.3.2 Designated body

The replies about a designated national body varied between interviewees representing a country where such units are in place (England and Switzerland) and the ones where this is not the case. Most of the interviewees from countries where the main responsibility for evaluating public health policies is distributed among various actors on regional or local levels of government favored a national body taking over some responsibility and coordination in this area. Interviewees believed that this would help to get an overview of which approaches are applied for evaluating public health and to harmonize these.

Interviewees from countries where already some power resides on the national level said that this is already enough and nothing more is needed. Furthermore, they underlined its relevance.

Eleven of the interviewees think that a designated body for evaluating PHIs on the national level can help to promote IC. Interviewees also referred to its success in countries where this is already the case. One interviewee mentioned the current attempt to establish such a unit in Norway. Dedicating resources and power to the area of evaluating PHIs would support it as a whole. On the one hand this designated body would be important to disseminate knowledge about evaluating PHIs to various actors and also support them in implementing evaluations. On the other hand such a unit would also have the opportunity to facilitate cooperation among various actors and bringing them together. One of the interviewees stated that the existence of such a unit would be necessary, but it should not be burdened with promoting IC.

The interviewees stressed three preconditions for this strategy. First, the existence of sufficient political support is very important. Second, harmonized methods for evaluating PHIs across sectors appear to be crucial, which underlines a connection between these two specific strategies. Finally, for countries with very federal systems, like Austria and Germany, a precondition is that the designated body needs to exist on the national and also in the federal states.

The interviewees mentioned some important qualities for a designated national body. It would be necessary that such a designated body has data of high quality on many different topics. Additionally, it must network and communicate information well. Establishing such a unit requires the political will to do so as well as legal anchoring. Interviewees stated that without this, it would most likely not be successful. Nevertheless, interviewees stressed that for the
acceptance of a national body, it is crucial that it can work independently. According to the interviewees “The role and the remit” (Interviewee 15, England) of the designated body must be well defined and it needs to consist of different professionals with different backgrounds.

These answers demonstrate that in countries where the current situation is quite heterogeneous and responsibilities are fragmented there is the desire to streamline the field of evaluating PHIs. This also reflects the information found in the policy-document analysis for the current approaches. Findings from the policy-document analysis of the focus countries and the results of the interviewees underscore that anchoring some power at the national level generally helps to coordinate the situation and harmonize approaches better.

5.3.3 Harmonized methods

The interviewees interpreted harmonized methods differently. Some understood it as one methodology used in all sectors. Six of the interviewees supported this kind of “one size fits all” approach. Other interviewees defined harmonizing methods as shared guidelines and indicators for undertaking evaluations. Ten interviewees agreed that having shared indicators, outcomes and data collection systems can promote IC. One interviewee assumed that it would not have much impact and another interviewee draw the attention to the possibility of diminishing variation in the course of harmonizing. Another interviewee stated that for this strategy to be successful the precondition is that other sectors would need to be already “signed up to a health agenda” (Interviewee 12, England). Additionally one reply was that the methods used between the actors involved in one area are the same anyway.

The interviewees believed that defining shared national indicators or outcomes for various topics would foster a consistent way of evaluation, making it possible to compare outcomes across sectors and thus, could improve IC. Nevertheless, three interviewees expressed their concern that harmonization would require a lot of work and questioned if the success would be worth this effort. Sectors document and evaluate in diverse ways and sometimes these ways have established differently for justified reasons.

The answers clearly show that having a set of shared indicators is desirable and would increase the comparability between different interventions and actors. But harmonizing the methodology applied for evaluation is feared to be challenging.
5.3.4 Health impact assessments

Twelve interviewees were of the opinion that a HIA is a strategy that can promote IC, while one interviewee argued that HIAs are nothing else than a methodology. As already for other strategies, the preconditions would be that there is sufficient political will and every actor already agreed on supporting health.

The interviewees stated that in order to succeed for this strategy it is necessary that applying HIAs is easy and straightforward. Otherwise non-health actors just perceive it as an extra task they need to fulfill. It is of importance that actors who should implement HIAs have an interest in it and clearly see their benefit of doing it.

This also relates to the statement of two interviewees that using the term “health” all too often when discussing or attempting to establish collaboration with actors outside the health sector should be considered carefully. Actors outside the health sector might get overwhelmed by the need to prioritize health, because they have their own primary goals and as a result they don’t want to support the health agenda (any longer). One interviewee clearly expressed that there are many links between health and non-health issues, but it is not necessary to establish this connection every time. This might be supported with the discussion in the literature that “[t]here is an emerging need to shift from [intersectoral action] for health to [intersectoral action] for shared societal goals” (Public Health Agency of Canada, 2007, p. 34). The importance of being attentive to the perspective of other sectors has also been an issue raised within the World Health Organization (Gopinathan et al., 2015).

The interviews support the findings from the policy-document analysis on the current approaches that showed that HIA is an issue in all focus countries. Often the practical realization of the technology is not easy and guidelines how to best implement HIAs are needed. As already stated Austria and Switzerland realized this demand and published some general applicable guidelines. Interestingly, interviewees from Switzerland (guidelines published in 2005) reflected on this issue and interviewees from Austria (guidelines published in 2016) did not.
5.4 Ranking of the specific strategies

Table 5 presents the results from asking the interviewees to rank the specific strategies according to their importance for promoting action across sectors. 13 interviewees agreed on ranking the specific strategies for promoting IC through the evaluation of PHIs. Two interviewees decided not to rank them for two reasons: a lack of sufficient political will and the fact that this would overestimate or overburden the process of evaluation.

The interviewees allocated place one to five to the specific strategies to promote IC through the evaluation of PHIs, where one stands for most important and five the least important among the strategies. Based on this, I calculated the Borda Score. Options ranked first were assigned five points, counting down to one point for place five. The column “Score” therefore contains the Borda Score allocated to the strategies by the interviewees and the column “% of total” shows the proportion of the total score for each strategy.

**Table 5: Borda score for strategies promoting intersectoral collaboration through evaluating public health interventions**

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Score</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-health actors</td>
<td>50</td>
<td>26</td>
</tr>
<tr>
<td>Non-health benefits</td>
<td>49</td>
<td>25</td>
</tr>
<tr>
<td>Harmonized methods</td>
<td>37</td>
<td>19</td>
</tr>
<tr>
<td>Designated body</td>
<td>30</td>
<td>16</td>
</tr>
<tr>
<td>Health impact assessments</td>
<td>27</td>
<td>14</td>
</tr>
</tbody>
</table>

*Source: own representation, based on the ranking of the specific strategies in the interviews*

From the table it can be seen that the strategies non-health actors (26%) and non-health benefits (25%) were the most favored. On the third place is the strategy harmonized methods with 19%, followed by the designated body with 16% and then the HIAs with 14%. As already mentioned, twelve interviewees allocated either rank one or two to non-health benefits or non-health actors. What is interesting, the results for the other strategies varied considerably across respondents. Every of the other three strategies got valued differently, including all ranks from place one to five. This clearly demonstrates the high relevance the interviewees attach to the strategies non-health benefits and non-health actors in promoting IC through the evaluation of PHIs and the relative uncertainty towards the other three strategies.

What is more, approaches which already are common practice were ranked lower than strategies which would be generally desired but are not applied yet. Thus, rank five for HIAs.
might not solely be due to the different perspective this strategy takes on the issue, but more because it is already kind of widely known.

Concluding from discussing the specific strategies promoting IC through the evaluation of PHIs it can be said that there was not so much mutual agreement on the three strategies designated body, harmonized methods and HIAs as on the strategies non-health benefits and non-health actors.

5.5 Other questions

This category included two questions. The first was targeted at examining how important demonstrating the cost-effectiveness of public health policies should be according to the interviewees. The second one was how the evaluation of PHIs can be done to best help prioritize between public health policies and clinical interventions.

5.5.1 The importance of cost-effectiveness

When the interviewees were asked what role information about cost-effectiveness should play, opinions differed. Eight interviewees said it is important but only if it is possible, appropriate and feasible. As one interviewee said: “It should not play a very large role, because it is very, very difficult to estimate cost-effectiveness, and because it is very difficult there is the danger that you choose very simplistic models” (Interviewee 6, Norway). Thus, it should not be demanded, but far more it is “almost like an optional extra” (Interviewee 12, England), as stated by one interviewee. A recent article seems to support this opinion. The article reflects on the use of return on investments for PHIs and argues that this mainly should be done as additional information for the decision making process (Brousselle, Benmarhnia, & Benhadj, 2016).

Four interviewees clearly stated that information on cost-effectiveness has to play an important role. One interviewee based this on the argument that in the end you want to “sell your results” (Interviewee 11, Austria) and another one by stating that this is the main point of evaluations. One interviewee said it is important, but not enough and another said it needs to be in relation of the expense of the evaluation.
Furthermore, one interviewee also mentioned the problematic of cost-effectiveness as basis for decision making. In case the actors get to know the indicators important for the evaluation, they might start manipulating their assessments in order to get more money.

The replies to the question about cost-effectiveness clearly underline the discussion in the literature. It reflects that it is not easy to decide the role cost-effectiveness should play in the evaluation of PHIs, because there are many methodological challenges. There needs to be acknowledgement and transparency regarding its limitations in general and in the evaluation of PHIs.

### 5.5.2 Prioritization between public health interventions and clinical interventions

The interviewee’s answers to a question about how the evaluation of PHIs can be done to best help prioritize between these interventions and clinical interventions were highly heterogeneous. Some interviewees stated that there is more evidence needed to better illustrate the impact of prevention. Or as one interviewee formulated it: “to convince people that putting money upstream will actually save money downstream” (Interviewee 12, England). One interviewee also mentioned that a mixed method approach is essential for this purpose and another one laid the focus on acknowledging that the benefits will only be visible in the long-term. But this problem may be solved with looking at the harms of interventions as well as demonstrating economic benefits. Two interviewees said that the two types of interventions should not compete or it is difficult to compare them and address this issue with the process of evaluation. Another one stressed that there is no relation between PHIs and clinical interventions, because they are completely different in regards of their financing and organizing mechanisms.
5.6 Discussion

This discussion section will first summarize the most important findings of the interviews in regards to the research question. Then the reported current changes of the interviewees will be compared to findings on recent or ongoing changes in the policy-document review.

As seen by asking the interviewees to come up with own ideas for specific strategies to promote IC through the evaluation of PHIs as well as in the ranking followed by that the strategies non-health benefits and non-health actors are thought to be most important. Furthermore, it seems to be considered as a relative strength to distribute some responsibility for coordinating and evaluating public health policies at the national level. Including both levels local and national appears crucial for well coordinated PHIs, harmonizing their evaluation and strengthening intersectoral action. Thus, it might be necessary to organize regional units being responsible for the link between the local level and the national bodies, especially in very federal countries. What is more, preconditions like sufficient political will and a general willingness of every actor to support a health agenda are important for the functioning of the specific strategies promoting IC through the evaluation of PHIs in general.

What seems to be important to mention is that streamlining or centralizing too much might also not be beneficial anymore. This can be underlined by the fact that some countries which have been centrally organized transferred some of this power back to the regional or local level (for example Denmark and England). Thus, a good balance between responsibility on the national, regional and local level appears to be essential for the area of public health. A potential pitfall which can be concluded from the interviews in general is to be careful with mentioning health all too often. Sectors other than health might be overwhelmed by the need to prioritize health, because they have their own primary goals.

In general, considering intermediate benefits in order to best reflect long-term benefits of PHIs is of growing importance according to four interviewees, which also reflects the literature. The same is true for the increasing interest in applying mixed-methods for evaluating PHIs. Five interviewees stated that this is or should be done more frequently.

The recent changes in the focus countries represented by the interviewees have shown similarities to the recent and ongoing changes found in the policy-document review. Acknowledging the importance of the clinical guidelines established in Denmark has the
potential for expanding such guidelines to the area of public health, as it has been the case for the National Institute for Health and Care Excellence in England in 2013. Furthermore, the centers of Public Health England on the regional level seem to be an important link between the local and national level. Moreover, the current process of establishing a competence center for public health in Norway should be followed by key actors in the area of public health from other countries. It can point out important lessons or potential barriers of such a process. Furthermore, establishing national health targets as it is done in Austria and Germany might increase the awareness of the need for intersectoral action in general and thus, facilitate IC. Nevertheless, the targets must be defined in a way every important stakeholder can identify and operate with. In the interviews with key informants from Switzerland it got apparent that legally consolidating evaluation and ensuring that these are not only written words, but getting actively translated into practice requires a lot of work and persistence over years. Nevertheless, in such situations it is important not to stop being open-minded for and adapting to new ideas.
6 Overall results, recommendations and limitations

Based on the findings of the literature review, policy-document analysis and semi-structured interviews overall results can be drawn and some recommendations can be offered. There were also several limitations to this study.

6.1 Overall results

Several strategies for evaluating PHIs that promote IC have been suggested in the literature. Prominent among them are to include non-health benefits, to include actors outside the health sector in the evaluation of PHIs; to establish a designated national body for the evaluation of PHIs; to harmonize methods for evaluating PHIs across sectors; and to use HIAs. At the same time, the current processes for evaluating PHIs in the six focus countries vary widely, and many of the strategies identified in the literature appear far from fully implemented. The interviewees judged many of the strategies identified in the literature review as promising for promoting IC, emphasizing the inclusion of non-health benefits and actors outside the health sector. Including such benefits and actors in the evaluation of public health policies is expected to facilitate more holistic evaluations and implementation of favorably evaluated interventions.

In addition, careful distribution of responsibility for coordinating and evaluating PHIs between the national and local levels seems to be of crucial importance for harmonizing approaches for the evaluation of PHIs and strengthening intersectoral action. This underlines the importance of establishing a designated national body assigned with coordinating and evaluating PHIs.

This goes hand in hand with the need to establish national guidelines on how to implement PHIs with favorable evaluations and agree on a set of shared indicators which should be considered when assessing a policy. This would also help streamline the landscape of evaluation in public health. Tasks related to such guidelines could possible also be assigned to the designated national body.
Perhaps surprisingly, it seems important to not always stress the link to health. Instead, it may be more effective to formulate broader goals together with actors from other sectors and take their way of operating and their primary focus into consideration as well.

Overall, IC and HIAs are on the agenda in every country represented by the interviewees. But it appears that there is a gap between the findings from the policy-document analysis, and the information communicated by the interviewees. Especially in Austria and Germany there seems to be a problem with the awareness at the political level about the need for cooperation and action across sectors. Nevertheless, actors in the area of health seem to recognize the need to strengthen this, especially to increase the communication between sectors.

### 6.2 Recommendations

First of all, it seems to be crucial to include all stakeholders from the early stage. By including actors outside the health sector non-health benefits are considered automatically. Cooperation among every actor concerned with the intervention encourages that the intervention considers every possible perspective and the results of evaluation will be translated into practice (Baum et al., 2014; Khayatzadeh-Mahani et al., 2015; Larsen, Rantala et al., 2014; Waters et al., 2011). This leads to the first recommendation:

**Include actors other than health concerned with the intervention from the early stage**

Second, a designated national body on the national level in charge for coordinating and evaluating public health can facilitate opportunities to bring together all important stakeholders as well as disseminating knowledge and data (Lundgren, 2008; McQueen, 2012). For countries as for example Austria or Germany which have a very federal system, it might be necessary to establish such units also on regional levels to connect the local authorities and national unit. It is essential that designated national bodies can work independent and are not affected by any actors or political players. Thus, the second recommendation reads as follows:

**Establish a designated national body for coordinating and evaluating PHIs**

Related to this, establishing national frameworks or guidelines to streamline the current heterogeneous situation of approaches for evaluating PHIs across sectors is crucial. This goes along with the need to define shared indicators to increase the comparability of interventions. Having a set of shared indicators which are important to consider when assessing a policy in a
certain area will make it easier to draw conclusions across interventions in different sectors. Obviously, it is key to include actors from various areas in the process of deciding on such guidelines and indicators (Lundgren, 2008). Thus, the third recommendation reads as follows:

**Implement national frameworks and define shared indicators to harmonize the approaches for evaluating PHIs**

To ensure the success of all these recommendations it is essential that policy makers and especially actors in the health sector on all levels actively promote an intersectoral agenda for shared societal goals and motivate all sectors to sign up for it. It is important to include actors on all different levels to ensure sufficient political support (Danaher & Wellesley Institute, 2011; Larsen, Joudenburg et al., 2014; Larsen, Rantala et al., 2014). Thus, the recommendation regarding this issue is the following:

**Promote an intersectoral agenda for shared societal goals**

The next recommendation concerns the issue of using the term health all too often. Other sectors will get overwhelmed by the need to prioritize health, because they have their own primary goals. This might also be a limitation of HiAP or HIAs. Therefore it seems to be of major importance to first observe how other sectors operate, which “language” they speak and what they focus on (Gopinathan et al., 2015; Lundgren, 2007). Then it is possible to find out how to best work together. Actors outside the health sector must clearly see benefits for their areas of interest generated by collaborative action to make sure that “health” is not seen as an extra task. In fact, seeing health as an additional task was stated as one of the potential challenges for implementing IC in the literature (Larsen, Joudenburg et al., 2014; Larsen, Rantala et al., 2014). Therefore it can be recommended to:

**Formulate shared goals together without always emphasizing the link to health**

Two more general recommendations got apparent from the findings of the interviews. These do not promote IC themselves, but they support improving the evidence base of PHIs and thus, might help prioritizing the field of public health more generally.

First, many interviewees mentioned that there is a lack of rigorous assessments of effectiveness of public health policies, which could improve the success of PHIs in general. This is also discussed in the literature (Pettman et al., 2012). Thus, it seems to be of
importance to increase the evaluation of public health policies and especially make sure that these assessments include information on the implementation process, effectiveness of the PHIs as well as short-term and long-term outcomes. This might require applying a mixed method approach (Smith & Petticrew, 2010; Tariq & Woodman, 2013). Therefore, the first general recommendation concerns:

**Increasing the evidence base of PHIs**

Second, it seems to be necessary to start thinking about harms and adverse effects of interventions. Policies can have negative effects on certain population groups or if the policies get transferred to different settings. As Brousselle clearly mentioned, in case a PHI results in a low return on investment the effects of ending the policy should be considered before deciding how to proceed with such results (Brousselle et al., 2016). It is essential to include information on the setting of the intervention in the evaluation of PHIs (Rychetnik et al., 2002) and consider the effects of potentially ending an intervention before terminating it (Brousselle et al., 2016). Thus, the second general implication reads as follows:

**Analysis of potential harms and adverse effects in the assessment of the intervention**

### 6.3 Limitations

A clear limitation of the thesis is that the interview study only included 15 interviewees from six different European countries. The sample of interviewees from each country is most likely not representative for all the relevant stakeholders in that country, and the overall sample is not representative for stakeholders in Europe. It would be necessary to include more European countries and more key informants from each country to get a better understanding of which approaches are used for the evaluation of PHIs as well as how they can better promote IC.

What is more, this study did not include actors from sectors other than health, which would probably enrich the discussion about other perspectives on the interconnectedness of health, promising strategies to improve IC as well as potential pitfalls and barriers to do so.

Another limitation is that the interview transcripts were only scanned and interpreted by one person. Including another person in the process of analyzing the data could have added other aspects or changed perspectives. The same is true for the policy-document analysis. Including someone else in the process of reviewing might have enhanced the findings. It can be raised
here that the use of multiple sources of data (literature review, policy-document analysis and semi-structured interviews) in turn was a strength, helping to address different aspects of the same research question.

A lot of information on the current situation of public health and evaluation of interventions in this area was only available in the official language of the country. This represented a limitation regarding the policy-document analysis of the countries Denmark and Norway.

There is a limitation regarding the ranking of the specific strategies for promoting IC through the evaluation of PHIs. It seemed to be rather difficult for some interviewees to rank the specific strategies completely neutral without having the current situation in their country in mind. Thus, it appears like some interviewees ranked the strategies according to which are already practiced in their countries and which of the strategies would be beneficial to have.

These limitations result in some suggestions for further research. A similar study conducting more interviews with health as well as actors outside the health sector from various European countries can help to progress in this research matter. Including more than six countries can generate stronger results. Furthermore, there is the possibility to look more in-depth into each of the strategies in future research.
7 Conclusion

This thesis has examined how the evaluation of PHIs can promote IC. Based on a literature review, policy-document analysis and semi-structured interviews following evaluation strategies seem promising for promoting IC through the evaluation of PHIs. Prominent among these is the active involvement of actors outside the health sector in the process of evaluation, and with such involvement, non-health benefits will be considered automatically as well.

Furthermore, a designated national body responsible for streamlining the area of PHIs and their evaluation appears important. Such a body may offer support and guidance on how to evaluate PHIs as well as disseminate results of evaluations. In order to be successful with these specific strategies for promoting IC through the evaluation of PHIs preconditions like sufficient political will and an openness of actors outside the health sector already agreed on supporting a health agenda are essential.

Generally, politicians and decision makers should promote an intersectoral agenda for shared societal goals and support action across sectors to improve the health of the population. In this respect it is important to not always emphasize the link to health, but instead also allow space for considering their primary focus and operation. This may facilitate the buy-in from other sectors, and help formulate common goals, which in turn can increase both health and non-health benefits of PHIs.

In conclusion, there is ample room for making the evaluation of PHIs better promote IC. This thesis has identified and examined several options for how this can be done. Given the importance of PHIs and IC, optimizing the evaluation of these interventions can help improve population health and reduce inequities.
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Appendix – Interview guide

Introduction
The purpose of the series of interviews of which this interview will be part is to gather information about
1) current approaches to the evaluation of public health interventions (PHIs) in selected European countries;
2) how the current approaches promote intersectoral collaboration (IC); and
3) how these approaches can be revised to better promote such collaboration.
To this end, we will in this interview ask you about your personal views and experiences with regard to these matters.

With PHIs, we here mean population-based, preventive interventions. With IC, we here refer to collaboration among two or more sectors of government or society. One of these may be the health sector.

We hereby invite you to participate in an interview. You can opt out any time during the interview, without any other consequences than that your responses will not be included in the study. We ask for your permission to tape-record this interview. We plan to use your input in a master thesis and one or more journal articles, but we will not reveal your identity, and we will seek your permission before we quote you.
Do you agree to participate in this interview?

“Facesheet”-information
1. General kind: name
2. Specific kind: country of work, institution, position in institution, role of institution and respondent in evaluation of PHIs

Current situation
3. In broad terms, how do [the country in question] evaluate PHI today?
   3.1. What actors and institutions are involved in the process of evaluation and how? (Do you have a designated body for the evaluation of PHIs?)
   3.2. What tools or methods are used, if any?
   3.3. Which benefits are considered?
   3.4. Is there any systematic link to the evaluation of clinical services?
4. How does this differ from the past? And are there any changes planned?

**PHI and IC**

5. Do you think the way PHIs are evaluated can affect IC? If so,
   5.1. What features of the evaluation of PHIs can promote or hinder IC in your view?

6. Are there any specific strategies promoting IC? How would the approach for evaluating PHIs need to be modified in order to promote IC?

7. How important is the evaluation of PHIs for promoting IC? (After initial response: how important is the evaluation of PHIs for promoting IC compared to other ways of promoting IC, such as HiAP or cross-sectoral forums?)

**Specific strategies promoting IC**

We will now describe some possible features of the evaluation of PHIs and ask about your views on the role of these in promoting IC.

8. Non-health benefits: Do you think it can promote IC to evaluate benefits other than health improvements? (If asked what is meant by “benefits other than health improvements”: benefits that do not themselves represent changes in health, but these benefits may affect health or be affected by health status.) (If asked for examples: educational or financial benefits). If so, how?
   8.1. Which non-health benefits do you think are important to include in the evaluation of PHIs?
   8.2. If you could only involve one other kind of benefit than health improvements in the evaluation of PHIs, which benefit would that be?

9. Non-health actors: Do you think it can promote IC to include actors other than those in the health sector when evaluating PHI? If so, how? (If asked for examples: people or institutions in the education, transport, or social sector)
   9.1. If you could only involve one other sector than the health sector in the evaluation of PHIs, what sector would that be?
   9.2. Why do you think this sector is important to include in an evaluation of a PHIs?

10. Designated body: Do you think having a designated national body for the evaluation of PHIs can promote IC?
    10.1. If so, what would be important qualities of such a body?
    10.2. What would be needed to ensure the quality and legitimacy of such a body?
11. Harmonized methods: Do you think it can promote IC if actors in different sectors harmonized their methods for evaluating interventions with health impacts?

12. Health impact assessment: Health impact assessments examine the impact of non-health policies on the health of a population with the help of different qualitative and quantitative tools and procedures. Do you think health impact assessments can promote IC?

**Ranking of strategies in terms of importance**

13. Can you please rank the strategies we have discussed in this interview according to their importance for promoting IC? Please include in your ranking both the strategies you have suggested and the strategies we specifically asked you to consider.

**Other questions**

14. In general, what role do you think information on cost-effectiveness should play in the evaluation of PHIs?

15. In general, how do you think the evaluation of PHIs can be done to best help prioritize among these interventions and clinical interventions?

16. Is there anything you would like to add?

**Definitions**

**Public health interventions (PHIs):** population-based, preventive health interventions

**Intersectoral collaboration (IC):** collaboration among two or more sectors of government or society. One of these may be the health sector.