Cross-sectoral cooperation at the ministerial level – with a focus on health inequalities

A qualitative study in three Nordic countries

Nordic Welfare Centre

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Content

Summary

Background: Relative inequalities in health continue to increase in the Nordic countries, despite extensive welfare policies and explicit political goals regarding health equity.

Purpose: The purpose of this study was to assess the extent of cross-sectoral cooperation at the national ministerial level, with a focus on reducing health inequalities, and to analyse factors that might promote or hinder such cooperation.

Method: This exploratory study is based on a qualitative design. It consists of semi-structured interviews with 30 senior public officials at 26 ministries in Finland, Norway and Sweden, and a content analysis of the transcribed interviews. The point of departure was if the ministries had initiated substantial measures, such as reforms, regulations, funding, or fiscal strategies, aiming to promote health equity in the population and, if so, if this was done in cooperation with other ministries. Further, a scoping review, including information gathered from the ministerial websites, was carried out.

Results: The informants reported that a substantial number of measures intended to promote health equity had been initiated at the national level in all the three countries. Most informants reported that cooperation between the ministries was well functioning regarding the measures mentioned. However, a number of both hindering and promoting factors for cooperation were stated by the informants, sometimes related to specific measures, but mostly meant to be more general. Knowledge about and implications of the WHO's Health in All Policies were mainly lacking, except for in Finland, while the UN's Sustainable Development Goals were well known in all three countries.

Discussion: The reported measures showed limitations, mainly regarding proven effectiveness and magnitude, which make clear effects on inequalities in health at the population level unlikely.

Conclusion: Lack of measures or cooperation does not seem to be a major issue here. Instead, the main problem might be a lack of effect of the proposed measures, either due to lack of evidence or insufficient dose. This might in turn be due to lack of political commitment.

Background

Absolute inequalities in all-cause mortality have decreased while relative inequalities in all-cause mortality have increased in most countries in Western Europe (1, 2). The decreased absolute inequalities could be explained by a favorable trend in both low and high socioeconomic groups (measured by socioeconomic position and occupational class), while the increased relative inequalities could be explained by a smaller percentage decline in lower socioeconomic groups (2).

The Nordic countries have long been emphasized as countries with high standard of living and small social and economic differences. However, despite extensive welfare policies and explicit political goals regarding wealth and health equity, relative inequalities in health have increased also in the Nordic countries. Mackenbach and colleagues have shown that absolute inequalities in mortality increased among women in Finland and Norway between the periods 1990-1994 to 2005-2009 (2). Relative inequalities in mortality among both men and women increased in Finland, Norway and Sweden during the same time (Denmark and Iceland were not included in the study). Further, Mackenbach and colleagues compared presence of national programmes aiming to tackle health inequalities with level of inequalities in mortality in each country. England, Finland, Norway and Sweden had all developed such strategies. However, these countries didn't systematically differ from other European countries without national strategies to reduce health inequalities, included in the study (2). The high living standards and the comparatively small socioeconomic inequalities have thus not resulted in less relative inequalities in health in the Nordic countries. This contradiction has been called the Scandinavian welfare paradox (3).

Mackenbach and McKee have assessed the variation of a number of health policies in European countries and related them to the background factors national income, survival/self-expression values, democracy, government effectiveness, left-party participation in government and ethnic fractionalization (4). National income, survival/self-expression values and government effectiveness were the main predictors of countries' performance and, according to this study, Sweden, Norway, Iceland and Finland performed best. However, inequalities in health have remained, also in the Nordic countries. Finland, Norway and Sweden have chosen different pathways in order to tackle the growing health gap, among other things the Public Health Act in Norway (5), the Public Health Commission's eleven objective domains in Sweden (6), in 2018

replaced by eight objective areas aiming to strengthen the health equity aspects (7), and Finland's comprehensive involvement in WHO's Health in All Policies (8).

An investigation, from different angles, of the concept health equity in the Nordic countries seemed to be of major interest, and the project "Equal health – prerequisites at national level" was launched by the Nordic Arena for Public Health Issues.

The main project Equal health — prerequisites at national level

In 2017 the Nordic Arena for Public Health Issues initiated a project aiming to contribute to an increased understanding of the national level's importance in closing the health gap in the Nordic welfare countries and to strengthen the Nordic cooperation for equal health. The Nordic Arena for Public Health Issues strives to strengthen Nordic public health work and to reduce health differences between Nordic citizens. The project was financed by the Nordic Council of Ministers and administered by the Nordic Welfare Centre (the secretariat for the Nordic Arena for Public Health Issues). The overall project "Equal health – prerequisites at national level" consisted of the following four subprojects: Policies to address the social determinants of health in the Nordic countries, Cross-sectoral cooperation at the ministerial level, Indicators for health inequality in the Nordic countries, and Policy briefs to increase equality in health. In this report the subproject Cross-sectoral cooperation at the ministerial level is described.

Cross-sectoral cooperation at the ministerial level

The Nordic countries have long been regarded as pioneers of welfare models. However, also in these countries growing inequalities in health have emerged. Social inequalities appear both in the risk of becoming ill and in the consequences of being ill. The report "Tackling Health Inequalities Locally - The Scandinavian Experience" (9) is a review of how the Nordic countries have worked with equality in health, primarily based on the municipal level. The report provides 11 recommendations for future work. The Nordic Arena for Public Health Issues has based the project "Equal health conditions at the national level" on these recommendations aimed at strengthening Nordic cooperation for equal health. The subproject "Cross-sectoral cooperation at the ministerial level" is part of the overall project.

Health in a population is affected by efforts from a number of sectors in addition to health and social services, such as education, labor, social security, traffic systems and urban planning. Policies aiming to support such efforts probably require cooperation between different ministries at the national level. In this subproject cooperation at the national level and between ministries is focused, thus not cooperation between the national level and regional or local levels. In order to identify such cooperation, concrete measures like reforms, regulations, funding, or fiscal strategies, with potential impact on equity in health, and inspired by cooperation between different ministries, are of great interest. Health equity initiatives should be considered from a broad perspective, such as reforms that counteract housing segregation, distribution policies that benefit weaker groups or legislation that promote healthy living habits.

International declarations and policy documents relevant for public health

There are a number of international declarations and policy documents with relevance for public health and health equity, starting with the WHO's declaration of Alma-Ata 1978 (10), followed by the Ottawa Charter for Health Promotion 1986 (11), which discussed healthy public policies as a key area for health promotion. In the Ottawa Charter three basic strategies for health promotion were identified, advocacy for health to create the essential conditions for health, enabling all people to achieve their full health potential, and mediating between the different interests in society (11). The 9th Global Conference on Health Promotion was held 2016 in Shanghai, China, at the 30 years anniversary of Ottawa Charter. This conference provided an opportunity to reassert the significance of health promotion and health equity initiated in Ottawa 1986.

"Health in All Policies" (HiAP) was initiated in Europe in 2006, during the Finnish presidency of the European Union (12). The aim with HiAP is to collaborate across sectors, such as education, income, working conditions, environment, public safety, housing, transportation, etc., since decisions made in such sectors may affect the determinants of health. HiAP has been promoted as an opportunity for the public health sector to engage other fields with relevance for public health. In 2013, the Ministry of Social Affairs and Health (MSAH) in Finland and the WHO hosted the 8th Global Conference on Health Promotion, in which, among other things, challenges facing the implementation of HiAP were addressed (8). Thus, Finland has been deeply involved in the development of the HiAP framework and a number of scientific articles have been written on this topic (13-17). A glossary addressing how political mechanisms influence HiAP

implementation has been developed (18), and other areas, e.g. "environment in all policies" (EiAP) (19) and "health equity in all policies" (HEiAP) (20) are also related to the concept HiAP.

The UN declaration Sustainable Development Goals (in this report named Agenda 2030) (21) aims to realize human rights, gender equality and empowerment of women and girls. The goals are integrated and inseparable and balance the economic, social and environmental dimensions of sustainable development. All the goals are relevant for population health and health equity, even though some goals have a more direct impact, e.g. goal 3 "Ensure healthy lives and promote well-being for all at all ages" and goal 10 "Reduce inequality within and among countries", see figure 1 (21).

Figure 1. The Sustainable Development Goals (SDG).

Thus, international declarations and policy documents relevant for public health and health equity seem to be persistently co-occurring, and probably affect decisions on measures and collaboration at the ministerial level. In this study we focused on Health in All Policies (HiAP) (12) and the Sustainable Development Goals (Agenda 2030) (21) since both are highly relevant for the purpose of this study. Agenda 2030 is, in addition, a global and comparatively novel strategy.

Purpose

The purpose of this project was to assess the extent of cross-sectoral cooperation at the national ministerial level, with a focus on reducing health

inequalities, and to analyse factors that might promote or hinder such cooperation.

Method

This exploratory study is based on a qualitative design. It consists of interviews with senior public officials at ministries in Finland, Norway and Sweden and a scoping review, including information gathered from the ministerial websites.

A scoping review

A scoping review was performed, including formulation of a research question, development of a search strategy, database searches, relevance checking, full text reading and analyses of the finally included articles (22). Searches for grey literature on departmental websites in Finland, Norway and Sweden were also completed.

Research question

Which factors promote respectively hinder cross-sectoral cooperation at the ministerial level in the Nordic countries?

Inclusion criteria

- Publication year: 1990-2017
- Publication language: English, Swedish, Norwegian or Danish
- Nordic countries
- Relevance for health equity

A librarian at the Public Health Agency of Sweden performed literature searches in Google Scholar, Scopus and Cochrane database of systematic reviews. The database searches resulted in 222 articles (registered and classified in EndNote) of which 35 were duplicates. After relevance assessment, based on the research question and the inclusion criteria, 29 articles remained (Appendix 1). These were read in full text for additional relevance assessment. Four articles were included in the final analysis.

Grey literature

Searches for grey literature in English on the ministerial websites in Finland, Norway and Sweden were accomplished by a master student (VB, see Acknowledgement). The websites were searched for national strategies and programs, white papers and other relevant documents that contained information on cross-sectoral collaboration on health equity. The keywords "cross-sectoral", "health equity" and "health in all policies" were used for

searches in each countries ministerial website search bars. Further, hand searches of the ministerial websites on governmental plans and strategies related to health were performed.

An interview study

Semi-structured interviews with senior officials at health and social ministries and other ministries responsible for actions that are of major importance for public health, such as education, labor, finance and environment, were planned in Finland, Norway and Sweden. The purpose was to analyze the preconditions for cross-sectoral cooperation in public health affairs at the ministerial level. The ministries of foreign affairs, ministries of interior and ministries of defense were assessed not to be eligible. The selection of ministries is supported by the "Health policy matrix" by Diderichsen et al (9), see table 1.

Table 1. Major determinants of health inequalities and the relevant policy sectors that have the responsibility and power to deal with them (9).

	Policy sectors (possible to relate to ministries)								
Determinants	Child/ family	Education	Labour market	Social policy	Environment /traffic	Agriculture	Financial	Physical planning	Health care
Early child development	■	■		■					■
School performance		■						■	■
Segregation	■		■		■		■	■	
Unemployment		■	■	■					
Work environment			■						■
Income/poverty	■		■	■			■	■	
Marginalisation	■		■	■					■
Environmental risks					■	■		■	
Tobacco	■	■					■		■
Alcohol/drugs	■	■		■			■		■
Physical inactivity	■	■			■			■	
Diet	■	■				■	■		■

Selection of informants

Senior officials at the Ministry of Social Affairs and Health in Finland, the Ministry of Health and Care Services in Norway, and the Ministry of Health and Social Affairs in Sweden were recommended from the Nordic Arena for Public Health Issues. In the next step, these appointed officials recommended senior officials at relevant ministries in the three countries. Personal requests with information about the investigation were sent to each suggested informant, time for interviews were booked, and practical information about the interviews, including voluntariness and confidentiality, was e-mailed in advance.

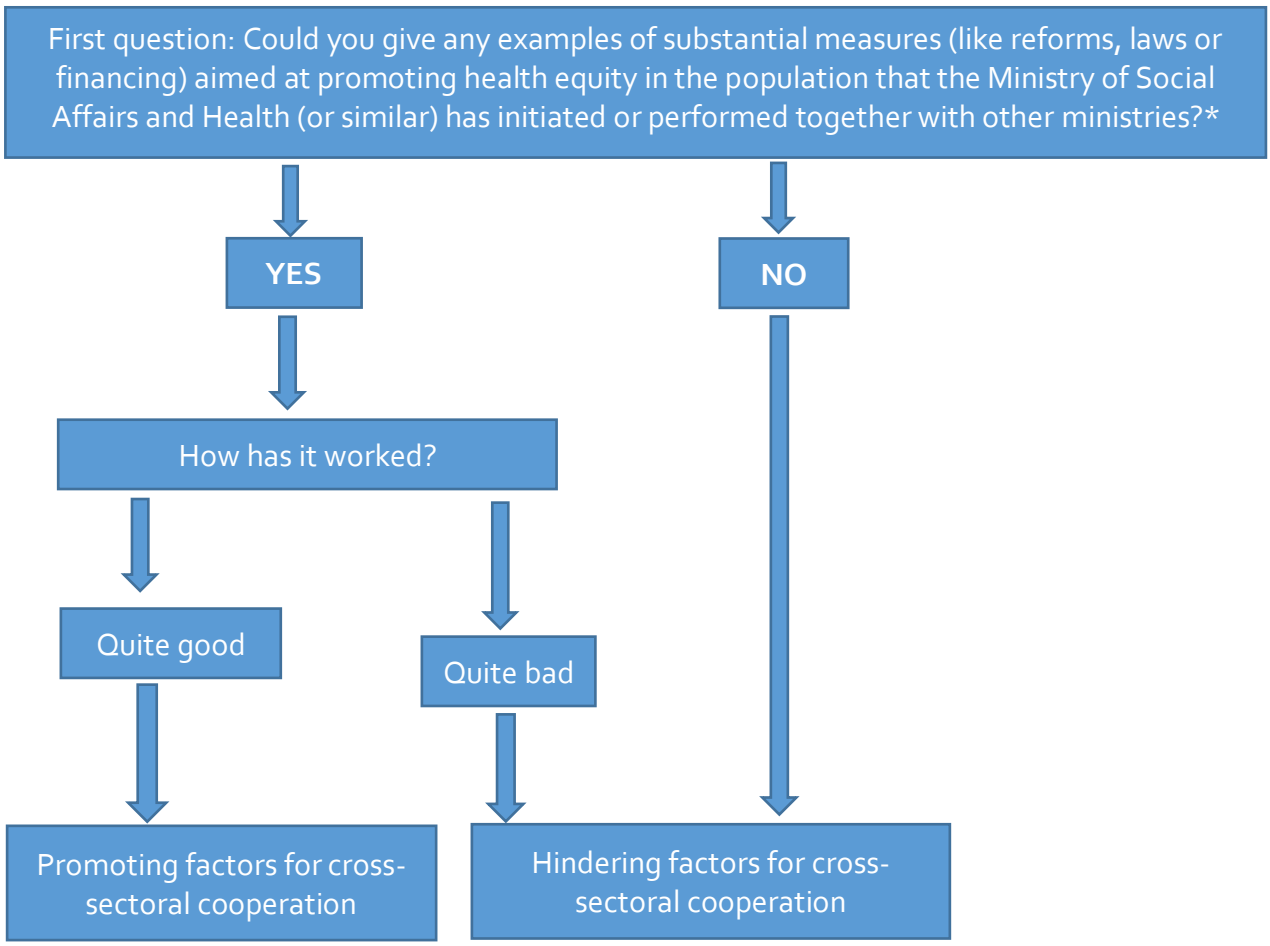
The interview guides

Two interview guides were developed, one for health and social ministries and one for other ministries responsible for welfare development. The point of departure for the interview guide aimed for health and social ministries was if

these ministries had cooperated with other ministries in order to initiate or implement substantial measures, like reforms, regulations, funding, or fiscal strategies, aiming to promote health equity in the population. The point of departure for the interview guide aimed for other ministries was if these ministries had cooperated with the health and social ministry on such measures mentioned above. Thus, only cooperation at *one level* (national) and *between ministries* (especially health and social ministries) were focused.

The initial interview question regarded if health equity promoting measures had been initiated or performed in collaboration between different ministries. Positive responses were followed up by questions on promoting factors for cross-sectoral cooperation, while negative responses were followed up by questions on hindering factors for cross-sectoral cooperation, see figure 2. Follow-up questions on both promoting and hindering factors were based on the concepts actors, structures and networks, see table 2. Knowledge about and impact from the international policy documents Health in All Policies (HiAP) and the Sustainable Development Goals (Agenda 2030) were also focused in the interview guide.

Figure 2. Flow chart for semi-structured interviews at health and social ministries



**Corresponding question for other ministries: "Could you give any examples of substantial measures (like reforms, laws or financing) aimed at promoting health equity in the population in which your ministry has collaborated with other ministries, in particular with the Ministry of Social Affairs and Health (or similar)?".*

Theoretical frameworks

The theoretical frameworks that were used to form the interview guides were actor oriented, structure oriented and dynamic, see table 2.

Table 2. Theoretical frameworks, focus and aspects in the interview guides.

Theoretical frameworks	Focus	Aspects	Reference
Actor-oriented frameworks			
Rational choice theory	Individual choices as a basis for action	Key actors, driving forces	(23)
Ideas-based approach	Political ideology as a basis for action	Key actors, driving forces, political stability	(23)
Group and network approach	Interaction between actors (ministries) as a basis for action	Formal and informal interactions between actors, distribution of power	(23)
Structure-oriented frameworks			
Institutional approach	Administrative context as a basis for action	Ministerial administration, political majority and stability, political and administrative support and opposition	(23)
Socio-economic approach	Socioeconomic factors as a basis for action	Political stability, financial situation	(23)
A combination of actor and structure-oriented frameworks			
Actor-structure approach	Combinations of actors, structures, and contexts as a basis for action	Different combinations of the aspects above	(24)
Dynamic networks			
Policy streams approach	Open policy windows as a basis for action	Policy entrepreneurs, policy windows, triggering factors	(25)

Actor oriented frameworks

- *Rational Choice Theory (23)* regards how individuals make choices. It could be about individual advantages, e.g. political or financial, but also about altruism. Rational choice theory may also explain some components in the actor-structure approach (see below).
- *Ideas-based Approaches* (23) focuses on how intentions and political orientation may impact individual actions.
- *Group and Network Approaches* (23) highlights the importance of interaction between different actors and networks in policy processes. When actors trust each other and interchange policy ideas room for action increase.

Structure oriented frameworks

- *Institutional Approaches* (23) describes institutions as a compilation of norms, rules, routines and underlying understanding, as well as the stability of an institution and its capacity to affect individuals.
- *Socio-economic approaches* (23) are focusing social and financial factors as foundations for action.

A combination of actor- and structure oriented frameworks

- *The Actor-Structure Approach (24)* describes how actors and structures cooperate or hinder each other. This theoretical angel might be useful in assessments on how structures on a workplace, e.g. a ministry, affect the individual, e.g. a public official, in a specific question, e.g. health equity.

Dynamic frameworks

- *Policy Streams Approach (25)* is composed by three so called "streams", problems, solutions and politics. If these "streams" cooccur, a policy window opens, which enable action. In the report "Tackling Health Inequalities Locally – the Scandinavian Experience" (9) this theory is related to health equity in all policy fields.

The interviews

A personal request with information about the project was sent to each suggested informant (Appendix 2). A time for interview was booked and information related to the interview situation was e-mailed in advance (Appendix 3). The information letters and the interview guides differed slightly between the health- and social ministries and the other ministries (not shown in the Appendices). An interview plan for interviews in Finland, Norway and Sweden was developed and a contract for transcription of 20-30 interviews was agreed upon. Finally, interviews were accomplished, based on an interview guide/checklist (Appendix 4).

Before each interview the website of the ministry in question was searched for potential health equity promoting measures to "keep in the back pocket" as examples. Interviews with public officials at nine ministries in Finland, eleven ministries in Norway and six ministries in Sweden were accomplished by the first author of this report (KG). The interviews with officials at the Ministry of Social Affairs and Health in Finland, the Ministry of Health and Care Services in Norway and the Ministry of Health and Social Affairs in Sweden were performed in collaboration with the subproject *"Nordic national policies to increase equity in health*". The interviews were done face-to-face at the ministries, with one to

three informants (in total 30 informants) in each interview, and took approximately 25 to 90 minutes. All interviews in Norway and Sweden and two interviews in Finland were performed in Swedish and seven interviews in Finland were done in English. All interviews except from one were tape recorded after approval from each informant. For the interview that was not tape recorded notes were taken by the interviewer. The informants' names were not recorded, and the records (coded with a letter-number combination) and the transcriptions were handled in accordance with the General Data Protection Regulation (GDPR) (26). After each interview a short summary was written by the interviewer and the record was coded and sent for transcription. Transcriptions were made verbatim by a company specialized on transcriptions and sent back to the interviewer in electronic format. When the transcriptions were checked by the interviewer the records stored at the company were removed. The interview part of the study was closed the 18th of May 2018, meaning that after that date no more reminders were sent.

The analysis

A thematic content analysis was made in several steps in an iterative process (27). All interviews were read several times and both deductive and inductive coding were performed. Responses to interview questions that could be answered with yes, no, or very brief were registered in an Excel document, as were responses to interview questions regarding health equity promoting measures and the international declarations and policy documents Health in All Policies (HiAP) and the Sustainable Development Goals (Agenda 2030). In order to assess the coding reliability an independent re-coding was performed.

Step 1: All interviews were read. Presence of measures that were suggested to promote health equity and initiated in collaboration between different ministries, in particular with the Ministry of Social Affairs and Health (or similar), and knowledge about HiAP and Agenda 2030 were marked in the text.

Step 2: All interviews were read a second time. Responses to interview questions that could be shortly answered (with yes, no or short spoken) were registered in an Excel document.

Step 3: All interviews were read a third time. A preliminary deductive coding was made, related to the purpose of the study as well as the theoretical base underpinning the interview guide.

Step 4: All interviews were read a fourth time. Meaning bearing units were marked.

Step 5: All interviews were read a fifth time. Parts in the transcribed interviews that were assessed to not at all be related to the research question were removed. Presence of measures that might promote health equity and initiated in collaboration between different ministries, in particular with the Ministry of Social Affairs and Health (or similar), were re-checked and marked in the text again.

Step 6: Responses to the interview questions regarding health equity promoting measures, HiAP and Agenda 2030 were registered in an Excel document.

Step 7: All interviews were read a sixth time. A preliminary inductive coding was made, main themes and sub-themes were suggested.

Step 8: The preliminary main themes and sub-themes were confirmed by citations from the interviews. When citations couldn't support a theme, it was either merged with another theme or removed.

Step 9: One interview from each country was independently coded by the second author (SB). The main aspects (measures, cooperation, policy documents and declarations) with coding examples were given to the re-coder as a basis for re-coding. The inter-coding agreement between the two coders was assessed. The agreement was initially found to be 78%, and after discussion 95%.

Results

The scoping review

The literature searches resulted in 222 articles. After relevance assessment of title and abstract in a first step and full text reading in a second step four articles remained for final analysis. According to the scoping review there is a lack of scientific studies on cross-sectoral cooperation with relevance for health equity at the ministerial level in the Nordic countries. However, a number of studies regarding national impact on regional and local levels were identified, especially from Norway, see Appendix 1. Summaries of the four studies that remained after relevance assessment of the scientific articles identified in the scoping review are briefly presented below (28-31).

In a case study from Norway, Torgersen, Giæver and Stigen (2007) describe the development of an inter-sectoral national strategy to reduce social inequalities in health (28). The strategy sets out direction for the Government and ministries' efforts to reduce social inequalities in health with the following focus: 1) annual budgets, 2) management dialogues with subordinate agencies, regional health enterprises, etc., 3) legislation, regulations and other guidelines, and 4) inter-ministerial collaboration, organizational measures and other available policy instruments. Thus, cross-sectoral collaboration at the departmental level was clearly suggested in the strategy. Operationalization of the strategy was also outlined, e.g. by decisions regarding inter-ministerial arrangements. An inter-ministerial working group with bureaucrats from seven ministries discussed concrete contributions from each of the ministries. A white paper was developed and later adopted by the parliament in June 2007. In this paper it is clearly demonstrated that health equity policies involves many different areas, like income, childhood conditions, work and working environment, health services, social inclusion of vulnerable groups, health behaviour, etc. Health diplomacy is suggested: "*The health sector may in some cases have to improve its role as a team player with the other sectors in policymaking. If there are initiatives for equity in other sectors, the health sector should first and foremost support these initiatives. The health sector should rather integrate health objectives in equity policies in other sectors through health diplomacy, than enforce own health targets on other sectors*." The following example from the article shows the understanding of the importance of connection between different policy areas at departmental level: "*If the Ministry of Education manages to ensure equity of education, they are giving a major contribution to equity of health*."

Shankardass et al. (2012) carried out a scoping review of inter-sectoral action for health equity involving governments (29). In this review 128 articles were identified describing inter-sectoral action in 43 countries, among others, Denmark, Finland, Iceland, Norway and Sweden. Inclusion criteria were: 1) action involving collaboration between more than one government sectors, 2) improvement to equity as a target outcome of inter-sectoral action, either implicitly or explicitly, and 3) intervention to prevent inequalities in health before they become clinically identifiable. Even though cross-sectoral cooperation at the departmental level was not an inclusion criteria 61% of the identified articles described national level government participation. However, the results in this review is not divided into different levels, which implies that information specific for the departmental level cannot be shown. Neither is it possible to separate results from the Nordic countries from the other 38 countries in this study. The authors conclude that the multi-actor processes were generally superficial and sometimes totally absent, and they ask for richer sources of information, such as interviews, in future publications.

Tapani Melkas (2013), the Ministry of Social Affairs and Health in Finland, describes national level development towards a Health in All Policies (HiAP) approach in Finland over four decades (30). Finland was a pioneer country in the HiAP programme in the European region, in close collaboration with the WHO. The Ministry of Social Affairs and Health has cooperated with several other ministries in public health issues, e.g. the Ministry of Agriculture and Forestry (nutrition), the Ministry of Transport and Communication (road safety, walkways and cycle routes), the Ministry of Employment and Economy (working life and employment), the Ministry of Environment (noise and air quality) and the Ministry of Education (sports and physical activity). An Advisory Board for Public Health, representing almost all administrative sectors and, from the beginning, with members from the highest ranks of the ministries, was established at the Ministry of Social Affairs and Health. It is suggested that a step forward could be to locate the Advisory Board for Public Health at the Prime Minister's Office. Despite awareness of key determinants of health in sectors beyond the health sector and despite emphasis on broad objectives and Governmental inter-sectoral work, health inequalities across social groups have remained large in Finland. The author refers to two interesting examples: a policy on diet and nutrition, and lowering the tax on alcohol. The first example regards the national dietary recommendations in Finland, which was developed by a nutrition committee, set up by the Ministry of Social Affairs and Health in the end of the 1970s. Despite conflicting views between agriculture and health aspects some objectives and policies, supporting the health angle, were agreed on. Subsequently, the following five ministries were assigned nutrition related tasks by a Coronary Heart Disease Committee: Ministry of Social Affairs and

Health, Ministry of Finance, Ministry of Agriculture and Forestry, Ministry of Education and Ministry of Trade and Industry, and the committee's proposals were successfully implemented within a few years. The second example describes the lowering of alcohol taxes in Finland in 2004, which resulted in a steep increase in alcohol-related morbidity and mortality. This is an example of a goal conflict between economic considerations and public health, and thus between the Ministry of Finance and the Ministry of Social Affairs and Health.

Pinto et al. (2015) describes how economic considerations influence the implementation of Health in All Policies (HiAP) (31). The study is based on interviews with key informants in Sweden, Quebec and South Australia. The results are not presented on country level, thus Swedish data cannot be separated from Quebec and South Australia. However, some aspects were consistently stated from the informants, e.g. that economic considerations are important in order to promote HiAP to non-health ministries and that funding for HiAP initiatives is important but not as important as high-level commitment to inter-sectoral collaboration. A limitation in this study is a lack of concrete examples.

Grey literature

The information gathered from ministerial websites in Finland, Norway and Sweden highlights the importance of communication, coordination, and empowerment through training and tools like health impact assessment for cross-sectoral collaboration on health equity.

Finland

The government action plan 2017-2019, *Finland, a land of solutions* (32), contains five strategic priorities and 26 key projects. The strategic priority area "Health and wellbeing" comprises the following five key projects: Customer-responsive services, Health and wellbeing will be fostered and inequalities reduced, Programme to restructure child and family services, Home care for older people will be developed and better informal care for all age groups, and Career opportunities for people with impaired work capacity. The huge Health and social services reform is also described in the action plan (32). The objective of the reform is to transfer the responsibility for health and social services from municipalities to counties and by that narrow differences in health among the population and control costs.

Norway

Two reports relevant for this study were found on ministerial websites in Norway. The *National strategy to reduce social inequalities in health* (33) describes a broad set of policy instruments to ensure that equity is promoted in all sectors, such as the use of impact assessment to assess distributional effects through steering documents and review and reporting systems. Collaboration between the Ministry of Health and Care Services, the Ministry of the Environment and the Ministry of Local Government and Regional Development should be established in order to give social inequalities in health a more central position in planning tools and regulations. Further, sets of indicators for social determinants on equity and residential environment quality should be developed and municipalities should be empowered to take social inequalities in health into account. In the *Public Health Report. Good health – a common responsibility* (34) it is stated that the realization of health in all policies is at the core of public health work and that sectors like the transport and communication sector, the education sector and the cultural sector all have a responsibility to assess the potential consequences for the health of the population of changes in policies.

Sweden

In June 2017 the Swedish Commission for Equity in Health presented the report *The next step towards more equity in health in Sweden - How can we close the gap in a generation?* (7). The Commission highlighted the importance of cross-sectoral work in order to reach the long-term efforts for good and equal health. To make this happen coordination with other cross-sectional perspectives is needed, which is in accordance with e.g. Agenda 2030 (7). In April 2018 a proposition responding to the suggestions from the Swedish Commission for Equity in Health was handed over from the Government to the Parliament (35). In June 2018 the Parliament decided to accept the suggestion from the Government to reformulate the Swedish national public health goal and restructure the Swedish public health goal structure.

The interview study

In total 26 interviews from an equal number of ministries were carried out from January to April 2018. Most of the approached senior officials at the ministries accepted to participate in the interview study. In Finland seven out of initially eight approached ministries responded positively. Later in the process informants from two additional ministries in Finland (Ministry of the Interior and Prime Minister's Office) were suggested by another informant. Thus, in total ten ministries in Finland were approached and nine interviews completed. In

Norway eleven out of twelve, and in Sweden six out of eight, approached ministries accepted to be interviewed. Thus, most of the ministries in Finland, Norway and Sweden that were assessed to be relevant are represented in the study. However, the following ministries, with great potential importance for health equity, denied to participate: Ministry of Finance in Norway, Ministry of Finance and Ministry of Education and Research in Sweden, and Ministry of the Environment in Finland. The interviews were completed in April 2018 and the analyses were performed during summer and early autumn 2018.

The results from the interviews are presented in three main sections: 1) Health equity promoting measures and cooperation between ministries, 2) Knowledge about and impact of international declarations and policy documents, and 3) Themes and sub-themes with a focus on cooperation at the ministerial level as well as promoting and hindering factors for such cooperation. The results under sections 1 and 2 are based on crude responses from the transcribed interviews, and the results under section 3 are based on inductive analyses of the transcribed interviews. In the section Themes and sub-themes citations from the informants underpins the presented results.

Health equity promoting measures and cooperation between ministries

One intention with the interviews with the senior officials was to find out if cooperation between different ministries might have inspired substantial measures in the form of reforms, regulations, funding, or fiscal strategies, with impact on equity in health. Health equity promoting measures were assessed from a broad perspective, e.g. reforms that counteract housing segregation, distribution policies that benefit vulnerable groups, or legislation that promote healthy living habits. Thus, cooperation at the national level and between ministries, and what may promote or hinder such collaboration, were considered.

All informants except two presented at least one, but often several measures intended to promote health equity, see table 3 (social and health departments) and table 4 (other ministries). In total, 79 measures were suggested by the informants. A focus on health equity, public health in general, or both of these concepts was explicitly expressed by the informants in the majority of the measures. Where uncertainties existed, assessments were made by the first author based on the nature of the measure. In 22 of the 79 measures, neither health equity nor public health in general could be clearly stated. The suggested measures were broad ranging and not always as substantial as was asked for in

the interview guides. Some measures had recently been finished, some were planned, and some had been newly initiated.
The three informants representing health and social ministries presented in total eleven measures. Six focused on health equity, e.g. a programme to restructure child and family services and a national action plan for dietary habits. Nine focused on public health in general, e.g. a national radon strategy and a national strategy for physical activity. The informants representing other ministries presented in total 68 measures. Twenty-three focused on health equity, e.g. a strategy against child poverty and a project regarding career opportunities for people with impaired work capacity. Thirty-seven focused on public health in general, e.g. a strategy for parental support and an action plan for outdoor activities.

Cooperation between ministries was common, see tables 3 and 4. The informants representing health and social ministries stated that cooperation with other ministries existed in all suggested measures, except for one for which information about cooperation was unclear. Regarding other ministries, the informants stated that cooperation existed with health and social ministries in 53 out of 68 reported measures.

Table 3. Health equity-promoting measures and cooperation between health and social ministries and other ministries. Information given by senior officials at health and social ministries in Finland, Norway, and Sweden.

Suggested health equity-promoting measures*	**Focus on health equity and/or public health in general**	**Cooperation with other ministries**
1. Career opportunities for people with impaired work capacity. Part of a Government key project: Health and wellbeing, including focus on inequalities, 2016-2018	Health equity Public health in general	X
2. Programme to restructure child and family services. Part of a Government key project: Health and wellbeing, including focus on inequalities, 2016-2018	Health equity Public health in general	X
3. National plan of action for better dietary habits, 2017-2021	Health equity Public health in general	X
4. Legislation and taxation on alcohol	Health equity Public health in general	X
5.Legislation and taxation on gaming, revision 2019	Health equity Public health in general	X
6. Customer-responsive services, aimed at increasing customer participation. Part of a Government key project: Health and wellbeing, including focus on inequalities, 2016-2018	Health equity Public health in general	X
National radon strategy, 2009-2014	Public health in general	X
National strategy for physical activity, 2005-2009. A new action plan will be released in 2019	Public health in general	X

One hour of physical activity in school. Government resolution 2017	Public health in general	Unclear
National transport plan, 2018-2029		X
Revision of the construction legislation, 2018		X

**Measures that are intended to directly promote health equity are numbered in order to facilitate referring to them in the text.*

Table 4. Health equity-promoting measures and cooperation between ministries. Information given by senior officials at ministries (except from social and health ministries) in Finland, Norway, and Sweden. (Some measures were suggested from several ministries, these are only displayed once in the table).

Suggested health equity-promoting measures*	**Focus on health equity and/or public health in general**	**Cooperation with the social and health ministry**	**Cooperation with other ministries**
1. National strategy for parental support, 2018-2021	Health equity Public health in general	X	X
2. Framing plan for preschools, including healthy eating and physical activity. Legislation from 2017	Health equity Public health in general	X	X
3. National action plan for improved eating habits, 2017-2021	Health equity Public health in general	X	X
4. Career opportunities for people with impaired work capacity. Government key project 2016-2018	Health equity Public health in general	X	X
5. National programme for youth employment and youth politics, including mental health, 2017-2019	Health equity Public health in general	X	X
6. Reform on basic social security and activeness, 2017-2019	Health equity Public health in general	X	X
7. Health and well-being. Government key project	Health equity Public health in general	X	X
8. A wellbeing and health promotion coefficient. Part of a health and social service reform (work in progress)	Health equity Public health in general	X	
9. Program for public health, 2014-2015	Health equity Public health in general	X	
10. National reform of social welfare and health care services, from 2015. Full implementation from 2019	Health equity Public health in general	X	
11. Chemical substance work. Continuous work	Health equity Public health in general	X	
12. Sustainable society construction. Research programme, 2018-2028	Health equity Public health in general		X
13. Disability politics. Government bill 2018	Health equity	X	X

14. Supplementary child health care visits in deprived areas, 2018-2020. Related to the reform programme against segregation	Health equity	X	X
15. A national programme aimed at children and young people, 2015-2020, with 64 measures among six responsible ministries	Health equity	X	X
16. National strategy against child poverty 2015-2017. Yearly allowance	Health equity	X	X
17. Multi-sectoral joint service enhancing employability. Legislation	Health equity	X	X
18. Individual placement and support (IPS). Related to the escalation plan for work and mental health	Health equity	X	
19. National reform for growth and employment, Europe 2020 strategy. Including poverty reduction targets	Health equity	X	
20. Social housing policy. Research programme, 2018-2028	Health equity		X
21. Reform programme against segregation, 2017-2025	Health equity		X
22. Crime prevention in urban planning. Ministerial cooperation, initiated 2018	Health equity		X
23. Wage subsidy aimed at promoting employment of the unemployed	Health equity		
Work environment strategies National strategy, 2016-2010	Public health in general	X	X
Escalation plan against drugs, 2016-2020	Public health in general	X	X
Escalation plan against violence and abuse, 2017-2021	Public health in general	X	X
Housing for welfare National strategy, 2014-2020	Public health in general	X	X
Escalation plan for work and mental health, 2013-2016	Public health in general	X	X
Good and effective health, care, and welfare services. Research programme, 2015-2025	Public health in general	X	X
National dietary advice	Public health in general	X	X
Sugar tax, 2018. A revised taxation to the level of 2017 is suggested	Public health in general	X	X
Marketing of unhealthy food and beverages aimed at children. A national self-regulating system	Public health in general	X	X
National strategy for sexual health, 2017-2022	Public health in general	X	X
National action plan for outdoor activities	Public health in general	X	X
National exercise policy, work in progress	Public health in general	X	X
National food policy, 2016-2019	Public health in general	X	X
Escalation plan for mental health among children and young people, from 2019	Public health in general	X	X
National strategy for an elderly-adapted society, from 2016. Related to evaluation of public health politics	Public health in general	X	X

National quality reform for elderly people, 2019-2023	Public health in general	X	
National nutrition programme to increase seafood consumption among children, from 2007	Public health in general	X	
Medical products in the environment. Continuous work	Public health in general	X	
Primary health care report	Public health in general	X	
Live your whole life. Elderly reform, 2017-2018	Public health in general	X	
Swimming education. National strategy, 2016-2017	Public health in general	X	
Free fruit in school. National mission, partly financed 2017	Public health in general	X	
Sugar tax, 2011-2014. In 2014 the tax was planned to be expanded but instead it was removed	Public health in general		X
National grant aiming to increase seafood consumption in the population, from 2015	Public health in general		
National walking and cycling programme, 2018-2019. Ten sets of measures aiming to increase levels of walking and cycling by 2030	Public health in general		
Labour market strategies for immigrants, young people, and long-term unemployed. General labour market politics, related to the reform program against segregation		X	X
Local government reform. National welfare reform, from 2015		X	X
National strategy for better coordination in the administration for prison inmates, 2017-2021		X	X
National action plan against discrimination related to sexual orientation, gender identity, or expression, 2017-2020. With 43 measures among eight responsible ministries		X	X
National action plan for universal construction and availability, 2015-2019. With 47 measures among eleven responsible ministries		X	X
Escalation plan for rehabilitation and habilitation, 2017-2019		X	X
Government programme for financing of local authorities		X	X
Climate strategy National strategy, 2017-2045		X	
Dissemination of programmes against intimate partner violence		X	
National centre for food, health, and physical activity		X	
Non-discrimination act, from 2015		X	
National strategy for internal safety		X	
Dissemination of a programme for juvenile criminals		X	
National strategy against hateful behaviour, 2016-2020			X

National action plan against anti-Semitism, 2016-2020			X
Leisure declaration Yearly allowance			X
Regional contracts for functional transports Local agreements related to the national transport plan			X
National transport plan, 2018-2029			
Act on equality between women and men from 1987			
Act on transport services, in three phases, starting in 2018			

**Measures that are intended to directly promote health equity are numbered in order to facilitate referring to them in the text.*

Knowledge about and impact of international declarations and policy documents

Knowledge about and impact of Health in All Policies (HiAP) and the Sustainable Development Goals (Agenda 2030) were focused in the interview guide, since such international declarations and policy documents might affect health equity promotion activity at the national level. Agenda 2030 was better known among the informants than was HiAP, see table 5. Awareness was however not always followed by impact, which regarded both HiAP and Agenda 2030.

Eight informants out of 26 were aware of HiAP, five had heard about it and 13 didn't recognize it at all, see table 5. Of the eight informants who responded that they were aware of HiAP five had perceived impact of it at work. In Finland, which was one of the forgoing countries regarding HiAP, the knowledge was better with five out of nine informants being aware of HiAP, two being unaware, and two having heard about it. Nineteen informants out of 26 responded that they were aware of Agenda 2030, five had heard about it and two didn't know it at all, see table 5. Of the 19 informants who responded that they were aware of Agenda 2030 14 had perceived impact of it at work.

Table 5. Awareness and impact of the international policy documents Health in All Policies (HiAP) and the Sustainable Development Goals (Agenda 2030) in 26 ministries in Finland, Norway and Sweden.

Health in All Policies		The Sustainable Development Goals	
Awareness	**Impact**	**Awareness**	**Impact**
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	No
Yes	Yes	Heard about it	No
Yes	Don't know	Yes	Yes
Yes	Don't know	Yes	No
Yes		Yes	Yes
Heard about it		Yes	Yes
Heard about it	No	Yes	Yes
Heard about it	No	Heard about it	Yes
Heard about it		Yes	No
Heard about it	No	Yes	No
No		Yes	Yes
No		Yes	Yes
No		Yes	Yes
No		Yes	Yes
No		Yes	Yes
No		Heard about it	Yes
No		Yes	No
No		Yes	No
No		Yes	No
No		Heard about it	No
No		Heard about it	No
No		No	
No		No	

Agenda 2030 and HiAP are intended to be highly relevant for public health and health equity. This was, however, not reflected in the interviews. Even though most informants were aware of Agenda 2030, the impact sometimes seemed to be modest.

> *Yes, I think it [Agenda 2030] is a very good thing. I believe that it could contribute to breaking down the silos and making those working at the ministerial level to look more broadly at things. Because it's quite important*.

> *At the moment we are not very strongly connecting to it [Agenda 2030]. We are aware of it, and our ministry has certain responsibilities in it, but it hasn't really been implemented very closely with our national policy making. That's my impression. Yeah, we are not connecting them as tightly as we could.*

> *I wouldn't say affecting, but supporting. Agenda 2030 hasn't been an engine, but a supporting argument for the importance of this action. Thus, nothing new. But it gives extra weight for doing this.*

> *At least I think that it's promising. But right now it's still a bit of abstract, but let's see how it develops*.

> *Yes, well I've heard about it. But it doesn't affect anything that we are involved in.*

HiAP was mainly recognised in Finland, where five out of nine informants were aware of HiAP, and four of these perceived its impact in their work. Several informants suggested other acronyms, like NiAP (Nutrition in All Policies), EiAP (Employability in All Policies), and WSA (Whole of Society Approach). One informant went deeper into the problem with trying to convince other policy areas to adopt health equity issues. The health perspective is not the only perspective.

> *Because we have been working on that quite a lot in Finland. We have had two big perspectives in our Health in All Policies. One is how we get other sectors to work together with us when we are trying to solve our problems. The other would be how we can influence the other sectors when they are carrying out their own responsibilities. How we can influence their policies and their decision-making so that they will take health and well-being into account.*

Other all-embracing issues [than health] are much more well-known and much more active. So, if you compare public health politics with gender equity politics. HiAP is in fact similar to gender equity integration, but it's not at all possible to compare. Everybody knows that you have to integrate gender equity, how it is done and why, but very few know about HiAP.

In gender equality it's really the same idea, that you should mainstream a perspective in other policy areas where it's not the main interest. So I'm very familiar with the philosophy. But when I work in gender equality issues, I thought that it's an intellectual dead-end. Because it results in a system where other people say that I want that too. So you can have the first people who pick up the idea, and then the next people come, and they want Health in All Policies, and then the next one, entrepreneur perspective, and then environment, then you have sustainable development, and then children.

Themes and sub-themes with a focus on general cooperation at the ministerial level and promoting and hindering factors for such cooperation

The following themes emerged from the inductive coding of the transcribed interviews: the Policy-related theme (described above under Knowledge about and impact of international declarations and policy documents), the Organisation-related theme, the Public health and competence-related theme, the Actor and context-related theme, and the Inter-ministry cooperation in general theme. Further, two separate themes were formed by Promoting and Hindering factors for cooperation at the ministerial level. According to the purpose of this study, the Inter-ministry cooperation in general theme and the themes reflecting Promoting and Hindering factors for cooperation are presented here. The inductive perspective indicates that the "story line", in this case starting with a health equity-promoting measure, is not strictly controlled by the interviewer. Thus, the results and citations in this section could be either related to a specific measure or meant to be more general.

As described above, the informants declared that cooperation between ministries existed in a majority of the given measures. However, a number of both hindering and promoting factors for cooperation were stated by the

informants, sometimes related to specific measures, but mostly meant to be more general, see table 6.

Table 6. Promoting and hindering factors for cooperation between ministries in Finland, Norway and Sweden.

Promoting factors	**Hindering factors**
Political ambition	Insufficient dissemination of information
Routines for handling goal conflicts	Information overload
Shared ownership of an issue	Extreme formalizing
Synergies between different sectors	Complexity
Measurements of the outcomes	Unclear distribution of responsibilities
Marketability	Lack of resources
	Lack of time
	Lack of competence
	Lack of knowledge
	Lack of political will
	Staff turnover
	Culture differences between ministries
	Goal conflicts

Inter-ministry cooperation in general

In total, the informants stated cooperation with other ministries, including health and social ministries, in 72 out of 79 measures. Most informants meant that cooperation between health and social ministries and other ministries was both important and a routine. Some informants reported daily or weekly contacts between the ministries. However, some informants in all three countries expressed poor or no cooperation with the health and social ministry.

The informants indicated both advantages and disadvantages with cooperation. On the one hand, knowledge transfer might be facilitated and the final proposals might be more valuable. On the other hand, cooperation with other ministries takes time from other assignments and was by some officials perceived as "*not giving any cred*". Cooperation might be felt as a strain when a ministry puts pressure on another ministry in order to achieve a common goal.

> *Often, we who work in this ministry experience that other sectors wish that we should do things, use money and resources. And that's always a dilemma*.

The quality of a proposal might also be deteriorated by cooperation because different ministries might have different perspectives on a common issue. A common proposal requires agreement, and this is often achieved by means of vague wordings, which might worsen the quality of a proposal.

Promoting factors for cooperation

A number of informants emphasised that political ambitions were crucial for cooperation between the ministries. The introduction of free school meals in Finland many years ago was given as an example. At that time Finland was a relatively poor country, but political convictions triumphed over finances. Clear mandates, anchoring, and documented assignments were other promoting factors.

> *Resources are always a problem. No, nearly always. For prioritized things there are mostly resources*.
>
> *It's evident that big political reforms, that is wind. Then it's just to cruise relative to that wind.*
>
> *In order to get something important forward it has to be in the government programme, you need to have an official group, an official mandate. And then you have a little bit more leverage to make other ministries work towards the same goal. So that needs to be the official structure*.
>
> *But what is important is that it is anchored in the government and recognizable in central documents, like the budget, and steering documents, like instructions to agencies.*

It was helpful to have routines for handling goal conflicts.

> *Different ministries have different interests, and goal conflicts might appear. We have processes for this as well, and goal conflicts and other unsolved issues are lifted stepwise at the ministry until the problem is solved. No question reaches the politicians until all knots are untied, or until suggestions for solutions exist*.

Some additional aspects were reported to promote cooperation between ministries, including shared ownership of an issue, synergies between different sectors, measurements of the outcomes, and marketability. "*What you measure gets done*", was a statement that several informants agreed upon as a promoting factor.

This is a shared responsibility of two ministries. When you have a shared responsibility, you possibly can require more resources to be allocated even time-wise. But if it is the responsibility of one ministry only, it's difficult to sort of make the others to allocate their resources, and to feel that they need to participate.

Hindering factors for cooperation

Several informants mentioned information-related problems, including both information overload and insufficient dissemination of information. Extreme formalising, complexity, and unclear distributions of responsibilities were also mentioned by the informants as hindering factors for cooperation between ministries.

I believe that the biggest challenge is the fear for bureaucracy. I think that is a reality. There are so many boards, councils, and networks that people are using a lot of time for. And this government produces, like previous governments, numerous strategies and action plans. Thus, when you are done with one strategy, you start with the next.

One cannot expect that officials working with, for example, traffic policy should, uncompelled and voluntarily, search for information regarding their policy area's impact on population health and health equality and at the same time be updated on effects of gender equality and all discrimination aspects. It's too much.

But there is enough knowledge, there are loads of plans and information from the social and health ministry. There is enough information, but the question is to what extent all these plans and brochures and everything that we are producing are used? They are often forgotten, on a shelf or a website.

So one problem is of course nowadays that you have so much information that you don't really have the time to kind of consume it all. And yeah, and with the email and social media, and yeah, it takes a lot of time. I suppose it's the same in every ministry and country.

Other themes that emerged as hindering factors were lack of resources, lack of time, lack of competence, lack of knowledge, lack of political will and staff turnover.

Everything that costs money will meet resistance.

A lot of text is produced, without real significance. Because no money follows. We have a lot of plans, but without money in the other end it will remain just words.

First of all, well, all the civil servants are very busy, so you need to convince them or their directors of the fact that it is relevant for their ministry as well to participate in the work.

Those who are working with this issue in other ministries know nothing about it, because they have not been given any knowledge and they haven't tried to find out themselves.

Because then, if somebody moves away from the position, and you get the new person there, suddenly you may not have such good collaboration.

Culture differences between ministries and goal conflicts were mentioned as hindering factors for cooperation.

You have to involve many ministries and ministers, and all of them look differently at the world and have different pain thresholds for what to accept.

And then it's like, all ministries have their own culture. Even though one try to harmonize.

Discussion

The combination of a lack of relevant research and a complex topic, which is difficult to assess with quantitative methods, led us to a qualitative study design, as suggested by Shankardass et al. (29).

This study indicates that a substantial number of measures aimed at health equity promotion have been initiated by ministries in Finland, Norway, and Sweden, and that collaboration between ministries seemed to be well-functioning. Information on ministerial websites in Finland, Norway, and Sweden highlighted the importance of coordination and cross-sectoral collaboration for promoting health equity (7, 32-34).

The starting point of this study was to investigate measures that might reduce health inequalities. Health inequalities might either be relative or absolute (36). When health is improved, e.g. assessed as reduced mortality, usually all groups are affected and absolute differences decrease. Thus, there is no clear difference between improving public health in general and decreasing absolute health inequalities. This was not specified in the interviews.

Before discussing possible advantages with cross-sectoral collaboration at the ministerial level, the potential of the measures that were given by the informants has to be considered. Even though the interviews did not focus on the effectiveness of the measures, sufficient information is at hand for a rough analysis.

Potential effects of reported health equity promoting measures

Promising measures, e.g. a national programme for youth employment, a national strategy against child poverty, a national reform for growth and employment, and wage subsidies aimed at promoting employment of the unemployed might all decrease inequalities in health. The two aspects that are tackled are low employment rates and low incomes. A theoretical analysis indicated that if the employment rate among low-educated adults were to be increased to the same level as in the high-educated group, this would result in a 3.2% reduction in mortality in the low-educated groups in Finland, Norway, and Sweden (37). A similar decrease in poverty rates would result in a 6.9% reduction in mortality in the low-educated groups (37).

In order to increase the employment rate in the low-educated group, a measure needs to be of sufficient magnitude. In Finland, Norway, and Sweden the total adult employment rate remained essentially unchanged during the period 2000–2017 (at about 73.5%) (38). The employment rate in the high-educated group slightly increased to 87.5% in 2014. In the low-educated group, however, the employment rate decreased during the period, from 62.6% in 2000 to 59.6% in 2017. Therefore, quite substantial efforts are probably needed to increase the employment rate in the low-educated group to the level of the high educated. However, the information from this study did not indicate that such substantial efforts were planned. Similar problems apply to poverty reduction. According to the OECD, the rate of poverty (income less than 50% of median income after taxes and transfer payments) in Finland, Norway, and Sweden was essentially unchanged at 26% during the period 2004–2015 (38). Poverty reduction has been on the agenda for a long time, but previous measures have obviously not been sufficient to change the trend. That is, in spite of increased social spending in all three countries, from 23.3% (as percentage of GDP) in 2000 to 27.7% in 2016, there has been no associated decrease in poverty rate. Therefore, it is not apparent that the proposed measures are sufficient to reduce the poverty rate.

Thus, even though measures aimed at unemployment and low income are promising, the proposed measures seem to be insufficient. This might be due to the cost of extensive reforms. Support for this notion is given by Pinto et al. who described how economic considerations influence the implementation of HiAP at the national or province level in Sweden, Quebec, and South Australia (31). In their study, governmental informants consistently stated that economic considerations were important.

Legislation and taxation on alcohol is another promising candidate for reducing health inequalities. In Western Europe, alcohol accounted for 6% of all disability-adjusted life years (DALYs) in 2017 (39). In countries like Sweden, the use of alcohol contributes to inequalities in health (40), and the impact of a potential tax increase is expected to be proportional to its magnitude (41). A Finnish study indicated that taxes affect low-educated people more than high-educated people (42). Furthermore, an umbrella review by Thomson et al. showed that a decreased tax on alcohol led to increased health inequalities (43). Accordingly, a sufficient magnitude of tax increase will probably decrease inequalities in health. In Sweden, the recent tax increase on alcohol (January 2017) was modest at 1% for liquors and 4% for other alcoholic beverages (44). Despite previous alcohol tax increases (2008, 2014, and 2015), the actual price on alcohol has decreased since 1998 (44). Thus, it is questionable if the latest alcohol tax increase will result in detectable effects on health inequalities in Sweden.

Another limitation regarding some measures was the size of the target group. Measures dealing with working opportunities for people with limited work capacity, disability politics and support for individuals outside the labour market are all valuable. However, the limited sizes of the target groups indicate that even with effective interventions the outcome will probably be too small to be discernible at the population level.

A major objective of support to parents in high-income countries is to decrease behavioural problems in children (45). Such problems, however, only account for a small part of the burden of disease. This health problem, e.g. in Norway 2017, accounted for 0.25% of all DALYs lost (39). Thus, even if measures like targeting child and family services and child health care are successful, the effects on the population level would be quite limited.

Other potential limitations refer to the speed of current time trends, and it is questionable if a single governmental initiative might be able to discernibly affect a strong trend, either positive or negative. Several measures in this study aim at improved dietary habits and increased physical activity. This is relevant because, for example, in Norway in 2017 dietary risks accounted for 8% of all DALYs (39). This risk factor, however, is already rapidly decreasing. Thus, in Norway dietary risks accounted for 5,000 DALYs/100,000 people in 1990, while in 2017 these risks only accounted for 2,100 DALYs/100,000 people. The decrease of physical inactivity was similar to the rate of dietary risks (39). It is not a given that new governmental measures will affect such a trend.

One of the given measures consisted of a research programme on social housing policy. Obviously, research is essential and the topic is of importance for health equity. However, it is not certain that research findings will result in effective and substantial activities that will reduce national health inequalities, at least not in a viewable future.

A significant potential limitation is a lack of evidence for a proposed measure. Several measures were only described in general terms, although the lack of details does not preclude that the measures include components that might be effective. A requirement, however, is scientific support of effectiveness. Two recently published studies have reviewed empirical studies of effectiveness of measures that aim at reducing health inequalities (43, 46). Thomson et al. assessed primary prevention intervention effects of fiscal measures, regulation, and communication (43). No studies on fiscal measures reached high study quality. Regarding regulation and communication, high-quality studies showed that only water fluoridation and a national tooth-brushing campaign had positive intervention effects (43). Vilhelmsson et al. reviewed measures that aim

at reducing health inequalities by means of targeting behavioural factors. They only found one intervention (aimed at use of mammography) showing effect, although weak (46). The authors conclude that solid evidence for interventions aimed at individual determinants of health is lacking.

Cross-sectoral cooperation at the ministerial level

Most informants reported that cooperation between the ministries was well-functioning, but also that such cooperation was a part of their regular work in all fields and not explicitly regarding health equity. Agenda 2030 and HiAP were seldom spontaneously mentioned when the informants reported different measures. Thus, it is unlikely that such international declarations and policy documents had had any major effect on cross-sectoral cooperation at the ministerial level.

The need for cross-sectoral cooperation is well established for a number of other aspects than health, like gender, environment, child wellbeing, etc. To take several perspectives into account is demanding and might therefore compromise the quality of the final proposal. The result might be vague wordings that in turn might endanger the efficiency of a proposal.

Study limitations

In all, only 26 interviews were performed (with a total of 30 informants). Because the selection of informants emanated from initial recommendations from representatives from Finland, Norway, and Sweden at the Nordic Arena for Public Health Issues, they were reasonably representative. As expected not all ministries agreed to participate in the study, despite several reminders. The Ministry of Finance in Norway and Sweden, the Ministry of Education and Research in Sweden and the Ministry of the Environment in Finland denied participation. It is, however, unlikely that this limitation would refute our main findings.

Ethical considerations

The data collection was made from governmental administrations. Neither data gathering nor presented results affect single individuals. Thus, ethical application was assessed not to be needed.

Conclusion

Inequalities in health continue to increase also in the Nordic welfare countries. In this study we have shown that a substantial number of measures that are intended to promote health equity have been initiated by the ministries in Finland, Norway, and Sweden. In general, cooperation between the ministries was, by the informants, told to be well-functioning. We discuss limitations in the reported measures, mainly regarding effectiveness and magnitude, which make clear effects on inequalities in health at the population level unlikely.

Thus, lack of cooperation does not seem to be a major issue here. Instead, the main problem might be a lack of effect of the proposed measures, either due to lack of evidence or insufficient dose. This might in turn be due to lack of political commitment.

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Appendices

Appendix 1. Relevance assessment of full text articles

Authors	*Research question**	*Published year*	*Publication language*	*Nordic country*	*Health equity*	*Included or excluded*
Axelsson & Bihari Axelsson	No	2006	English	No	No	Excluded
Bihari Axelsson & Axelsson	No	2009	English	No	No	Excluded
Browne & Rutherfurd	No	2017	English	Finland is mentioned	Yes	Excluded
Carey & Crammond	No	2015	English	No	No	Excluded
Carey, Crammond & Keast	Yes	2014	English	No	Yes	Excluded
Christensen, Fimreite & Laegreid	Yes	2014	English	Norway	No	Excluded
Filho et al	No	2016	English	Danmark and Finland are mentioned	No	Excluded
Fosse	No	2011	English	Norway	Yes	Excluded
Fosse	No	2009	English	Norway	Yes	Excluded
Fosse & Helgesen	No	2017	English	Norway	No	Excluded
Fosse & Strand	No	2010	Norwegian	Norway	Yes	Excluded
Hagen, Torp, Helgesen & Fosse	No	2016	English	Norway	Yes	Excluded
Helgesen, Fosse & Hagen	No	2017	English	Norway	Yes	Excluded
Kokkinen et al	No	2017	English	Finland	Yes	Excluded
Linell, Richardson & Wamala	No	2013	English	Sweden	Yes	Excluded
Melkas	Yes	2013	English	Finland	Yes	**Included**
Ollila	No	2011	English	Finland as an example	No	Excluded
Oneka	No	2017	English	No	No	Excluded
Pinto	Yes	2015	English	Sweden (one of three cases)	Yes	**Included**

Povlsen et al	No	2014	English	Danmark, Finland, Norway and Sweden	Yes	Excluded
Rod	No	2018	English	Scandinavia	Yes	Excluded
Shankardass et al	Yes	2012	English	All Nordic countries	Yes	**Included**
Strand & Fosse	No	2011	English	Norway	Yes	Excluded
Synnevåg, Amdam & Fosse	No	2017	English	Norway	No	Excluded
Sörensen	No	2016	English	Norway	No	Excluded
Tallarek née Grimm, Helgesen & Fosse	No	2013	English	Norway	Yes	Excluded
Torgersen, Giaever & Stigen	Yes	2007	English	Norway	Yes	**Included**
Tosun & Lang	Yes	2017	English	Norway is mentioned	No	Excluded
Van der Wel, Dahl & Bergsli	No	2016	English	Norway	Yes	Excluded

**Which factors promote respectively hinder cross-functional cooperation at the departmental level in the Nordic countries?*

Appendix 2. Request with information about the project

Name 2018-xx-xx
Ministry
Country

Cross-functional cooperation at the departmental level

Public health policy in the Nordic countries has as its starting point that different ministries should cooperate. This is, in practice, not that easy. Therefore, the Nordic Public Health Arena has initiated the project "*Equal health conditions at national level*" financed by funds from the Nordic Council of Ministers. Finland's representative in the Nordic Public Health Arena is NN.

I have been commissioned by the Nordic Welfare Center to be responsible for the subproject "*Cross-functional cooperation at departmental level*", an interview study that, in addition to Finland, also involves Norway and Sweden (project plan attached). Interviews with senior officials at ministries responsible for actions that promote public health (even though health might not be the purpose of the action) will be accomplished within the framework of the project. The informants may have some kind of connection to public health issues from a broad perspective, especially regarding equity in health, for example Agenda 2030 can count.

I have received your name from NN, Ministry of Social Affairs and Health, and I hope that you will participate in the study. I plan to conduct the interviews (in Swedish or English based on the wishes of the informants) in Finland during March and April. If you have the opportunity to attend, I will return with more information and suggestions on times for an interview. If you cannot participate, I'm grateful for suggestions for other people to contact in your area of business.

Kind regards,

Karin Guldbrandsson
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Attached document
Project plan

Appendix 3. Information related to the interview situation

Interview information

Thank you for participating in the study "*Cross-functional cooperation at departmental level*" which forms part of a larger Nordic project funded by the Nordic Council of Ministers.

I will interview a total of about 25 officials at departmental level in Finland, Norway and Sweden. The aim is to try to identify promoting and hindering factors regarding cross-functional cooperation at the departmental level, with particular focus on equity in health.

Because health in a population is affected by efforts from many different sectors of society, not only health care but also education, labor, social services, social security, finance, urban planning, communication, etc., efforts from different ministries are needed. Agenda 2030 is an example of inter-ministerial cooperation that can lead to efforts for a more equal health, see examples from the Swedish government below. The picture shows that the responsibility for the 17 goals in Agenda 2030 is shared by all ministries.

We want to find out if cooperation between different ministries may have inspired concrete actions in the form of reforms, laws or funding with impact on equity in health. We look at equal health initiatives from a broad perspective, such as reforms that counteract housing segregation, distribution policies that benefit weaker groups or legislation that promote healthy living habits.

The project is therefore aimed at investigating:

• If incentives from or cooperation with the Ministry of Social Affairs and Health (usually responsible for the overall public health issues) have resulted in action at other ministries

• *Not* if cooperation between ministries has resulted in action in municipalities, county councils, etc.

• Thus, only cooperation at *one level* (national) and *between ministries*
• What may promote or hinder such collaboration

The interviews may result in one of two possible tracks. In cases where actions that promote equity in health in the population (even if this not was the main purpose) were initiated by or developed in collaboration with the Ministry of Social Affairs and Health, questions about *promoting factors* for cross-functional cooperation are raised. In cases where no such measures have been initiated or developed, or where collaboration have not given any concrete results, *hindering factors* for cross-functional cooperation are investigated. Regardless of the traces, the questions will be about contextual and structural factors as well as about actors.

Each interview is estimated to take a maximum of 60 minutes. The interviews are recorded after the informant's approval. The material is treated confidentially. It is voluntary to participate in the study and participation can be interrupted during the course of the study.

The result of the study will be published in a report as well as in a scientific article and presented at a conference in Stockholm in November 2018, when Sweden holds the presidency of the Nordic Council of Ministers.

Appendix 4. Interview guide/checklist

Questions/topics	***Responses***
Could you give any examples of substantial measures (like reforms, laws or financing) that have been initiated at your ministry and which might promote health equity in the population? Has any of these measures been initiated by or developed together with the Ministry of social affairs and health? **If no substantial measures have been initiated by or developed together with the Ministry of social affairs and health, continue to Question/Topic 4 (Barriers to co-operation)**	
How important do you believe that the chosen measure is in regards to promotion of health equity in the population? Could this measure have been developed and accomplished without co-operation with the Ministry of social affairs and health?	
1. Context	
Du you know if there were any specific event or expressed need that might have functioned as a trigger for the chosen measure? (E.g. political or financial crisis, media debate or internationally highlighted issue)	
Are you familiar with Health in All Policies (HiAP)? If yes, do you know if HiAP has influenced the work with the chosen measure, and if it has, could you describe how?	
Are you familiar with Agenda 2030? If yes, do you know if Agenda 2030 has influenced the work with the chosen measure, and if it has, could you describe how?	

2. Structures	
What about political power and balance in relation to the chosen measure? (E.g. would it matter if the opposition was strong or weak?)	
What about organisational support in relation to the chosen measure? (e.g. from leaders, politicians or others)	
What about organisational barriers in relation to the chosen measure? (E.g. from leaders, politicians or others)	
Do you know if there are any formal networks in relation to the chosen measure? (within or between ministries)	
Do you know if there are any informal networks in relation to the chosen measure? (within or between ministries)	
Do you think that the level of competence has affected the chosen measure in any way?	
Do you think that the level of resources has affected the chosen measure in any way?	
3. Actors	
Do you know if there have been any policy entrepreneurs involved in the development of the chosen measure? (motives, individual character, background)	
What do you know about collaborators in relation to the chosen measure? (allocation of power, interaction)	
Has there been any politician with pronounced responsibility for the chosen measure?	
Has there been any senior official with pronounced responsibility for the chosen measure?	

Do you know if there are any documentation that could be useful for me, to increase my understanding?	
Do you have any suggestions about further informants?	

Thank you! I will send the final report to you in due time, probably at the end of 2018.

4. Barriers to co-operation	
4 a) If there is a substantial measure (reform, law or financing) that might promote health equity in the population that has been initiated at your ministry without any co-operation with the Ministry of social affairs and health … … How important do you believe that this measure is in regards to promotion of health equity in the population? ... could this measure have been developed and accomplished in co-operation with the Ministry of social affairs and health?	
4b) If no substantial measures could be identified	
Are you familiar with Health in All Policies (HiAP)? If yes, how do you assess HiAP in relation to the general work at the ministry?	
Are you familiar with Agenda 2030? If yes, how do you assess Agenda 2030 in relation to the general work at the ministry?	
Do you belive that co-operation between your ministry and the Ministry of social affairs and health could be favourable in	

order to develop and accomplish measures aiming to increase health equity (even if health equity isn't the primary purpose)? If so, why and how?	
Why do you believe that co-operation between your ministry and the Ministry of social affairs and health hasn't existed or hasn't functioned regarding measures aiming to reduce inequalities in health? (see structures and actors above)	

Nordic Welfare Centre