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Cross-sectoral cooperation at the ministerial level in three Nordic countries - With a focus on health inequalities

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ABSTRACT

To reduce health inequalities requires interventions that address the social determinants of health. The responsibilities, at the ministerial level, for these determinants are mainly situated outside the ministry of health. Accordingly, interventions to reduce health inequalities require coordination between the ministry of health and other ministries. Yet, a large literature in public administration has demonstrated that cross-sectoral cooperation is hard to achieve. The goal of this paper was to examine whether inter-ministerial cooperation relating to the reduction of health inequalities is occurring in practice. Semi-structured interviews were performed with senior officials at 26 ministries in Finland, Norway, and Sweden. The interviews were analyzed both qualitatively and quantitatively. The point of departure was a question 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. The informants reported 80 measures intended to promote health equity and stated inter-ministerial cooperation for 65 of these measures. Many informants described that cooperation between the ministries was routine and well-functioning. Thus, there was no recorded lack of inter-ministerial cooperation. However, the measures that were reported, seemed to be insufficient to reduce health inequalities, both due to lack of extent and lack of effectiveness. This might be due to insufficient political commitment to tackle health inequalities. If so, the WHO Health in All Policies approach might not be effective.

1. Introduction

Reducing health inequalities is an international goal that is part of the WHOs agenda (Commission on Social Determinants of Health, 2008; Ståhl et al., 2006). To reduce health inequalities requires interventions that address the social determinants of health, e.g. the level of education, the level of unemployment, the financial situation of different groups and taxes on alcohol and tobacco. The responsibilities, at the ministerial level, for the social determinants of health are mainly situated outside the ministry of health, e.g. in the ministry of education, ministry of labor, and ministry of finance. Accordingly, interventions to reduce health inequalities require coordination between the ministry of health and other ministries.

A large literature in public administration has demonstrated that cross-sectoral coordination is hard to achieve (Peters, 2015). Peters states that "*coordination remains a central problem for political and administrative leaders*", depending on e.g. lack of information, time and trust, financial or political costs, the autonomy of ministries, and different professional and organisational ideologies. Most of the rewards that are available within the public sector, for politicians and especially for civil servants, arise from working within a particular policy silo, rather than finding ways to create linkages with others. Thus, the main incentives for individual actors (individuals and organizations) are to maintain status quo, which means not to invest in cooperation. Specifically, although the WHO has advocated a Health in All Policies approach (HiAP) (Ståhl et al., 2006) it is not clear if ministries outside the public health area can see the value of cooperation. These ministries might also lack knowledge of the health effects of factors like e.g. the level of education, the design of the transportation system and the modelling of urban planning.

Therefore, the goal of this paper was to examine whether inter-ministerial cooperation relating to the reduction of health inequalities, is occurring in practice. This question was studied in three of the Nordic countries since their welfare policies are more extensive than in most other countries and since all of these three countries have explicit political goals to reduce health inequalities. Finland has been extensively involved in the WHO Health in All Policies (HiAP) strategy (Leppo et al., 2013), Norway has adopted a Public Health Act (Norwegian

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Ministry of Health and Care Services, 2012), and Sweden has approved eight objective areas that aim at supporting health equity (Lundberg, 2017). In spite of these policies the relative health inequalities have increased more in the Nordic countries than in other parts of Western Europe during the last decades (Mackenbach et al., 2019). A potential explanation for this lack of progress in the Nordic countries might be insufficient cross-sectoral cooperation.

2. Methods

The analysis carried out was built on semi-structured interviews of senior officials at 26 different ministries in Finland, Norway and Sweden. The interviews were conducted with one to three informants (in total 30 informants). The interviews were transcribed and analyzed both qualitatively and quantitatively.

2.1. Selection of senior officials

The Nordic Council of Ministers is the official body for inter-governmental cooperation in the Nordic Region. The Nordic Council has appointed a group of senior officials with special responsibilities for health. This group were told the objective of this study and were then asked to recommend, for an interview, one senior official at the ministry with responsibility for health affairs in each of the three countries. These three officials were asked to recommend senior officials at other relevant ministries in the three countries.

2.2. The interviews

Before the interviews, information about the study was sent to each informant. The concepts of health equity, the importance of social determinants of health and the value of inter-sectoral cooperation were briefly explained. Thus, the information included text like "*We look at equal health initiatives from a broad perspective, such as reforms that counteract housing segregation, distribution of policies that benefit weaker groups or legislation that promote healthy living habits*". In order to clarify the value of inter-sectoral cooperation a figure showing the 17 goals that are relevant for population health in the Sustainable Development Goals (Agenda 2030) were included (United Nations, 2015).

Most of the approached senior officials accepted to participate, in Finland 9/10, in Norway 11/12, and in Sweden 6/8. Four ministries did not respond to the invitation or declined to participate, including the Ministry of the Environment in Finland, the Ministry of Finance in Norway, and the Ministry of Finance and the Ministry of Education and Research in Sweden.

An interview guide was developed based on seven different theoretical frameworks, see Table 1. The interview guide encompassed questions on context, structures, actors and barriers to cooperation, see Appendix 1. The interviews started with four questions about co-operation with other ministries when an intervention to promote health equity was about to be initiated or implemented. The intervention ought to be substantial and encompass new funding, fiscal reforms, new regulations or new legislation.

Interviews were conducted by the first author, a researcher and public official at a Nordic governmental agency, without previous relations with the ministries in Finland, Norway or Sweden. The interviews were conducted face-to-face during 25–90 min at a ministry facility in January to April 2018. All interviews except one were tape-recorded, after approval from the informant. For the interview that was not tape-recorded notes were taken by the interviewer. Transcriptions were made verbatim by a company specializing in transcriptions and sent back to the interviewer in an electronic format. 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 (2016).

2.3. The analysis

A thematic content analysis was carried out in an iterative process (Green and Thorogood, 2004). Both deductive and inductive coding were performed (Elo and Kyngäs, 2008). Responses to interview questions that could be answered with yes, no, or very brief statements were registered in Excel documents. The eight method steps are presented in Appendix 2. The results were presented both qualitatively and quantitatively.

In order to assess the coding reliability, an independent re-coding was performed. Three interviews (one from each country) were independently coded by the second author. The main aspects (measures, cooperation, policy documents and declarations) with exemplifying coding of parts of the transcriptions were given to the re-coder as a basis for re-coding. The inter-coding agreement between the two coders was initially 78% and after discussion 95%. No further re-coding was performed.

3. Results

The results from the interviews are presented in the following four sections: 1) The impact of international policy documents, 2) The extent of health equity-promoting measures, 3) The extent of cooperation between ministries, and 4) Qualitative aspects of cooperation between ministries.

3.1. The impact of international policy documents

Based on crude responses from the transcribed interviews informants at 19 ministries out of 26 stated that they were aware of Agenda 2030, 14 reported its impact on their work, five had only heard

Table 1
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	John (1998)
Ideas-based approach	Political ideology as a basis for action	Key actors, driving forces, political stability	John (1998)
Group and network approach	Interaction between actors (ministries) as a basis for action	Formal and informal interactions between actors, distribution of power	John (1998)
Structure-oriented frameworks			
Institutional approach	Administrative context as a basis for action	Ministerial administration, political majority and stability, political and administrative support and opposition	John (1998)
Socio-economic approach	Socioeconomic factors as a basis for action	Political stability, financial situation	John (1998)
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	Lundquist (1987)
Dynamic networks			
Policy streams approach	Open policy windows as a basis for action	Policy entrepreneurs, policy windows, triggering factors	Kingdon (1995)

about it, and two did not know it at all. Informants at eight ministries out of 26 were aware of HiAP, five reported its impact on their work, five had only heard about it, and 13 did not recognize it at all.

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 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.*

HiAP was mainly recognized in Finland, where five out of nine informants were aware of HiAP, and four of these perceived its impact in their work.

> *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.*

3.2. The extent of health equity-promoting measures

According to the transcribed interviews, all informants except two, presented at least one measure that was intended to promote health equity. The informants from the social and health ministries mentioned 11 measures, see Table 2, and informants from the other ministries mentioned 69 measures, see Table 3. In 57 out of these 80 measures, the informants explicitly stated relevance for health equity or public health in general. For the remaining 23 measures, this was not stated. An example is given in Table 2: A National transport plan, 2018–2029. The design of the national transport system has reasonably consequences for both health equity and for public health in general. The informant mentioned this measure, and accordingly, she or he might have had such expectations. Yet, this was not explicitly stated.

A large number of different policy fields were addressed, e.g. alcohol (Table 2, measure 4), education (Table 3 measure 2), dietary habits (Table 3 measure 3), employment (Table 3 measure 5) and poverty (Table 3 measure 19).

3.3. The extent of cooperation between ministries

Based on the responses to Q2 in the interview guide "*Has any of these measures been initiated by or developed together with the ministry of social affairs and health/other ministries?*" most informants stated inter-ministerial cooperation, see Tables 2 and 3. The informants representing health and social ministries stated cooperation for 10/11 measure and the informants from other ministries stated cooperation for 54/69 measures. For measures where relevance for health equity and/or health in general had been explicitly stated inter-ministerial cooperation was mentioned for 41/57 measures.

3.4. Qualitative aspects of cooperation between ministries

Three themes emerged from the inductive coding of the transcribed interviews, general aspects of inter-ministerial cooperation, factors that promote inter-ministerial cooperation and factors that hinder inter-ministerial cooperation.

3.5. General aspects of inter-ministerial cooperation

Most informants said 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. Only a few informants in the 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 like 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 obviously worsens the quality of a proposal. One informant was utterly clear about the misfit in shared written products, in that the health and social ministry asked for more popular expressions than those that were delivered from the actual ministry, which strove for a more strict and professional language.

3.6. Factors that promote inter-ministerial cooperation

A number of informants emphasized 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 similar promoting factors.

> *In order to get something important forward, it has to be in the government program, 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.*

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 that might promote cooperation between ministries, including shared ownership of an issue, synergies between different sectors, measurements of the outcomes, and marketability.

Table 2
Health equity-promoting measures and cooperation between health and social ministries and other ministries.

Health equity-promoting measures[a]	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. Program 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
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
Customer-responsive services, aimed at increasing customer participation. Part of a Government key project: Health and wellbeing, including focus on inequalities, 2016–2018		X
Revision of the construction legislation, 2018		X

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

3.7. Factors that hinder inter-ministerial cooperation

Several informants mentioned information-related problems, including both information overload and insufficient dissemination of information. Extreme formalizing, 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 of 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.*

Other themes that emerged as hindering factors were lack of resources, lack of time, lack of competence, lack of knowledge, lack of political will, staff turnover, cultural differences between ministries, and goal conflicts.

4. Discussion

In the Nordic countries, relative health inequalities have increased more than in other parts of Western Europe (Mackenbach et al., 2019). A vast international literature emphasizes that the reduction of health inequalities requires coordination between different sectors in the society (Commission on Social Determinants of Health, 2008; Ståhl et al., 2006). Thus, inter-ministerial cooperation is required at the national level. Accordingly, a lack of such cooperation might explain the lack of progress.

This study demonstrates that in Finland, Norway and Sweden most senior officials at national ministries report inter-ministerial cooperation for public health issues. The officials identified 80 measures that potentially might affect health inequalities and/or health in general. Inter-ministerial cooperation was reported for 65 of these measures.

Reflecting the difficulties that have been reported to achieve cross-sectoral cooperation, the finding of a high degree of inter-ministerial cooperation is somewhat surprising. According to Peters, cooperation is more likely to occur in policy domains in which goals and values are shared among several actors (Peters, 2015). Thus, e.g. in the policy domains of health, unemployment, child poverty, and child and family services, there might be common interests instead of competition between the involved ministries.

Some senior officials were aware of two international policy documents, Agenda 2030 and HiAP. These documents, however, did not seem to have had any major effect on the inter-ministerial cooperation that was reported.

Thus, there was no recorded lack of inter-ministerial cooperation that could explain the lack of progress in the reduction of health inequalities in the Nordic countries. Some potential explanations for this deficiency are discussed in the following.

4.1. Relative and absolute inequalities in health

In the Nordic countries, relative inequalities have increased during the last decades while absolute inequalities have stayed about the same (Mackenbach et al., 2019). The Nordic national policies that aim at the reduction of inequalities in health, do not systematically differentiate between relative and absolute inequalities. However, indistinct definitions cannot explain the lack of progress since neither absolute nor relative inequalities have improved.

4.2. Selective reporting

The officials that were interviewed might have over-reported measures that involved inter-ministerial cooperation. That possibility, however, is not likely since a large number of measures were reported, including many substantial interventions. Furthermore, the informants often told that inter-ministerial cooperation in general was a routine.

4.3. Lack of knowledge of health inequalities

The informants reported 80 measures which they thought would affect health/health inequalities. When these measures were further described the informants often did not explicitly state effects on health/health inequalities. This was more common for informants outside the ministries of health, where explicit statements did not appear for 20/69 measures. This lack might be due to a limited understanding of some public officials of how a measure might affect health and health inequalities. If an informant does not understand how different means affect health and health inequalities, inter-ministerial cooperation might not have any real effect on health. A statement of one of the informants, supports this notion: *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*

Table 3
Health equity-promoting measures and cooperation between ministries. Some measures were suggested from several ministries, these are only displayed once in the table.

Health equity-promoting measures[a]	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 program 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 program, 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 program against segregation	Health equity	X	X
15. A national program aimed at children and young people, 2015–2020, 64 measures, six 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 program, 2018–2028	Health equity		X
21. Reform program 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. Norwegian Ministry of Health and Care Services, 2013–2016	Public health in general	X	X
Good and effective health, care, and welfare services. Research program, 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 program 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		

(*continued on next page*)

Table 3 (*continued*)

Health equity-promoting measures[a]	Focus on health equity and/or public health in general	Cooperation with the social and health ministry	Cooperation with other ministries
National walking and cycling program, 2018–2019. Aiming to increase levels of walking and cycling by 2030	Public health in general		
Labor market strategies for immigrants, young people, and long-term unemployed. 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, 43 measures, eight ministries		X	X
National action plan for universal construction and availability, 2015–2019, 47 measures, 11 ministries		X	X
Escalation plan for rehabilitation and habilitation, 2017–2019		X	X
Government program for financing of local authorities		X	X
Climate strategy		X	
National strategy, 2017–2045			
Dissemination of program against intimate partner violence		X	
National center for food, health, and physical activity		X	
Non-discrimination act, from 2015		X	
National strategy for internal safety		X	
Dissemination of a program for juvenile criminals		X	
National strategy against hateful behavior, 2016–2020			X
National action plan against anti-semitism, 2016–2020			X
Leisure declaration			X
Yearly allowance			
Regional contracts for functional transports. 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, from 2018			

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

health equality. Thus, cooperation might be present, yet without any real effect on health. The design of the study, however, does not permit a clear conclusion since the informants were not asked to describe in detail how a given measure was meant to affect health and inequalities in health. Yet, since most of the public officials probably have no training in public health it is unlikely that they would have been able to present such descriptions.

4.4. Lack of extent of the reported measures

The reported measures might have been insufficient to reduce health inequalities due to lack of extent. Some of the reported measures tackled low employment rates and low incomes. These two approaches have been advocated by e.g. the WHO Regional Office for Europe (Saunders et al., 2017), the Norwegian Directorate of Health (2018), and the Swedish Commission for Equity in Health (Lundberg, 2017). A theoretical analysis indicates 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 (Eikemo et al., 2014). A similar decrease in poverty rates would result in a 6.9% reduction in mortality in the low-educated groups (Eikemo et al., 2014).

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%) (OECD, 2018). In this period the employment rate in the high-educated group slightly increased to 87.5% in 2014 while in the low-educated group the employment rate decreased, 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 in order to get to the level of the highly educated. However, the information given by the informant 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 (OECD, 2018). Poverty reduction has been on the agenda for a long time, but previous measures have obviously not been sufficient to change the trend. In spite of increased social spending in all three countries, from 23.3% (as a percentage of GDP) in 2000 to 27.7% in 2016, there has been no decreases in the poverty rates. 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 provincial level in Sweden, Quebec, and South Australia (Pinto et al., 2015).

Another promising candidate for reducing health inequalities is legislation and taxation on alcohol. In Western Europe, alcohol accounted for 6% of all disability-adjusted life years (DALYs) in 2017 (Institute for Health Metrics and Evaluation, 2018). In countries like Sweden, the use of alcohol contributes to inequalities in health (Ljung et al., 2005), and the impact of a potential tax increase is expected to be proportional to its magnitude (Elder et al., 2010). A Finnish study even indicates that taxes affect low-educated people more than high-educated people (Herttua et al., 2008). Furthermore, an umbrella review by Thomson et al. showed that a decreased tax on alcohol led to increased health inequalities (Thomson et al., 2018). Accordingly, a sufficient magnitude of a tax increase will probably decrease inequalities in health. An informant from one of the Swedish ministries reported alcohol tax increase as a measure. In Sweden taxes on alcohol has recently increased (January 2017), but only modestly with 1% for liquors and 4% for other alcoholic beverages (Ministry of Finance, 2016). Despite previous alcohol tax increases (2008, 2014, and 2015), the actual price on alcohol has decreased since 1998 (Ministry of Finance, 2016). Thus, it is questionable if the latest alcohol tax increase will result in

detectable effects on health inequalities in Sweden.

Measures aimed at improving employment opportunities for people with limited work capacity, dealing with disability politics and individual placement and support for individuals outside the labor market are valuable. A problem, however, is the limited size of the target group. Even with effective interventions, the effects will probably be too small to be discernible at the population level. Another potential limitation refers to measures that aim at problems that only account for a small part of the burden of disease. For example, behavioral problems in children accounted for only 0.25% of all DALYs lost in Norway 2017 (Institute for Health Metrics and Evaluation, 2018). Thus, even if the measures were successful, the effects on the population level would be quite limited.

In spite of these relatively evident shortcomings, the informants reported the measures without any reservations. This might be due to a lack of training in public health of ministry officials, especially outside ministries of health.

4.5. Lack of effectiveness of the reported measures

A final potential limitation is a lack of evidence of the reported measures. Two recently published studies have reviewed empirical studies (Thomson et al., 2018; Vilhelmsson and Östergren, 2018). Thomson et al. assessed primary prevention intervention effects of fiscal measures, regulation, and communication (Thomson et al., 2018). 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 (Thomson et al., 2018). Vilhelmsson et al. reviewed measures that aim at reducing health inequalities by means of targeting behavioral factors, and they did not find any intervention to be effective (Vilhelmsson and Östergren, 2018). Based on available information, although vague, it is not obvious that the measures presented in this study include components that might effectively reduce health inequalities.

However, measures with weak evidence were reported, without reservations, in spite of their shortcomings. This might be due to insufficient political commitment to tackle health inequalities.

5. Limitations and strengths

5.1. Limitations

In all, only officials at 26 ministries were interviewed. Yet, the selection of informants emanated from initial recommendations from a group of senior officials with special responsibilities concerning health that had been appointed by the Nordic Council of Ministers. Therefore, the informants were probably representative.

Four out of 30 selected ministries did not participate. Even though these ministries, i.e. the Ministry of the Environment in Finland, the Ministry of Finance in Norway, and the Ministry of Finance and the Ministry of Education and Research in Sweden, may have reported important initiatives it is unlikely that this limitation would have remarkably refuted our main finding, i.e. a high degree of inter-ministerial cooperation.

The informants' understanding of the concept of health equity might have been insufficient in spite of the information that was sent to the informants before the interviews and the information that was given during the interviews. Yet, this potential lack of understanding could be seen as a result as well as a limitation, and it is unlikely that it disproves our main finding.

The measures that the informants presented were not further analyzed, which limits the conclusions on their extent and effectiveness.

5.2. Strength

No report on cross-sectoral cooperation at the ministerial level for the development of measures that aim at the reduction of health inequalities has previously been reported.

6. Conclusions

A substantial number of measures that are intended to promote health equity have been initiated at the national level in Finland, Norway and Sweden. Cooperation between ministries seems to be the rule rather than the exception. Accordingly, lack of inter-ministerial cooperation cannot explain any lack of progress. However, the measures that were reported seemed to be insufficient to reduce health inequalities, both due to lack of extent and lack of effectiveness. This might be due to insufficient political commitment to tackle health inequalities. If so, the WHO Health in All Policies approach might not be effective.

CRediT authorship contribution statement

Karin Guldbrandsson: Conceptualization, Methodology, Formal analysis, Investigation, Writing - original draft, Writing - review & editing, Visualization, Project administration, Funding acquisition. **Sven Bremberg:** Conceptualization, Methodology, Writing - review & editing, Visualization, Funding acquisition.

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Appendix 1. Interview guide

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/other ministries?	
If no substantial measures have been initiated by or developed together with the Ministry of social affairs and health/other ministries, 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/other ministries?	
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?

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/other ministries …

… 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/other ministries?

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/other ministries 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/other ministries hasn't existed or hasn't functioned regarding measures aiming to reduce inequalities in health? (see structures and actors above)

Appendix 2. Eight method steps

Step 1: All interviews were read a first time. Measures that were suggested to promote health equity and that were initiated in collaboration between different ministries, in particular, social and health ministries and knowledge about HiAP and were marked in the text.
Step 2: All interviews were read a second time. Responses to interview questions that could be answered briefly (with yes, no, or a short spoken statement) were registered in an Excel document.
Step 3: All interviews were read a third time. A deductive coding was made related to the purpose of the study and the theoretical base underpinning the interview guides.
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 purpose of the study were removed. Measures that were suggested to promote health equity and that were initiated in collaboration between different ministries, in particular with health and social ministries, were re-checked and re-marked in the text.
Step 6: Responses to interview questions regarding health equity-promoting measures, HiAP, and Agenda 2030 were registered in a separate Excel document.
Step 7: All interviews were read a sixth time. A preliminary inductive coding was made, and the 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 could not support the main theme or a sub-theme, it was either merged with another theme or removed.

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