Promoting health by addressing living conditions in Norwegian municipalities

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Summary

Worldwide, inequalities in health are increasing, even in well-developed welfare states such as Norway, which in 2012, saw a new public health act take effect that enshrined equity in health as national policy and devolved to municipalities’ responsibility to act on the social determinants of health. The act deems governance structures and “Health in All Policies” approaches as important steering mechanisms for local health promotion. The aim of this study is to investigate whether Norway’s municipalities address living conditions – economic circumstances, housing, employment and educational factors – in local health promotion, and what factors are associated with doing so. All Norway’s municipalities (n=428) were included in this cross-sectional study, and both register and survey data were used and were subjected to descriptive and bi- and multivariate regression analyses. Eighty-two percent of the municipalities reported that they were capable of reducing inequalities in health. Forty percent of the municipalities defined living conditions as a main challenge in their local public health promotion, while 48% cited it as a main health promotion priority. Our study shows that defining living conditions as a main challenge is positively associated with size of municipality, and also its assessment of its own capability in reducing inequalities in health. The latter factor was also associated with actually prioritizing living conditions in health promotion, as was having established cross-sectorial working groups or inter-municipal collaboration related to local health promotion. This study underlines the importance of inter-sectorial collaboration to promote health and well-being.

Key words: community health promotion, determinants of health, inequalities in health, collaboration, governance

INTRODUCTION

The World Health Organization (WHO) states that creating health, wellbeing and equity is key to a sustainable world and an overarching goal that should govern public policy from global to local levels (Kickbusch and Gleicher, 2012; WHO, 2008, 2013a). Yet worldwide, social inequalities in health are increasing, even in Scandinavian welfare states such as Norway (OECD, 2011), with their emphasis on solidarity, distribution of services “to each according to need,” and broader redistributive policies (Esping-Andersen, 1990; Raphael, 2013). This underscores that social democratic policies in general are not enough, but require in addition specific focus on the social determinants of health – justifying the
elevation of this focus as a global concern (WHO, 2008; Wilkinson and Marmot, 2006; Wilkinson et al., 2011).

In 2012, Norway adopted a new public health act (PHA) (The Norwegian term «Folkehelse» has a wider connotation than the English term «Public Health», as it includes both traditional Public Health and Health Promotion.) asserting equity in health as fundamental and focusing attention on the social determinants of health as the means of better achieving that aim (Ministry of Health and Care Services, 2011b). In accordance with the Whitehead and Dahlgren health model (Dahlgren and Whitehead, 2009), the PHA defines health as a product of complex, dynamic relationships among distinct types of determinants, such as health behavior; physical, biological and environmental circumstances; demographic factors; and living conditions. Living conditions refers to economic circumstances, housing, employment, and educational factors (Ministry of Health and Care Services, 2011b) – often essential determinants of the extent of health equity (Ministry of Health and Care Services, 2003, 2006; WHO, 2008; Wilkinson and Marmot, 2006). Adequate provision in these domains provides a foundation for a safe and healthy life (WHO, 2008). The PHA embraces the idea of “Health in All Policies” (HiAP), in which health promotion is the responsibility of all sectors, not the health sector alone, and requires systematic assessments on the impact on health of all policies and actions. The HiAP approach requires long-term vision and sustainable effort, and a focus on access to information, participation, transparency and inter-sectoral collaboration (Leppo et al., 2013; McQueen et al., 2012; Ståhl et al., 2006).

The local level in Norway matters in these respects since the PHA delegated main responsibility for health promotion to the 428 municipalities. Municipalities face a dual role: on one hand, they are agents for the welfare state through their frontline responsibility for implementing national policy goals, such as the PHA; and on the other hand, they constitute partly independent domains of democratic decision making, using national funding to provide welfare services in accordance with local preferences. These preferences vary widely with Norwegian municipalities’ differences in political and administrative organization, size, financial position, geographical conditions, resources and infrastructure (Ministry of Local Government and Regional Development, 2012).

At the local level, the HiAP approach underlines collaboration between different stakeholders to promote health (Ministry of Health and Care Services, 2011b; Ståhl et al., 2006). Since health is a product of complex and dynamic relationships between distinct types of determinants, the actions and solutions must be multifaceted (Ministry of Health and Care Services, 2011b; WHO 2008). Practical alternatives embraced by this approach include the employment of public health coordinators, establishment of cross-sectoral working groups and inter-municipal collaboration (Hagen et al., 2015; Tallarek née Grimm et al., 2013). According to the PHA (Ministry of Health and Care Services, 2011b), local health promotion should be systematic and evidence based. Therefore, as part of a tool for municipal master-plans and systematic local health promotion, the act mandates all municipalities develop an overview of citizens’ health status and principal determinants influencing health and disease. The overviews are supposed to identify local health challenges and their related determinants, and should in particular guide efforts to reduce social inequalities in health (Ministry of Health and Care Services, 2011a).

Collaboration among national, regional and municipal governmental levels (as well as other relevant actors) is facilitated by the PHA (Ministry of Health and Care Services, 2011b), but not all parties are equal. National and regional governance of municipalities in their health promotion responsibilities is characterized by a mix of carrots and sticks, in the forms of regulation, guidelines, oversight and supports (Roiseland and Vabo, 2012). For example, municipalities face audits performed by county governors and network governance following from collaboration with regional government and other relevant actors. Examples of health promotion incentives and guidance provided by national and regional authorities include provision of health profiles of the municipality’s citizens, health promotion regulations and guidelines, grants, supervision from county governors and partnership agreements with the local county council.

At a national level, Norway has been associated with strongly focusing on the social determinants of health to reduce inequalities in health (Fosse and Strand, 2010; Vallgårda, 2011), but very few studies have investigated how Norwegian municipalities – increasingly tasked with the job – have considered living conditions as a means to that goal. Some qualitative studies have discussed these issues, but most of these have focused on local health promotion in relation to health behavior, not the social determinants of health (Bergem et al., 2010; Helgesen and Hofstad, 2014). To our knowledge, research has not illuminated whether municipalities regard themselves as capable of reducing inequalities in health and if the municipalities address living conditions with respect to this policy goal.
The focus of this study is, therefore, on how Norwegian municipalities address inequalities in health and living conditions through their health promotion policy and activities. The aims are:

a. To investigate whether municipalities:
   - believe that they are capable of reducing social inequalities in health
   - regard living conditions as a main challenge in local health promotion
   - prioritize living conditions in local health promotion
b. To investigate whether municipal structural factors, national and regional incentives and guidance, and local HiAP strategies (independent variables) are associated with defining living conditions as a main challenge and priority in local health promotion.

**METHODS**

**Material and sample**
This cross-sectional study is part of the “Addressing the social determinants of health. Multilevel governance of policy aimed at families with children” (SODEMIFA) project investigating Norwegian health promotion regarding social inequalities in health. All 428 municipalities in Norway were included and data were collected at the municipal level. We used register data collected by Statistics Norway (SSB) and the Norwegian Social Science Data Services (NSD). In addition, we collected data by use of a questionnaire on Norwegian municipalities’ health promotion work (Schou et al., 2014). The questionnaire was sent electronically to the official email address of the municipalities, addressed to the chief executive officer. Since all municipalities have a unique identification code, we were able to combine the register data with the survey data. The data were collected during spring 2014.

Except for one variable, data from the registers were more or less complete for all municipalities (n = 361–428, Table 1). Sixty-one percent of the municipalities completed the entire questionnaire, while 75% responded to parts of it. The respondents were mainly chief executive officers and public health coordinators (Schou et al., 2014). The questionnaire was evaluated for content validity by comparison with relevant past surveys, reviewing literature and consulting relevant professionals. We searched for the literature relevant for our study in Web of Science, Academic Search Premier and PubMed. Search terms were living conditions, inequalities in health, equity, local level, municipalities, social determinants of health and “health in all policy”.

**Measurements**
Table 1 presents descriptive data on the 17 independent variables included in this study, and Table 2 presents descriptive data on three included variables on municipalities’ attitudes, challenges and priorities in local health promotion.

**Municipal structural factors**
The size of the municipalities (data from SSB) was categorized into five groups: <3000 inhabitants (0), 3000–4999 inhabitants (1), 5000–9999 inhabitants (2), 10 000–34 999 inhabitants (3) and ≥35 000 inhabitants (4). The construction of the political profile was obtained by using the political affiliation of municipal mayors (data from NSD). Based on these data, we grouped the municipalities into right-wing (0) and left-wing (2). Municipal revenues (SSB) were registered in Norwegian kroner (NOK; €1 equals about NOK 9 [2014]) and divided into three categories: <50 000 NOK (0), 50 000–59 999 NOK (1) and ≥60 000 NOK (2). The centrality of the municipalities is based on Standard Classification of Municipalities (SSB) and defines a municipality’s geographical location in relation to a larger city with higher central functions. Centrality was categorized into four categories from less central (=0) to most central (=3).

**Municipal use of health promotion incentives and guidance**
In the questionnaire, the municipalities responded to what national and regional incentives and guidance contributed to their local health promotion. The questionnaire listed nine different incentives and guidance provided at a national and regional level. The municipalities were asked: “Do the following incentives and guidance contribute to the health promotion work in the municipality?” The categories listed were: Health profiles provided from the Norwegian Public Health Institute (1), Regulations and guidelines from the Ministry of Health and Care Service (2), Guidelines from the Norwegian Directorate of Health (3), Financial grants from the Norwegian Directorate of Health/county governor (4), Supervision from the county governor (5), Guidance from the county governor (6), Partnership with the county council (7), Financial grants from the county council (8) and Guidance from the county council (9). A ticked incentive was registered as “yes” (1) and no tick as “no” (0).
Table 1: Descriptive data on municipal structural factors, municipal use of national and regional health promotion incentives and guidance and municipal use of HiAP-strategies in Norway

<table>
<thead>
<tr>
<th>Factors</th>
<th>No. (%)</th>
<th>Mean ± Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Municipal structural factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;3000 inhabitants</td>
<td>158 (37)</td>
<td>1.42 ± 1.32</td>
</tr>
<tr>
<td>3000–4999 inhabitants</td>
<td>70 (16)</td>
<td></td>
</tr>
<tr>
<td>5000–9999 inhabitants</td>
<td>86 (20)</td>
<td></td>
</tr>
<tr>
<td>10 000–34 999 inhabitants</td>
<td>91 (21)</td>
<td></td>
</tr>
<tr>
<td>≥35 000 inhabitants</td>
<td>23 (5)</td>
<td></td>
</tr>
<tr>
<td>Political profile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Right orientation</td>
<td>124 (29)</td>
<td></td>
</tr>
<tr>
<td>Centre orientation</td>
<td>102 (24)</td>
<td></td>
</tr>
<tr>
<td>Left orientation</td>
<td>145 (34)</td>
<td></td>
</tr>
<tr>
<td>Municipal revenues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;50 000 NOK</td>
<td>144 (34)</td>
<td>0.86 ± 0.80</td>
</tr>
<tr>
<td>50 000–59 999 NOK</td>
<td>125 (29)</td>
<td></td>
</tr>
<tr>
<td>≥60 000 NOK</td>
<td>93 (22)</td>
<td></td>
</tr>
<tr>
<td>Centrality</td>
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<td></td>
</tr>
<tr>
<td>0</td>
<td>149 (35)</td>
<td>1.54 ± 1.28</td>
</tr>
<tr>
<td>1</td>
<td>51 (12)</td>
<td></td>
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<tr>
<td>2</td>
<td>78 (18)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>150 (35)</td>
<td></td>
</tr>
<tr>
<td><strong>Municipal use of health promotion incentives and guidance</strong></td>
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<td></td>
</tr>
<tr>
<td>Health profiles provided from the Norwegian Public health Institute</td>
<td>No</td>
<td>73 (23)</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>246 (77)</td>
</tr>
<tr>
<td>Regulations and guidelines from the Ministry of Health and Care Service</td>
<td>No</td>
<td>136 (43)</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>183 (57)</td>
</tr>
<tr>
<td>Guidelines from the Norwegian Directorate of Health</td>
<td>No</td>
<td>150 (47)</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>169 (53)</td>
</tr>
<tr>
<td>Financial grants from the Norwegian Directorate of Health/county governor</td>
<td>No</td>
<td>129 (40)</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>190 (60)</td>
</tr>
<tr>
<td>Supervision from the county governor</td>
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<tr>
<td>No</td>
<td>243 (76)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>76 (24)</td>
<td></td>
</tr>
<tr>
<td>Guidance from the county governor</td>
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<td></td>
</tr>
<tr>
<td>No</td>
<td>201 (63)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>118 (37)</td>
<td></td>
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<tr>
<td>Partnership with the county councils</td>
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<td></td>
</tr>
<tr>
<td>No</td>
<td>142 (46)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>177 (54)</td>
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</tr>
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<td>Financial grants from the county councils</td>
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<td></td>
</tr>
<tr>
<td>No</td>
<td>158 (50)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>161 (30)</td>
<td></td>
</tr>
<tr>
<td>Guidance from the county councils</td>
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<td></td>
</tr>
<tr>
<td>No</td>
<td>194 (61)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>125 (39)</td>
<td></td>
</tr>
</tbody>
</table>
Municipal use of HiAP strategies

We included four questions regarding municipal HiAP strategies from the questionnaire. The first was “Does the municipality have a public health coordinator?” Response categories were yes (1), no (2), and do not know (3). We combined categories 2 and 3 and recoded the responses into “no/do not know” (0) and yes (1). The other questions were “Has the municipality developed an overview of the inhabitants’ health status?” and “Has the municipality developed cross-sectorial working groups that work with health promotion at a strategic level?” The response alternatives for both were “yes” (1), no (2), “about to be establish” (3) and “do not know” (4). We recoded the variables to “no/about to be establish/do not know” (0) and “yes” (1). The last HiAP question was “Does the municipality use inter-municipal collaboration in the field of health promotion?” The respondents were supposed to tick if they used it. No tick was registered as “no” (0), and a tick as “yes” (1).

Municipal attitudes, challenges and priorities in local health promotion

To reflect municipal awareness about reducing inequalities in health and the highlighting of living conditions, we included three questions from the questionnaire embracing attitudes, challenges and priorities related to municipal health promotion. The first question was “As you consider it, is the municipality capable of reducing social inequalities in health?” The response alternatives were “yes” (1), “no” (2) and “do not know” (3). We recoded the variable into “no/do not know” (0) and yes (1). The second and third questions concerned challenges and main priorities in the local health promotion: “In what areas has the municipality the main health promotion challenges” and “What is the main
priority of health promotion in the municipality?”. Both questions had eight response alternatives: “demographics”, “childhood conditions”, “living conditions”, “physical, biological and environmental conditions”, “injuries and accidents”, “health behavior”, “health conditions”, “other” and “do not know”. In order to address the aim of this study, we included the response alternatives related to living conditions. For the variable concerning living conditions as main challenge we gave a tick the value “yes” (1), whereas no tick was given the value “no” (0). We followed the same procedure for the variable regarding living conditions as a main priority in the municipality.

Analyses

Descriptive analyses were performed for all included variables (Tables 1 and 2). Bi-and multivariate logistic regression analyses were carried out to investigate the associations between municipal factors (such as municipal structure, use of health promotion incentives and guidance, and HiAP-principles) and the municipalities’ focus on living conditions (Table 3). By the use of bivariate analyses, we checked for high inter-correlation (<0.7) (Pallant, 2010) between included variables without finding any indications of multicolinearity. To examine the unique contribution of each independent variable on the living conditions variables, we entered them simultaneously into the regression model by use of enter methods. The strength of associations is presented in odds ratios (OR) with 95% confidence intervals (95% CI).

To ensure that a sufficient number of cases were included in the multivariate logistic regressions, we gave missing values from the questionnaire the score zero, which is the same score as given for “no/do not know”. We consider this substitution of the missing values not to influence the conclusions in any essential way, since we are concerned with the positive “yes” responses; the substitution of missing values will not overestimate the significant effect of the “yes” responses. The significance level was set at $p < 0.05$ and all tests were two-sided. SPSS v21.0 computer package (IBM Corp., Armonk, NY) was used for the statistical analyses.

Ethics

The Norwegian Social Science Data Service (NSD) approved the study. The participants in the questionnaire study gave their written informed consent by returning the questionnaire. The rest of the data were obtained from open public registers.

RESULTS

Descriptions of the sample

Of Norway’s 428 municipalities, 37% had less than 3000 inhabitants, but the most common population range was between 3500 and 5000 inhabitants (42%) (Table 1). Eighty-five percent of the municipalities made use of a public health coordinator in their local health promotion. Only 38% of the municipalities reported that they had prepared a health overview of their inhabitants. Over three quarters of the municipalities utilized the health profiles provided by the Norwegian Public Health Institute, while 53% used guidelines from the Norwegian Directorate of Health. Only 24% of the municipalities used supervision by the county governor.

A total of 82% of the Norwegian municipalities considered themselves capable of reducing social inequalities in health (Table 2). When it came to defining the main challenges in the local health promotion work, 40% of the municipalities reported that the area of living conditions was an important challenge. Forty-eight percent of the municipalities reported that living conditions was their main priority in the local health promotion.

Associations between municipal factors and living conditions as a main challenge in local health promotion

The bivariate analyses (Table 3) show that Norwegian municipalities defining living conditions as their main challenge in local health promotion were associated with almost all included variables. The strongest positive associations were municipal use of health profiles provided by the Norwegian Public Health Institute (OR = 15.15; CI 7.14–32.16) and considering that the municipality was capable of reducing social inequalities in health (OR = 10.53; CI: 5.75–19.28). When controlling for the effect of all the other variables in the multivariate analysis, only the associations between municipal size and the capability of reducing inequalities were retained. In this analysis, the odds ratio for size was slightly increased (OR = 1.60; CI: 1.05–2.35) while the latter was reduced considerably (OR = 4.66; CI: 1.91–11.41).

Associations between municipal factors and prioritizing living conditions in local health promotion

Bivariate analyses investigating associations between different municipal factors and municipalities’ prioritization of living conditions show that almost all included variables were significantly associated (Table 3). All the
Table 3: Logistic regression analyses between municipal structural factors, municipal use of health promotion incentives and guidance and municipal use of HiAP-strategies and living conditions in local health promotion in Norway

<table>
<thead>
<tr>
<th>Factors</th>
<th>Living conditions as main challenge in the local health promotion work</th>
<th>Living conditions as main priority in the local health promotion work</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bivariate OR (95% CI)</td>
<td>Multivariate OR (95% CI)</td>
</tr>
<tr>
<td>Municipal structural factors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>1.43 (1.21–1.69)</td>
<td>1.60 (1.05–2.35)</td>
</tr>
<tr>
<td>Political profile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Right orientation</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Centre orientation</td>
<td>1.57 (0.90–2.74)</td>
<td>0.70 (0.82–3.53)</td>
</tr>
<tr>
<td>Left orientation</td>
<td>1.05 (0.57–1.96)</td>
<td>1.02 (0.45–2.28)</td>
</tr>
<tr>
<td>Municipal revenues</td>
<td>0.63 (0.46–0.85)</td>
<td>1.47 (0.69–3.10)</td>
</tr>
<tr>
<td>Centrality</td>
<td>1.26 (1.06–1.50)</td>
<td>1.12 (0.80–1.56)</td>
</tr>
<tr>
<td>Municipal use of Incentives and guidance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health profiles provided from the Norwegian Public Health Institute</td>
<td>15.15 (7.14–32.16)</td>
<td>3.35 (0.96–11.73)</td>
</tr>
<tr>
<td>Regulation and guidelines from the Ministry of Health and Care Service</td>
<td>4.31 (2.70–6.87)</td>
<td>1.29 (0.57–2.91)</td>
</tr>
<tr>
<td>Guidelines from the Norwegian Directorate of Health</td>
<td>3.22 (2.05–5.05)</td>
<td>0.82 (0.39–1.74)</td>
</tr>
<tr>
<td>Financial grants from the Norwegian Directorate of Health/county governor</td>
<td>4.14 (2.59–6.62)</td>
<td>0.83 (0.39–1.79)</td>
</tr>
<tr>
<td>Supervision from the county governor</td>
<td>2.60 (1.54–4.37)</td>
<td>1.27 (0.61–2.66)</td>
</tr>
<tr>
<td>Guidance from county governor</td>
<td>3.31 (2.08–5.25)</td>
<td>1.93 (0.94–3.98)</td>
</tr>
<tr>
<td>Partnership with county councils</td>
<td>3.75 (2.38–5.93)</td>
<td>1.25 (0.57–2.74)</td>
</tr>
<tr>
<td>Financial grants from the county councils</td>
<td>3.81 (2.42–6.02)</td>
<td>1.18 (0.54–2.57)</td>
</tr>
<tr>
<td>Guidance from the county councils</td>
<td>2.76 (1.75–4.36)</td>
<td>0.73 (0.33–1.62)</td>
</tr>
<tr>
<td>Municipal use of HiAP strategies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public health coordinator</td>
<td>5.34 (3.14–9.10)</td>
<td>0.85 (0.32–2.25)</td>
</tr>
<tr>
<td>Health overview</td>
<td>2.01 (1.25–3.24)</td>
<td>0.57 (0.29–1.12)</td>
</tr>
<tr>
<td>Cross-sectorial working groups</td>
<td>3.78 (2.40–5.96)</td>
<td>1.98 (0.98–4.00)</td>
</tr>
<tr>
<td>Inter-municipal collaboration</td>
<td>4.20 (2.65–6.66)</td>
<td>1.29 (0.63–2.57)</td>
</tr>
<tr>
<td>Reduce social inequalities in health</td>
<td>10.53 (5.75–19.28)</td>
<td>4.66 (1.91–11.41)</td>
</tr>
</tbody>
</table>

OR, odds ratio; CI, confidence interval; Significant associations in bold

Variables reflecting municipal use of health promotion incentives were associated, with “using health profiles provided from the Norwegian Health Institute” (OR = 16.38; CI: 8.26–32.50) as the strongest. Variables reflecting municipal use of HiAP strategies showed strong associations: “having employed a public health coordinator” (OR = 10.57; CI: 5.96–18.73), “using cross-sectorial working groups” (OR = 6.58; CI: 4.17–10.38), “inter-municipal collaboration” (OR = 7.24; CI: 4.56–11.49) and confidence in capability to reduce social inequalities in health (OR = 12.91; CI: 7.27–22.92). When we controlled for the effects of all the other included variables in the multivariate analysis, only associations with cross-sectorial working groups (OR = 3.01; CI: 1.48–6.10), inter-municipal collaboration (OR = 2.23; CI: 1.12–4.47) and the capability to reduce social inequalities in health (OR = 3.89; CI: 1.69–8.93) were retained.

DISCUSSION

Our study shows that 82% of the municipalities reported that they consider themselves to be capable of reducing social inequalities in health. However, only a little less than half of the municipalities defined living conditions as a main challenge and priority. Municipalities which defined living conditions as a main challenge were larger and regarded themselves more capable of reducing inequalities in health than municipalities which did not. Giving priority to living conditions was also associated with capability of reducing inequalities in health. In addition, municipalities which
established cross-sectorial working groups or inter-
municipal collaboration in health promotion gave more
priority to living conditions than municipalities which
had not.

Municipal capability of reducing social
inequalities in health
In this study, a majority (82%) of the Norwegian munic-
ipalities reported that they believe they are capable of
reducing inequalities in health, a fundamental principle
of Norwegian health promotion policy as established by
the PHA (Ministry of Health and Care Services, 2011b).
It would appear that Norwegian municipalities are
considerably aware of their mandate and confident in their
knowledge, strategies and policies to implement the
PHA. Indeed, a study exploring health equity among
Nordic countries highlighted Norway as having gone
furthest to “level the gradient” through implementation
of concrete policies to address equality in health (Povlsen et al., 2014). So has the national Norwegian
health promotion policy formed the basis for developing
measures to reduce inequalities in health at the local
level? Based on this study, the answer would appear to
be “yes”. However, our results may overstate the case.
Other studies have suggested a division between na-
tional and local policies when it comes to implementa-
tion and prioritization of this policy, with national
government goals not fully reaching the local level
(Fosse and Helgesen, 2015; Tallarek née Grimm et al.,
2013). Do municipalities actually consider themselves
capable of reducing inequalities in health? Or do offici-
cials see themselves obliged to answer positively since it
is their mandate under the act? Health equity in the
Norwegian context has become a normative ideal that
respondents and the institutions they represent would
generally want to seem to support. We know from meth-
odological studies that there is a tendency to respond
supportively to normative ideals (Willadssen, 2014).

Living conditions as a municipal challenge
in local health promotion
Although a high proportion of Norwegian municipal-
ities consider themselves able to reduce inequalities in
health, we were interested particularly in whether they
considered addressing living conditions as key to doing
so. Forty percent of the municipalities in Norway
defined living conditions as a main challenge. This is an
increase from an earlier study showing that challenges
related to housing and economic conditions were cited
as major issues by, respectively, 35% and 24% of
Norway’s municipalities (Helgesen and Hofstad, 2012).
Investigating associations, our results indicate that
municipalities reporting that they are capable to reduce
inequalities in health were also nearly five times more
likely to define living conditions as a main challenge
compared with municipalities not so reporting. The cor-
relation indicates a possible growing understanding of
the link between poor living conditions and inequalities
in health as underlined by Dahlgren and Whitehead
(2009) and Norwegian health promotion policy
(Ministry of Health and Care Services, 2003, 2006,
2011b). Our study found that larger municipalities were
more than one-and-a-half times more likely to define liv-
ing conditions as a main challenge compared to smaller
municipalities. This result is in line with another study
suggesting that larger municipalities tend to cite living
conditions as a challenge of the public health field
(Helgesen and Hofstad, 2014). One might assume that
ensuring good living conditions is more a challenge in
larger and thus more urbanized municipalities than in
smaller municipalities. In their nature, the larger and
more urbanized municipalities are more heterogenic and
complex than the smaller ones, and urbanized locations
both attract subgroups of people with lack of resources
and are characterized by an internal gap of social
inequalities in health. Historically this have been one
distinction characterizing the difference between large
and small municipalities in Norway (Barstad, 2011;
Bore, 2010). However, research has also shown that
challenges concerning living conditions applies smaller
municipalities as well, especially in the northern part
of Norway (Barstad, 2011), which is a perspective not to
neglect. We should neither disregard that larger municip-
ali ties might possess higher organizational capacity
and competence, and may, therefore, be more likely to
define these challenges of living conditions.

The PHA instructs municipalities to develop over-
views of their citizens’ health and to identify local chal-
enges following from, for instance, health behavior or
the particular environmental or demographic circum-
stances or living conditions. The overviews and identifi-
cation of local challenges are regarded as a starting
point for systematic health-promotion work, and are a
desired strategy of the national government for taking
actions on the determinants of health (Norwegian
Directorate of Health, 2013). Such systematic health
promotion is an important steering mechanism for real-
izing local health promotion (Hofstad, 2014).
Implemented in the municipal masterplans, the health
overviews should serve as the main vehicle for the devel-
opment of a local health promotion policy. In contrast
to the intentions of the PHA, our results indicate no as-
associations between the municipalities’ provision of
health overviews and the identification of challenges related to living conditions. A national audit suggested that the municipalities have not yet implemented the systematic health promotion work required by the act (Riksrevisjonen, 2015), and our results may seem to confirm this. Although we did not find a statistically significant association between health overviews and “living conditions as a main challenge”, we did find a borderline significant association ($p < 0.1$) between the latter and “health profiles being provided by the Norwegian Public Health Institute”. Municipalities using these profiles in local health promotion work were almost three-and-a-half times more likely to define living conditions as a main challenge than municipalities not using this data. These profiles are supposed to give municipalities the most essential data when developing their own local overview (Norwegian Directorate of Health, 2013). Perhaps municipalities are using data in these profiles instead of developing overviews rooted in local need and preferences may be in part because this local anchoring is a relatively new approach to local health promotion and requires relevant structures, experience and knowledge.

**Municipal prioritization of living conditions in health promotion**

Less than half of the municipalities (48%) prioritized living conditions in local health promotion. A study conducted just before the PHA was adopted investigated the same issue and found that only 6% of the municipalities had living conditions as a main priority (Helgesen and Hofstad, 2014). Although the question and response alternatives in that study were slightly different from those used here, our results indicate an increase at the municipal level in prioritization of living conditions related to health promotion.

Nevertheless, despite the strong national focus on living conditions, still more than half of municipalities do not prioritize such conditions. We know from other studies that it is more common to prioritize “health behavior and lifestyle” in contrast to living conditions (Helgesen and Hofstad, 2014; Bergem et al., 2010). As shown by Dahlgren and Whitehead (2009), addressing the social determinants of health demands actions on many levels of society and deals with fraught political questions of distribution of resources among social groups. Developing interventions to improve healthy lifestyles is much less politically controversial, and a policy upon which it is often easier to reach consensus. The focus on healthy lifestyles is also an expression of traditional public health work, and studies have indicated that local Norwegian health promotion still leans in this direction (Tallarek née Grimm et al., 2013).

We did not find any associations between municipal structural factors and municipalities prioritizing living conditions. Among others, the profile of political affiliation did not show any associations. National policies within the field of health promotion reflect the ideologies of the political majority in office. Regarding public health policies, left-wing governments aim to reduce social inequalities and eradicate poverty, while right-wing governments have a stronger emphasis on individual measures and individuals’ responsibility for their own health (Fosse, 2012). At the local level, these ideological differences in actual policies are not present to the same extent (Hanssen et al., 2011).

Governance structures, including incentives and guidelines, can facilitate municipalities in their local health promotion (Ministry of Health and Care Services, 2011b). On one hand, health promotion incentives from the national and regional level – such as statistical data, grants, guidelines and partnerships (which are relevant tools in local health promotion) – were not associated with the municipalities’ prioritization of living conditions. This might be a surprising result because these incentives are supposed to facilitate the municipalities in every area of their health promotion. On the other hand, we found that the municipal use of HiAP strategies was associated with prioritizing a focus on living conditions. Municipalities making use of cross-sectorial working groups or inter-municipal collaboration were respectively about two and three times more likely to prioritize living conditions in local health promotion work compared with municipalities not making use of such collaboration. Cross-sectorial working groups and inter-municipal collaboration represent structures of inter-sectoral collaboration (McQueen et al., 2012). Collaboration has been stated as the “new imperative” for improving health and well-being (Kickbusch and Gleicher, 2012), and inter-sectoral collaboration is a key tool in health promotion and the HiAP approach (Leppo et al., 2013; WHO, 2008, 2013b).

The HiAP approach emphasizes relationship-building through inter-sectoral collaboration, rather than sporadic coordination via single projects, for acting on the social determinants of health (Keast and Mandel, 2010; WHO, 2008). Living conditions are influenced by policies within several sectors; addressing issues in this domain usually requires collaboration among diverse actors, thus creation of regular platforms for dialogue and problem solving to create joint policy innovation are important (Keast and Mandel, 2010; McQueen et al., 2012). Collaboration requires partners who have
the ability to affect living conditions. According to Keast and Mandel (2010), partners should understand perspectives and aims of the group in its entirety, the aims of each of the partners, as well as their particular outlooks, areas of expertise, special concerns and constraints, and potential contributions.

Since our study has a cross-sectional design, it is difficult to decide whether the focus on living conditions is a result of municipal culture supporting inter-sectoral collaboration, or rather if it is more the case that giving priority to living conditions initiates such collaboration. Nevertheless, inter-sectoral collaboration depends upon not only shared visions and common goals but also on the development over time of habits of shared trust, reciprocity and mutuality (Axelsson and Axelsson, 2006, 2009; Keast and Mandel, 2010). Based on our results, it seems reasonable to believe that municipalities establishing inter-sectoral collaboration will be more able to improve the vital social determinants of health, and thereby improve their citizens’ health, in line with the intentions of Norway’s new PHA.

Strengths and limitations
The most important limitation of this study is that it is difficult to draw conclusions about causality because of its cross-sectional design. Another limitation is that it makes use of both structural variables – e.g., municipal size and revenues – together with more subjective variables that are dependent on the respondents’ position, level of knowledge and involvement in the field. The validity of the more subjective variables can be questioned, but we do believe that the respondents, who were mainly public health coordinators and chief executive officers, possess the insight required for responding on these topics on behalf of their municipality. The questionnaire used in this study was particularly developed for the SODEMIFA project, and, therefore, is in need of further evaluation for validity and reliability. The study’s response rate was acceptable and the sample reflects the size and geographical distribution of Norway’s municipalities. We feel confident that the results of our study can be generalized to Norwegian municipalities in general, and that they are relevant for nations similar to Norway.

CONCLUSION
This study investigated how municipalities in Norway meet the requirements of the PHA to work at the local level to reduce inequalities in health by addressing living conditions. The results show that a majority of the Norwegian municipalities believe they are capable of reducing inequalities in health, but less than half actually address living conditions in their local health promotion. Municipalities giving priority to living conditions were mainly those which had established collaboration related to health promotion among different sectors within their own – and between nearby – municipalities. Our results indicate that when the municipalities actually prioritize living conditions at the local level, they also seem to comply with the intentions of the PHA to implement the HiAP approach, which prioritizes focus on living conditions as key to reducing social inequalities in health. These results, reflecting the importance of inter-sectoral collaboration, are in line with WHO’s advocacy of HiAP to address social determinants of health. Further research should explore what factors may facilitate inter-sectoral collaboration in the Norwegian context and beyond.

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