Review of Social Inequalities in Health in Norway

English summary
Foreword

In 2008, the Global Commission on Social Determinants of Health of the World Health Organisation (WHO) asked its member countries to examine all aspects of public policies related to the question of fairness in health care. The World Health Assembly subsequently adopted two resolutions committing countries to develop strategies aimed at reducing social inequalities in health by targeting the social determinants of health. This resulted in investigations in a number of member countries including England and Denmark.

In 2007, the Norwegian government initiated a national strategy to reduce social inequalities in health and 5 years later, the government commissioned a study of factors impacting on social inequalities in health. This resulted in a review initiated by the National Directorate of Health focused on five aspects of social inequalities in health. The first of these addressed the social distribution of health as well as an evaluation of the health status of the poorest strata in society. The second presented analyses of the consequences of social inequalities in health. The third provided an overview of the development of social inequalities in health and their social consequences over time. The fourth identified social conditions explaining inequalities in health in Norway, while the fifth framed the findings of analyses of social inequalities in health in Norway in a comparative perspective. The panel also identified those policy areas and social institutions having the greatest impact on social inequalities in health. This was followed by recommendations for changing as well as initiating programs contributing to the reduction of health inequalities and their social effects in Norwegian society.

This report presents a summary of these findings and recommendations. The review has been organised as an independent and autonomous project at Oslo and Akershus University College of Applied Sciences (HiOA) chaired by Professor Espen Dahl. In addition to Professor Dahl, the expert panel appointed to administer the project consisted of Professor Finn Diderichsen, the Institute of public health, Copenhagen University; Senior Researcher Jon Ivar Elstad, Norwegian Social Research; Associate professor Astrid Louise Grasdal, Department of Economics, University of Bergen; Director of the Department of Health Statistics Else-Karin Groholt, Norwegian Institute of Public Health; Professor Olle Lundberg, Centre for Health Equity Studies, Stockholm University/Karolinska; Petter Kristensen, Director of the Department for Occupational Medicine and Epidemiology, National Institute of Occupational Health; and Research Professor Axel West Pedersen, Institute for Social Research.

This report has been written by a team consisting of Professor Espen Dahl, researcher Heidi Bergsli, and Associate Professor Kjetil A. van der Wel.

The members of the expert panel represent a broad spectrum of disciplines and expertise encompassing occupational medicine, public health sciences, health economics, social medicine, sociology and political science. The panel has held six meetings where chapter drafts were discussed. The panel has also discussed and commented the commissioned supplementary reports. The work with the report has mainly consisted of reviews of national and international research literature on relevant topics and studies of available statistical material. In addition, the report presents findings from a number of original data analyses.

Supplementary reports have been compiled by experts from various disciplines and research areas. They are responsible for the content of these reports currently available at www.hioa.no/helseulikhet. The recommendations presented in the supplementary reports do not necessarily correspond with the recommendations presented in the full report based on a global evaluation of the social determinants of health.
The authors and titles of the supplementary reports are listed below. With the exception of the contributions by Schmidt and Elstad, the reports are only available in Norwegian. The report titles presented here are in English in order to provide an overview of the topics and areas investigated in the commissioned reports:

- Annett Arntzen (Vestfold University College): Social inequalities in the health of children
- Heidi Bergsli (HiOA): Health and secondary school drop-out
- Jon Ivar Elstad (HiOA): Two statistical analyses for the project
- Jon Ivar Elstad (HiOA): The hierarchical diffusion model (in English)
- Øyvind Giæver: National strategy to reduce social inequalities of health - in theory and practice
- Geir Godager and Tor Iversen (University of Oslo): Empirical literature on social inequalities in the use of health services in Norway
- Kristian Larsen and Gro Hansen (University of Aalborg): Social inequalities in health: more conditions than choice. Insights and explanations in the Norwegian case
- Ingrid Sivesind Mehlum (National Institute of Occupational Health): The role of the working environment in relation to the social inequalities in health
- Axel West Pedersen (Institute of Social Research): Income and health
- Börge Schmidt: (The University of Duisburg-Essen): Genetics and Socioeconomic Inequalities in Health in the Era of Genome-Wide Association Studies (in English).
- Bjorn Heine Strand, Ólóf Anna Steingrimsdóttir, Ingri Myklestad, Øyvind Næss and the research group on social inequalities in health (Norwegian Institute of Public Health): Changes in inequalities in mortality after education in Norway- a sub-report on possible explanations.

We express our gratitude for the advice and assistance of colleagues in Norway and abroad: Elling Bere, Torkel Bjørnskau, David Blane, Elling Borgeraas, Annechen Bugge, Astrid Austvoll-Dahlgren, Runar Døving, Terje A. Eikemo, Inger Elisabeth Fosse, Peter Goldblatt, Marianne Nordli Hansen, Hege Hofstad, Håkon Johannotens, Angela Kreher, Olaug Lian, Inger Marie Løid, Nanna Lien, Eifred Markussen, Lars Mehmum, Sille Ohrem, Øyvind Næss, Hilde Pape, Kristine Pape, Ingeborg Rossow, Kristine von Simson, Sidsel Sparre, Maria Tindberg, Einar Øverbye and colleagues at the Social Welfare Research Centre, HiOA. Last but not least, we are grateful to Kristian Heggebo, Kristin Dahl Tindberg and Anne Grete Tøge for assistance with the literature.

The project leader has presented work in progress to the Health Directorate’s Scientific Board on Social Inequalities in Health, members of which have given valuable comments to our work.

Espen Dahl,
Chair, Professor at the Social Welfare Research Centre, August 2014.
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I. Social inequalities in health

Unequal wealth

Public health has been constantly improving in the Western world, particularly in terms of life expectancy. People live longer, and enjoy more years in good health. Economic growth during the 20th century has led to improvements in housing conditions, nutrition, income, health services, protection from traffic and work-related injuries, and a host of other areas. These developments exceed even the most optimistic expectations made only a few decades ago. In relation to these improvements, the Norwegian society stands out as one of the most advanced welfare states in the world. Its welfare state offers citizens a range of services from cradle to grave as well as providing income security to those in need or in old age. Today, the vast majority of the Norwegian population are well-off, well-educated, and live comfortable and secure lives.

However, the intimate link between social status and health found in other countries also exists in Norway, despite its egalitarian social policies. What most people would regard subtle differences – such as the place one lives, one’s academic qualifications, whether one owns a summer house, the kind of food one eats, whether one has a prominent position at work, or an above average income – constitute significant nuances in a fine grained social and economic hierarchy. At every step in this socioeconomic ladder, there exist great disparities – not only between the obviously rich and poor – but also clear-cut differences in the prevalence of illness as well as in life expectancies. These may be understood as indicators of what we call social inequality in health.

The social gradient

Income, education and occupation are social indicators that allow researchers to compare health across groups within the socioeconomic hierarchy. For instance, there is a strong correlation between educational level and life expectancy. The figure below shows that the proportion of the Norwegian population who died between 1993 and 1999 was smallest among men having advanced university educations and greatest among men who had no education beyond elementary school. The most interesting feature of the figure is the smooth, stepwise pattern between the educational groups. Those possessing lower university degrees had a slightly higher mortality risk than those with the most advanced degrees. Similarly, men with higher secondary educations tended to die less often than those with lower secondary education, who in turn died less frequently than those who had only completed elementary schooling. As little as a couple of more years of education matters in mortality statistics!

![Figure 1. Percentage of deaths 1993-1999 among men, age 40-66 in 1992, living in Norway, by education level. Age-adjusted rates.](image)


The correlation partly reflects that people with ill health do not achieve the same educational level as others, and partly that personality traits that lead to a fewer years of schooling also lead to ill health. We still believe that the most important cause of health inequalities are the differences in living conditions faced by people in different locations in the socioeconomic hierarchy. This is discussed further in the next chapter.
Many were astonished by this insight which was documented in several research reports published throughout the 1980s. Today, three decades of research have further confirmed this pattern, but have also revealed new surprises. Despite the general increase in wealth, as well as medical and social progress, social inequalities in health and mortality in Norway have increased over time. Even though the population as a whole is better off in terms of health, some have benefitted more than others. Research also shows that countries with the most elaborated income redistribution systems, such as the Nordic countries, do not have smaller health inequalities compared to other countries.

Three questions arise from the current state of knowledge: 1) why do health inequalities persist; 2) why do they increase over time; and 3) why have they not been reduced in Norway compared to other Western European countries. These questions guide this review of health inequality.

A social problem

Social inequality in health is not a scientific construct but a fatal reality entailing real consequences for the life chances of large segments of a society’s population. The numbers speak for themselves. If all inhabitants in Norway shared the low mortality rate enjoyed by the highest educational group, in less than ten years we would be able to prevent 15,000 deaths among women and 28,000 deaths among men. Annually, Norway loses about 89,000 life years among those aged above 40. Industrial workers, cooks and taxi drivers live seven to ten years less than doctors, teachers and architects. Children of mothers with few years of schooling have 67 per cent higher risk of dying during their first four weeks of life compared to children born of mothers having higher educations. Similarly, the children of mothers with little education have more than twice the chance of dying in their first year of life. The risk of stillbirth, too, is also higher among women at the lower end of the socioeconomic scale.

These disparities are significant ones. They are unfair and represent very real losses to individuals, families and society as a whole. Because health inequality is produced by the design of the social fabric and has great social consequences, it is clearly a major social problem demanding political action. More specifically, health inequalities represent:

- **A problem of justice.** Individuals in lower social strata are deprived of freedom and life chances. Equal rights to health springs from the integral dignity of human beings. Health has value in itself, but is also an important precondition for pursuing one’s goals in life. In one sense, this represents a double injustice: Those lower down in the socioeconomic hierarchy not only experience poorer living conditions such as deprived childhoods, low incomes and harsh working conditions, but they are also more prone to disease and premature death.

- **A problem of living conditions.** Ill health is an important, if not the most important cause of social exclusion in Norway. Being in poor health is an obstacle to an active, creative, productive and socially participatory life.

- **A public health problem.** The health potential in the population is prevented from being realised. Improving the health of everyone to the level of those who are best-positioned leads to significant increases in life expectancy.

- **An economic problem.** Social inequalities in health have consequences for employment, economic growth and public expenditure, and ultimately for the economic sustainability of the Norwegian welfare state.

- **A problem of well-being.** People with health problems and low socioeconomic status have less favourable prospects in relation to their general wellbeing and quality of life.
II. Policy and perspective

To solve a problem, one first must understand it properly. Policies to reduce health inequalities therefore must be closely linked to scientific knowledge. The transformation of knowledge into effective policies is however not an easy task. In this chapter, we briefly present our research perspective as well as policies developed by the Norwegian welfare state aimed at tackling health inequalities. Finally, we discuss future directions and outline our policy recommendations.

The social determinants of health

The ‘social determinants of health’-perspective proposes that health inequalities are shaped by conditions in society. One main consequence of this perspective is that it views the relationship between socioeconomic position and health as primarily causal. Socioeconomic groups experience dissimilar conditions including differential access to resources such as income, material goods, power, control, and social support. In addition, these groups are exposed to varying degrees of risks such as stress, crime, unhealthy lifestyles, injuries and other hazards in the work environment. Because of the combined causal effect of these conditions on health throughout the life course, health varies across socioeconomic groups. People in lower social strata (groups with low income, low levels of education or manual or routine-based jobs) on average have fewer resources and are more often exposed to health risks, as compared with people in higher social strata.

Health and the life course

Health inequalities cannot be properly understood without considering the life course. Even as early as the foetal stage of the child’s development, social conditions in the mother’s environment exert an influence on the child’s physical and mental growth. Childhood years are important in forming the foundation for future health: it is here where many underlying health resources, health behaviours and disease resistant processes are developed.

This period in the child’s development is also pivotal in establishing cognitive skills and learning abilities influencing future educational attainment. Advantages and disadvantages may also accumulate across the life course. For example, poor health, meagre resources and high levels of stress commonly a part of the lives of lower socioeconomic groups tend to mutually reinforce each other during the childhood and adolescence of youngsters raised in these groups. These factors increase the chances for membership in lower socioeconomic positions as well as poor health when these youngsters reach adulthood. Therefore, in a life course perspective, it is not always useful to separate causality from selection since in many instances the outcome (health) at one stage in life becomes a selection factor at a later stage.

Another insight from the life course perspective is that the ‘incubation time’ of social determinants on health can be very long. Poverty and food scarcity during childhood, for example, can lead to heart disease far into adulthood. Thus, the causes of today’s health inequalities in part may be found several decades back in time.

II Policies aimed at reducing social inequalities in health of course also clearly involve strengthening the knowledge base, but there is no space to discuss this here. In our main report (in Norwegian), however, we identify several areas where more research is required.

III We find little support for the hypothesis that the health inequalities “are written in the genes” (Schmidt 2013). The research on the human genome in recent years has yet to fulfil the optimistic promises made about the explanatory force of genetics. Genes typically explain a small part of the variation of factors for successful upward social mobility, such as IQ (about 1 per cent) and achieved education level (between 0.2 per thousand and 2 per cent). Similarly, genes explain only a minimal part of variation, even for health conditions where earlier twin studies have shown a significant effect of heritage, for example blood pressure and schizophrenia (Elstad 2014).
Policy principles

Based on our reading of the research literature, we have identified some principles on which we believe policies to reduce health inequalities in the future should rest. These principles, which we have discussed at depth in our main report, may be at odds with other values and concerns, such as personal freedom or political priorities.

Society matters

We take as our point of departure that the main causes of social inequalities in health are to be found in the social realm. Therefore, strategies to reduce health inequalities should aim directly at improving social conditions in important stages and arenas in life, such as childhood, schools and workplaces as well as during vulnerable periods. In a life course perspective, too, the social consequences of health and functional limitations need to be considered since these, which are themselves unequally distributed, may affect both health and socioeconomic positioning later in life. By limiting the consequences of illness, as well as their socially skewed distribution in relation, for example, to work and income, it may be possible to prevent disadvantaged life trajectories.

A policy for all

Social inequality in health cannot be reduced to a problem shared by a few disadvantaged persons or groups. It represents a complex of problems spread across the entire social spectrum. It is a problem not of few, but instead of the many. We can illustrate this with an example derived from an empirical analysis made for the project. If we were able to reduce the mortality rate of the lowest educational group to the level of those with highest education, a total of 43,317 life years would be saved. Yet, if the mortality rates of all other educational groups were reduced to the level of those with the highest education, nearly twice as many life years would be saved – as many as 89,281. Therefore, we can expect that universal strategies – measures aimed at the total population rather than only towards the disadvantaged – would have a significant additional effect on public health. In practice, however, universal measures may need to be adjusted based on the character and scope of the problem.

Early intervention

Where, in the chain of causes, should we intervene? A common metaphor is to liken the causal chain between social conditions and health with a river. Some health determinants will be ‘upstream’. These are the causes behind the causes found in the structure of inequality itself. Reducing income inequality and the reproduction of inequality across generations are examples of ‘upstream’ interventions. Examples of ‘midstream’ interventions are measures aimed at reducing the health-effects of an already existing inequality structure, such as improving work environments. A third possibility is to intervene ‘downstream’. Examples of such ‘downstream’ interventions could include equal access to health services and interventions aimed at changing the health behaviour patterns of the population. We maintain that policies for reducing health inequality must target all possible points for intervention, but that upstream and midstream interventions are those most effective in a long-term perspective. In particular, we expect measures directed at improving childhood conditions to be especially effective.

What people can do, more than what they want to do

Public health policies often try to help people make the right choices. Admittedly, this is not an easy task. In traditional information campaigns, the aim is often to change people’s desires, attitudes and perceptions influencing the choices they make. Such campaigns often have limited effects, and do not always affect those who need them the most. Those who already take an active interest in their health will often be those who first embrace new health information.

However, the choices we make are also influenced by the possibility structure and by the amount of resources we need to invest in order to achieve what we want. We can refer to these as the conditions for action. By influencing these conditions – for example by regulating what is legal and not, what is easy or difficult, and what is expensive or cheap – we can steer people’s actions in directions contributing to the reduction of health inequalities.
Coordinated action

The causes of social inequalities in health are many as well as multifaceted. Such problem complexes call for complex solutions. Therefore, policies combining measures in several policy fields are more likely to be effective. In so doing, these kinds of initiatives ideally should target a number of determinants simultaneously, such as employment, education, health behaviour, and health services.

Causal design of coordinated measures

‘Upstream’ interventions, as already noted, have great potential for success since they aim directly at the source of health inequality, namely the socioeconomic structure itself. In some cases, however, ‘upstream’ interventions may be a part of a broader chain of measures designed to fit the causal model of a specific problem. For instance, stress reduction brought about by having sufficient income (upstream) and improvement in the working environment (midstream) can work together with price regulation of tobacco (downstream) to increase the likelihood that people with low education levels will stop smoking.

More knowledge

In some areas, the knowledge available is either uncertain or insufficient. In particular, little is known about the effects of recent Norwegian health and social policy reforms on health inequalities. Even so, our recommendations reflect the best knowledge available to us. In the event of initiatives launched based on our recommendations, we recommend that these should be evaluated in relation to the impact they may or may not have on different socioeconomic groups.

Cross-political agreement

Social inequalities in health were brought to the Norwegian political agenda in the early 2000s when the centre-liberal coalition government led by Kjell Magne Bondevik launched the report Prescription for a healthier Norway. A broad policy for public health. Report No. 16 (2002–2003) to the Storting (parliament). For the first time, a governmental White paper directly addressed social inequalities in health in Norway. Its goals were clear: the reduction of social inequalities in health. And the tools for accomplishing this were in the main to be administrative actions by central health authorities aimed at strengthening competence and capacity. The parliamentary treatment of this White paper testified to the broad cross-political consensus regarding social inequalities in health in Norway as a source of great concern and the need for these problems to be addressed.

The left-centre coalition government led by Jens Stoltenberg initiated the Norwegian health inequalities strategy. In February 2007, the Minister of Health and Care Services submitted the National strategy to reduce social inequalities in health, Report No. 20 (2006-2007) to the Storting, stressing that “the government will build on the Nordic tradition of general welfare measures but simultaneously will initiate separate measures for those who need it the most. A fair distribution is good public health policy”. More specifically, the objective of the national strategy was to reduce the social inequalities by redistribution. This set of goals has a central role in this review.

The political platform of the current liberal coalition government does not address health inequalities as such, but testifies to similar concern with emphasis especially on making more socially equal living conditions and reducing poverty.
III. Lessons from research

In this chapter, we trace the sources of health inequalities and discuss their causes. According to the metaphors presented in the former chapter, we move down the river, from the fundamental ‘upstream’ causes of the health inequalities to those further down – ‘midstream’ and ‘downstream’. Naturally, we begin with childhood before considering the importance of working life and income. When coming to ‘downstream’, we discuss health behaviours and health services. After this ride down the river of health inequalities, we should be better informed on how to tackle them. But first, let us take a closer a look at the shape and patterns of social inequalities in health.

Patterns and development

A striking feature of social inequalities in health is that they are almost ubiquitous. One can study general measures of health and crude mortality rates, or one can study more specific health outcomes such as pain, anxiety, eczema, or death from liver diseases and traffic injuries. One can compare occupational or educational groups, or arrange individuals and groups according to how much money they have. One can interview Brazilians or Belgians, analyse mortality registries in Finland or France, and conduct health surveys in England or Ethiopia. In nearly every case, one almost always will find that those with more material or social resources, what we refer to as having a higher socioeconomic status, live longer and are more healthy than those with fewer resources.

At every age

Research has shown health inequalities to be found in all age groups, from neonates, children and adolescents, to adults and elderly people. Children of parents with low education are more often stillborn and more often have a low birth weight. Even though the risk of dying the first days after birth or throughout the first year is low in Norway (2.6 and 0.9 children per 1000 births respectively), the risk is considerably greater if the mother has little schooling. The risk of premature birth is also related to the education levels of mothers.

Children and adolescents from families having low socioeconomic backgrounds are more frequently hospitalised and involved in accidents. They more often have mental health problems, poorer dental health, obesity and self-reported health problems. Children from poor families also more frequently experience violence and abuse. Furthermore, chronic disorders such as asthma, allergies, and eczema also show a social gradient. For other diseases such as diabetes and epilepsies, there are few signs of social inequality.

The pattern of health inequality among adults is well established. Above we have shown that mortality varies according to education level. Below, we show the connection between income and mortality. A curious aspect of the pattern is that the differences in mortality are much larger between the lowest income groups than between those further up the hierarchy. A relatively small improvement in income thus seems to matter most in groups with lower income. The smaller differences in mortality rates between the highest income groups are equally interesting: the extremely rich have a slightly lower mortality rate than the moderately rich, even though both groups probably are very well off.

IV The pattern is reversed for some diseases such as breast cancer (Strand et al. 2007) and prostate cancer (Lund Nilsen et al. 2000).

V It seems however that the inequalities are reduced and disappear for the oldest persons in society. An obvious reason for this is that the people who reach a high age are in good health, irrespective of social background.
In the adult population, among persons educated at an elementary school level, 36 per cent report lifelong and life-limiting diseases or afflictions, compared to 17 per cent of those with a higher education level. The respective proportions reporting musculoskeletal disorders are 39 and 16 per cent.

There is also a clear educational gradient for many health problems among the elderly, as illustrated in Table 1. For several of these, the proportion is twice as high for those with a low educational levels compared to those having higher educational levels. For instance, 43 per cent of men with the lowest level of education report poorer general health compared to merely 23 per cent of men with higher levels of education.
Increasing health inequalities?

An interesting question is whether social inequalities in health increase over time. Is the situation improving or getting worse? A positive sign is the development in educational differences in neonatal (0-27 days) mortality. From the 1960s to the 2000s, neonatal mortality in Norway declined, although since then there has been no change.

This positive development, however, has not been matched among adults. From the 1970s until the 1990s, mortality related to income inequality in the adult population increased. However, this stabilized between 1993 and 2009, suggesting that the previously negative development pattern may be reversing.

While there has been a significant increase in life expectancy in Norway since the 1970s, the average annual increase has differed for groups having different educational levels (see Figure 3). On the whole, social inequalities in life expectancy among 35-year-olds increased in the period 1961-2009 (5.3 years for men and 3.2 years for women), but stagnated after 2000. One exception to this was represented by the difference in life expectancy between women having low and medium education levels. This has continued to increase up to the present. What is perhaps most important is the fact that inequalities today are significantly higher than in the 1960s. The differences in life expectancy between men with low education and those having medium level education were three times higher in the 2000s than in the 1960s.

Increases in social inequalities in mortality between 1960 and 1990 appear to be largely smoking-related: they are linked to cardiovascular illnesses, lung cancer and lung disease. Likewise, it seems that the possible stagnation in inequalities among men during the last decade is driven by decreasing inequalities in deaths from cardiovascular diseases, where smoking is also a common cause.

Table 1. Percentage of persons of age 75-76 reporting disease by education in the Health Surveys of the counties of Oslo, Hedmark, Oppland, Troms and Finnmark 2000-2003. (n= number of responses to the respective questions).

<table>
<thead>
<tr>
<th>Education, total number of years</th>
<th>7-9</th>
<th>10-12</th>
<th>13-16</th>
<th>17+</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Men</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heart attack, n=2667</td>
<td>17.4</td>
<td>16.1</td>
<td>15.0</td>
<td>12.8</td>
</tr>
<tr>
<td>Diabetes, n=2662</td>
<td>11.1</td>
<td>7.9</td>
<td>8.9</td>
<td>4.5</td>
</tr>
<tr>
<td>Less than good health, n=2638</td>
<td>43.1</td>
<td>37.0</td>
<td>26.6</td>
<td>23.0</td>
</tr>
<tr>
<td>Chronic bronchitis, n=2633</td>
<td>8.0</td>
<td>7.0</td>
<td>9.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Chronic pains, n=2586</td>
<td>3.9</td>
<td>2.9</td>
<td>3.5</td>
<td>1.8</td>
</tr>
<tr>
<td>Mental disorders, for which treatment is sought, n=2610</td>
<td>11.1</td>
<td>9.5</td>
<td>8.9</td>
<td>7.3</td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heart attack, n=3240</td>
<td>6.8</td>
<td>7.2</td>
<td>4.7</td>
<td>4.4</td>
</tr>
<tr>
<td>Diabetes, n=3265</td>
<td>8.6</td>
<td>5.8</td>
<td>3.5</td>
<td>2.9</td>
</tr>
<tr>
<td>Less than good health, n=3260</td>
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<td>40.2</td>
<td>34</td>
<td>27.9</td>
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<td>7.3</td>
<td>3.0</td>
</tr>
<tr>
<td>Chronic pains, n=3161</td>
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<td>10.5</td>
<td>7.6</td>
<td>9.0</td>
</tr>
<tr>
<td>Mental disorders, for which treatment is sought, n=3203</td>
<td>13.3</td>
<td>10.3</td>
<td>11.2</td>
<td>13.9</td>
</tr>
</tbody>
</table>

Source: Ness et.al. 2007:35.
Figure 3. Life expectancy at age 35 by education. Men and women.

The development in educational differences in self-reported health is more ambiguous. Figure 4 shows the trends in differences in reporting a health problem between those with only elementary education and those with higher education. Here, relationships between educational inequalities in reporting long-standing illness (LSI) and long-standing limiting illness (LLSI) have been reduced since the 1990s, while the period between 1980 and 2005 has witnessed increasing inequality in musculoskeletal diseases.

Figure 4. Absolute inequalities in three self-reported health measurements, 1980-2005.

Source: Own analyses of the Survey of living conditions, Statistics Norway (age sample: 25-66).
Norway is no exception to “the Nordic Paradox”

What has been dubbed a public health puzzle, or “the Nordic paradox”, is illustrated in Figure 5. Based on the assumption that egalitarian-oriented Nordic countries, with their comprehensive welfare states, redistribute important resources more equally than many other countries, it comes as a surprise that health inequalities still are not smaller. Inequalities in the Nordic countries are no less than in Great Britain, which has higher income inequalities and a less generous welfare state compared to the Nordic countries. To some extent, the position of the respective countries varies across studies. Yet the main pattern shown below is a consistent one in the research literature.

It is worth noting that the size of observed health inequalities varies significantly across Europe. The role played by policies in creating this variation is not clear, but previous studies have suggested that both wealth and welfare arrangements influence the extent of health inequalities. It must be noted that educational differences among smokers are larger in Norway than in many other countries and smoking explains a large part of social inequalities in total mortality in Norwegian society. Moreover, many other country characteristics could cause health inequalities to vary between countries such as working environments, traffic injuries, and nutrition and alcohol consumption.

Figure 5. All-cause age-standardised mortality rates by education, Men 30-74 years.

Source: Lundberg et al. 2012:89.
Childhood, adolescence and learning

Childhood and adolescence are critical periods, both for the individual and as a point of intervention in political action to reduce social inequalities in health. Inequalities affecting children are especially difficult to accept. Children do not choose the families or the socioeconomic conditions into which they are born. It is unjust when children located in lower socioeconomic strata experience more health problems and major injuries and possess fewer resources to tackle school and transitions to working life than youngsters in higher strata. This is a reflection of the unfortunate circumstances and underprivileged environments into which they are born. Later in life, the health behaviours they established in early years come to have impacts on their possibilities to succeed in school and working life.

Most would agree that inequality in life opportunities cannot be ethically justified. This is not a question of bad parenting; it is instead one involving the reproduction of inequality in society. However, history has shown that there is hope for change. In the 1970s, more than six neonates per thousand died during their first days of life, whereas this number becomes more than halved in the ensuing three decades. Social inequalities in postneonatal (28-364 days) mortality follow similar trends.

Family and the environment of childhood

The social, economic and educational conditions of the family where children and adolescents grow up clearly influence their health. These conditions can promote or harm the child’s social, emotional, and cognitive development, and thus shape opportunities and the life course: advantages and disadvantages tend to accumulate over the life course. Differences in risk factors and health problems among children and youth evolve to become major social, economic and health-related inequalities later in life. Consequently, inequalities reproduce themselves across generations.

Resources and burdens are not distributed equally in children and adolescents from different socioeconomic strata:

- A stable and secure family situation is a precondition for harmonious growth and well being in childhood. There is today a marked increase in inequalities for children and adolescents with divorced parents.
- From the 1990s to the 2000s, the proportion of children experiencing long-term income poverty in Norway doubled. Economic scarcity entails fewer possibilities to participate in leisure activities, which are important for a positive development. Participation in leisure activities has a socioeconomic gradient.
- Children's exposure to dust, smells, noise and other pollutants are unequally distributed according to the parental education and income levels.
- Exposure to bullying has a socioeconomic gradient.
- There are persisting socioeconomic inequalities in breakfast intake, physical activities and smoking.
- There was an increase of inequalities followed by a reduction of inequalities in fruit consumption during the 2000s.

School and learning

Compared to other countries, many adolescents embark on secondary education in Norway. Yet, the number of students in the age group 20 to 29 years is somewhat
lower in Norway than in the other Nordic countries. Norwegian pupils have not performed well in international test programs, such as PISA, but have recently shown some progress.

Performance is also relatively weak in OECD surveys concerning secondary school graduation. In Norway, seventy-two per cent of pupils graduate in ordinary course time or with two extra years compared to an OECD average secondary school completion rate of 85 per cent.

A variety of family circumstances influence school results, such as parental educational levels and incomes as well as family composition. Socioeconomic background and school results are two factors predicting to a significant degree the educational careers of children and youth. Socioeconomic differences in results can be observed at an early age, and even increase during the course of elementary school.

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**Stable statistics of school completion**

Secondary education is a right in Norway, but pupils who lack or have very low grades from elementary school encounter learning difficulties at secondary school level. There is a pronounced social gradient in completion of secondary school according to the education level of the parents. As illustrated in Figure 6, the proportion completing secondary school within five years is almost 40 per cent lower among pupils with parents having the lowest education level than among pupils with highly educated parents. An interesting feature is that the differences and the levels of completion have been rather stable since 1994.

Research indicates that health may affect both school results and dropout rates and consequently future education and work careers. There are also reasons to assume that social background, health-related conditions and school results are involved in complex interactions. Low levels of self-esteem, feelings of mastery and general mental health appear to be linked to dropout rates among adolescents.

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**Figure 6. Percentage of pupils completing secondary school within five years, by parental educational level. 1994-2007.**

Source: own analyses, Data from Statistics Norway.
Consequences of dropout

Lack of education and school dropout are associated with ill health and poor living conditions later in life. Successful completion of upper secondary school greatly improves educational and labour market integration, whereas those who drop out from school have greater risks of exclusion or of entering marginal positions in the labour market. The chance of being registered as a job seeker at The Norwegian Labour and Welfare Service (NAV) and becoming recipients of public benefits is also much higher among school dropouts.

Policy

Improving child welfare has been a key ambition of Norwegian welfare policies. Clinics for mother and child and youth clinics do an important job in following up children and adolescents, and can thus contribute to reducing poor health as well as protecting children from harmful home environments.

The kindergarten is also an important service, but as illustrated in Figure 7, there are clear differences in use according to the mother’s educational level. In 2008, 65 per cent of children (1 to 5 years) from families with the lowest income used kindergarten, compared to 86 per cent of children from families with the highest income. Kindergartens of good quality providing beneficial learning conditions can help give children more equal opportunities.

Figure 7. Percentage of children in kindergarten (1 hour or more per week) by households’ total income before tax (1. quartile = lowest), children 1-5 years.

Source: Sæther 2010:15.
The main goals involving programs for children, adolescents and schooling are to reduce social inequalities in life chances and to provide all youngsters with a good start in life. These programs aim to secure equal opportunities for cognitive, linguistic, personal, social and health-related development and growth.

Based on existing knowledge in this area, our recommendations include:

1. Reducing poverty in families with children.
2. Strengthening of early childhood programs, such as health centres for children and school health services.
3. Reducing social inequalities in the use of kindergartens.
4. Initiating early and continuous efforts to improve school results and to reduce dropout rates in secondary school.
5. Ensuring that reforms and programs in the school system are benefitting children who need them.
6. Strengthening cross-sectorial and multi-professional actions targeting adolescents who experience health-related or social problems.

Inequalities in school completion rates have been more or less unchanged since the reform of 1994, as shown in Figure 6. Access to apprenticeship has nonetheless been improved, even though the lack of apprenticeship hosts continues to be a barrier for many pupils following vocational training programs. Arrangements such as experience-based trade certification can potentially increase completion rates, and the project “Ny GIV” — [New Possibilities] has been promising.

Objectives and recommendations

The main goals involving programs for children, adolescents and schooling are to reduce social inequalities in life chances and to provide all youngsters with a good start in life. These programs aim to secure equal opportunities for cognitive, linguistic, personal, social and health-related development and growth.

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Family policies include more than just kindergarten policies. For instance the economic situation of poor families with children also needs to be addressed. In Norway, cash benefits such as parental benefits and social assistance have not been adjusted according to the general increase in wages in recent years and this has resulted in relatively lower benefit levels.

After school programs may have a positive impact on school results. However, because of the fees for these programs, different socioeconomic groups do not use them to the same extent. There are indications that fee adjustments would contribute to less unequal use. Free public homework assistance was an arrangement established in 2010 at some levels of elementary school. Yet, contrary to expectations, this program has failed to make significant contributions to the reduction of the social inequalities in school results.

The authorities have pointed out that developing the school health service and increase cross-sectorial cooperation are important measures to promote adolescent health. The school health services, particularly in secondary schools, have been cut back in some municipalities, and they also have become less multi-disciplinary. There are indications that school health services can play a role in preventing pupils from dropping out of secondary school.

In line with its intention, the 2006 Promotion Reform seems to have resulted in better school results. An unintended effect, however, has been that its prime beneficiaries are pupils from families with high socioeconomic status. On the whole, despite these various programs and initiatives, social inequalities in school results have increased in later years.

Employment and working environment

Work is a pillar of welfare. To the individual, work provides income that can be used to buy goods, services, leisure activities and a home – in short, the freedom to live a good life. To many people, work also gives access to social relationships, provides an arena for self-realisation, and creates a space where we are met with expectations that we enjoy. Good jobs can promote good health! They activate us, are meaningful, and make us feel valuable.

Not everyone has the chance to get a job. Joblessness is a problem both in society and for the individual. From a health inequality perspective, it is unfortunate that people who wish to work are excluded from the labour market. This can seriously reduce their quality of life and deteriorate the conditions under which their children are brought up.

Work, however, is not always a blessing. Heavy lifting, risk of accidents, poor working positions, negative stress and even bullying are found in the everyday work-lives of many. A person who begins his or her career at the age of 23 can assume spending 9,000 days at work, or approximately 67,600 hours. This clearly provides much time and many opportunities for poor working conditions to harm health. As we later will see in this section, the working environment represents one of the most important causes of health inequalities.

An inclusive working life

Many are concerned that the proportion of the population who do not work in Norway is too high. This is often assumed to be an unintended consequence of the generous Norwegian welfare state. Has it become too easy to opt out of work? If we compare Norway to Europe, the picture is not particularly gloomy. Employment has been comparatively high in Norway during recent decades. Groups having traditionally weak ties to the labour market – women, young people, the elderly, people with low education level, and people with health problems -- are working more regularly in Norway than in most other countries. In some ways, Norway can be seen as having one of Europe’s most inclusive labour markets. The reason is probably not only due to surpluses from oil and gas revenues. The other Nordic countries, with similar welfare states, also do comparatively well with respect to labour market inclusion rates.

Growing inequality

Despite positive figures, persons in poor health are increasingly found outside the labour market and this is an increase that has particularly affected those having low levels of education. It is clear that the social consequences of illness are greatest the lower the level of education. In itself, this represents a special form of health inequality. A given health problem may be more difficult to combine with the jobs available to people with low education, compared to the situation for people with a higher education having similar health problems. Increasing productivity demands in working life may play a role in this. Figure 8 shows the proportions of employed people ranged by education and health status. Men and women who report a disability are less likely to participate in the labour market, in particular those who have the lowest level of education.
Among those receiving disability pensions, there are found a substantial proportion of persons with relatively little schooling. Until recently, the proportion of the total population receiving disability pensions has been increasing, but it is uncertain why this is the case. The inflow of new recipients into the disability population is, however, stable. It may be that the growth of this population results from an accumulation of recipients rather than a higher rate of recruitment.

Approximately 10 to 16 per cent of the working age population in Norway are more or less permanently excluded from the labour market. Whether this is too many or too few depends on what their alternatives are as well as on what these figures are compared with. Compared with most other European countries, the figures are low.

**Is work good for health?**

There is a striking difference in the health of the employed and that of the non-employed. To be without a job increases the risk of longstanding illness: for unemployed men, this is three times greater than for employed men and almost four times greater for women. A great part of this difference is caused by the selection of people into and out of employment on the basis of their health. Yet, the difference may also result from an unequal distribution of living conditions between groups inside and outside the labour market, since higher income and material standards, economic security and social status accrued from work have beneficial influence on health. The literature is far from unanimous as to whether becoming unemployed harms health, but at least one Norwegian study indicates that this is so. However, leaving the labour market voluntarily, for instance through flexible retirement pension schemes, does not tend to affect mortality. This suggests that leaving work voluntarily or involuntarily are two very different processes.

From a public health perspective, it is also important to know whether helping people back to work benefits health. Some studies of unemployment, work and mental health conducted in the Nordic countries suggest that there are possible gains. These investigations conclude that obtaining a more economically predictable situation is a plausible mechanism benefiting one’s health. One study found that the transition from unemployment to a less secure job had a weaker health effect in comparison to that of those who got permanent jobs. Work is good for health, but not all kinds of work. Job security and a good working environment are important preconditions, as shown below.

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VIII See Figure 8.5 in the full report.
IX Controlled for age and education level. See Figure 8.3 in the full report.
Work for all?

Recipients of social assistance comprise a category where several marginal groups are overrepresented. These include, for example, single parents, long-term unemployed, persons with reduced working abilities and homeless people. Social assistance is intended to be short-term, but some people receive this assistance for relatively lengthy periods. Social assistance in Norway is characterised by means-testing and low benefits as judged by the high poverty rates (around 60 per cent of social assistance recipients were defined as “poor” in 2011). Municipalities may reduce social assistance benefits if recipients fail to meet at appointed times and/or fail to meet activation demands.

Poverty is conceived of as one of the foremost risk factors for disease and premature death, even though disease may sometimes lead to poverty and hence the use of social assistance. Recipients of social assistance benefits often suffer from persistently poor mental and physical health. Crime, drug abuse and smoking are far more common in this group than in the general population. Recipients of social assistance benefits, particularly long-term recipients, have far greater mortality rates than the rest of the population, especially in cases where the causes of deaths are linked to alcohol and drugs. There are indications that many members of this particular group are not capable of benefiting from work-oriented programs.

The working environment

The working environment is a key area where health inequalities may be reduced. Most of us spend significant amounts of time at work throughout the course of our lives. It has long been shown that there exist relationships between specific working conditions and various diseases. As a field situated between socioeconomic position and health, the working environment is particularly interesting because it is accessible to various forms of policy interventions. This is evidenced by the high degree to which this field is regulated and organised through legislation, control and information.

Most aspects of the working environment have a social gradient. The general pattern is that people with a lower level of education or with manual jobs are more severely exposed to health hazards. Unfavourable working hours, heavy lifting, unpleasant work positions, repetitive movements, exposure to noise and vibrations, and contact with various chemicals are characteristics found in the occupational environments of workers having low socioeconomic status.

Whereas office workers may have their own problems and challenges at work, such as immobile working positions and computer-based strains, there is another factor marking the distinction between high and low socioeconomic positions in working life. This involves the degree to which one is in control of the work situation (see Figure 9). To have the possibility for adjusting and varying work tasks, taking breaks and so on, increases chances for reducing the burdens and stresses of the workplace. The combination of heavy workloads and lack of control characterising many manual and service jobs is particularly unfortunate. This kind of work increases the risk of mental problems, musculoskeletal disorders, and heart diseases. Social differences are smaller when it comes to other psychosocial factors such as lack of social support, help from colleagues or supervisors and feelings that one’s work is appreciated.
The working environment explains a large part of social inequalities in health. One study reported that between 50 and 90 per cent of the social inequalities in musculoskeletal disorders were related to factors found in the physical working environment. Another study found that control over work tasks could explain 60 per cent of occupational inequalities in the risk of heart disease, more than smoking, overweight, blood pressure, physical activity and level of cholesterol combined.

In a European context, the Norwegian working environment, in particular the psychosocial environment is reasonably good, and it has generally improved during recent decades. Changes in business structure are important. New policies affecting the working environment, including the cooperation between the parties involved in working life (the labour unions, the employers and the state), have also been factors contributing to positive developments. Even though the numbers of persons exposed to unhealthy working environments have been reduced over time, there are still significant number of workers from lower socioeconomic groups exposed to these and related problems of the workplace.

### Policy

A central principle in Norwegian social and labour market policies is the “Work Approach”, i.e. that work should be the primary choice for all. Working life and welfare arrangements are organised in ways that support this goal. The Work Approach is specifically expressed in the Social Welfare Reform and the Agreement about inclusive working life (the IA agreement). Even though both initiatives focus on the association between employment and ill health, they did not target the reduction of social inequalities in health and the consequences of ill health for the labour market.

Activation, a key element in the Work Approach, is employed as means for reducing the number of welfare benefit recipients. At the same time, requiring recipients to take part in activation programs helps justify rather generous benefits that in turn prevent poverty among recipients. An important question in this respect involves the extent to which legitimate recipients are actually capable of meeting activation requirements, particularly those with few resources and in ill health. We know little about the impact of activation requirements on the health of recipients, but one study indicates that enforced participation impairs the otherwise positive mental health impacts of the program.
In 2009, the goal of including more people with reduced health in working life spelled out in the Agreement for an inclusive working life had yet to be met. At present, it is difficult to assess whether the IA agreement has influenced inequalities in health or led to the reduction of differences in health-related exclusion in the labour market. Notably, measures to reduce ‘social dumping’ seem to have had the desired effect.

Working conditions constitute an important link between social position and health. Moreover, the work environment is easily accessible to intervention: It is much simpler to improve an unhealthy working environment than to change the structures of inequality. Even though important policies to reduce the impact of working conditions on health and health inequalities are in place in Norway, working life still contributes to social inequalities in health. One reason for this state of affairs could be that the Norwegian policies have mainly focused on specific risks rather than on factors having greater impact potential, such as the psychosocial working environment, organisational conditions and work-time arrangements.

**Objectives and recommendations**

The main objective focused on employment and the working environment is to reduce social inequalities in health-related social mobility both within and outside of the labour market as well as to ensure sufficient social and economic security for people outside the labour market. Of equal importance is the need to reduce social inequality related to the quality of the working environment.

Based on existing knowledge in this field, we have five recommendations:

- Work training programs should be carried out in realistic working life settings. Similarly, partial sick leave should be given preference over full-time sick leave in many cases.
- Bringing people back to work should be a cross-sectorial concern. There is a need to direct special attention to the interaction between health and education in preventing labour market exclusion.
- People outside working life must be offered sufficient economic standards, social arenas and meaningful activities.
- Further improvements in the working environment are required, particularly those involving physical burdens, lack of control and self-determination, and the risks of work-related accidents.
- The IA-agreement should include measures aimed at preventing physical and mental illnesses and disease, not only sickness.
Economic inequalities

The way in which society allocates economic resources through its socioeconomic structure is close to the heart of the problem of health inequalities. Sufficient and stable income can buy freedom, security and proper living conditions. ‘Freedom’ here is understood as the degree of autonomy and control one has over one’s own conditions in life. The more financial resources you possess, the more freedom and greater health protection you can enjoy. But having more money also has a more symbolic feature. The level of consumption you enjoy signals your social standing to others and this appears to be how a society’s members evaluate their own standing relative to others. Thus, even if every person in a society enjoys a sufficient level of living, the relative size of income inequalities may indicate the degree of social cohesion in a society as well as the psychosocial burdens associated with ‘low’ status. The level of income inequality is likely to influence one’s self-worth, health behaviours, emotional state, and experiences of stress and conflict.56

The association between income and health is a bidirectional one – income affects health and health influences the capability to provide income. This also happens over the life course. Family economy during childhood shapes the health of children as well as the level of educational achievements they attain. These constitute significant factors influencing subsequent socioeconomic positioning, which again influences adult health.57 Regardless of the causal direction underlying the association between income and health, social policy clearly possesses potentials for affecting the distribution of opportunities, freedom and living conditions across the socioeconomic spectrum.

Income inequality

Norway has experienced strong economic growth during the last 15 years. In fixed prices, the average income level in the Norwegian population almost doubled between 1996 and 2011. Hence, ‘everyone’ is a winner, it seems. However, as we will soon see, some segments of the Norwegian society have gained more than others from this development.

Nearly one hundred years of shrinking income inequalities in Norway and in other countries came to a halt in the 1990s when this trend began to reverse.58 Since then, inequalities have been on the rise and have currently stabilised at a higher level,59 as shown in figure 10. In the main, alternative measures of income inequality confirm this tendency. Income measured over a 3-year period gives a general impression of stability during the last decade after a temporary decrease in income inequalities in the late 1990s. The large fluctuations during the 2000s were caused by changes in tax legislation.
Figure 10. Development of income inequality after tax per unit of consumption (EU-scale), measured by the Gini-coefficient. Student households were excluded. 1986-2011.

Norway is renowned for its comparatively low levels of inequality in wages and disposable income. Less known, however, is the fact that this does not apply to inequalities in market income, i.e. the sum of gross wages, incomes from self-employment, capital incomes and interest incomes. Here, Norway occupies a position close to the average among the OECD countries. In Norwegian society, there are large wealth inequalities: more than half of private wealth is controlled by the richest ten per cent of the population and the richest one per cent control more than twenty per cent.

**Life stages and economy**

Retired people today have experienced the largest income growth in Norway, whereas young single people and single parent households have had the smallest gains. Families with small children, particularly single parents, are more likely to be poorer today than only a few years back in time. Cutbacks or lack of adjustment in social benefits for families with children is likely to be one of the causes for this. A hallmark of the Norwegian society used to be that poverty was less common among families with children than in the general population. Today, this is no longer the case.

**Income and health**

Between the years 1970 and 1997, the likelihood of dying for the lowest income quartile (the 25 per cent in society with lowest income) was virtually unchanged. Men with above average incomes, however, enjoyed considerable improvements in their life spans particularly during the 1980s and 1990s. Men in the richest income quartile faced only half the risk of dying in the 1990s compared to just a decade earlier. The richest women, however, could only enjoy a modest improvement of 24 per cent.
In the last two decades, income inequalities in male mortality rates have been more or less stable, even though all income groups have seen improvement (see Figure 11). Again, the proportional improvement is larger in higher income groups. Unlike the general female population, women in the lowest income group have not experienced improved mortality rates. Overall, the picture is one showing a continuous though weak growth in mortality inequalities throughout this period.

**Figure 11.** Number of deaths per 100,000 for men (above) and women (below) aged 45-67 for five approximately equally large income groups in the period 1993-2008. Age-adjusted numbers. RD = Risk Differences, i.e. the difference in mortality between the highest and the lowest income group.

Source: based on Elstad & Dahl (2012), and analyses made by Elstad.
Poverty is associated with poor health. Figure 12 shows mortality rates for the poor and the non-poor population by age based on register data covering the entire Norwegian population. A person is defined as ‘poor’ if his/her household has had an income 60 per cent below the average income for the population for 3 consecutive years. The figure shows that there is a clear gap between the poor and the non-poor, and not only among the middle-aged, but also for young adults (20-34 years) and adolescents (13-19 years). In the latter group, mortality is of course low, but among young teenage girls, for instance, the chances for dying were almost three times higher than among the non-poor teenage girls.

**Figure 12. Five year cumulative mortality per 10 000 among poor and non-poor by age.**

Source: Elstad 2013:8.

There is also a markedly higher prevalence of mental distress, use of marihuana/hashish and other drugs, and alcohol dependency among poor people in comparison to the non-poor.

**Policy**

Judging the full effects of recent political reforms on income inequality is difficult, but the tax reform of 2006 has probably strengthened redistribution. Because growing inequalities in market incomes have worked in the opposite direction, these new tax policies may actually have contributed more to increase redistribution than can be read from the overall statistics.

Some policy measures have led to improvements for some, such as the elderly, and other policies have led to making some groups, such as families with children, relatively worse off. A change that is likely to contribute to more equality and less poverty is the increase in the minimum pension. Meanwhile, purchasing power for child benefits has decreased 25 per cent over the past 15 years due to lack of adjustment. There is also an under-regulation of social assistance benefits compared to the general income development, resulting in decreasing purchasing power among social assistance claimants over time. Despite regular increases in these benefits, social assistance schemes in Norway and the Northern European countries have become less efficient in combatting poverty. The benefit duration for single parent benefits has been shortened, and accompanied by activation requirements for the parent when the child reaches the age of three years. Higher levels of poverty among recipients of social assistance and families with children need to be seen in relation to these developments.

**Objectives and recommendations**

The objectives concerning economic inequalities are to reduce income inequality and to reduce income poverty. It is particularly important to reduce poverty in families with children.

Based on the existing knowledge in this field we recommend:

1. Persistent emphasis on redistribution through equalising tax policies and sufficient benefit provision.
2. Strengthening strategies to prevent social dumping.
3. Reduction of poverty in families with children by improving economic support arrangements.
Health behaviours

Some illnesses and causes of death are intimately linked to patterns of habitual behaviour and life styles.68 Lung cancer, cardiovascular disease and diabetes are some examples. Nutrition, smoking, alcohol intake and physical activity are some important lifestyle areas that matter for health. Although the causal links between smoking and lung cancer as well as between nutrition and diabetes are well established, health behaviours are far from being the dominant explanation of social health inequalities. Health behaviours tend to have little explanatory power in relation to musculoskeletal disorders, pain, self-reported health, mental illness and disability pensions just to mention a few important public health issues.

Social inequalities in health behaviours have for decades shown surprisingly stubborn staying power: they persist despite numerous efforts to enlighten the public with knowledge about life style choices and the need for changing attitudes and habits. The apparent resistance among lower socioeconomic groups to adopt healthy life styles, however, should not be taken as proof of irresponsibility. Rather, it seems that the linkages between knowing and doing are not as clear-cut as previously supposed. Moreover, understanding human actions, intentions and motivations is by no means an easy task, not to mention using this understanding to change people’s behaviour.

Inequality in health behaviour

In Norway, as in many other industrial countries, unhealthy patterns of behaviour tend to cluster in groups with low socioeconomic status. People higher in the socioeconomic hierarchy are often ‘health entrepreneurs’ and eager to adopt the latest trends promoted for ‘healthy’ life-styles. For instance, we find clear educational inequalities in nutrition and physical activity.69 The association between social status and alcohol use is, however, more complex. People in higher social strata drink alcohol more frequently than those in lower strata so that their annual consumption of alcoholic beverages is highest of all groups. In the lower social strata, on the other hand, people more often engage in binge drinking, which in turn make them more prone to alcohol-related accidents and disease.70

Educational inequality in daily smoking is larger in Northern European countries than in Europe elsewhere.71 Paradoxically, at least in the case of Norway, this pattern may be caused by successful anti-smoking interventions and campaigns.72 While the overall proportion of smokers dropped from about 50 per cent in 1974 to around 25 per cent in 2013,73 quitters were far more likely to have completed higher education. Consequently, socioeconomic inequalities in smoking increased.74 Looking at the most recent years, shown in Figure 13, however, one suspects that Norway now may be entering a final stage of the smoking epidemic. The reduction of smokers among those with low education is catching up, and social inequality seems to declining.75
How does health behaviour affect health inequality?

Lifestyle factors explain a large part of the gradient in mortality from ischemic heart diseases, which in Norway represents a larger proportion of the population than in other European countries.77 Lung cancer and chronic obstructive lung disease account for an increasing portion of educationally differentiated mortality in Norway. For women, changes in the mortality patterns in lung cancer and lung diseases explain the total increases in mortality inequalities between 1960 and 2000. Thus, social inequality in smoking and the smoking epidemic seem to have great relevance for the questions presented earlier - particularly those focused on why health inequalities increase and why they are not comparatively smaller. We shall return to these questions in the concluding discussion.

Policy

There are grounds for cautious optimism regarding the issue of social inequalities in health behaviours in Norway. Among children and adolescents, inequalities in many health behaviours are stable, while others are actually becoming less socially skewed.78 It is difficult to assess whether these developments result from policy efforts. Broad, structural initiatives such as distributing free fruit and vegetables in schools as well as a ban on smoking in restaurants combined with pricing policies for tobacco products may have had an influence. Reduction in the price of fruit and vegetables are likely to increase the demand of these goods, particularly in households consisting of young single persons and couples with children.79 Fruit and vegetables are more expensive in Norway than in other countries, and consumption per capita is lower. Offering free fruits and vegetables in elementary schools has had a permanent positive effect on inequalities in food habits among children and adolescents.80 Therefore, according to the evaluation of the World Health Organisation, the arrangement should be extended to include all schools.81

Since 1975, Norway has had a strict tobacco legislation, involving prohibition against advertisements, price regulation, health warnings printed on tobacco products, and purchasing age limits initially of 16 and now 18 years plus various measures against passive smoking.82 In recent years, the government has had a national tobacco strategy aimed especially at prevention and passive smoking. Norwegian anti-tobacco policies have emphasised structural measures and have long been highly ranked in international policy comparisons.83 However, a recent evaluation carried out by the WHO points out that countries comparable to Norway currently have lower rates of smoking among their citizenry and that insufficient resources may have hampered Norwegian policies.84

Figure 13. Changes in smoking habits in three educational groups 2007-2012.
Objectives and recommendations

The objectives involving health behaviour are aimed at reducing social inequality in relation to food, binge drinking, smoking and physical activities.

Based on existing knowledge in this field our recommendations are:

1. Active use of pricing to make people choose healthy food.
2. Regulation of sales and marketing of unhealthy food products, especially those targeting children and adolescents.
3. Distribution of free fruit to children throughout their basic education.
5. Continuance of strict tobacco legislature.
6. Introduction of tailored information campaigns and free stop-smoking offers.
7. Continuance of restrictive alcohol policies.
8. Improvement of public space assuring physical activity for all.

Norway also has a long tradition of restrictions of alcohol use involving reduced availability, limited number of sales outlets, age limits, price policies and taxes, as well as control over sales. Compared with other countries, Norway appears to have led a successful policy in terms of alcohol restriction. Nonetheless, the real prices of alcohol in recent years have been reduced and there has been an increase in the number of places serving alcohol. Many of the measures launched to control sales of alcohol and drunkenness at places serving alcohol may have had only slight effects since the greatest part of alcohol consumption takes place in private homes where the possibilities for preventive measures are limited.

The most recent national action plan for physical activity has a consistent structural perspective aimed at arenas such as kindergartens, schools and workplaces. However, in the end, a majority of the measures in the plan depend on individual choice of physical activity. Even though measures introduced may have contributed to an increasing awareness about the importance of physical activity, the actual work of implementing policy has been characterised by a lack of focus and few resources. Structural measures as well as measures improving the environments where people carry out their everyday lives have the potential to reduce social inequality in physical activity.
Health services

Even though health services may not play a major role in relation to health inequalities, the sector is guided by principles that may have important diffusion effects to other policy fields. Two such principles involve equal treatment for equal needs and universal coverage. Both these principles are to ensure for all citizens an equal level of security for life and health.

Social inequalities in the use of health services in the context of Norwegian health policies are a problem because they can reinforce existing inequalities in health, even if the source of the inequality is found outside the health services.

The extent to which people get the care they need depends on at least three conditions: people’s inclination to seek help, availability of health services, and the quality of these services. Examples of the first conditions often involve the kinds of knowledge people have about health services as well as what uses the services are expected to provide them. User charges, doctors’ referral practices as well as priorities are examples of the second condition. In relation to the third condition, communication problems and the accuracy of diagnosing as well as the quality of the treatment are important factors.

High status services?

The use of general practitioners is more or less equal in different socioeconomic groups in Norway as in most other wealthy nations. However, the same is not true about the use of private specialists’ care and the use of outpatient services where there exist in Norway an inverse socioeconomic gradient: given the same medical ‘need’ the use is higher among the better off.

There is little research done about preventive health services, but we know that high status groups are more frequent users of screening enquiries than low status groups. The use of dental services is also unequally distributed, as illustrated in Figure 14. The lower the income, the larger the proportion who has not visited a dentist due to poor economy, even when needed.
Figure 14. Percentage of people who for economic reasons have not visited the dentist, despite needs. Population 20 years+. N (not weighted).

Recent reforms in Norway have given patients the opportunity of choosing a general practitioner and a choice between hospitals. There is a risk that these reforms may contribute to greater inequity in health care, as individuals with low educational level are less likely to take advantage of these choices.94

Furthermore, some studies show that waiting time for hospital treatment is longer for patients with low levels of education and/or income than for groups higher up the socioeconomic scale.95 Even the chance for surviving cancer is socially skewed, and these inequalities have increased over time among women, but not among men. Health services may have a part to play in this, but the pattern could also be due to systematic differences in patient characteristics.96

Policy

Even if the health services may not be an important cause of the problem, it can be a significant part of its solution. If the health services promote the importance of reducing health inequalities and actively engage in cross-sectorial cooperation to achieve this, much can be accomplished.

Thus far, however, the health services have been lagging behind. Social inequality has not been a priority. For instance, when initiating large and important health services reforms, health equity issues have rarely been considered. Likewise, there has been little progress in the planned work to develop indicators to monitor social inequalities in the availability of health services and in national quality indicators.

There are some substantial gaps in the current knowledge on the role of health services. We know far too little about the possible differential effects of large health services reforms for all socioeconomic groups. Have the reforms led to smaller or larger social inequalities in the use of health services? There is also a dearth of research findings about quality differences as well as whether treatment effects vary according to patients’ socioeconomic positions. Furthermore, there is insufficient knowledge about to what extent socioeconomic differences in the use of health services are driven by the behaviour of doctors or of patients. In addition, there is little data about the role played by socioeconomic differences in various forms of contact involving prevention, diagnosis, treatment, etc.
Symptomatically, social inequality in health was virtually ignored in what is likely to be the most important health service reform in recent years, the Coordination Reform. This neglect was true of both the reform documents as well as the evaluation guide. One of the reform’s proposals (“Raskere tilbake”)[Faster Return] was even based on a principle of inequality involving purchasing employees in ill health private health care rather than having them wait in line for the usual public health care. The motivation was to get employed (and productive) people back to work sooner.

Other reforms in the health services, such as the initiation of patient rights, user choice and new financial systems, may have had undesired socially skewed side effects. Once again, we lack a knowledge base sufficient to assess these reforms.

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**Objectives and recommendations**

The objectives concerning use of health services are aimed at gaining greater knowledge about social inequalities in the health services, identifying barriers to equality in access and use of health services, and initiating strategies to tear down such barriers.

Based on existing knowledge in this field, we have the following recommendations:

1. The health services must place health inequality prominently on their agenda and actively engage in cooperative efforts aimed at reducing them.
2. Indicators of social inequality in health care must be developed.
3. A pilot project incorporating free medical and dental services should be initiated.

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IV. Conclusion

An agreed problematic

In recent decades, public health in Norway has improved. For instance, the past few years have witnessed an increase in life expectancy. This applies to all socioeconomic groups. However, Social inequality in life expectancy has increased, particularly if measured by education. Health improvements have been disproportionately greater among higher socioeconomic groups. Yet, this has not meant that lower socioeconomic groups have had declining health. Even so, social inequality in health is problematic in many ways. Not only is it a problem of fairness, but it also represents a complex of problems involving public health, living conditions, and the economy. The mandate of this report has been to describe the situation, discuss the problems and suggest directions for policies to reduce health inequalities in the future.

In recent years, Norwegian health authorities concerned with persistent and increasing health inequalities in mortality and life expectancy have launched policies aimed at reducing these and related disparities. This concern as well as the goal of reducing inequalities in health are shared by all the main political parties in Norway, which creates a favourable environment for future efforts in this area.

Three guiding questions

In the introduction, we raised three fundamental questions based on the current state of knowledge to guide our report: why do health inequalities persist, why do they increase over time, and why are health inequalities in Norway not narrower than those documented in other Western European countries. Our presentation has employed a ‘social determinants of health’ perspective. The analyses presented here of these social determinants and their relationships to health, disease and premature death has led to the following conclusions:

The persistence of social inequalities in health seems to be related to a surprisingly stable social structure. The distribution of economic resources, such as income and wealth, and immaterial assets, such as education and social and cultural resources, has been relatively stable over time in Norway. The same is true for many health behaviours.

However, in one type of health behaviour - namely smoking - there have been significant changes during recent decades that may help explain increasing health inequalities. Cause-specific mortality analyses as well as survey information on smoking trends strongly suggest such an interpretation, at least when socioeconomic positions are measured by educational level. The story goes something like this. According to theories about diffusion of innovations, one would expect lower socioeconomic groups to be slower in adopting non-smoking behaviour than higher socioeconomic groups. If so, a period of declining overall smoking rates as the smoking epidemic fades out, would inevitably contribute to increase health inequalities. Recent data even suggest that non-smoking among people with low education is catching up, and, consequently, that educational mortality inequality has ceased to increase.
The question of why health inequalities are not smaller in Norway than elsewhere in Europe may have a similar answer. Research suggests that smoking patterns are more severely skewed in Norway than elsewhere. Perhaps the smoking epidemic has reached a more mature stage in Norway than in most Western European nations and this has resulted in a higher adoption rate of non-smoking behaviour among higher socioeconomic groups in Norway.\textsuperscript{97} Greater social inequality in smoking in Norway may thus be one explanation of why mortality inequalities are not smaller in Norway than elsewhere in Europe.

That smoking behaviour seems to be an important explanation to our two latter questions does not mean that smoking is the most important cause of health inequalities, i.e. related to the first question. For instance, unequal distribution of smoking behaviour can only explain a limited part of the educational inequality in premature death, approximately 25 per cent for men and even less for women.\textsuperscript{98} Furthermore, a self-reported health indicator such as musculoskeletal health problems, which is not strongly related to smoking, also show increased inequality by education level. Therefore, it is not obvious that policies to reduce health inequalities should primarily focus on smoking.

Rather, we argue that a much broader perspective is necessary. As shown in this report, an unequal distribution of a number of risks and resources contribute to form health and life chances in society. Childhood conditions, education, work, money and life-styles, as well as the way these factors interact over the life course coalesce to shape people’s health and longevity. Because the causes of health inequalities are so complex, policies to reduce them should be comprehensive and target different factors and different life stages. This concern is reflected in the measures recommended here as well as the emphasis on coordinated cross-sectorial policy efforts.

**Welfare policies for all?**

A key instrument in the national strategy to reduce social inequality in health is universalism, i.e. the principle that provision of services and benefits should cover all citizens, rather than targeted towards specific disadvantaged groups. Because the problem of social inequality in health runs through the entire socioeconomic hierarchy, we argue that the most effective strategy to reduce them is to target the entire population by employing an approach based on universalism. Such an approach is also more likely to benefit overall public health. As universalism has traditionally been a hallmark of the Nordic welfare model, this type of policy is also politically feasible in the Norwegian setting.

On the other hand, one could argue that if universalism has not yet been successful in erasing health inequalities
in Norway, why should it be so in the future? If all universal arrangements manage to do is to benefit all social groups equally, i.e. to lift the floor, health inequalities will not diminish. This is not, however, the case. Welfare arrangements, i.e. services and in particular cash benefits, do have a redistributive effect and have been shown to be most helpful to those with the greatest needs. Therefore, in the absence of universal welfare arrangements, it is likely that health inequalities, for instance due to smoking, would have been larger.

Another reason why universalism is no guarantee for small health inequalities involves the fact that not all services are properly designed at the point of delivery. They may not be equally helpful to different socioeconomic groups or there may be differences in barriers towards participation, for example, employing user fees. Free homework help and the after-school program are two examples. During the implementation of free homework help, social inequality in school performances actually increased, and the cost of the after-school program is a frequent reason for non-participation by children from low-income families.

This discussion poses two important challenges for future policies to reduce health inequalities. The first challenge is to increase our understanding about how public services affect social inequality in general and health inequality in particular. The other challenge is how to develop policies benefiting all and at the same time leading to the levelling of social inequality in the distribution of resources and burdens according to the needs and problems of different socioeconomic and social groups. Here there are promising ideas about “targeting within universalism”, “proportional universalism”, or “differential universalism” that imply that a service that is provided for all need to be allocated in such a way that it compensates for initial problems and lack of resources and opportunities.

We believe that both challenges can be met if all relevant sectors – not only the health sector – make it a priority and a common aim. Social inequalities in health must be kept in mind in all daily activities and reforms carried out by the authorities. This includes all parts of the policy process: initiation, planning, implementation and evaluation. Any consequences that plans and measures might have on patterns of distribution in society must be considered, and all policy evaluations should routinely map inequalities in take-up and effects. Finally, a system to monitor the development and extent of social inequalities in health must be established. In this way, we believe, a knowledge-based policy for the reduction of health inequalities in the future can be built.
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