

Being Healthy, Being Sick, Being Responsible: Attitudes towards Responsibility for Health in a Public Healthcare System

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Lifestyle-induced diseases are becoming a burden on healthcare, actualizing the discussion on health responsibilities. Using data from the National Association for Heart and Lung Diseases (LHL)'s 2015 Health Survey ($N = 2689$), this study examined the public's attitudes towards personal and social health responsibility in a Norwegian population. The questionnaires covered self-reported health and lifestyle, attitudes towards personal responsibility and the authorities' responsibility for promoting health, resource-prioritisation and socio-demographic characteristics. Block-wise multiple linear regression assessed the association between attitudes towards health responsibilities and individual lifestyle, political orientation and health condition. We found a moderate support for social responsibility across political views. Respondents reporting unhealthier eating habits, smokers and physically inactive were less supportive of health promotion policies (including information, health incentives, prevention and regulations). The idea that individuals are responsible for taking care of their health was widely accepted as an abstract ideal. Yet, only a third of the respondents agreed with introducing higher co-payments for treatment of 'self-inflicted' conditions and levels of support were patterned by health-related behaviour and left-right political orientation. Our study suggests that a significant support for social responsibility does not exclude a strong support for personal health responsibility. However, conditional access to healthcare based on personal lifestyle is still controversial.

Introduction

The prevalence of lifestyle-induced diseases is increasing worldwide, and non-communicable (NCDs) are overtaking infectious diseases as the leading cause of morbidity and mortality (WHO, 2013). According to the World Health Organisation (2013), cardiovascular diseases, cancers, chronic respiratory diseases, and diabetes, which alone are responsible for 63 per cent of deaths globally, are associated with risk factors related to individual behavioural patterns, such as tobacco and alcohol consumption, unhealthy diets and lack of

exercise. As substantial losses are related to these morbidities (Scarborough *et al.*, 2011; Krueger *et al.*, 2014), action plans have recognised that small reductions of population exposure to lifestyle-related risks may yield significant health gains (WHO, 2013). Also, given the evidence pointing to the social inequalities in health, a stronger commitment from the authorities in reducing systemic causes of lifestyle-related diseases is demanded (Newdick, 2017).

This situation has spurred two distinct debates on the role of social and personal responsibility for health in reducing the burden of lifestyle-related morbidity. First,

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the need for health promotion raises questions pertaining the respective responsibilities of the authorities and of each individual in reducing the exposure to particular risk factors, to avert illness before it occurs. Prospective appeals to personal health responsibility are often understood as encouragements to take responsibility for one's health, aiming at raising awareness on the consequences of harmful behaviour (Wikler, 2002). Here, controversies persist about the governments' role in preventing people from adopting unhealthy behaviours, as some might view interventions that entail education, regulation and taxation as infringements of self-determination and liberty of action (Childress *et al.*, 2002; Wikler, 2002; Jochelson, 2006; Sunstein, 2006; Calman, 2009).

Second, questions on health responsibility arise when citizens become patients and require treatment for diseases that occurred or worsened because of their lifestyle. Retrospective forms of personal health responsibility could be ascribed when the individual's past actions are identified as the main cause of a disease (Bærøe and Cappelen, 2015). As healthcare authorities face difficult priority-setting problems, the possibility to ration healthcare based on individual health behaviours is recurrently debated (Minkler, 1999; Feiring, 2008; Sharkey and Gillam, 2010; Schirmer and Michailakis, 2011; Friesen, 2016; Owen-Smith *et al.*, 2018).

Some countries have proposed policies that consider personal responsibility as a criterion for healthcare coverage and access (Laverty and Harris, 2018), applying diversified co-payments and waiting lists or excluding certain treatments from the basket of public healthcare services when the disease is 'self-inflicted' (Sabik and Lie, 2008; Ter Meulen and Maarse, 2008; Schmidt, 2009a,b; Pillutla *et al.*, 2018). Conditional access to healthcare is often grounded in the belief that in order to access benefits, individuals are expected to contribute in socially responsible ways, and that this responsibility signals a membership in the moral community (Buyx, 2008; Schwartz, 2009; Stegeman *et al.*, 2014; Laverty and Harris, 2018). Others, as Norway, have argued against such criterion, stating that society ought to assist the worst-off, notwithstanding the presumed cause of illness (Meld. St. 34, (2015–2016); NOU 1987: 23; NOU 1997: 18).

While most societies recognise that both the authorities and the individual have a responsibility in health, public attitudes on these issues vary. There is evidence that some would accept giving less priority to patients that are responsible for their illness (Gu *et al.*, 2015). Previous research on the views of the general public has identified personal responsibility for health as a relevant (but not pivotal) criterion for healthcare prioritisation,

with a support varying with priority-setting contexts and research methodologies (Ubel *et al.*, 2001; Wilmot and Ratcliffe, 2002; Wittenberg *et al.*, 2003; Ter Meulen and Maarse, 2008; Dolan and Tsuchiya, 2009; Gollust and Lynch, 2011; Edlin *et al.*, 2012; Stegeman *et al.*, 2014; Whitty *et al.*, 2014; Ratcliffe *et al.*, 2017). Higher support towards differentiation in access to healthcare among men and non-smokers has been identified (Ubel *et al.*, 2001; Stegeman *et al.*, 2014). Others have highlighted that individuals supporting weak governmental engagement in healthcare tend to attribute causal responsibility for illness to certain groups (Gollust and Lynch, 2011). Van Exel *et al.* (2015) found that personal responsibility was not relevant for priority-setting decisions to respondents associated with the egalitarian viewpoint, which they defined as characterised by a focus on solidarity, entitlement and equality of access. Less attention has been paid to the public's view on social responsibility for health, but recent findings suggest that populations targeted by governmental interventions are less supportive of these interventions (Gyrd-Hansen and Kjaer, 2015), while the non-smokers and the physically active support lifestyle-changing interventions more than pharmacological medication (Jarbol *et al.*, 2017).

This body of research is fragmented, and we still know little about the relationship between individual characteristics and attitudes towards health responsibility. Using Norway as a case, the present study examines the public's views on health responsibility and conditional health policy and analyses how attitudes vary across groups according to self-reported health, health-related lifestyle and political orientation. Finally, we discuss the contribution of this study to the literature on the division of health responsibilities between the authorities and the individual.

Methods and Data

Study Design

This is a cross-sectional study conducted in Norway using survey data. The aim of the study was to estimate the public support for personal and social responsibility for health and to investigate the association between these attitudes and personal characteristics using multiple linear regression analysis.

Study Setting

Norway has a publicly financed, universal healthcare system with compulsory membership. Approximately 85 per cent of the total healthcare expenditure is

funded through public sources with small user co-payments at point of access (Ringard *et al.*, 2013; OECD, 2017). The Norwegian system remains grounded in the principles of equality in access and solidarity towards the disadvantaged. The allocation of resources in health-care (including the criteria for accessing services and for setting waiting lists) rests on three criteria: the expected health gain, the cost-effectiveness of the intervention and the severity of the condition (Lindemark, 2016; Pasient- og brukerrettighetsloven, 1999). The Norwegian authorities have been reluctant to include personal responsibility, understood as the patient's self-responsibility for the condition and compliance to treatment, to the set of criteria used in priority-setting decisions (Meld. St. 34, (2015–2016); NOU 1987: 23; NOU 1997: 18). On the other hand, the engagement of the authorities in the promotion of healthy lifestyles through soft and hard policies constitutes a core element for public health policy (Meld. St. 34 (2012–2013)).

Data Source and Sample

This study used data from the National Association for Heart and Lung Diseases (LHL)'s 2015 Health Survey. The survey was designed by LHL and the SINTEF Research Institute and covered questions on self-reported health and lifestyle, health responsibilities, health service quality and delivery, priority-setting issues and socio-demographic characteristics. Mail questionnaires were distributed between January and April 2014 to a randomised sample of 7500 persons from the Norwegian Population Register (including 5000 persons between 18 and 75 years old and 2500 between 40 and 75 years old, both patients and non-patients). Persons above 40 years of age were overrepresented to secure a large enough sample of health service users and to obtain a sample of a certain size within the various disease groups. A total of 2689 persons responded, giving a response rate of 35, 9 per cent. It is unclear whether a lower response rate necessarily results in skewed samples and lower representativeness (Groves 2006; Singer 2006). In order to assess data quality, one should therefore consider representativeness, and not only sample size. The SINTEF Research Institute, who provided the dataset, assessed the sample's representativeness by comparing the composition of the net sample with available population statistics and created population weights based on the distribution of gender, age, education and county of residence. They reported that the results from the weighted and unweighted measurements showed very small differences. For more information on the sampling procedures and

on how data representativeness was assessed by SINTEF, see the survey report by Ådnanes and Dyrstad (2014).

Our study used anonymous data provided by SINTEF and was not a biomedical research project, and according to the Norwegian Health Research Act, did not need approval from the Regional Committee for Medical and Research Ethics.

Measures

Dependent variables

Social responsibility for health

Given that the study setting was a National Health Service (NHS), we limited social responsibility to include the duties of the public authorities, disregarding non-governmental actions of the civil society, such as communities, insurers and employers. The support for social responsibility for health was measured through two items: (1) 'To which extent do you think the authorities should take the following actions to maintain and improve the population health? i) information campaigns; ii) facilitate a healthier lifestyle; iii) preventive interventions in the healthcare sector; iv) enact laws that influence the population health', and (2) 'To which extent do you think the authorities should have a responsibility for maintaining and improving your health? Five response categories were given in both items: 'Not at all', 'A little', 'Somewhat', 'Very much', 'A great deal'. We constructed an index with the average score on the five 5-point Likert-type items and coded the responses 1–5.

Personal responsibility for health

The support for personal responsibility for health was measured by two questions: (1) 'To which extent do you believe that you have a responsibility to take care of your health yourself?' with the response categories 'Not at all', 'A little', 'Somewhat', 'Very much', 'A great deal', and (2) 'To what degree do you agree with the following statement: there should be higher co-payments for the treatment of self-inflicted diseases (for instance caused by smoking)? with responses on a five-point scale anchored from 'totally disagree' (1) to 'totally agree' (5). Given that the distribution of the responses to the first question was remarkably skewed (with 98 per cent of the responses falling in category four and five), we did not include this item in the regression analysis and only presented the descriptive findings.

Independent variables

Self-reported health

Respondents answered the question 'How do you rate your own health in general?' Possible responses were: 'Very

poor', 'Poor', 'Neither poor nor good', 'Good', 'Very good' (coded 1–5). The item was computed into a dichotomous variable denoting 'poor health' for categories 1–3 and 'good health' for categories 4–5 (reference category).

Health-related behaviour

We measured the respondents' lifestyle considering smoking, drinking, eating habits and the reported levels of physical activity. Smokers were asked about the average number of cigarettes smoked in a week. Non-smokers and past-smokers were coded as 'non-smokers', while respondents that reported to smoke one or more cigarettes in a week were categorised as 'current smokers'. Drinking habits were measured through the frequency of alcohol consumption in the past 12 months, and respondents were categorised into 'occasional drinkers' (never drink or up to two or three times a month), 'moderate drinkers' (one to three times a week) and 'active drinkers' (four to seven times a week). The occasional drinkers were used as reference category. For the eating habits, we calculated an average score on a scale from 1 to 5 based on the respondents' self-reported weekly intake of a range of foods (fruits, vegetables, hamburgers, chocolate, pastries, etc.) We then attributed value '1' to the group scoring up to 3.34 on the scale, and value '0' to those scoring 3.34 and over, to isolate the group reporting unhealthy diets. The level of physical activity was measured through the item 'On average, how often are you physically active?' which was then coded into two categories: 'inactive' for once or less than once a week, and the remaining sample coded '0' and used as reference category.

Political orientation

The respondents' political orientation was measured by self-reported voting in the 2013 national parliamentary election. The available options were: The Conservative Party (H) and The Progressive Party (FrP) (right-wing parties), The Christian People's Party (KrF), The Agrarian Party (Sp) and The Liberal Party (V) (center parties), The Labour Party (Ap) and The Socialist Left Party (SV) (socialist parties) and 'others'. Non-responders and non-voters were excluded from the analysis. This variable was used as a proxy of the respondent left or right political orientation.

Controls

Previous research shows that educational level and socio-economic position impact on health, wellbeing and lifestyle (Bjelland *et al.*, 2008; Strand *et al.*, 2010; Marmot and Bell, 2016). Similarly, education and income correlate with political beliefs (d'Anjou *et al.*, 1995; Stubager, 2008). Thus, we controlled for the following socio-demographic variables:

gender, age (coded: 'under 30', '31 to 60', and 'over 61'), education ('lower' for high-school graduate or lower, and 'higher' for university graduate or higher), household income in NOK¹ (coded: 1= up to 100.000, 2= 100.000–299.000, 3= 300.000–599.000, 4= 600.000–999.000, 5= 1.000.000–1.499.000, 6= 1.500.000–1.999.000 and 7= over 2.000.000) and country of birth (non-Norwegian/Norwegian).

Data Analysis

Block-wise multiple linear regression analysis was used to process the data in SPSS 24.0. Two ordinary least squares regression models were carried out to analyse the factors associated with the support for social responsibility for health and for higher co-payments for self-inflicted illnesses (with statistical significance level at 5 per cent).² The following predictors were plotted in the models in four blocks: first the socio-demographic variables (gender, age, country of birth, income and education); secondly, the health condition; third, the variables for the health-related behaviour (eating, smoking and drinking habits and the physical activity level); finally, the political parties with The Labour Party as reference category. The models were estimated using fixed effects with dummy-variables for each county, with Oslo as reference category, to control for the geographical variation not included in the model (not reported). Since we had several nominal variables belonging to the same dimension (for instance, four variables measuring lifestyle and seven for the political orientation) adding the variables to the regression model in groups allowed us to compare changes in the models' coefficients and *R*-squares. Given that many of the independent variables in our model may be highly correlated, there was a potential concern for imprecise estimates due to large variance. However, collinearity diagnostics uncovered no such problems.

Results

Social Responsibility: The Authorities' Role in Individual and Population Health

Our sample included 2689 respondents, among which 54 per cent women, and 57 per cent between 31 and 60 years of age. Individuals with higher and lower education were equally represented and the largest group had a household income ranging from 600.000 to 999.000 NOK (approximately 60.000 to 99.000 EUR). See [Supplementary Appendix A](#) for main sample characteristics.

Table 1. Response score on the index 'Support for social responsibility for health'

Index results		N
Support for social responsibility for health on a scale from 1 to 5.	Mean: 3.39 Min.: 1.00 Max.: 5.00 St. dev.: .67	2567

The index measuring the support for social responsibility for health had mean score of 3.4 (st. dev. 0.67) on a scale from one to five, pointing to a moderate support for the engagement of the authorities in improving the population health (Table 1).

Our regression model explained approximately 5 per cent of the variance in the outcome variable 'Support for social responsibility for health', with a 2 per cent change in *R*-squared resulting from adding the lifestyle variables to the model.

Women were associated with more positive attitudes towards public health interventions for health promotion ($\beta = 0.10$, $P = 0.01$), and individuals over 61 years old were less supportive than individuals between 30 and 60 years of age ($\beta = -0.15$, $P = 0.01$). Moreover, respondents displaying unhealthier eating habits, smokers and physically inactive individuals were also less supportive of health promotion policies that included information, incentives to healthy lifestyles, prevention and regulations ($\beta = 0.09$, $P = 0.05$; $\beta = -0.13$, $P = 0.01$; $\beta = -0.09$, $P = 0.05$) (Table 2).

Personal Responsibility for Health: The Individual's Role in Health

The distribution of responses for the two survey items on personal responsibility are reported in Table 3. The survey results showed that the principle of personal responsibility for health was well accepted by most of the respondents, with 98 per cent stating that individuals have 'a great deal' or 'very much' responsibility for their own health. Due to the marginal variation in responses, we decided not to proceed with regression analysis on this item.

Concerning conditional access to healthcare, almost one-third (28 per cent) of the respondents agreed with the idea that patients with self-inflicted illnesses should pay higher co-payments (Table 3).

The variation in the attitudes was investigated further through multiple linear regression (Table 4). A negative association with female gender ($\beta = -0.38$, $P = 0.01$)

and a positive association with young age ($\beta = 0.30$, $P = 0.05$) and income ($\beta = 0.13$, $P = 0.01$) were found to be significant for the support of higher co-payments for self-inflicted diseases. On the other hand, respondents with poorer health were less supportive ($\beta = -0.29$, $P = 0.01$).

Changes in *R*-squared values between the blocks in the regression analysis highlight a significant increase in the explanatory power of the model (up to 15 per cent of the variance) when adding the variables on lifestyle and political orientation. Smokers were more negative towards this policy than non-smokers ($\beta = -0.90$, $P = 0.01$), and the support decreased with lower levels of exercise ($\beta = -0.22$, $P = 0.01$). Having voted for the three main conservative parties (H, FrP and KrF) was associated with higher levels of support for introducing a criterion that diversifies co-payments based on the individual's responsibility for the disease ($\beta = 0.17$, $P = 0.05$; $\beta = 0.30$, $P = 0.01$; $\beta = 0.31$, $P = 0.05$).

Discussion

Co-Responsibility for Health

The way we understand the locus of responsibility, social or personal, constitutes a fundamental element for how we think of causes of disease, different roles in prevention and attribution of blame. Thus, we studied attitudes towards policies of prevention, where the authorities can play more or less pivotal roles, and policies of access, where responsibilities are reflected in the balance between rights and obligations of the individual and of the collectivity.

We found relatively high levels of support for both social and personal health responsibility and some support for conditional policies, as 28 per cent of the respondents agreed to some extent that patients seeking treatment for 'self-inflicted illnesses' should pay higher co-payments.

These findings suggest that in a NHS, a strong support for personal responsibility for health does not exclude a significant support for social responsibility, and vice versa. This is corroborated by a significant positive correlation between the two dimensions ($r = 0.15$, $P < 0.01$, not reported). Our findings on the public attitudes can support the view that health responsibilities are 'co-responsibilities'. The term 'co-responsibility' has been proposed as an alternative to the binary thinking around responsibility for health (Schmidt, 2009a; Devisch, 2012), but the definition of this concept is still at an early stage. Devisch (2012) suggests that:

Table 2. Support for social responsibility for health. Model estimated via OLS regression, *B*-values with standard errors in parentheses. *N* = 1684

	Socio-demographic variables	Self-reported health	Health-related behaviour	Political orientation
Female	0.12** (0.03)	0.12** (0.04)	0.08** (0.03)	0.10** (0.03)
Age < 30	0.01 (0.06)	0.01 (0.06)	0.01 (0.06)	0.02 (0.06)
Age > 61	-0.13** (0.04)	-0.13** (0.04)	-0.15** (0.04)	-0.15** (0.04)
Non-Norwegian	0.22** (0.09)	0.22* (0.09)	0.22* (0.09)	0.20** (0.09)
Higher education	0.03 (0.03)	0.03 (0.03)	0.01 (0.03)	.00 (0.03)
Household income	-0.01 (0.02)	-0.01 (0.02)	-0.01 (0.02)	-0.01 (0.02)
Poor health		-0.03 (0.04)	0.00 (0.04)	0.01 (0.04)
Current smoker			-0.13** (0.04)	-0.13** (0.04)
Active drinker			-0.01 (0.07)	-0.01 (0.07)
Moderate drinker			-0.06 (0.03)	-0.06 (0.03)
Unhealthy diet			-0.09* (0.04)	-0.09* (0.04)
Physically inactive			-0.09* (0.04)	-0.09* (0.04)
The Conservative Party (H)				-0.07 (0.04)
The Progressive Party (Frp)				-0.04 (0.05)
The Christian People's Party (KrF)				-0.01 (0.07)
The Agrarian Party (Sp)				-0.10 (0.08)
The Liberal Party (V)				-0.11 (0.07)
The Socialist Left Party (SV)				0.08 (0.08)
Others				0.02 (0.08)
Intercept	3.45** (.09)	3.47** (0.09)	3.60** (0.09)	3.60** (0.10)
<i>R</i> -squared	0.03	0.03	0.05	0.05

* $P \leq 0.05$, ** $P \leq 0.01$.**Table 3.** Support for personal responsibility for health. Distribution of responses for the two survey items

Survey item	<i>N</i>	Percentage
To which extent do you believe that you have a responsibility to take care of your health yourself?	2664	
Not at all	1	0.0 per cent
A little	7	0.3 per cent
Somewhat	44	1.7 per cent
Very much	665	25.0 per cent
A great deal	1947	73.1 per cent
To what degree do you agree with the following statement: there should be higher co-payments for the treatment of self-inflicted diseases (for instance caused by smoking)?	2620	
Totally disagree 1	857	32.7 per cent
2	504	19.2 per cent
3	529	20.2 per cent
4	409	15.6 per cent
Totally agree 5	321	12.3 per cent

Table 4. Support for increased co-payments for the treatment of 'self-inflicted' diseases. Estimated via OLS regression, *B*-values with standard errors in parentheses. *N* = 1710

	Socio-demographic variables	Self-reported health	Health-related behaviour	Political orientation
Female	-0.39** (0.07)	-0.40** (0.07)	-0.39** (0.06)	-0.38** (0.07)
Age < 30	0.41** (0.13)	0.35** (0.13)	0.32** (0.12)	0.30* (0.12)
Age > 61	-0.01 (0.07)	-0.01 (0.07)	-0.07 (0.07)	-0.07 (0.07)
Non-Norwegian	0.30 (0.17)	0.30 (0.17)	0.36* (0.17)	0.39* (.17)
Higher education	0.08 (0.07)	0.06 (0.07)	-0.01 (0.07)	-0.00 (0.07)
Household income	0.18** (0.03)	0.15** (0.03)	0.13** (0.03)	0.13** (0.03)
Poor health		-0.36** (0.08)	-0.28** (0.08)	-0.29** (0.08)
Current smoker			-0.90** (0.09)	-0.90** (0.09)
Active drinker			0.14 (0.13)	0.15 (0.13)
Moderate drinker			-0.04 (0.07)	-0.03 (0.07)
Unhealthy diet			0.09 (0.08)	0.09 (0.08)
Physically inactive			-0.21** (0.07)	-0.22** (0.07)
The Conservative Party (H)				0.17* (0.08)
The Progressive Party (Frp)				0.30** (0.11)
The Christian People's Party (KrF)				0.31* (0.14)
The Agrarian Party (Sp)				-0.05 (0.17)
The Liberal Party (V)				0.17 (0.14)
The Socialist Left Party (SV)				-0.07 (0.15)
Others				0.44** (0.16)
Intercept	2.13** (0.18)	2.34** (0.18)	2.65** (.018)	2.50** (0.19)
R-squared	0.07	0.08	0.14	0.15

* $P \leq 0.05$, ** $P \leq 0.01$.

'Co-responsibility means that responsibility is never me or the other's, but the intermingling of the other's and me, not in the way that they are shared, but that they intrude or contaminate one another.' (Devisch, 2012: 146).

It is up for debate whether the term 'co-responsibility' would imply that health responsibilities are simply 'shared', or 'intertwined' in a more complex way, and our empirical findings do not provide an answer to this question. Still, given the importance of both individual behaviour and the societal conditions influencing this behaviour for population health, both responsibilities are called for and justified. Schmidt (2009a) points out:

'Since health is affected both by personal behaviour and factors generally beyond immediate individual control (...), it is neither an exclusive matter of personal or social responsibility. As the element of personal control admits of degrees, conceptually, personal responsibility also needs to admit of

degrees. By necessity, health responsibilities are therefore co-responsibilities.' (Schmidt, 2009a: 24)

A co-responsibility approach to health responsibilities as the one sketched above understands personal and social responsibility as complementary, in the sense that the presence of the one enables the other, and vice versa.

In practice, a specific social responsibility for health can be observed when the authorities are invested with the role of providing for healthcare and influencing individual behaviour towards healthier lifestyles. In a comparative study of Nordic countries, Vallgård (2011) points out that Norwegian public health policy has distinguished itself for having a strong social-democratic focus that allows the implementation of 'less liberal' policies to address individual behaviours, for instance, by applying extensive regulations on alcohol and tobacco consumption and 'sugar-taxes' on unhealthy foods. One could argue that such policies put

individuals in a better position to make responsible choice.

Our study suggests that this approach to population health is reflected in the general public, as we found a moderate consensus for a range of policies associated with social responsibility for health. We showed that respondents across political parties and health conditions agree with having authorities that engage in public health policies that promote and safeguard individual health. On the other hand, it seems like individuals that are usually the target of these public health interventions, i.e. persons that would need external help to achieve behavioural change, not always appreciate this kind of interference. This is the case of the physically inactive, those with diets high in fat and sugars, and the smokers.

Furthermore, the study showed a strong agreement with the idea that individuals have a great deal of responsibility for their own health. As a general principle, personal responsibility for health might be complementary to social responsibility. For instance, in some clinical settings, patient compliance and motivation would be called for because they improve the prospects of treatment.

On the other hand, it is a different question whether a lack of compliance (or personal responsibility in general) should weaken the patient's claim on collective resources. As pointed out in the introduction, the Norwegian authorities have been historically reluctant to applying a criterion of personal responsibility for 'self-inflicted disease' to priority-setting decisions (Meld. St. 34, (2015–2016); NOU 1987: 23; NOU 1997: 18). A recent qualitative study on Norwegian stakeholders' views on priority-setting also revealed that the majority opposed to the application of this principle to healthcare prioritisation (Aidem, 2017). Our study confirms this finding, as most of the respondents disagreed with the statement on introducing higher co-payments for self-inflicted illnesses. Also, the fact that only a third of the respondents would be willing to attribute some kind of financial responsibility for individual health-related choices, suggests a gap between the endorsement of personal responsibility as a principle, and a hypothetical application of this principle to actual policies of access.

Political Orientation

Studies on attitudes towards the welfare state suggest that left-wing political alignment is associated with greater approval for strong governmental involvement in healthcare (Gevers *et al.*, 2000; Jæger, 2006; Dallinger,

2010), and that political orientation is connected to people's perception of the role of social conditions and individual choice in determining health (Robert and Booske, 2011; Lundell *et al.*, 2013). Similarly, Kannan and Veazie (2018) found that a larger portion of Democrats and Liberals, as opposed to Republicans and Conservatives, thought that the environment is the most important factor in health and thus agreed on the importance of preventive medicine. For this reason, we included political orientation in the study of the public attitudes towards social responsibility, assuming that the support would be linked to the individual political orientation. Our results showed otherwise, as there was no statistically significant difference in the support for social responsibility for health between the group of voters to the left and to the right. This finding leads us to believe that in Norway the support for extensive public health policies is shared across political views.

Moreover, we expected that the emphasis on social equality and solidarity, distinctive of the political left, would clash with an excessive attribution of responsibility for health to the single individual. In their review of studies on how policy-makers allocate resources to mental health services, Corrigan and Watson identified political ideology as a significant factor for distributive patterns. In particular, right-wing political orientation was associated with a tendency towards punishing individuals with a personal responsibility for their illness (Corrigan and Watson, 2003). Similarly, studies investigating the attribution of obesity to personal conduct and lack of self-determination point to an association between the emphasis on personal responsibility and right-wing conservatism (Crandall and Schiffhauer, 1998). Our study partially confirmed this, as having voted for right-conservatives was found to be a significant predictor for the support of introducing higher co-payments when accessing treatment for so-called 'irresponsible' behaviours. It must be noted that, in general, the Norwegian conservative parties have not been active promoters of higher co-payments and the idea that access to services should be as free as possible is generally shared by both The Labour Party and The Conservative Party (Arbeiderpartiet, 2013; Høyre, 2013). We believe that the system of beliefs held by voters when they make-up their minds about the role of personal responsibility might influence which considerations become relevant for their decision. Thus, right-wing conservatives would use 'merit' and 'desert' as guiding principles, rather than 'equality', when deciding upon the rightfulness of policies that affect access to treatment.

Lifestyle Preferences

Previous research shows that instead of seeking the maximisation of their health, individuals with detrimental health habits are negative towards interventions targeting their behaviours. Extensive international research on alcohol consumption, for instance, points to a negative association between drinking and support, with heavy drinkers being less supportive of paternalistic interventions (Latimer *et al.*, 2001; Harwood *et al.*, 2004). Several studies on Nordic populations confirm these patterns (Nordlund, 2007; Holmila *et al.*, 2009; Storvoll and Halkjelsvik, 2013). Assuming averseness towards behavioural change, we expected that individuals that reported unhealthy lifestyles (with high-sugar and high-fat diets, low degree of exercise, smokers and regular drinkers) would oppose any interference with their lifestyle choices.

In both regression models, adding the lifestyle variables on smoking, drinking, eating and activity habits increased significantly the explanatory power of the model. The picture drawn by our analysis, however, was quite heterogeneous, showing that different behaviours (smoking, drinking, eating and exercising habits) related differently to the attitudes towards responsibility. We noted that drinking habits had no significant effect on our outcome variables. On the other hand, smoking and exercising once a week or less were significant predictors both for social responsibility and for the co-payments item, with these groups being less supportive of the role of the authorities in promoting health and strongly against the introduction of co-payments for diseases related to their lifestyle.

Assuming that a large part of public health policy targets such personal behaviours, this evidence could suggest that individuals engaging in detrimental habits (in this case, smokers and the physically inactive) display a preference towards limited public commitment in improving their health, but at the same time, do not want to be imposed higher co-payments because of their lifestyle.

This situation goes into the discussion on the fair distribution of burdens in society and the extent to which we can achieve equality in health, and through which instruments. Scholars have suggested that equalising efforts should not include inequalities caused by 'preferences', meaning that society should not make up for 'voluntary disadvantages' (Roemer, 1993). An important argumentation against holding individuals responsible for health outcomes related to their past behaviour has been the uncertainty concerning the voluntariness and degree of control over their actions, i.e. the 'avoidability objection' (Feiring, 2008; Børøe and Cappelen, 2015). If our interpretation of the evidence

is correct, our results could in principle challenge this objection. While it is true that 'lighting another cigarette' out of habit and nicotine addiction is partly an involuntary choice, being reluctant to the authorities' commitment towards making the healthy choice easier, could be viewed as a preference for maintaining that habit. This finding fuels the discussion on the justice in conditional access to healthcare as a priority-setting policy. Given a system based on solidarity, and a mutual expectation of individuals for behaving in socially responsible ways, healthy individuals may view others' preference for detrimental behaviours as counterproductive to their financial contribution to the collective system, thus advocating for more personal responsibility for health behavior. It must be noted that there are other powerful objections to applying personal responsibility as a criterion for access to health care (Buyx, 2008; Sharkey and Gillam, 2010) and we do not intend to settle this complex discussion. Moreover, given that cultural and institutional factors influence individual lifestyle preferences, concerns of social justice have challenged the fairness of responsibility-tracking health policies (Voigt, 2010). Still, given the significance of political orientation and individual lifestyle preferences, we believe this study brings us closer to understanding the nature of varying attitudes towards social and personal responsibility for health.

Study Limitations

The application of quantitative survey methods to study complex social science phenomena such as population attitudes requires some simplification and abstraction. Yet, what makes the operationalisation possible might put limitations to the interpretation of the final findings. In our case, the validity of using the political party chosen at the last election as a proxy of the individual's general political orientation might be challenged. This variable is an indication of where the respondent collocates herself on the left-right political spectrum at one point in time and does not provide an exact measurement of the background values and beliefs behind the party choice, as our survey did not *per se* include questions on social and political beliefs. We assumed that the decision of voting for a specific party at the national elections is based on the acknowledgement that the political values the party historically stands for, at least partially, are shared by the individual as well. Similarly, the validity and reliability of using self-reported lifestyle can be problematic, as studies have shown discrepancies between the actual food and alcohol intake and the one reported (Stockwell *et al.*, 2004; Schoeller, 1990).

We must also note some limitations regarding our outcome variables, measured by the survey items on social and personal responsibility. First, since we were interested in the attitudes towards allocating responsibilities to the authorities for promoting population health, we decided to aggregate the items into one index showing higher or lower support for social responsibility. A limitation arising from this choice is that we did not distinguish between the support for 'soft' or 'hard' public health policies (for instance, health education vs. regulation). Second, the respondents' understanding of the survey item 'enact laws that influence the population health' could be limited, since respondents were not informed that regulations might influence individual behaviour indirectly, rather than restricting individual choices. Finally, the support for conditional access to healthcare services based on personal responsibility was only measured in the hypothetical case of higher co-payments for access. This means that other policies of conditionality were not surveyed (such as mechanisms of deprioritisation on the waiting-lists or treatment denial) and the criterion was not analysed in relation to other criteria, limiting the generalisability of the results to other priority-setting mechanisms and trade-offs.

Implications and Further Research

As noted in a previous study by Gyrd-Hansen and Kjaer (2015), an important implication of the fact that individuals with detrimental health habits seem to oppose public health policies for health promotion, is that future policies targeting lifestyles should not be justified on grounds of libertarianism as 'help to self-help'. On the contrary, the nature of some of these policies might be characterised as 'paternalistic', since paternalism is defined as the interference of a state with an individual, against their will, for the individual's own good (Dworkin, 2017). Still, comprehensive public health policies might be justified with arguments related to equity and social justice, but this is also disputed (Wilkinson, 2018).

Furthermore, personal responsibility for health as a principle was widely accepted and we observed that conditional access to care based on health-related behaviour was viewed by a small part of the public as a fair exception from the solidarity paradigm. We also showed that individual preferences and ideological beliefs play a role for understanding these attitudes. Further research on this topic needs to analyse more in depth, which grounds people base these attitudes on: is there a moralistic judgement on whether irresponsible individuals deserve help

from the collectivity? What is the role of misconceptions and stereotypes around the causes of disease?

Finally, our analysis was limited to factors at the individual level, such as socio-demographic characteristics, political orientation, self-reported health status and behaviour. More sophisticated multilevel analyses could include cultural and institutional factors and thus identify mechanisms of issue framing and social habit formation that impact on how we understand health responsibilities. The fact that our models explained only a small part of the variation in how social and personal responsibility are viewed, suggests that there are several other factors to consider. Still, by setting a starting point in the investigation of the relevance of personal and social responsibility for health in Norway, our research lays the ground for building more complex analyses on this salient topic.

Notes

1. Approximate household incomes in EUR: 1 = up to 10.000, 2 = 10.000–29.000, 3 = 30.000–59.000, 4 = 60.000–99.000, 5 = 100.000–149.000, 6 = 150.000–199.000 and 7 = over 200.000
2. Since the responses on the item «To what degree do you agree with the following statement: there should be higher co-payments for the treatment of self-inflicted diseases (for instance caused by smoking)?» are ordinal, we first analysed this item with a logistic regression analysis. As the results did not show any considerable difference with the OLS regression analysis and assumptions of normality were met, we only reported the latter for simplicity.

Supplementary Material

Supplementary material is available at *Public Health Ethics* online.

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Conflict of interest

None declared.

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