Does lifestyle matter when to decide on co-payment for health care? Attitudes of the German public

Adele Diederich, Lars Schwettmann and Jeannette Winkelhage

Priorisierung in der Medizin
FOR 655 Nr. 35 / 2012
Die Reihe „Priorisierung in der Medizin“ umfasst Arbeits- und Forschungsberichte der DFG Forschergruppe FOR655 „Priorisierung in der Medizin: eine theoretische und empirische Analyse unter besonderer Berücksichtigung der Gesetzlichen Krankenversicherung (GKV)“.

Die Berichte und weitere Informationen zu der Forschergruppe können abgerufen, werden unter:

The series „Priorisierung in der Medizin“ consists of working papers and research reports of the DFG (Deutsche Forschungsgemeinschaft, i.e., German Research Foundation) Research Group FOR655 „Priorisierung in der Medizin: eine theoretische und empirische Analyse unter besonderer Berücksichtigung der Gesetzlichen Krankenversicherung (GKV). (Prioritizing in Medicine: A Theoretical and Empirical Analysis in Consideration of the Public Health Insurance System)“

Reports and further information can be found at
Does lifestyle matter when to decide on co-payment for health care? 
Attitudes of the German public

Adele Diederich, Lars Schwettmann, 
Jeannette Winkelhage

Jacobs University Bremen

Personal responsibility for one’s health is frequently discussed when deciding on health care allocation and corresponding costs. This paper reports some findings of a larger representative survey from Germany, which took place in summer 2009 and included 2,031 valid responses. Two questions are addressed. (1) Which health related behavior qualifies for private contributions to treatment costs in the view of the German public? (2) Do acceptance rates for co-payments depend on specific characteristics of the citizens? A majority of respondents agreed to co-payments for patients with high alcohol consumption, smoking, extreme sport, sunbathing/solarium, or drug consumption, but rejected such payments in the case of unhealthy diets or lack of physical exercises. With respect to individual characteristics of respondents we found that at least for some unhealthy behaviors older participants, men, people with a healthier lifestyle, with a higher socioeconomic status or from East Germany were more often in favor of additional contributions.

Health policy makers may notice that several but not all unhealthy behaviors described in the survey are criteria that are accepted for the introduction of co-payments. Furthermore some groups of society may be stronger opposed to respective policy measures than others.

Keywords: Prioritizing, personal responsibility, public opinion, lifestyle, health behavior, co-payment
1. Introduction

The development of new and often expensive health technologies, aging populations, shifting demographics and changing epidemiology, lead to both increasing needs for health care and growing financial pressure in health systems worldwide. An efficient but also fair allocation of limited medical resources is needed (Cappelen & Norheim, 2006). Even if the annual budget for health care is increased – which is the case in most countries – the total amount of spending is always limited. Priority setting in health care services according to some pre-defined criteria is proposed as one possibility to handle the problem of limited resources and to provide a fair distribution of medical services (Sabik and Lie, 2008, for a recent review). The task of the policy makers is to define those priority setting criteria which must be in concordance with medical and ethical standards but should be approved also by different stakeholders. Based on a literature search, Cappelen and Norheim (2006) distinguish three classes of potential criteria with different degrees of acceptance. Medical criteria like severity of disease or benefits from the medical intervention are well accepted, whereas personal criteria such as ethnicity or sex are clearly rejected. Other criteria, including health related lifestyles, are controversially discussed. For a recent study with different criteria with the German public see Diederich et al. (2012).

There is considerable evidence that people’s lifestyle may have an impact on their health and, consequently, on their present and future need for medical treatment. Cappelen and Norheim (2005) report from WHO studies showing that among the most leading ten risk factors contributing to the burden of disease in high income countries, seven can be directly attributed to unhealthy lifestyles. The most prominent risk factors are tobacco (first), alcohol (third), and overweight (fifth). These lifestyle factors may influence the risk factors blood pressure (second) and cholesterol (fourth) which may be indirectly attributed to unhealthy lifestyles. Private health insurances (would) take such factors into account when calculating premiums for health insurances (Olsen, 2005). In contrast, publicly funded health care systems are mainly based on the so-called ‘solidarity principle’, which generally excludes risk-based premiums. However, in some countries several new incentive elements have been recently implemented in order to incorporate aspects of personal responsibility in the public health care system. For instance, Denmark and Hungary (Alemanno & Carreño, 2011) established ‘fat taxes’, while Germany introduced bonuses for participating in preventive and screening measures and reductions of premiums for healthy behavior (Schmidt, 2007, 2008).

It is often argued that personal responsibility for one’s health should be included when deciding on health care allocation and corresponding costs. According to Cappelen and Norheim (2005) and Olsen (2009), liberal egalitarians hold that society should carry only those health care expenditures that result from factors outside personal control like genetic dispositions, whereas costs that arise from the individual’s choices should be partly or fully carried by the individuals via taxes, co-payments or additional insurances.

However, several objections have been raised against this position and opponents are in favor of more comprehensive cost coverage by the public health care system (see Wikler, 2004, for an overview). For example, it is argued that unhealthy behavior is rarely freely chosen, but often depends – at least partly – on other factors such as social background or educational level (see Buyx, 2008, and Vincent, 2009, for a discussion). Moreover, not all potentially harmful behaviors can be treated in the same manner.
(Cappelen & Norheim, 2005). Whereas the consumption of some goods such as unhealthy food or alcohol can easily be taxed, other choices like having unsafe sex or the lack of exercise are more difficult to control.

One of the strongest arguments against the liberal-egalitarian position is the so-called ‘non-neutrality’ objection (Cappelen & Norheim, 2005), which criticizes that co-payments may be interpreted as punishments of ‘sinful’ lifestyle choices. For example, Schokkaert and Devooght (2003) report that several respondents in a survey study wanted ‘confirmed smokers’ to pay even more than the costs of treatment caused by their lung cancer. Olsen (2011) calls it ‘moralistic healthism’ and, instead, argues that co-payments should only cover financial burdens imposed on other individuals, viz. externalities.

This argument has to be kept in mind when interpreting results of empirical studies on people's attitudes towards personal responsibility as one criterion among several others for allocating health care costs. Such results are often inconclusive and depend on the framing of the study (Wikler, 2004; Cookson & Dolan, 1998; Shmueli, 2008). Yet the general public’s opinion should not be ignored. First, citizens primarily finance the health care system directly by paying health insurance premiums and indirectly by paying taxes. Second, as potential patients, they first and foremost experience the impact of limited health care resources. As discussed by Bruni et al. (2008), experiences from several countries reveal the merits of public involvements, which range from increased trust and confidence in the health care system to higher-quality decisions.

The present study addresses two questions: First, we ask which health related behavior qualifies for co-payment in the view of the German public. Several proxies to define ‘unhealthy lifestyle’, for instance, diet, exercise, and substance use, have been proposed in the literature (Olsen, 2009). However, disagreement still remains about the location of the so-called ‘responsibility cut’, which separates causes of ill health for which people should or should not be held responsible (Olsen, 2011; Devooght 2004). In the representative survey reported below several descriptions of potentially harmful behaviors were offered and participants were asked whether or not those patients should contribute to their treatment costs either by out-of-pocket payments or by buying an additional insurance.

Second, distinct groups/classes of the society may display different acceptance rates of co-payments. Knowledge about such differences is extremely valuable for policy makers when implementing rules and regulations into the health system that take the patients’ health related behavior into account (Mossialos & King, 1999). Based on prior research studies, we consider the following five characteristics of the participants as explanatory variables for stated preferences.

• Individuals may act as ‘stakeholders’ and have a self-interest in either including or excluding certain behavior for co-payments depending on their own health-related habits. For example, people following a rather healthy lifestyle may not be willing to support the ‘misbehavior’ of others by paying a higher premium to the statutory health system. Therefore, we include the participants’ lifestyle and test for a self-serving answer biases as observed e.g. by Bruni et al. (2008).

• It is often claimed that risk taking declines with advancing age [Steinberg, 2007; Mata et al. 2011]. Furthermore, healthy behavior raises life expectancy (WHO, 2002). Hence, we hypothesize that respondent’s age has a positive effect on the acceptance of co-payments for unhealthy behavior such as participating in dangerous sports or drug use.
Does lifestyle matter when to decide on co-payment for health care?
Attitudes of the German public

- Socialization theory has argued that individuals who have been more successful in the educational system or in the professional world are holding ‘individual success ideologies’. This leads more frequently to a preference for rewarding efforts to prevent illnesses and, thereby, avoid further expenditures (Andreß & Heien, 2001; Winkelhage & Diederich, 2012). Hence, we hypothesize that the higher the socioeconomic status the more willing people are to ‘punish’ risk-taking behavior and, consequently, agree to co-payments.
- Since the seminal work of Gilligan (1982) it is often argued that women tend to be more care oriented whereas men tend to be more justice oriented. Hence, on the one hand we assume that women more often than men wish to help any patient regardless of the causes of his or her ill health and, therefore, less often agree to co-payments for an unhealthy lifestyle. On the other hand, females tend to be more risk averse than males (Croson & Gneezy, 2009). It is not clear whether women also expect risk-avoiding behavior from others, but if they do so, women should be willing to ‘punish’ risk-taking individuals more often than men and, consequently, favor corresponding co-payments. Thus, in general gender differences are possible, but the direction is not clear a priori.
- Alesina and Fuchs-Schündeln (2007) have shown that people from East Germany tend to believe more often than people from West Germany that social conditions rather than individual effort determines individual fortunes. However, Brosig-Koch et al. (2011) and Ockenfels and Weimann (1999) conducted anonymous three-person ‘solidarity games’ with students in economic labs in East and West Germany and found that eastern subjects showed significantly less solidarity than their western counterparts. The authors conclude that in East Germany egoism might have developed in large anonymous groups because individual effort was not rewarded in a socialistic system and that “after the unification, selfish behavior might be considered as ‘typical’ in a free market-oriented system, and this might ‘justify’ selfish behavior.” (Ockenfels and Weimann, 1999, p. 285). If the respondents interpreted the situations described in the questionnaire according to Alesina and Fuchs-Schündeln’s findings than we expect that East Germans are more in favor of public intervention instead of co-payments. If, however, they interpreted the situation according to Ockenfels and Weimann’s conclusions than we expect that East Germans more often opt for co-payments. Hence, differences between East and West Germans may occur, but we cannot state the directions of such differences at the outset.

2. Material and Methods

The reported methods and results are part of a more comprehensive study on prioritizing in medicine using a multilevel iterative mixed-method design (for details see, e.g. Gresswell & Plano Clark, 2007; Sandelowski, 2000) for combining a qualitative interview study, a quantitative survey representative of the German public and focus groups.

2.1 Sampling
The population survey was conducted in Germany by TNS Healthcare between July and September 2009, covering people aged 18 and over living in private households. Data were collected by computer assisted personal interviews (CAPI). The sampling followed a three-stage random route procedure, with a design developed by ADM.
The first stage comprises electoral wards for national elections, the second the households, and the third the individuals within the target households selected by the Kish-table method (see, e.g., Hoffmeyer-Zlotnik, 2003, for details). Participants gave a verbal informed consent (i.e., agreed to participate) after they had been informed about the goals and content of the study, as well as about data protection and privacy. Participants’ co-operation in this research project was entirely voluntary at all stages.

2.2 Questionnaire
A survey including 34 questions with 135 response items was organized around ten health care and health system related themes (Diederich et al., 2009). The topics addressed in the questionnaire were based on results obtained from an exploratory interview study with 45 members of six different stakeholder groups on prioritizing health care. Procedure and results of the qualitative interview study are found in (Heil et al., 2010).

Responses were measured mainly on categorical scales. A “Don’t know” and “Response refused” option was offered only when the person did not respond. Unless stated otherwise these two response categories are taken together as “No answer” in the results section.

One theme of the questionnaire was concerned with health related behavior. It was introduced with the following preface:

Unhealthy behavior such as smoking, high alcohol consumption, too little exercising can facilitate the development of a disease. Therefore, many health insurances offer already bonus programs rewarding a healthy lifestyle. We would like to know your opinion on whether or not health related behavior should be included in treatment costs given scarce resources in health care.

Two questions are considered in the present paper. The first question, Q1, listed seven kinds of behaviors which may increase the general health risks: unhealthy diet; high alcohol consumption; smoking; extreme sport (e.g., free climbing, cliff diving); sunbathing/solarium; drug consumption (e.g., heroin); lack of exercise. Participants were asked for which behavior the patient should make a co-payment.

The second question, Q2, concerned skin cancer and gave a general statement that the skin cancer can be caused by different factors; however frequent visits to a solarium increase the risk of developing skin cancer. Participants then were asked to what extent they agree (completely agree, rather agree, rather disagree, completely disagree to co-payments) with the following statement: People who often visit a solarium and get skin cancer should cover part of their medical treatment costs out-of-pocket.

Another question, Q3, stemmed from the theme on financing and composing health care premiums for the statuary health insurance. Among the eight proposals for keeping the health insurance premiums stable for the future, one asked whether or not the respondent would be willing to buy an additional insurance for high risk sports (e.g. skiing).

Socio-demographic questions and self-reports on the respondent’s lifestyle and health appeared at the end of the questionnaire.

The socioeconomic status was determined by the ‘Winkler-Index’ (Winkler & Stolzenberg, 1999). This measure is a three-dimensional, additive, non-weighted social class index using academic/vocational education, monthly net household income and current/last occupation as indicators. Each indicator ranges from one to seven points,
Does lifestyle matter when to decide on co-payment for health care?
Attitudes of the German public

where one point represents the lowest and seven the highest social status; hence the Winkler-Index can take values between three and 21 points.
The lifestyle measure we employed is based on 1) smoking habits, 2) alcohol consumption habits, 3) weight and height of participants, converted to the Body Mass Index (BMI), and 4) body exercise habits. The measure is a four-dimensional, additive, weighted (for smoking) lifestyle index ranging between four and 12 points, where four points represent the healthiest lifestyle and 12 points the unhealthiest (for details see Diederich et al., 2012).

2.3 Data analysis
Data analysis was carried out with SPSSTM (Version 20). A binary and multinomial logistic regression analysis was carried out with age, socioeconomic status, and lifestyle as covariates and sex and place of living in 1988 (East/West Germany) as factors for the observed preferences for the aforementioned three questions. For the regression analysis each explanatory variable was excluded in a stepwise logistic regression algorithm. Factors were sequentially removed from the model if they had a significance level above 0.05. That is, all reported main effects have a significance level of at least 5%.
3. Results

3.1 Sample Description
The number of selected addresses was 3,729 with a response rate of 56.8% (2,031 respondents). The sample is representative for the adult population (18 years and above) of Germany. Table 1 summarizes the population statistics.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td>Male, number (%)</td>
<td>900 (44.3)</td>
</tr>
<tr>
<td>Female, number (%)</td>
<td>1,131 (55.7)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>Mean, years</td>
<td>52</td>
</tr>
<tr>
<td>Median, years</td>
<td>52</td>
</tr>
<tr>
<td>Standard Deviation, years</td>
<td>18</td>
</tr>
<tr>
<td>Socioeconomic Status (SES)</td>
<td></td>
</tr>
<tr>
<td>Minimum, points</td>
<td>3</td>
</tr>
<tr>
<td>Maximum, points</td>
<td>21</td>
</tr>
<tr>
<td>Mean, points</td>
<td>10</td>
</tr>
<tr>
<td>Median, points</td>
<td>9</td>
</tr>
<tr>
<td>Standard Deviation, points</td>
<td>4</td>
</tr>
<tr>
<td>Lifestyle</td>
<td></td>
</tr>
<tr>
<td>Minimum, points</td>
<td>4</td>
</tr>
<tr>
<td>Maximum, points</td>
<td>12</td>
</tr>
<tr>
<td>Mean, points</td>
<td>7</td>
</tr>
<tr>
<td>Median, points</td>
<td>7</td>
</tr>
<tr>
<td>Standard Deviation, points</td>
<td>2</td>
</tr>
<tr>
<td>Place of living in 1988 (POL)</td>
<td></td>
</tr>
<tr>
<td>West Germany, number (%)</td>
<td>1,549 (76.3)</td>
</tr>
<tr>
<td>East Germany, number (%)</td>
<td>482 (23.7)</td>
</tr>
</tbody>
</table>

3.2 Aggregate Characterization of Co-payment
Q1. The majority of respondents agreed to co-payments for patients with the following unhealthy behavior: high alcohol consumption, smoking, extreme sports, sunbathing/solarium, and drug consumption. They were opposed to co-payments for lack of exercising and indifferent for unhealthy diet. Details can be found in Table 2.
Does lifestyle matter when to decide on co-payment for health care? 
Attitudes of the German public

Table 2: Proportion of agreement/disagreement on co-payments for behaviors which may increase the general health risks (N=2,031).

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Agreement (Yes)</th>
<th>Disagreement (No)</th>
<th>No Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unhealthy diet</td>
<td>45.9</td>
<td>45.9</td>
<td>8.2</td>
</tr>
<tr>
<td>High alcohol consumption</td>
<td>70.9</td>
<td>25.6</td>
<td>3.5</td>
</tr>
<tr>
<td>Smoking</td>
<td>67.8</td>
<td>28.7</td>
<td>3.5</td>
</tr>
<tr>
<td>Extreme sport</td>
<td>74.2</td>
<td>23.3</td>
<td>2.4</td>
</tr>
<tr>
<td>Sunbathing/solarium</td>
<td>65.0</td>
<td>31.1</td>
<td>3.9</td>
</tr>
<tr>
<td>Drug consumption</td>
<td>76.4</td>
<td>21.1</td>
<td>2.5</td>
</tr>
<tr>
<td>Lack of exercise</td>
<td>38.1</td>
<td>54.0</td>
<td>7.9</td>
</tr>
</tbody>
</table>

Q2. For the solarium scenario with the additional information that skin cancer can have other causes than excessive sunbathing, 46% of the participants completely agreed to co-payments, 26% rather agreed, 13% rather disagreed and 13% completely disagreed; 2% did not give an informative response.

Q3. To keep the health insurance premiums stable for the future, 66% of the respondents would consider buying an extra insurance when doing risky sports, 31% would not, and 3% did not give an answer.

The results of the logistic regressions showed significant main effects for some explanatory variables for some of the questions. The response categories for the extended solarium scenario were comprised to binary categories (i.e., agreed vs. disagreed). Details are shown in Table 3.

- The unhealthier the lifestyle of the participants was the less they agreed to a co-payment for patients with the behavior unhealthy diet, high alcohol consumption, smoking, and lack of exercising.
- The older the participants were the more they agreed to co-payments for patients with the following behavior: unhealthy diet, high alcohol consumption, smoking, extreme sports, sunbathing/solarium (regardless of the scenario, presented in Q1 and Q2), drug consumption, and lack of exercising.
- The higher the socioeconomic status of the participants was the more they agreed to co-payments for patients with the behavior smoking and lack of exercising. Furthermore, the higher the socioeconomic status of the participant was the more they were willing to buy an extra insurance for highly risky sports.
- Women agreed less often than men to a co-payment for patients with the behavior unhealthy diet, sunbathing/solarium (regardless of the scenario, presented in Q1 and Q2), and drug consumption.
- Respondents who lived in West Germany in 1988 agreed less often than participants who lived in the East to a co-payment for patients with the behavior high alcohol consumption, smoking, extreme sports, sunbathing/solarium, drug consumption, and lack of exercise.
Table 3: Odds ratios for the individual characteristics of respondents on agreement to co-payments or additional health insurances

<table>
<thead>
<tr>
<th>Question</th>
<th>Respondents’ characteristics(^1)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Q1</strong>: Co-payments for certain behaviors</td>
<td></td>
</tr>
<tr>
<td>Unhealthy diet</td>
<td>0.826** 1.011** Women: 0.703**</td>
</tr>
<tr>
<td>High alcohol consumption</td>
<td>0.913** 1.011** West: 0.633**</td>
</tr>
<tr>
<td>Smoking</td>
<td>0.852** 1.014** 1.047** West: 0.689**</td>
</tr>
<tr>
<td>Extreme sport</td>
<td>1.024** West: 0.724**</td>
</tr>
<tr>
<td>Sunbathing/solarium</td>
<td>1.019** Women: 0.735** West: 0.637**</td>
</tr>
<tr>
<td>Drug consumption</td>
<td>1.012** Women: 0.783** West: 0.551**</td>
</tr>
<tr>
<td>Lack of exercise</td>
<td>0.866** 1.021** 1.043** West: 0.743**</td>
</tr>
<tr>
<td><strong>Q2</strong>: Solarium scenario</td>
<td>1.015** Women: 0.783** West: 0.641**</td>
</tr>
<tr>
<td><strong>Q3</strong>: Extra insurance for risky sports</td>
<td>1.052**</td>
</tr>
</tbody>
</table>

\(^1\)Age, socioeconomic status (SES) and lifestyle are continuous variables; higher values indicate an older age, a higher socioeconomic status and an unhealthier lifestyle, respectively.

* Significance at 5% level, ** Significance at 1% level

Several binary interactions were observed, however in an unsystematic way. Mainly socioeconomic status (SES) followed by age interacted with most of the remaining characteristics (results not shown).

The solarium scenario was presented in Q1 and Q2 with different framings, Q2 with the additional information that skin cancer can have different causes. The responses of the participants were relatively consistent across the different settings: those who agreed for a co-payment in Q1 also agreed so in Q2 (61%) and those who disagreed in Q1 also disagreed in Q2 (21.6%). Mixed forms, i.e., agreement for Q1, disagreement for Q2; and agreement for Q2, disagreement for Q1 could be observed for 3.7% and 8.5% of the respondents, respectively. The remaining responses included at least one missing response (don’t know, response refused).

‘Risky sports’ also appeared in two different settings, once in the context of a co-payment (Q1) and the other time in the context of buying an additional insurance (Q3). Of the respondents, 54.8% agreed to both co-payment and buying the extra insurance; 17.6% agreed to the co-payment but opted against buying the insurance; 9.9% were against the co-payment but agreed to buy the insurance; and 12.5 % disagreed with both statements. The remaining responses included at least one missing response.

4. Discussion

The results of the survey questions showed that the majority of respondents agreed to co-payments for patients with high alcohol consumption, smoking, extreme sport, sunbathing/solarium, and drug consumption. The majority also agreed to buy an extra
Does lifestyle matter when to decide on co-payment for health care?
Attitudes of the German public

insurance when doing risky sport. Most of the respondents were against co-payments for patients who lack physical exercises and were split for patients who followed an unhealthy diet. To answer the first research question, the present sample drew the location of the ‘responsibility cut’ (Olsen, 2011; Devooght, 2004) between these specific causes of ill health. It seems that the more concrete the unhealthy behavior was described the higher was the agreement to a co-payment. In the same questionnaire, the participants were asked whether to prioritize/posterioritize patients with a healthy/unhealthy lifestyle (Diederich et al., 2012) using a discrete choice experiment (DCE) and questionnaire items. Lifestyle abstractly described as such, neither serves as ‘punishment’ nor as ‘reward’ when assigning health treatment priorities. The self-serving hypothesis could be confirmed for the behavior unhealthy diet, high alcohol consumption, smoking, and lack of exercising. The unhealthier the lifestyle of the participants expressed by the multi-dimensional lifestyle index was the less they agreed to a co-payment for patients with that behavior. Note however, that the majority still opted for a co-payment, regardless of their specific health related behavior. For example, 53.2% of the smokers and 61.7% of those who reported moderate or high(er) alcohol consumption agreed to co-payments for smokers and high alcohol consumption, respectively (see also Diederich & Schreier, 2010).

Risk attitude seems to correlate with age: It is often assumed that the older people are the less risk prone they become (Steinberg, 2007; Mata et al. 2011). If this attitude also develops into intolerance to risky behavior of others with the concurrent belief that such behavior should be ‘punished’, then one would expect that the older the participants are, the more they agree to co-payments for patients with health risky behavior. This is what we could observe in the data. They more often agreed to co-payments for all the categories listed in the questionnaire except in the case of the additional insurance for risky sports (statement Q3).

Merit has been discussed as one justice principle for priority setting decisions in medicine (e.g., Wilmot & Ratcliffe 2002; Nord et al. 1995.). ‘Good’ behavior should be rewarded and/or ‘bad’ behavior be punished. People with higher socio-economic status more often subscribe to this success ideology than people with lower socio-economic status (Andreß & Heien, 2001). Co-payments and extra insurances could also be interpreted as a punishment for unhealthy behavior and therefore, we expected that people with higher socio-economic status agreed more often to those measures. Our data could confirm this only for the behavior smoking and lack of exercising and the additional insurance for risky sports.

Whenever there were differences between genders, then women agreed less often than men to co-payments. This was the case for patients with an unhealthy diet, who did sunbathing/solarium (regardless of the scenario, presented in Q1 and Q2), or consumed drugs. The results support the hypothesis that women are more caring than men and therefore, less often agree to co-payments for an unhealthy lifestyle since they want to help any patient regardless of the reason for his or her illness. Why this is true only for the three aforementioned behaviors remains unclear and we can only speculate that, at least sunbathing/solarium, is stereotypically associated with women’s practice and therefore, could also indicate a self-serving bias.

Previous results with respect to aspects of solidarity in East and West Germany are mixed. The data showed that respondents who lived in East Germany in 1988 agreed more often than participants who lived in West Germany to a co-payment for the entire list of unhealthy behaviors. Hence, our results confirm findings by Brosig-Koch et al. (2011) and Ockenfels and Weimann (1999). Adopting their interpretation, East
Germans showed less solidarity than West Germans because patients were seen as coming from a large anonymous group. Whether or not the East/West differences in solidarity exhibit only in the context of self-responsibility needs further investigate. This is in particular interesting since the German public health care system is based on the solidarity principle.

5. Conclusions

The steadily growing demand for health care provision on the one hand and limited financial resources of the healthcare system on the other hand – whether publicly or privately financed – is a challenge for many countries of the OECD and beyond (Hauck et al., 2004). Priority setting in health care services according to some criteria is being proposed as a solution for the problem. To probe the acceptance of priority setting in medical treatment decisions, a quantitative survey representative of the German public was conducted. The present study focused on individual responsibility, or more specifically on unhealthy lifestyle, which has become a prominent criterion when discussing priority setting in health care resources. Unhealthy and risky lifestyles were brought together with co-payments and additional insurance which can be interpreted as posteriorizing patients. Posteriotizing is the opposite of prioritizing, i.e., limiting access to medical services or like here, requiring some extra effort by additional payments. The results revealed that some but not all unhealthy behaviors described in the survey have been accepted as potential criteria for the introduction of private contributions to health care costs by a majority of the respondents. Thus, health policy makers should be aware that agreement to corresponding political instruments, such as bonuses, co-payments or additional insurances, strongly depends on the specific behavior considered.

Furthermore, several explanatory variables were included to account for potential differences in preferences for patient prioritization and to test several specific hypotheses: the interviewee’s age, sex, socioeconomic status, lifestyle, and place of living (former East or West Germany). All of these individual characteristics revealed at least for some unhealthy behaviors significant differences: older participants, men, people with a healthier lifestyle, with a higher socioeconomic status or from East Germany were more often in favor of additional contributions. We have discussed and related these findings to prior results reported in the literature. In general, it is important to remark that that some groups of society may be stronger opposed to respective policy measures than others.

Finally some words of caution are useful. Although the sample is representative for the adult German population, and despite the fact that responses have been collected by computer assisted personal interviews, which usually results in more thorough responses, the implementation of instruments described in the survey is still hypothetical. Hence, when it comes to real policy measures, public reactions may be different. Nevertheless, as argued already in the introduction, the general public opinion should not be ignored. Representative surveys reflect current attitudes of citizens who are both contributors to the public health care system and potential beneficiaries. Their consideration may lead to more confidence in the health care system and ‘better’ decisions.
Acknowledgements

This work was supported by a grant (DI 605/10-1, 10-2) from Deutsche Forschungsgemeinschaft (DFG) to the first author and realized within the research group on “Prioritizing in Medicine” (FOR 655).

Conflict of interest

The authors declare no conflict of interest.
References


Buyx AM. Personal responsibility for health as a rationing criterion: why we don’t like it and why maybe we should. Journal of Medical Ethics 2008;34:871-874.


Does lifestyle matter when to decide on co-payment for health care?


Working Paper Series FOR 655

1. Hartmut Kliemt: Priority setting in the age of genomics. 2007 (1)
2. Marlies Ahlert: If not only numbers count – allocation of equal chances. 2007 (2)
3. Stefan Felder: The variance of length of stay and the optimal DRG outlier payments. 2007 (3)
5. Antje Köckeritz: A cooperative bargaining model for two groups of patients. 2008 (1)
6. Marlies Ahlert and Hartmut Kliemt: Necessary and sufficient conditions to make the numbers count. 2008 (2)
7. Stefan Felder and Andreas Werblow: Do the age profiles of health care expenditure really steepen over time? New evidence from Swiss Cantons. 2008 (3)
10. Adele Diederich, Hartmut Kliemt, Public health care priorities at the polls – a note. 2008 (6)
11. Stefan Felder: To wait or to pay for medical treatment? Restraining ex-post moral hazard in health insurance. 2008 (7)
13. Petra Lietz: Questionnaire design in attitude and opinion research: Current state of an art. 2008 (9)


17. Marlies Ahlert and Hartmut Kliemt: Towards Understanding the Ethical Implications of Priority Changes: The Example of Kidney Allocation. 2009 (1)

18. Adele Diederich, Petra Lietz, Marina Otten, Maike Schnoor, Margrit Schreier, Jessica Schröter, Jeannette Winkelhage, Norman Wirsik: Fragebogen zur Erhebung von Präferenzen in der Bevölkerung bezüglich der Verteilung von Gesundheitsleistungen in der GKV. 2009 (2)


24. Margrit Schreier, Adele Diederich, Maike Schnoor: Explorationsstudien zur Priorisierung medizinischer Leistungen: Kriterien und Präferenzen von Politikern. 2010 (1)

25. Marlies Ahlert, Katja Funke, Lars Schwettmann: Thresholds, Productivity, and Context: An Experimental Study on Determinants of Distributive Behaviour. 2010 (2)

27. Adele Diederich, Margrit Schreier: Einstellung zur Priorisierung in der medizinischen Versorgung: Ergebnisse einer repräsentativen Bevölkerungsbefragung. 2010 (4)

28. Margrit Schreier, Adele Diederich, Jeannette Winkelhage, Petra Lietz: How to spend the health care budget? Priority setting in the German health care system. 2011 (1)

29. Norbert Schmacke: Rationierung versus Rationalisierung oder Priorisierung. 2011 (2)


31. Marina Otten, Margrit Schreier, Adele Diederich: Anhang D: Kategoriensystem. 2012 (2)

32. Björn Sossong, Rescuing Schelling’s girl: Revisiting the preference for identified lives using choice analysis, 2012 (3)

33. Marlies Ahlert, Katja Funke. A Mental Model for Decision Making in Allocating a Medical Resource, 2012 (4)

34. Lars Schwettmann. Wird alles, was Spaß macht, besteuert? Das Für und Wider einer Berücksichtigung von Eigenverantwortung bei der medizinischen Versorgung am Beispiel von Übergewicht und Adipositas. 2012 (5)

35. Adele Diederich, Lars Schwettmann, Jeannette Winkelhage: Does lifestyle matter when to decide on co-payment for health care? Attitudes of the German public. 2012 (6)