Master Thesis

Examining public preferences regarding lifestyle-related care, relative to other types of care covered under the basic benefit package of the health insurance in the Netherlands

Master Health Economics, Policy & Law

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Abstract

Introduction

Worldwide, the importance of a healthy lifestyle in order to improve the population's health is being stressed. Under the health insurance in the Netherlands, combined lifestyle interventions (CLI) are developed to improve a person's lifestyle, but are currently only covered for people who are overweight with a medical indication or obesity, However, people without such an indication could benefit as well in order to obtain and maintain a healthy lifestyle, but the healthcare budget is limited and well considered choices must be made about what types of care and treatments are reimbursed and what is not. Policymakers are increasingly interested in informing their decisions through public preferences on the composition of the basic benefit package. The aim of this thesis is to examine the relative preferences of members of the public for covering lifestyle-related care interventions, relative to other types of care covered under the basic benefit package of the health insurance in the Netherlands, and to examine the relationship between those preferences and the socio-demographic and background characteristics of the adult general population in the Netherlands.

Methods

To elicit these preferences, a discrete choice experiment (DCE) was used. As attributes, lifestyle-related care and four types of care on which annually most is spend were chosen, next to an attribute related to a monthly premium change. Levels consisted of a 5% in- or decrease of coverage relative to the current level of coverage. Next to a multinomial logit regression model (MNL), a mixed logit regression model (MIXL) was estimated. Possible preference heterogeneity that was found in the MIXL was captured when estimating distinct preference structures in a latent class model (LCA). Socio-demographic and background characteristics of the respondents were used to predict class membership.

Results

The results of the MNL and MIXL showed that the respondents (n = 238) considered lifestyle-related care to be relatively more important, compared to the other types of care. The MIXL showed preference heterogeneity for all types of care, which was captured in the estimation of 3 latent classes. In 2 of the classes, lifestyle-related care had the highest relative importance, compared to the other types of care. Of the socio-demographic and background characteristics that served as predictors of class membership, only perceived health and a high education level showed to be statistically significantly different from 0.

Discussion/conclusion

Compared to the other types of care, respondents found lifestyle-related care to be relatively most important, relative to the other types of care in this DCE. However, to gain more insight in the influence of socio-demographic and background characteristics on prediction of class membership, future research should use a larger sample that is more representative for the general population.

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1 Introduction

Prevention in the field of health is not a new phenomenon. Where in previous centuries attention was mostly focused on for instance reducing infant mortality or on hygiene in the prevention of infectious diseases, the focus nowadays is mainly on promoting a healthy lifestyle and other preventive measures in order to improve the population's health (1). It has been shown that certain lifestyle-related risk factors, such as smoking, having an unhealthy diet and being physically inactive, are potential causes of non-communicable diseases, such as cardiovascular disease, cancer, diabetes and respiratory disorders, of which the prevalence continues to rise (2). Besides, the importance of a healthy lifestyle has recently also been recognized in the context of communicable diseases, such as COVID-19. Indeed, a healthy lifestyle is found to be an important building block for a strong immune system to reduce the severity of the disease course, and to prevent severe health outcomes for COVID-19 patients (3). Following the supranational collaboration on the fast-track development and market access of COVID-19 vaccines, the European Union has set the objective to reduce the prevalence of non-communicable diseases by improving the lifestyles of the general public (4).

Governments around the world are looking for ways to improve people's lifestyle and to contain the risk factors, and initiatives are being developed for new preventive measures or to give existing solutions more force and effect (5). For example, by reducing tobacco use and harmful alcohol consumption (6). In New Zealand and Finland for instance, it is no longer allowed to display cigarettes in shop windows (5) and in England, the 'Change4Life' project promotes a healthy lifestyle through apps with tips, recipes and games targeted on increasing physical activity and a healthier diet (7).

In the Netherlands, the importance of prevention and health promotion is also recognized. In the past, the focus of public intervention in the health system was on health *protection,* for example by protecting the population against poor working and living situations. Since the 1980's health

promotion by public programs and prevention campaigns to promote a healthy lifestyle has become part of the public health policy (8). Under the Public Health Act, municipalities are held responsible for maintaining a local public health service, which contributes to the prevention of diseases by facilitating for instance screening and vaccination programs (8). The government, together with more than 70 civil society organizations, has established the National Prevention Agreement, which consists of a range of policy measures to reduce unhealthy behavior of citizens (9). More than 200 goals have been set, amongst which the reduction of smoking by lowering the number of tobacco selling points in the Netherlands or the promotion of a healthy diet by selling more healthy foods in sports canteens. These examples can be classified as 'primary prevention', which is aimed at preventing new cases of illness by for instance promoting activities that prevent healthy people from developing a particular health problem. Another category within preventive measures in the Netherlands is 'secondary prevention', which is the early detection of diseases or abnormalities in people who are ill, at increased risk or who have a certain genetic predisposition. The screening of breast cancer on women aged between 50 and 70 is an example of this (10). Lastly, 'tertiary prevention' is about preventing complications and disease exacerbation in patients who are already ill (11).

When thinking about public health in the Netherlands, the government called for a shift from 'disease, care and dependency' to 'health, prevention and self-empowerment'. The emphasis on 'self-empowerment' stresses the individual responsibility for one's health and calls for greater efforts in maintaining a healthy lifestyle by one self (8). Next to preventive measures like in the National Prevention Agreement, combined lifestyle interventions (CLI) have been developed to provide participants with advice and guidance regarding healthy diets, exercise and behavioral changes that can contribute to a healthy lifestyle (12). However, these interventions are not offered at a population level, but only at a patient level. Under the mandatory basic health insurance in the Netherlands, they are currently only covered for overweight adults (BMI>25) at risk of cardiovascular diseases, diabetes mellitus type 2, suffering from sleep apnea or osteoarthritis and for adults with obesity (BMI>30) (12,

13). Preventive measures in such cases can be classified as secondary or tertiary prevention. However, these interventions could also be potentially beneficial to people who do not meet the weight-related criteria, but may be at risk of for instance diabetes or cardiovascular diseases, or who would like to maintain a healthy diet while being supervised by a physician. In this way, lifestyle interventions could also serve as a primary preventive measure, which could contribute to the quality and length of people's lives and also benefits society's prosperity, as a healthy population is more productive and has less healthcare costs (14, 15). Besides, making it possible for everyone in the population to participate in lifestyle interventions is in line with the government's policy of self-empowerment in maintaining a healthy lifestyle and contributes to the goal of encouraging people to adopt a healthy lifestyle (16).

Many members of the general population in the Netherlands may potentially benefit from obtaining, maintaining or learning about a healthy lifestyle. It may prevent or reduce the risk of developing a (non-)communicable disease, reduce the severity of the disease course, or improve the prospects of recovering from a disease. Nonetheless, currently little is known about whether there is public interest into the incorporation of lifestyle-related care for all members of the public into the current basic benefit package of the health insurance in the Netherlands.

The objective of this thesis is twofold. First, the objective is to obtain insight into the importance of lifestyle-related care, relative to other types of care that are currently covered under the basic benefit package in the Netherlands. The results of this thesis can be used by policymakers to inform decisions on the broadening of the eligibility criteria for access to CLI's currently covered in the Netherlands, as well as on the incorporation of other or additional lifestyle-related interventions into the basic benefit package.

Second, the objective is to examine the relationship between preferences for lifestyle-related care, relative to other types of care on a population level, and besides, to explore the socio-demographic and background characteristics of members of the public, in order to investigate the possible interest into different groups in society.

To meet the objectives of this thesis, the following research questions are addressed:

1. What are the relative preferences of members of the public for covering lifestyle-related care interventions, relative to other types of care covered under the basic benefit package of the health insurance in the Netherlands?
2. What is the relationship between preferences for lifestyle-related care, relative to other types of care and the socio-demographic and background characteristics of the adult general population in the Netherlands?

2 Background

Now that worldwide, the importance of health promotion in improving the general health and preventing diseases has been stressed, initiatives are being developed to give preventive measures or solutions more power and effect, including in the Netherlands (17). Here, different laws account for preventive measures, one of which is the Public Health Act. This law represents the legal framework for public healthcare and defines public healthcare as 'health-protective and health-promoting measures for the population or specific groups thereof, including the prevention and early detection of diseases' (18). This includes for instance measures like vaccination programs or the early detection of specific disorders.

However, this law focusses on preventive measures concerning the general public. Prevention and health promotion intended for individuals is covered under another law: the Health Insurance Act. Under the Health Insurance Act, purchasing health insurance is mandatory for every adult (aged 18 years and over) inhabitant of the Netherlands and it is referred to as the 'basic benefit package' (19). The system is funded through different sources (20). A total of 50% is paid through income-related contributions, another 45% comes from health-insurance premiums of approximately €115 a month that are paid directly to health insurers by 18+ inhabitants of the Netherlands and the remaining 5% is paid by the government to cover for the under 18 inhabitants (21).

The basic benefit package covers a pre-defined set of healthcare, among which are general practitioner (GP) care, medicines and medical specialist care (22). In terms of prevention, the package includes all activities of healthcare providers that are aimed at indicated and healthcare-related prevention in the context of a treatment of medical complaints and disorders (23). Since 2019, this involves four types of combined lifestyle interventions (CLI) as well, which consist of a combination of interventions aimed at supporting a behavioural change to achieve a healthier lifestyle (24). However, individuals who want

to deploy for coverage must be overweight (BMI>25) and at risk of cardiovascular diseases, diabetes mellitus type 2, suffering from sleep apnea or osteoarthritis or have obesity (BMI>30), and a referral from a health professional like a GP is necessary (13, 24). Coverage is not available if these criteria are not met. Nonetheless, coverage of CLI's can be potentially beneficial for people who do not meet these criteria in order to obtain, maintain or learn about a healthy lifestyle, since it may prevent or reduce the risk of developing a (non-)communicable disease, reduce the severity of the disease course, or improve the prospects of recovering from a disease (25, 26, 27).

However, the available healthcare budget is limited and well-considered choices must be made about which care is reimbursed under the basic benefit package (28). The specific content of the package is broadly described in the Health Insurance Act and delineated by the Ministry of Health, Welfare and Sports upon advice of Dutch National Health Care Institute (29). Decisions on the composition are informed by criteria that treatments and interventions should meet, such as the evidence on the effectiveness and relative cost-effectiveness of a new treatment or intervention (as compared to standard care), but also by information on public preferences regarding new treatments or interventions.

Whether the general public of the Netherlands has interest into the incorporation of lifestyle-related interventions in the basic package for all members of the public without the need for a (medical) indication is unknown. However, policymakers are increasingly interested in obtaining public preferences to inform their decision making, since it could increase public support and reduce public debate and controversy about decisions (30). Greater participation of citizens increases the chances of a successful implementation of policies and the scope of partnership with citizens (31). Besides, the general public has a central role in funding the healthcare system (directly by means of paying health-insurance premium and indirectly by means of paying income-dependent health taxes), which makes it arguable that their preferences regarding the composition of the package should be taken into

account (32). Aligning the composition of the basic benefit package with public preferences could also stimulate the willingness of citizens to pay for their health insurance (29).

In recent years, discrete choice experiments (DCE) are increasingly used to elicit public preferences in a quantitative manner, for example, to inform reimbursement decisions in healthcare (33). In a DCE, respondents are asked to choose between two or more hypothetical alternatives, where each alternative consists of a set of attributes and levels. By asking respondents to make a choice, and hence to trade-off between the alternatives, their relative preference for the attributes and levels becomes clear (34). The values that can be derived from the choices are analyzed to estimate the contribution of attributes and levels to overall utility of the respondents (35).

In this thesis, a DCE is used to examine public preferences for the composition of the basic benefit package, where each of the alternatives describes a possible composition of the package in terms of levels of coverage of different types of healthcare, including lifestyle-related care. This method will assess whether people have a preference for increased coverage of lifestyle-related care and interventions, compared to other types or care that are currently reimbursed. The outcome could inform policymakers on the decision of a broader uptake of lifestyle-related care in the basic benefit package.

3 Methods

3.1 Sample and data collection

To elicit preferences for different types of care covered under the basic benefit package, a discrete choice experiment (DCE) was designed and administered online in a sample of the general adult (18+) population in the Netherlands. Respondents were sampled by sharing the survey that included the DCE via e-mail and the personal and professional social media accounts (e.g. Facebook and LinkedIn) of master students and their thesis supervisors. The link to the survey was accompanied with a small informative text on the purpose of the survey, after which respondents could learn more in the survey about the background and procedure of the research and to give informed consent. A compensation for filling in the survey was not part of the sampling.

3.2 Discrete choice experiment

A discrete choice experiment (DCE) was used in order to examine the research questions, which were: 'what are the relative preferences of members of the public for covering lifestyle-related care interventions, relative to other types of care covered under the basic benefit package of the health insurance in the Netherlands' and 'what is the relationship between preferences for lifestyle-related care, relative to other types of care and the socio-demographic and background characteristics of the adult general population in the Netherlands?'. Respondents were asked to state a preference for one of the three alternative basic benefit packages, of which one represented the current basic benefit package and the others represented two alternative basic benefit packages. According to the Random Utility Theory (RUT), the underlying assumption of this quantitative preference elicitation method is that respondents will choose the basic benefit package that provides them with the highest utility (36). RUT assumes that the latent utility ''U'' of individual ''i'' for alternative ''j'' can be expressed in terms of an observable structural component (V) and an unobserved component (**ε**):

$$U_{ij} = V_{ij} + \boldsymbol{\varepsilon}_{ij}$$

where the error term captures the factors that affect utility but are not observed.

The alternatives are described by a number of corresponding characteristics, called attributes, which have different levels that describe the condition of that attribute. By asking respondents to state a preference for one of the basic benefit packages, they trade-off between the characteristics of the packages. In this way, the relative utility of the attributes and levels can be estimated (34).

3.2.1 Identification of attributes and levels

In order to examine the preferences of respondents for coverage of lifestyle-related health interventions, relative to their preferences for coverage of other types of healthcare, relevant attributes and levels were identified for inclusion in the DCE. First, the attributes were chosen based on an assessment of the types of care that constituted the largest proportion of current healthcare expenditures within the basic benefit package. It was found that the majority annual spending is approximately 50% on medical specialist care, 10% on pharmaceuticals, 10% on (basic) mental healthcare and 10% on general practitioner (GP) care, which were therefore chosen as attributes (37). A lifestyle-related care attribute, on which currently approximately 5% is spend, was also included next to an attribute relating to a premium change (operationalized in terms of an in- or decrease of the health insurance premium, relative to the current premium). The types of care that are also part of the basic benefit package but were not incorporated as attribute in this study were categorized as 'remaining care'. It has been included because the basic benefit package does not consist of only the five types of care used in this study and thus to give respondents a complete picture of the package. However, this was not considered as an attribute and only served as additional information.

The levels represented what share of the basic benefit package consists of the types of care that were chosen as attributes. The levels were therefore specified in percentages and consisted of a 5% in- or

decrease of coverage compared to the current level of coverage in the basic benefit package (see table 3.1 for the included levels per attribute). For medical specialist care, only half of the actual percentage was presented as current level of coverage to avoid framing respondents in seeing this attribute as the most important one due to its high percentage. The levels for 'health-insurance premium change (per month)' could not be too large otherwise the price could become a dominant variable and therefore, the in- or decrease was no more than €5. 'Remaining care' was presented as the percentage that remained after adding all levels in an alternative and could vary from 15% to 65%. Since it was not considered as an attribute, it was omitted from the analysis. For each 'type of care' attribute, the levels did not exceed a 5% in- or decrease compared to how much is currently covered to keep the alternatives representative with respect to reality. Also, the intervals between the levels were the same in order to keep the attributes easily comparable for respondents. A third alternative (referred to as 'status-quo') was included as well, which indicated what percentage of the basic benefit package is currently approximately spent on each type of care. It was included for comparison and could be chosen if preferred over the two alternative packages.

To enhance clarity of the differences between attribute levels and therefore to achieve lower task complexity, the levels were colour coded in three different shades of purple and indicated by a symbol (38). If a percentage level of an attribute was higher compared to the current percentage of coverage in the basic benefit package (status-quo), this was denoted by the darkest colour purple and an upwards arrow (↑) next to the level, if the percentage level was lower, this was denoted by the lightest colour purple and a downwards arrow (↓), and if it remained the same this was denoted by an intermediate colour purple and an equal to (=) symbol.

Table 3.1: Attributes and levels included in the discrete choice experiment

Attribute	Levels (in % of total)	Symbols[a]
Medical specialist care	20%; 25%; 30%	↓; =; ↑
Pharmaceutical care	5%; 10%; 15%	↓; =; ↑
Mental health care	5%; 10%; 15%	↓; =; ↑
General practitioner care	5%; 10%; 15%	↓; =; ↑
Lifestyle-related care	0%; 5%; 10%	↓; =; ↑
Premium change (per month)	-€5; €0; +€5	↓; =; ↑

[a] The symbol = and the associated levels (e.g. 25% for medical specialist care) are used for the alternative that represented the current basic benefit package of the health insurance.

3.2.2 Experimental design

The six attributes and three levels resulted in over 26,500 choice sets, making it infeasible to present a single respondent with all possible choice sets. Therefore, a non-full factorial Bayesian D-efficient design with a feasible amount of choice tasks per respondent was used (39). A total of 36 choice tasks were incorporated into the DCE design, divided in three sub-designs of 12 choice tasks each, in order to ensure enough statistical power. By using uniform priors with 1000 halton draws in Ngene version 1.2.1, a pilot survey could be designed, whereby the values of the priors for the types of care were determined by assuming that a higher level of coverage would provide more utility, and a lower level of coverage would provide less utility. For the price attribute the highest increase in price was assumed to give the least utility. After the pilot survey (n = 76), a multinomial logit regression model (MNL) was performed in Stata to update the statistically significant levels to normal distributed priors in Ngene. Priors of levels that were not statistically significant kept a uniform distribution. After updating, the Ngene ran again and the choice task design with the lowest D-error was chosen for the main survey.

Respondents were presented with 12 choice tasks, consisting of two possible compositions of the basic benefit package and the status-quo. The choice sets were presented in an unlabelled form (‘package A’ and ‘package B’) in order to stimulate the respondents to choose an alternative by trading-off

between the attribute levels rather than on the labels of the alternatives (40). The status-quo was presented as 'current basic benefit package'. Figure 3.1 presents an example choice task.

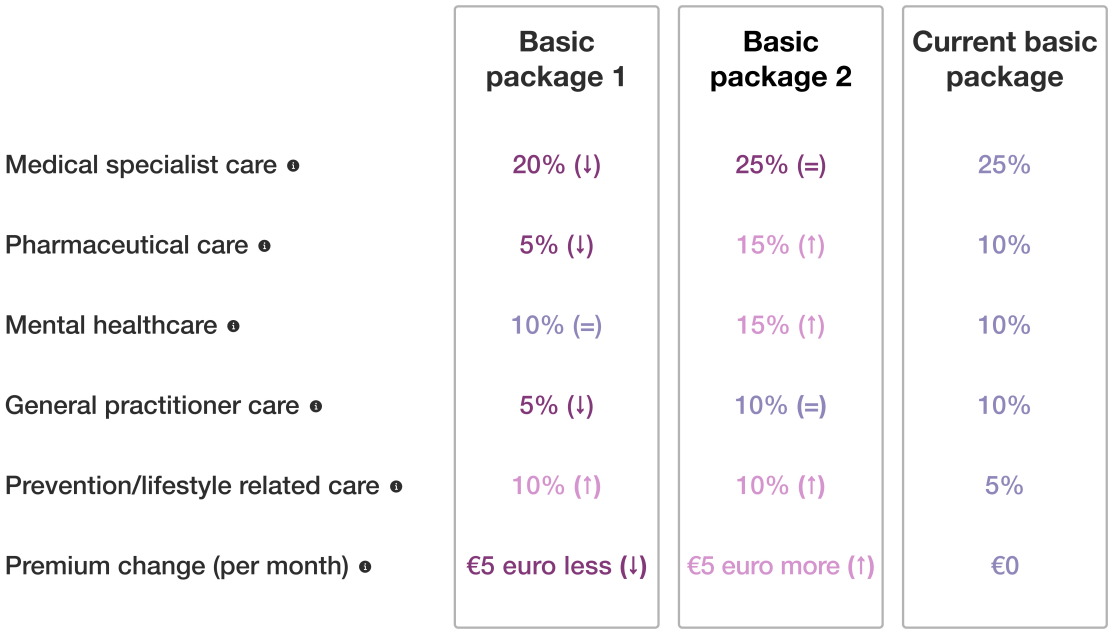

Figure 3.1: Example choice task

3.3 Survey

For creating the survey, Lighthouse Studio version 9.11.0 (Sawtooth Software) was used. In part one of the survey, respondents were asked for informed consent, followed by questions on their socio-demographic characteristics: age, sex, education, income perceived health and on having children. After that, the attributes and levels were introduced both textually as visually, and two example choice tasks were presented to familiarise respondent with trading-off between the attributes and levels. In part two, the respondents were presented with 12 DCE tasks, divided in two blocks of 6 to avoid respondents fatigue and drop-outs (39). Respondents were asked to make a choice between the alternatives, based on their individual practice. In between the two blocks, there was an evaluation question on how well respondents understood the questions thus far on a 5-point Likert scale ranging

from ‘completely disagree’ to ‘completely agree’. Finally, in part three, respondents were asked about their perceived health, their weekly alcohol consumption, their smoking behaviour and their amount of weekly physical activity. More questions about respondents’ lifestyle were asked, even as questions about a (possible) contamination with COVID-19, about their knowledge on the Dutch healthcare insurance system and about how satisfied they are with the current composition of the basic benefit package. But, these questions were not relevant to this study and the results are therefore reported elsewhere. These questions were asked after the DCE tasks, to prevent them from influencing the answers of the respondents.

Before distribution of the pilot, the clarity of the survey and DCE tasks was qualitatively examined by a think aloud session in a small convenience sample (n = 6), after which adjustments on the comprehensiveness of the survey could be made.

3.4 Data analysis

Data obtained from the pilot and main survey was merged with the experimental design from Ngene and combined and analyzed using Stata version 15.1. All levels of each attribute were included as dummy variables. The levels that presented the current level of coverage served as reference category for the type of care attributes and for the price attribute this was the level that indicated no premium change. According to RUT, the utility derived from each basic benefit package alternative presented in a choice task could then be described as:

$$U_{alt} = \beta_1 * medicalspecialistcare20 + \beta_2 * medicalspecialistcare30 + \beta_3 * pharmaceuticalcare5 + \beta_4 * pharmaceuticalcare15 + \beta_5 * mentalhealthcare5 + \beta_6 * mentalhealthcare15 + \beta_7 * GPcare5 + \beta_8 * GPcare15 + \beta_9 * lifestylecare0 + \beta_{10} * lifestylecare10 + \beta_{11} * premiumchange-5 + \beta_{12} * premiumchange5$$

The status-quo was presented as the current composition of the basic benefit package and the utility derived from this could be described as:

$$U_{statusquo} = \beta_0$$

3.4.1 Respondent characteristics

In order to examine the relationship between respondent's preferences and their socio-demographic and background characteristics, the survey contained questions related to these characteristics, including on age, sex, education, income and on having children, and with questions related to their perceived health, alcohol consumption, smoking behaviour and physical activity.

For age, it is expected that the preferences for types of care will change as someone gets older, for example in terms of more preference for medical specialist care. For gender, men and women may have different care needs. With regard to education, it is expected that a higher level of education can provide more knowledge on the importance of a healthy lifestyle and more insight into one's future. People with a high level of education might therefore have a stronger preference for lifestyle-related care. In addition, there is often a difference in health between low and highly educated people, so the need for care can differ (41). The same reasoning can be applied to people with low and high incomes, besides the fact that people with lower incomes perhaps weigh more heavily on a premium change. As for having children, people with children often have their children's future in mind and therefore may have a stronger preference for lifestyle-related care. With regard to health, it is expected that people with a bad perceived health need more care and therefore prefer other types of care over lifestyle-related care. For alcohol consumption, smoking behaviour and physical activity, the hypothesis is twofold. On the one hand, people who consume a lot of alcohol, smoke regularly and are

physically inactive might benefit from preventive care to change their lifestyle, or on the other hand might have no interest in this at all, because of their lifestyle.

Table 3.2 Socio-demographic characteristics

Demographic characteristics
Age
Gender
Male
Female
Undefined
Educational level
Low level
Intermediate level
High level
Income
Below average (<€2500)
Average (€2500-€3000)
Above average (>€3000)
Children
Yes
No

Table 3.3 Health related characteristics

Health-related characteristics
Perceived health (1-10 scale)[a]
Alcohol consumption
No alcohol
Normal
Excessive
Smoking
No smoker
Smoker
Physical activity
Low level
Average level
High level

[a] Perceived health is operationalised as a 10-point Likert-scale

In the survey, education, income, alcohol consumption, smoking behaviour and physical activity were categorical variables with multiple answer options (see appendix A.7 for the survey). In order to be interpretable, education was recoded into low, intermediate and high level of education, based on the education levels in the Netherlands set by the Ministry of Education, Culture and Science (42). Income was recoded into below average, average and above average, based on the average income of €2500-

€3000 per person per month in the Netherlands (43). For alcohol consumption, an average of 1 to 14 glasses a week was defined as 'normal alcohol consumption', while over 14 glasses a week was defined as 'excessive alcohol consumption' (44). Smoking was recoded into 'no smoker' or 'smoker'. For physical activity, 2,5 hours and twice a week, more than 2,5 hours and more than twice a week or less than 2,5 hours and less than twice a week of moderate intensity exercise and muscle and bone strengthening activity was defined as an average, high and low activity level, respectively. Perceived health was presented on a 10-point Likert scale, ranging from 'very bad' to 'very good'. Table 3.2 and 3.3 show the final versions of the variables used.

3.4.2 Sensitivity analysis

A sensitivity analysis was performed based on the evaluation question in between the two blocks of choice tasks on how well respondents understood the questions thus far. A sensitivity analysis is 'a method to determine the robustness of an assessment by examining the extent to which results are affected by changes in methods, models, values of unmeasured variables, or assumptions' (45). First, the analyses were performed with all the respondents included (n = 238). After that, the 17 respondents that indicated they 'disagreed' or 'completely disagreed' with the question whether the choice tasks were comprehensible were excluded, which resulted in 221 respondents. The analyses were then run again to see whether this exclusion influenced the results. If the signs of the coefficients, the significance levels or the relative importance notably changed, the data was assessed as not robust and the respondents needed to be excluded for the analyses.

3.4.3 Multinomial logit regression model

For analyzing DCE data, multiple statistical methods exist. Which model to use depends on the research question, model fit and expected choice behavior of respondents. The goodness-of-fit for the models in this study was assessed by using the pseudo R-squared, which is a statistical measure that represents

how much of the observed variation of a dependent variable can be explained by the model's independent variables (46). Thus, the higher the better. For the latent class analysis, the Consistent Aikaike Information Criterion (CAIC) served as measurement of model fit.

A multinomial logit regression model (MNL) was estimated to answer the first research question ('What are the relative preferences of members of the public for covering lifestyle-related care interventions, relative to other types of care covered under the basic benefit package of the health insurance in the Netherlands?'). This model is the standard DCE model and it assumes that each alternative has its own utility function consisting of an observed and an unobserved component, in accordance to RUT. MNL's focus on the differences in the utilities of all choice options and assumes all respondents have the same preferences. The signs of the coefficients that derive from the analysis reflect whether respondents had a positive or negative preference for the level of an attribute and an attribute was considered important if the coefficient was statistically significant (47). The cut-off value for statistically significance was determined at 5%. With this information, the coefficients could indicate the relative importance of lifestyle-related care relative to the other types of care.

3.4.4 Mixed logit regression model

To answer the second research question ('What is the relationship between preferences for lifestyle-related care, relative to other types of care and the socio-demographic and background characteristics of the adult general population in the Netherlands?'), a mixed logit regression model (MIXL) in combination with a latent class analysis (LCA) was estimated. In a mixed logit regression model, all respondents together form a normal distribution. This model allows for preference variation and next to the beta-coefficients, the mixed logit also estimates the beta-coefficients of the standard deviation of each parameter. A statistically significant coefficient of a standard deviation was interpreted as indicating the existence of preference heterogeneity among the respondents for that attribute and

thus that respondents could either have a negative or a positive preference for an attribute, or did not care. This would mean that respondents are not ambiguous in their preferences for the different types of care.

3.4.5 Latent class analysis

Next, the latent class analysis (LCA) was performed, which forms groups within the sample and allows to investigate differences between these groups. Within these groups, every respondent is assumed to be identical and to have the same preferences, but the preferences between the groups differ. To determine the optimal number of classes, the Consistent Aikaike Information Criterion (CAIC) was examined, whereby the lowest CAIC implied the best model fit. Besides, the groups had to contain a minimum of 30-40 respondents per group to obtain enough statistical power per group. Besides these rules of thumb, the most important criteria for number of classes was how well each class could be interpreted, and how informative that would be in case of giving advice to policymakers on the composition of the basic benefit package and possible increased uptake of lifestyle-related care.

After running the latent class analysis, the coefficients within each group could be interpreted as a multinomial logit. Since each group was on a different scale, the coefficient could not be compared directly and only the signs and relative sizes had meaning. In order to answer the research question, the averages of the socio-demographic and health related variables were computed to determine the characteristics of each class and whether these explanatory variables were determinants of class-membership. Thereafter, dummies were made for each categorical explanatory variable (gender, education, income, having children, alcohol consumption, smoking behaviour and physical activity), after which the dummies were added to the model as explanatory variables for class membership (leaving one dummy per variable out as reference). This was considered as the final model. Whether

the explanatory variables were found statistically significant was not relevant here, considering that the argumentation of why these variables might affect the results was predominant.

4. Results

4.1 Sample descriptives

In total, 238 respondents completed the survey, which resulted in 2856 observations for the analysis. The mean response to whether the choice tasks were comprehensible on a 5-point Likert scale was 3.92 with a standard deviation (SD) of 0.85. Respondents were aged 18-79 (mean = 35 years, SD = 16) and 79 respondents (33.2%) were male. Most of the respondents were highly educated (79.8%), had a below-average income (66.8%) and did not have children (65.6%) (table 4.1). The mean socio-demographic characteristics of the general adult (18+) population of the Netherlands are presented in the table as well to show the extent to which the sample that was used is generalizable, as was somewhat the case for income and people with a low educational level. The sample was not very generalizable in terms of age, gender and an intermediate or high level of education (48, 42, 43). On having children, no data could be found.

Table 4.1. Socio-demographic characteristics

Variable	This study		General population
	Mean (SD)	%	Mean
Age (mean, sd)	35.2 (16.0)		42.0
Gender			
Male		33.2	49.7
Female		66.8	50.3
Educational level			
Low level		12.2	20
Intermediate level		8	39
High level		79.8	41
Income			
Below average (<€2500)		66.8	60
Average (€2500-€3000)		7.6	10
Above average (>€3000)		21	30
Unknown		4.6	-
Children			
Yes		34.5	-*
No		65.5	-*

**No data available*

Furthermore, table 4.2 illustrates background characteristics relating to their health and lifestyle. The mean perceived health among respondents was 7.9 with a standard deviation of 1.3 on a 10-point Likert scale. The majority of the respondents had a normal alcohol consumption, did not smoke and had a high level of physical activity.

Table 4.2 Background characteristics relating to health and lifestyle

Variable	Mean (SD)	%
Perceived health (1-10 scale)[a]	7.9 (1.3)	
Alcohol consumption		
No alcohol		9.2
Normal		82.3
Excessive		8.4
Smoking		
No smoker		76.9
Smoker		23.1
Physical activity		
Low level		24.4
Average level		36.6
High level		39.1

[a] Perceived health is operationalised as a 10-point Likert-scale

The prevention and lifestyle-related care questions were presented on a 5-point Likert scale and are shown in table 4.3, together with the mean responses to give an indication on respondents' views regarding prevention and lifestyle-related care. Generally, respondents agreed or strongly agreed on all questions, although respondents' views on question 3 were mostly neutral (see figure 4.1).

Table 4.3 Prevention and lifestyle-related care questions

Question [a]	Mean	SD
Q1: 'If a treatment ensures that complaints can be prevented later in life, that is a reason to reimburse the treatment.'	4.19	0.65
Q2: 'Measures that contribute to people's awareness of their lifestyle should be eligible for reimbursement from the basic benefit package.'	3.74	0.94
Q3: 'If lifestyle has played a role in the occurrence or continuation of the disorder, this may be a reason not to reimburse the treatment.'	2.71	1.1
Q4: 'More money should be made available for preventing diseases of curing them.'	4.19	0.73

[a] Prevention-related questions were operationalised as a 5-point Likert scale

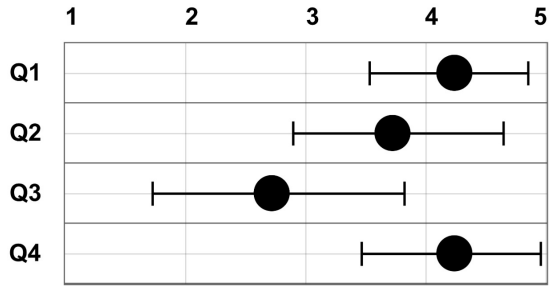

Figure 4.1: Mean scores with standard deviation of the prevention-related questions, operationalised as a 5-point Likert scale

4.2 Sensitivity analyses

A sensitivity analysis was performed by running all models twice; once including all respondents and once excluding the respondents who indicated they did not understand the questions well (see appendix table A.1, A.2 and A.3 for these results). The analyses for the MNL and MIXL showed no notable differences, implying that how well respondents understood the questions did not have any effect on the results and that the data was robust. For the latent class analysis, the sensitivity analysis was more difficult, since excluding respondents always leads to different classes with different preferences. But, although the CAIC's were lower per class (see appendix table A.4), the results after excluding the respondents were not better interpretable than the original data which is why the data was considered as robust in this context as well.

4.3 Multinomial logit regression model

To answer the first research question, a multinomial logit regression analysis was performed. Table 3 shows the result. The pseudo R-squared of the model was 0.108. Following a cut-off value of 5%, all attributes were considered important, except for medical specialist care at a level of 30% ($p = 0.64$). For every attribute respondents preferred more coverage over less coverage. Respondents had the strongest negative preference for less coverage of GP care ($\beta = -1.11$) and less coverage of lifestyle-related care ($\beta = -0.90$) and the strongest positive preference for more coverage of lifestyle-related care ($\beta = 0.65$). Respondents did not prefer the status-quo, which presented the current composition

of the basic benefit package. Figure 4.2 displays the relative importance of each attribute, which was, in descending order: lifestyle-related care, GP care, mental healthcare, medical specialist care, pharmaceutical care and premium change.

Table 4.4 Multinomial logit regression model

Explanatory variable	β (SE)	95% CI
Medical specialist care		
20%	-0.65* (0.080)	-0.801, -0.493
25%	-	-
30%	0.03 (0.065)	-0.096, 0.157
Pharmaceutical care		
5%	-0.48* (0.083)	-0.645, -0.321
10%	-	-
15%	0.18 (0.059)	0.066, 0.297
General practitioner care		
5%	-1.11* (0.103)	-1.315, -0.910
10%	-	-
15%	0.21* (0.058)	0.092, 0.318
Mental healthcare		
5%	-0.51* (0.097)	-0.702, -0.321
10%	-	-
15%	0.20* (0.071)	0.059, 0.338
Lifestyle-related care		
0%	-0.90* (0.109)	-1.112, -0.688
5%	-	-
10%	0.65* (0.074)	0.506, 0.797
Premium change		
-€5	0.15* (0.072)	0.011, 0.292
€0	-	-
+€5	-0.45 (0.077)	-0.603, -0.295
ASC (i.e. current BBP)	-0.14 (0.110)	-0.354, 0.076
N	238	
Pseudo R^2	0.108	

*p<0.05

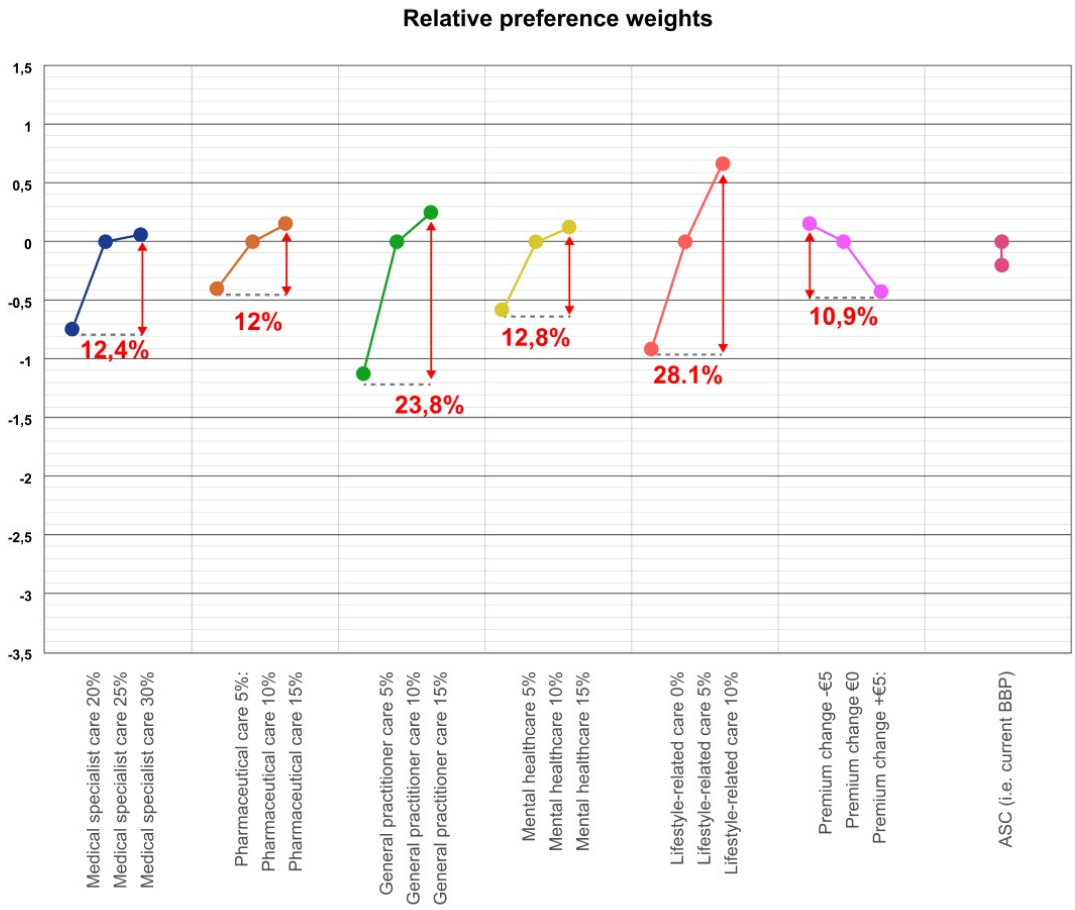

Figure 4.2. Relative preference weights

4.4 Mixed logit regression model

The results of the mixed logit model can be seen in table 4. The pseudo R-squared of the model was 0.094. At a 5% cut-off value, all attributes were considered important, except for coverage of medical specialist care at 30% (p = 0.481) and a premium change of minus €5 (p = 0.088). The attribute with the biggest relative weight was lifestyle-related care (3.628). Respondents did not prefer the status-quo, which presented the current composition of the basic benefit package. The estimated standard deviations were all statistically significant, implying preference heterogeneity among respondents for all levels of all attributes.

Table 4.5 Mixed logit regression model

Explanatory variable	β (SE)	Standard deviation
Medical specialist care		
20%	-1.49* (0.176)	1.575*
25%	-	-
30%	0.09 (0.121)	0.871*
Pharmaceutical care		
5%	-1.09* (0.156)	1.279*
10%	-	-
15%	0.31* (0.117)	0.798*
General practitioner care		
5%	-2.38* (0.198)	1.474*
10%	-	-
15%	0.32* (0.110)	-0.517*
Mental healthcare		
5%	-1.28* (0.179)	1.951*
10%	-	-
15%	0.28* (0.132)	1.244*
Lifestyle-related care		
0%	-2.53* (0.278)	2.531*
5%	-	-
10%	1.10* (0.141)	1.479*
Premium change		
-€5	0.21 (0.123)	0.962*
€0	-	-
+€5	-0.93* (0.151)	1.223*
ASC (i.e. current BBP)	-0.55* (0.173)	1.384*
N	238	
Pseudo R^2	0.094	

*p<0.05

4.5 Latent class analysis

The result of the latent class analysis can be found in appendix table 4.6. Table A.5 in the appendix shows the results of the Consistent Aikaike Information Criterion (CAIC) per number of classes. Although the lowest CAIC was found at a number of 5 classes, the most appropriate model contained 3 classes since there were more respondents per class and the model could be interpreted better (see table A.6 for the latent class analysis with 5 classes). The class probability was 91.9%. As indicated by the statistically significant coefficients, members of class 1 (class probability = 27.9%) did not have a preference for each type of care with a lower percentage level compared to the base case, except for lifestyle-related care, for which both coefficients were statistically insignificant, implying they did not have a preference for this attribute. For GP care both coefficients were statistically significant and had the highest relevant importance of 1.286 and as for premium change, they preferred a €0 change over a €5 change (β = -0.40). Members of class 2 (class probability = 38.4%) also did not prefer a lower level

of each type of care, especially for GP care at a 5% level (β = -2.26), although their preference for GP care at a 15% level was the only statistically insignificant type of care. Lifestyle-related care had the highest relative importance (1.99) and they had did not prefer for a rise in premium of €5 (β = -1.04) compared to no premium change. Respondents in class 3 (33.6%) did not have preference for a lower percentage level of GP care, mental healthcare, lifestyle-related care and a premium rise of €5 (all at a statistically significant level), but they did have a strong statistically significant preference for 10% lifestyle-related care (β = 1.44) which also had the highest relevant importance (β = 4.28). The coefficient for the status-quo was only statistically significant in class 1 (β = -1.17).

Table 4.6 Latent class analysis results

	Class 1		Class 2		Class 3	
Explanatory variable	**β (SE)**	**95% CI**	**β (SE)**	**95% CI**	**β (SE)**	**95% CI**
Medical specialist care						
20%	-0.78* (0.166)	-1.110, -0.457	-1.50* (0.223)	-1.941, -1.068	-0.19 (0.161)	-0.502, 0.131
25%	-	-	-	-	-	-
30%	0.07 (0.126)	-0.180, 0.313	0.42* (0.139)	0.143, 0.689	-0.33* (0.166)	-0.653, -0.000
Pharmaceutical care						
5%	-0.47* (0.179)	-0.819, -0.116	-1.24* (0.190)	-1.614, -0.869	-0.17 (0.170)	-0.502, 0.162
10%	-	-	-	-	-	-
15%	0.29* (0.124)	0.043, 0.530	0.17 (0.143)	-0.108, 0.452	0.08 (0.160)	-0.237, 0.390
General practitioner care						
5%	-0.97* (0.192)	-1.350, -0.596	-2.26* (0.260)	-2.773, -1.752	-1.03* (0.180)	-1.379, -0.675
10%	-	-	-	-	-	-
15%	0.31* (0.118)	0.077, 0.541	-0.03 (0.138)	-0.297, 0.243	0.33* (0.157)	0.023, 0.639
Mental healthcare						
5%	-0.62* (0.167)	-0.943, -0.290	-0.44* (0.190)	-0.810, -0.065	-0.77* (0.195)	-1.151, -0.386
10%	-	-	-	-	-	-
15%	0.17 (0.132)	-0.086, 0.431	0.19 (0.180)	-0.167, 0.539	0.37* (0.180)	0.014, 0.718
Lifestyle-related care						
0%	-0.13 (0.176)	-0.473, 0.217	-1.40* (0.277)	-1.939, -0.854	-2.84* (0.553)	-3.924, -1.758
5%	-	-	-	-	-	-
10%	0.03 (0.141)	-0.249, 0.304	0.59* (0.157)	0.283, 0.898	1.44* (0.164)	1.116, 1.757
Premium change						
-€5	0.24 (0.126)	-0.003, 0.491	0.03 (0.144)	-0.252, 0.312	-0.00 (0.154)	-0.300, 0.303
€0	-	-	-	-	-	-
+€5	-0.40* (0.172)	-0.741, -0.067	-1.04* (0.192)	-1.423, -0.667	-0.49* (0.185)	-0.859, -0.117
ASC (i.e. current BBP)	-1.17* (0.219)	-1.596, 0.737	0.23 (0.221)	-0.203, 0.664	-0.33 (0.237)	-0.777, 0.125
Class-share	27.9%		38.4%		33.6%	

*p<0.05

Table 4.7 shows the socio-demographic and health related characteristics of the respondents assigned to each class. The mean age did not differ much between the classes, neither did the probability of belonging to one of the classes. For sex, each class consisted of around one third of men and two thirds of women. Compared to being female, males had a higher probability of being in class 1 (β = 0.15) and class 2 (β = 0.03), compared to class 3, that served as the reference class. In each class, most people had a high level of education (especially in class 3) and for both intermediate as well as for high level of education, the probability of being in class 3 was higher compared to being in class 1 and 2. In terms of income, in each class two third of the respondents had a below average income and approximately 20% had an above average income. Respondents with an average income compared to people with a below average income had a higher probability to be in class 1 (β = 11.26) and class 2 (β = 11.96) than in class 3. Respondents with an above average income had a lower probability to be in class 1 (β = -0.10) than in class 3 and a higher probability to be in class 2 (β = 0.43) compared to the reference class. Respondents with children had the same probability of being in class 1 and 2 than in class 3 and the mean for perceived health also did not differ much amongst the classes, although the higher the perceived health, the higher the probability of belonging to class 2 (β = 0.35). Considering alcohol consumption, in each class the majority maintains a normal consumption. For people with an excessive alcohol consumption, it was most likely that they belonged to class 1, but the same goes up for people with a normal consumption. In each class, there were approximately just as much non-smokers as smokers, although smokers had the highest probability of being in class 2 (β = 0.32). An average level of physical activity goes with a higher probability of being in class 1 and 3 and people with a high activity level are most likely to belong to class 3.

Table 4.7 Socio-demographic and background characteristics per class

	Class 1			Class 2			Class 3 (reference class)		
Explanatory variable	**Mean**	**%**	**β**	**Mean**	**%**	**β**	**Mean**	**%**	**β**
Age	34.9	-	-0.00	36.3	-	0.000	34.2	-	-
Gender									
Female**	-	64.2	-	-	67.4	-	-	68.9	-
Male	-	35.8	0.15	-	32.6	0.03	-	31.6	-
Educational level									
Low level**	-	11.9	-	-	18.5	-	-	5.0	-
Intermediate level	-	7.5	-0.20	-	12.0	-0.28	-	3.8	-
High level	-	80.6	-1.04	-	69.6	-1.93*	-	91.1	-
Income									
Below average**	-	67.2	-	-	66.3	-		67.1	-
Average	-	7.5	11.26	-	12.0	11.96	-	2.5	-
Above average	-	19.4	-0.10	-	20.7	0.43	-	22.8	-
Children									
No**	-	64.2	-	-	60.9	-	-	72.2	-
Yes	-	35.8	0.58	-	39.1	0.58	-	27.8	-
Perceived health	8.72	-	-0.07	9.2	-	0.35*	8.78	-	-
Alcohol consumption									
No alcohol**	-	11.9	-	-	6.5	-	-	10.1	-
Normal	-	77.6	0.49	-	87.0	0.34	-	81.0	-
Excessive	-	10.5	0.17	-	6.5	-0.33	-	8.9	-
Smoking									
No smoker**	-	76.1	-	-	76.1	-	-	78.5	-
Smoker	-	23.9	0.18	-	23.9	0.32	-	21.5	-
Physical activity									
Low level**	-	20.9	-	-	30.4	-	-	20.3	-
Average level	-	40.3	0.15	-	30.4	-0.64	-	40.5	-
High level	-	38.8	-0.02	-	39.2	-0.28	-	39.2	-

*p<0.05
** reference category

After including the explanatory variables in the latent class analysis, the coefficients changed (table 4.8). However, the signs of the coefficients, the statistically significance and the relatively most important attributes did not and thus the results could be interpreted the same as the crude latent class analysis.

Table 4.8 Latent class analysis results –including explanatory variables

	Class 1		Class 2		Class 3	
Explanatory variable	**β (SE)**	**95% CI**	**β (SE)**	**95% CI**	**β (SE)**	**95% CI**
Medical specialist care						
20%	-0.77* (0.146)	-1.057, -0.483	-1.53* (0.222)	-1.968, -1.098	-0.17 (0.171)	-0.503, 0.168
25%	-	-	-	-	-	-
30%	0.05 (0.119)	-0.186, 0.282	0.41* (0.142)	0.130, 0.686	-0.31 (0.160)	-0.625, -0.001
Pharmaceutical care						
5%	-0.49* (0.160)	-0.799, -0.173	-1.25* (0.192)	-1.629, -0.887	-0.15 (0.171)	-0.480, 0.189
10%	-	-	-	-	-	-
15%	0.28* (0.118)	0.050, 0.515	0.16 (0.143)	-0.126, 0.435	0.09 (0.159)	-0.221, 0.401
General practitioner care						
5%	-0.95* (0.167)	-1.273, -0.618	-2.27* (0.268)	-2.791, -1.741	-1.06* (0.173)	-1.401, -0.722
10%	-	-	-	-	-	-
15%	0.28* (0.114)	0.057, 0.502	-0.03 (0.137)	-0.298, 0.237	0.39* (0.157)	0.084, 0.698
Mental healthcare						
5%	-0.58* (0.160)	-0.884, -0.272	-0.42* (0.187)	-0.791, -0.057	-0.78* (0.200)	-1.173, -0.388
10%	-	-	-	-	-	-
15%	0.15 (0.123)	-0.093, 0.388	0.20 (0.165)	-0.129, 0.518	0.42* (0.159)	0.109, 0.733
Lifestyle-related care						
0%	-0.17 (0.162)	-0.488, -0.146	-1.36* (0.254)	-1.854, -0.860	-2.91* (0.490)	-3.875, -1.953
5%	-	-	-	-	-	-
10%	0.07 (0.123)	-0.176, 0.305	0.59*(0.156)	0.286, 0.898	1.47* (0.150)	1.179, 1.767
Premium change						
-€5	0.22 (0.121)	-0.017, 0.459	0.02 (0.147)	-0.265, 0.310	-0.03 (0.158)	-0.278, 0.341
€0	-	-	-	-	-	-
+€5	-0.42* (0.147)	-0.710, -0.135	-1.03* (0.192)	-1.404, -0.650	-0.47* (0.175)	-0.814, -0.128
ASC (i.e. current BBP)	-1.20* (0.206)	-1.559, -0.791	0.26 (0.222)	-0.177, 0.692	-0.20 (0.218)	-0.632, 0.223
Class-share	27.9%		37.6%		32.7%	

*p<0.05

5. Discussion

The aim of this thesis was twofold. First, the aim was to examine the relative preferences of members of the public for covering lifestyle-related care interventions, relative to other types of care covered under the basic benefit package of the health insurance in the Netherlands. The results of this thesis showed statistically significant results for all types of care included in the DCE, except for more coverage of medical specialist care. For all types of care, respondents preferred more over less coverage as compared to the current level of coverage, and did not prefer less over more coverage. A decrease in premium of €5 was preferred over no premium change, although not at a statistically significant level, and a premium increase of €5 was not preferred over no premium change. Relatively, lifestyle-related care was considered as the most important type of care included in this DCE.

Second, the aim was to examine the relationship between preferences for lifestyle-related care, relative to other types of care and the socio-demographic and background characteristics of the adult general population in the Netherlands. The results of the mixed logit model showed statistically significant results for all types of care, except for a higher level of coverage of medical specialist care and for a decrease in premium of €5. Respondents preferred more over less coverage for all types of care as compared to the current level of coverage, and did not prefer less over more coverage. Lifestyle-related care was considered as the relatively most important type of care for respondents. Heterogeneity in preferences among the respondents for all types of care and for premium change was found, meaning preferences differed amongst respondents. This heterogeneity was captured when estimating a latent class model, which demonstrated distinct preference structures in the data and allowed for investigation of the relationship between preferences and socio-demographic and background characteristics.

Three latent classes were estimated. In every class, compared to the current level of coverage, respondents had a preference for more over less coverage and did not prefer less over more coverage. Note that these coefficients were not all statistically significantly different from 0. For respondents in class 2 and 3, the relative importance of the types of care was the highest for lifestyle-related care. In class 2, this was followed by a high relative importance for medical specialist care and in class 3 by GP care and mental healthcare. Respondents in class 1 on the other hand, did not consider lifestyle-related care to be the relatively most important attribute, and considered GP care and pharmaceutical care as more important.

Socio-demographic and background characteristics were analyzed to examine their relationship with the preferences of the respondents. It was found that the mean age and the share of men and women and smokers and non-smokers was equal between the classes. In each class, the majority of the respondents was highly educated, although in class 3 this share was the highest. Class 2 consisted of the highest share of lower and intermediate educated people. In each of the classes, respondents most often had a below average income, followed by an above average income. Compared to the other classes, class 3 had the highest share of respondents without children and the mean perceived health was highest in class 2. In each of the classes, the majority of the respondents consumed a normal amount of alcohol and the amount of weekly physical activity was also roughly evenly distributed in every class.

In this thesis, adding the socio-demographic and background characteristics as explanatory variables to the latent class model did not change the results compared to the crude latent class model, and only two explanatory variables were statistically significantly different from 0, one of which was perceived health. People with a higher perceived health were most likely to belong to class 2. For respondents in this class, lifestyle-related care was relatively the most important type of care. An explanation could be that people with a good perceived health state maintain a healthy lifestyle

themselves, which gives them insight in the importance of it. Of course, a CLI could help people who already perceive their health as good maintaining a healthy lifestyle, but nevertheless, it is precisely the people with poor perceived health who could benefit from lifestyle-related care interventions.

Another result is the fact that highly educated people had the highest probability of belonging to the third class compared to the other classes, which was the class that considered lifestyle-related care as the relatively most important type of care, compared to the other types of care in this thesis. However, research shows that people with a high education are often healthier compared to lower educated people and have more knowledge on how to obtain and maintain a healthy lifestyle (49). Especially the lower educated, who more often have an unhealthy lifestyle and are less healthy, could benefit from lifestyle-related care interventions to educate them on obtaining and maintaining a healthy lifestyle. Whether this group would be interested in broader coverage of lifestyle-related care interventions is difficult to say from the results of this thesis, since lower educated people were not represented well in this sample.

It appears that this thesis is the first study that aims at measuring preferences for lifestyle-related care in the basic benefit package in the Netherlands, relative to other types of care. Since the importance of a healthy lifestyle is playing and increasingly prominent role in healthcare in the Netherlands, it is therefore important to gain insight in whether members of the public are also interested in broader coverage of lifestyle-related care, especially if this might be at the expense of other types of care in the basic benefit package. The attributes and corresponding levels were carefully selected and a pilot study was performed to obtain the most valid results. To assure the survey was clear and comprehensible, a think aloud session was performed as well.

However, the following limitations of this study should be mentioned. The first is that there were respondents who indicated that the survey was very difficult, that the explanation was not clear

enough or that there were too many choice tasks. This could have led to poor comprehensibility of the survey or respondents fatigue, which may have negatively influenced the validity of the results. However, the survey was tested beforehand by multiple think aloud sessions and therefore, validity was assumed. Another limitation is the representativeness of the sample to the general public of the Netherlands. Since the time for this thesis was only limited, representativeness has been at the expense of time pressure. The sample was not representative in terms of age and gender, or for the intermediate and lower educated part of the community. Another limitation was that, except for two, the results of the explanatory variables when added to the latent class model were statistically insignificant, and could therefore not accurately predict class membership. This could have been caused by the fact that not all socio-demographic and background characteristics were equally represented amongst the respondents. Besides, there was a lot of heterogeneity in preferences for the different types of care amongst respondents, so the sample could not have been large enough to capture all the variance in preferences.

However, the use of statistical significance as evidence for the validity of results is increasingly being questioned. The assessment is often based on an arbitrary threshold and statistically insignificant results can lead to concluding for instance that, like in this study, certain explanatory variables are not good predictors of class membership, while the coefficients did show different signs (50). Based on that, it could not be concluded that the explanatory variables did not influence class membership at all, but it seems worthwhile to investigate socio-demographic and background characteristics of respondents as predictors of class membership in more detail in a more representative and larger sample.

So, the results of this thesis showed that respondents valued more coverage of lifestyle-related care. However, ff coverage of lifestyle-related care interventions would be available for everyone in the population, the question remains whether people would actually apply for these interventions. The

results of this thesis showed that especially people with a good perceived health and a high education preferred lifestyle-related care. However, these people are generally already healthy with a good lifestyle, and although participating in a lifestyle-related care intervention could still help in improving or maintaining a healthy lifestyle, it is questionable whether these people will actually apply for an intervention. It is especially those with a lower education and a bad perceived health that could benefit from lifestyle-related care interventions to improve and learn about their lifestyle. This sample did not represent those people well, so more insight in their preferences is needed. Future research should focus on obtaining preferences in a sample representative for the community as a whole, by for instance using quotas when sampling. A bigger sample could also demonstrate more accurate preference structures in the data, to allow for investigation of the relationship between preferences and socio-demographic and background characteristics.

Another question is that if lifestyle-interventions would become covered under the basic benefit package for all members of the public, what the direct effect of these interventions would be on the population's health. It has been shown that a healthy lifestyle improves people's health, but whether the participation in a lifestyle-related intervention itself actually has an effect on someone's health is unknown. Perhaps an RCT could show what the effects are on the health of people who follow or have followed a lifestyle intervention, compared to people who have not, in order to capture the contribution of lifestyle-interventions on people's health.

The results also showed respondents preferred a higher level of coverage for all types of care, against a decrease in premium per month. But, the healthcare budget is limited and within this budget, a trade-off must be made of what types of care and treatments can and cannot be reimbursed. However, it was also shown that respondents thought of lifestyle-related care as relatively more important compared to the other types of care in this study. Since decisions on the composition of the basic benefit package and the reimbursement of treatments are increasingly being informed by public

preferences, a broader uptake of lifestyle-related care interventions at the expense of other types of care and treatments could be considered, based on these results. Future research could investigate what a broader uptake of lifestyle-related care would mean for the reimbursement of other types of care and treatments and what people would be willing to give up in terms of what is currently covered under the basic benefit package.

6. Conclusion

Concluding, this thesis aimed to examine the relative preferences of members of the public for covering lifestyle-related care interventions, relative to other types of care covered under the basic benefit package of the health insurance in the Netherlands and to examine the relationship between these preferences and the socio-demographic and background characteristics of the adult general population in the Netherlands. Lifestyle-related care was found to be the relatively most important type of care, compared to the other types of care. This aligns with government's vision to focus more on improving people's lifestyles and on 'self-empowerment', which stresses the individual responsibility for one's health and calls for greater efforts in maintaining a healthy lifestyle by one self. Broader coverage of lifestyle-interventions for all members of the public could enhance this self-empowerment, which aligns with the positive attitude of respondents towards broad coverage of lifestyle-related care. However, the sample was not very generalizable to the community as whole, so a larger sample that is more representative for the general public could generate more insight into the relative preference for coverage of lifestyle-related interventions compared to other types of care, and the relationship with socio-demographic and background characteristics of the population.

7. References

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Appendices

Table A.1. Multinomial logit regression model – sensitivity analysis

Explanatory variable	β (SE)	95% CI
Medical specialist care		
20%	-0.66* (0.085)	-0.828–-0.493
25%	-	-
30%	0.03 (0.067)	-0.105–0.158
Pharmaceutical care		
5%	-0.50* (0.087)	-0.671–-0.330
10%	-	-
15%	0.18* (0.062)	0.059–0.301
General practitioner care		
5%	-0.54* (0.100)	-1.373–-0.956
10%	-	-
15%	0.22* (0.075)	0.068–0.304
Mental healthcare		
5%	-1.12* (0.106)	-0.736–-0.345
10%	-	-
15%	0.19* (0.060)	-0.736–-0.369
Lifestyle-related care		
0%	-0.93* (0.114)	-1.150–-0.705
5%	-	-
10%	0.65* (0.078)	0.497–0.803
Premium change		
-€5	0.19* (0.073)	0.049–0.337
€0	-	-
+€5	-0.45* (0.084)	-0.618–-0.287
ASC (i.e. current BBP)	-0.14 (0.115)	-0.367–0.083
N	221	
Pseudo R^2	0.111	

*=p<0.05

Table A.2. Mixed logit regression model – sensitivity analysis

Explanatory variable	β (SE)	Standard deviation
Medical specialist care		
20%	-1.54* (0.195)	1.575*
25%	-	-
30%	0.18 (0.139)	0.871*
Pharmaceutical care		
5%	-1.31* (0.186)	1.279*
10%	-	-
15%	0.34* (0.130)	0.798*
General practitioner care		
5%	-2.53* (0.214)	1.474*
10%	-	-
15%	0.30* (0.119)	-0.517*
Mental healthcare		
5%	-1.42* (0.204)	1.951*
10%	-	-
15%	0.40* (0.148)	1.244*
Lifestyle-related care		
0%	-2.66* (0.288)	2.531*
5%	-	-
10%	1.18* (0.156)	1.479*
Premium change		
-€5	0.37* (0.137)	0.962*
€0	-	-
+€5	-0.99* (0.167)	1.223*
ASC (i.e. current BBP)	-0.61* (0.190)	1.384*
N	221	
Pseudo R^2	0.097	

*=p<0.05

Table A.3 Latent class analysis results – sensitivity analysis

	Class 1		Class 2		Class 3	
Explanatory variable	**β (SE)**	**95% CI**	**β (SE)**	**95% CI**	**β (SE)**	**95% CI**
Medical specialist care						
20%	-1.10* (0.168)	-1.428–-0.771	-0.15 (0.143)	-0.425–0.135	-1.52* (0.248)	-2.009–-1.037
25%	-	-	-	-	-	-
30%	0.24 (0.133)	-0.017–0.504	-0.26 (0.136)	-0.524–0.012	0.37* (0.158)	0.056–0.677
Pharmaceutical care						
5%	-0.82* (0.173)	-1.161–-0.484	-0.12 (0.150)	-0.416–-0.172	-1.15* (0.216)	-1.570–-0.726
10%	-	-	-	-	-	-
15%	0.44* (0.137)	0.174–0.706	0.05 (0.135)	-0.214–0.314	0.08 (0.167)	-0.245–0.408
General practitioner care						
5%	-1.60* (0.209)	-2.003–-1.186	-0.91* (0.159)	-1.223–-0.601	-2.24* (0.275)	-2.775–-1.697
10%	-	-	-	-	-	-
15%	0.18 (0.128)	-0.076–0.425	0.32* (0.138)	0.045–0.585	-0.06 (0.160)	-0.375–0.248
Mental healthcare						
5%	-0.70* (0.179)	-1.046–-0.346	-0.85* (0.166)	-1.176–-0.526	-0.39 (0.208)	-0.794–-0.022
10%	-	-	-	-	-	-
15%	0.41* (0.151)	0.119–0.709	0.16 (0.146)	-0.129–0.442	0.24 (0.193)	-0.139–0.616
Lifestyle-related care						
0%	-0.11 (0.173)	-0.451–-0.227	-2.22* (0.255)	-2.724–-1.722	-2.02* (0.353)	-2.715–-1.332
5%	-	-	-	-	-	-
10%	-0.07 (0.140)	-0.349–0.101	1.29* (0.120)	1.053–1.522	0.77* (0.167)	0.439–1.093
Premium change						
-€5	0.41* (0.142)	-0.134–0.692	0.01 (0.136)	-0.252–0.279	0.03* (0.164)	-0.289–0.353
€0	-	-	-	-	-	-
+€5	-0.69* (0.169)	-1.021–-0.358	-0.38* (0.156)	-0.687–-0.076	-1.06* (0.211)	-1.473–-0.648
ASC (i.e. current BBP)	-0.87* (0.220)	-1.303–-0.441	-0.59* (0.204)	-0.985–-0.187	0.38 (0.254)	-0.115–0.880
Class-share	27.9%		38.4%		33.6%	

*=p<0.05

Table A.4: Selection number of classes in the LCA – sensitivity analysis

Number of classes	CAIC
2	5035.8165
3	4900.7226
4	4900.0087
5	4840.8807
6	4843.719
7	4893.9543
8	4934.4014

Table A.5: Selection number of classes in the LCA

Number of classes	CAIC
2	5428.2619
3	5305.5825
4	5236.8041
5	5223.3792
6	5245.7327
7	5275.3927
8	5321.3785

Table A.6 – Latent class analysis results – 5 classes

	Class 1		Class 2		Class 3		Class 4		Class 5	
Explanatory variable	**β (SE)**	**95% CI**	**β (SE)**	**95% CI**	**β (SE)**	**95% CI**	**β (SE)**	**95% CI**	**β (SE)**	**95% CI**
Medical specialist care										
20%	-0.61* (0.505)	-2.603, -0.624	-0.53* (0.175)	-0.873, -0.188	-0.14 (0.187)	-0.505, 0.230	-1.85* (0.297)	-2.434, -1.271	-1.31* (0.300)	-1.900, -0.725
25%	-	-	-	-	-	-	-	-	-	-
30%	0.35 (0.350)	-0.335, 1.039	0.08 (0.154)	-0.219, 0.386	-0.39* (0.181)	-0.744, -0.037	0.41* (0.183)	0.054, 0.771	-0.06 (0.238)	-0.525, 0.406
Pharmaceutical care										
5%	-0.92* (0.393)	-1.685, -0.147	-0.10 (0.180)	-0.458, -0.249	-0.18 (0.186)	-0.544, 0.184	-1.62* (0.239)	-2.090, -1.155	-1.03* (0.276)	-1.569, -0.489
10%	-	-	-	-	-	-	-	-	-	-
15%	0.06 (0.327)	0.697, 0.585	0.18 (0.158)	-0.132, 0.486	0.06 (0.176)	-0.282, 0.409	0.42* (0.176)	0.078, 0.769	0.40 (0.238)	-0.067, 0.866
General practitioner care										
5%	-2.78* (0.736)	-4.219, -1.334	-0.57* (0.187)	-0.937, -0.205	-0.97* (0.180)	-1.319, -0.614	-1.81* (0.255)	-2.306, -1.307	-2.47* (0.395)	-3.243, -1.696
10%	-	-	-	-	-	-	-	-	-	-
15%	0.50 (0.295)	1.076, 0.080	0.53* (0.157)	0.224, 0.841	0.40* (0.164)	0.075, 0.717	0.31* (0.168)	-0.022, 0.638	0.10 (0.200)	-0.295, 0.487
Mental healthcare										
5%	-0.47 (0.381)	-1.212, 0.282	-0.47* (0.187)	-0.833, -0.102	-0.80* (0.230)	-1.247, -0.347	0.16 (0.198)	-0.226, 0.552	-4.45* (1.233)	-6.866, -2.031
10%	-	-	-	-	-	-	-	-	-	-
15%	0.30 (0.348)	-0.982, 0.381	0.18 (0.149)	-0.468, 0.118	0.29 (0.191)	-0.081, 0.667	-0.25 (0.196)	-0.639, 0.131	1.60* (0.212)	1.181, 2.012
Lifestyle-related care										
0%	-1.37* (0.587)	-2.516, -0.215	-0.37 (0.1189)	-0.737, 0.004	-3.13 (0.451)	-4.014, -2.245	-1.17* (0.259)	-1.673, -0.658	-1.02* (0.293)	-1.592, -0.442
5%	-	-	-	-	-	-	-	-	-	-
10%	1.02* (0.386)	0.263, 1.774	0.03 (0.148)	-0.261, 0.320	1.62 (0.153)	1.320, 1.920	0.54* (0.208)	0.129, 0.946	0.33 (0.227)	-0.110, 0.778
Premium change										
-€5	-0.40 (0.321)	-1.027, 0.228	0.11 (0.150)	-0.182, 0.407	-0.00 (0.175)	-0.346, 0.339	0.25 (0.184)	-0.106, 0.614	0.77* (0.256)	0.265, 1.269
€0	-	-	-	-	-	-	-	-	-	-
+€5	-1.34* (0.447)	-2.221, -0.467	-0.33 (0.183)	-0.684, 0.033	-0.51* (0.184)	-0.869, -0.148	-0.86* (0.219)	-1.289, -0.430	-0.75* (0.255)	-1.248, -0.248
ASC (i.e. current BBP)	-0.74 (0.445)	-0.131, 1.614	-2.51* (0.330)	-3.159, 1.864	-0.24* (0.241)	-0.709, 0.237	-0.50 (0.270)	-1.026, 0.034	-0.17 (0.328)	-0.809, 0.477
Class-share	15.6%		14.2%		28.8%		23.9%		*17.5%*	

*p<0.05

Appendix A.7 – Survey

Start

Introduction

Start of the research

Dear participant,

First of all, we would like to thank you for your participation in this study. The aim of this study is to gain insight into the preferences of Dutch citizens for insured care via the basic benefit package. It will take approximately 15 minutes of your time. Your data will be treated confidentially and the results will be processed completely anonymously.

If you have any questions, please send an email to 586115fb@eur.nl.

Informedconsent

Please confirm that you understand and agree with each of the points below:

Informedconsent_1 I understand that my participation is voluntary.

Informedconsent_2 I understand that the purpose of this questionnaire is to gain more insight into my preferences for the composition of the basic benefit package.

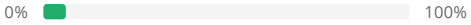
Informedconsent_3 I understand that the questionnaire is anonymous and that my answers will be used for scientific purposes.

→

0% 100%

Demografischevragen

First, we would like to ask you some questions about yourself.



Leeftijd2

What is your age?

Geslacht2

What is your sex?

Geslacht2=1 Male

Geslacht2=2 Female

Geslacht2=3 Undefined

Opleiding2

What is your highest level of completed education?

Opleiding2=1 Primary education

Opleiding2=2 Pre-vocational Secondary Education (VMBO-g, VMBO-k or VMBO-b)

Opleiding2=3 Secondary Education (VMBO-t/HAVO/VWO, etc.)

Opleiding2=4 Secondary Vocational Education (MBO level 1)

Opleiding2=5 Secondary Vocational Education (MBO level 2/3/4)

Opleiding2=6 Higher Professional Education (HBO)

Opleiding2=7 University Education (BSc)

Opleiding2=8 University Education (MSc)

Opleiding2=9 PhD

Opleiding2=10 No education

Arbeidssituatie2

What best describes your occupation?

Arbeidssituatie2=1 Working, fixed contract

Arbeidssituatie2=2 Working, no fixed contract

Arbeidssituatie2=3 Self-employed without staff / Self-employed with staff

Arbeidssituatie2=4 Student and working

Arbeidssituatie2=5 Student and not working

Arbeidssituatie2=6 Unemployed, looking for a job

Arbeidssituatie2=7 Unemployed, not looking for a job

Arbeidssituatie2=8 Housekeeping/care

Arbeidssituatie2=9 Retired

Huishouden

What does your household look like?

Huishouden=1 I live alone

Huishouden=2 I live alone with a child/children

Huishouden=3 I live with my partner

Huishouden=4 I live with my partner and child/children

Huishouden=5 I live with one or more roommates

Huishouden=6 I live with my parents

Huishouden=7 Other

Huishoudeninkomen

What is your net income per month?

Huishoudeninkomen=1 Up to 999 euros

Huishoudeninkomen=2 1000 - 1499 euros

Huishoudeninkomen=3 1500 - 1999 euros

Huishoudeninkomen=4 2000 - 2499 euros

Huishoudeninkomen=5 2500 - 2999 euros

Huishoudeninkomen=6 3000 - 3499 euros

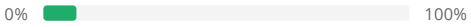
Huishoudeninkomen=7 3500 - 3999 euros

Huishoudeninkomen=8 4000 - 4499 euros

Huishoudeninkomen=9 4500 - 4999 euros

Huishoudeninkomen=10 5000 euros or more

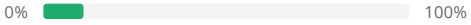
Huishoudeninkomen=11 I would rather not say



DCE

Every adult Dutch person (18+) is obliged to purchase health insurance in the form of the basic benefit package, for which a monthly premium is paid. The basic benefit package covers the costs for various types of care, such as a doctor's visit or medication.

For this study, we are interested in your preference for the composition of the basic benefit package. You will be presented with a number of choices with three options. One of the options approximately represents the composition of the current basic package, the other options are variations on this. We always ask you which option you prefer, viewed from the perspective of your own situation.

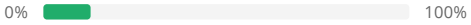


Attrributen1

Now the five types of care are explained in three steps.

1) **Medical specialist care**: medical care for which you need a referral. This includes, for example, a visit to a medical specialist, such as an oral surgeon, internist or allergist, in the hospital.

2) **Pharmaceutical care**: care that contributes to a patient using his/her medicines as correctly, efficiently and safely as possible. This includes all registered medicines that are available at the pharmacy on prescription from a doctor.



Levels100

In this study we use percentages that show how much of the total basic benefit package is spent on the type of care in question. Here are a few examples:

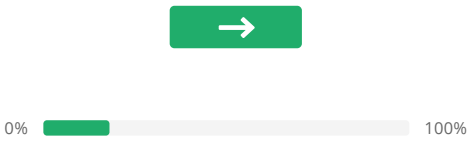
Explanation:
In the figure above you can see that the entire circle is colored blue. This means that 100% of the basic benefit package consists of pharmaceutical care. In this example, medical specialist care would not be covered from the basic benefit package. For example, you would have to pay this yourself.

0% 100%

Levels50en5

Explanation:
In the figure above, you can see that half of the circle is colored blue and the other half orange. This means that 50% of the basic benefit package consists of pharmaceutical care and the other 50% consists of medical specialist care. In this example, general practitioner care would not be covered from the basic package. For example, you would have to pay this yourself.

In this second example, 5% of the basic benefit package consists of pharmaceutical care and the remaining 95% consists of medical specialist care. In this example, general practitioner care would not be covered from the basic package. For example, you would have to pay this yourself.



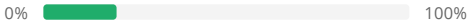
Uitlegtekens

To indicate how the percentages change compared to the current situation, the following signs and colors are used in the choice tasks:

↑ means that the percentage (%) (so the part of the basic package that includes that specific type of care) increases compared to the current situation. This is displayed in light purple.

↓ means that the percentage (%) (so the part of the basic package that includes that specific type of care) decreases compared to the current situation. This is displayed in dark purple.

= means that the percentage (%) (so the part of the basic package that includes that specific type of care) remains the same compared to the current situation. This is displayed in purpe.

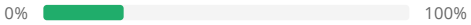


Attributen2

Now step 2 of the explanation follows.

3) **Mental healthcare (GGZ in the Netherlands)**: care that is aimed at preventing, treating and curing mental illnesses. This includes for example: basic mental health care (mild to moderate mental illnesses), specialist mental health care (severe, complicated mental illnesses) and the first three year of residence in a mental healthcare facility.

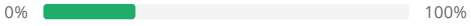
4) **General practitioner healthcare**: care that the general practitioner prescribes (e.g. medication), the diagnostics that the general practitioner orders outside his or her practice, a visit to the general practitioner and the health care that he or she refers to (e.g. physical therapist or medical specialist).



Optouttoelichting

In addition to the two compositions of the basic package, a third option will be present in the choice tasks. This third option approximates the current basic package, it does not completely correspond, but for this research, you can assume that it depicts the current situation. Choose which option you think is the best for yourself.

On the next page a practice question follows to become acquainted with the choice tasks and previously explained concepts.



Oefening2_Fixed1

In the Netherlands, the content of the basic package is determined by the government. Imagine that you had a choice yourself, which basic package then has your preference?

	Basispakket 1	Basispakket 2	Huidige basispakket
General practitioner care	10% (=)	10% (=)	10%
Mental healthcare	5% (↓)	15% (↑)	10%
	Oefening2_Fixed1	Oefening2_Fixed1	Oefening2_Fixed1

Explanation:
The percentage displays the amount of the total basic package that consists of that specific type of health care.

This is no complete description of the basic package. There is still a lot of healthcare that is covered within the basic package but not represented in this research. Therefore, the remaining % concerns 'other care'.

→

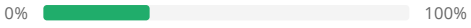
0% 100%

Attributen3

Now the third and final step of the explanation follows:

5) **Prevention/lifestyle-related care**: care that is aimed at improving health, early detection of diseases and prevention of health problems or negative consequences of already present diseases. This entails for example prevention programmes like education and physical exercise programs.

6) **Premium change (monthly)**: in the Netherlands everybody pays a monthly premium for health care within the basic package. This is a fixed amount of 125 monthly. In this research, this amount will stay equal, or change with +€5 or -€5.



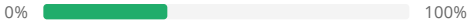
Cirkeldiagram

The different types of care relevant to this questionnaire are all introduced now. In the pie chart beneath they are all displayed. In this figure, the current basic package is shown.

The different compositions of the basic package that are represented to you are not complete. There is still a lot of health care that falls within the basic package but is not directly represented in this research. The remaining percentage concerns ‘other care’ and can vary between 15% and 65%, depending on the composition chosen. In the pie chart, ‘other care’ is depicted in green.

Oefenvraag3

Now the last practice exercise follows.



Oefening3_Fixed1

In the Netherlands, the content of the basic package is determined by the government. Imagine that you had a choice yourself, which basic package then has your preference?

(1 of 1)

	Basispakket 1	Basispakket 2	Huidige basispakket
Medical specialist care	30% (↑)	20% (↓)	25%
Pharmaceutical care	15% (↑)	10% (=)	10%
Mental healthcare	15% (↑)	5% (↓)	10%
General practitioner care	15% (↑)	10% (=)	10%
Prevention/lifestyle-related care	10% (↑)	5% (=)	5%
Premium change (monthly)	€5 euro minder (↓)	€5 euro meer (↑)	€0
	Oefening3_Fixed1	Oefening3_Fixed1	Oefening3_Fixed1

Explanation:
The percentage displays the amount of the total basic package that consists of that specific type of health care.

This is no complete description of the basic package. There is still a lot of healthcare that is covered within the basic package but not represented in this research. Therefore, the remaining % concerns 'other care'.

→

0% 100%

Eindeintro1

You have completed the introduction and the example questions to get familiar with the choice tasks.

On a scale of 1 (completely disagree) to 5 (completely agree), to which extent do you agree with the following statement?

	Completely disagree	Disagree	Neutral	Agree	Completely agree
The introduction was clear.	Eindeintro1_r1=1 ○	Eindeintro1_r1=2 ○	Eindeintro1_r1=3 ○	Eindeintro1_r1=4 ○	Eindeintro1_r1=5 ○

→

0% 100%

Eindeintro1

You have completed the introduction and the example questions to get familiar with the choice tasks.

On a scale of 1 (completely disagree) to 5 (completely agree), to which extent do you agree with the following statement?

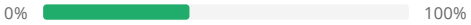
	Completely disagree	Disagree	Neutral	Agree	Completely agree
The introduction was clear.	Eindeintro1_r1=1 ○	Eindeintro1_r1=2 ○	Eindeintro1_r1=3 ○	Eindeintro1_r1=4 ○	Eindeintro1_r1=5 ○

→

0% 100%

StartDCE

You have completed the tutorial. The first 6 (of the total 12) choice tasks will now follow.



CBC_Random1

Which basic package would you prefer if you could choose for yourself?

(1 of 12)

	Basic package 1	Basic package 2	Current basic package
Specialist medical care	30% (↑)	25% (=)	25%
Pharmaceutical care	15% (↑)	15% (↑)	10%
Mental healthcare	15% (↑)	10% (=)	10%
General practitioner care	5% (↓)	5% (↓)	10%
Prevention/lifestyle related care	10% (↑)	0% (↓)	5%
Premium change (per month)	€5 euro less (↓)	€5 euro less (↓)	€0
	CBC_Random1	CBC_Random1	CBC_Random1

Explanation:
The percentage indicates how much of the total basic package consists of that type of care.
This is not a comprehensive description of the basic package. There is still a lot of care that falls within the basic package that is not directly included in this survey. The remaining % therefore always concerns other care and can vary between 15% and 65% depending on the composition you choose.

0% 100%

CBC_Random2

Which basic package would you prefer if you could choose for yourself?

(2 of 12)

	Basic package 1	Basic package 2	Current basic package
Specialist medical care	20% (↓)	25% (=)	25%
Pharmaceutical care	5% (↓)	15% (↑)	10%
Mental healthcare	10% (=)	15% (↑)	10%
General practitioner care	5% (↓)	10% (=)	10%
Prevention/lifestyle related care	10% (↑)	10% (↑)	5%
Premium change (per month)	€5 euro less (↓)	€5 euro more (↑)	€0
	CBC_Random2	CBC_Random2	CBC_Random2

Explanation:
The percentage indicates how much of the total basic package consists of that type of care.
This is not a comprehensive description of the basic package. There is still a lot of care that falls within the basic package that is not directly included in this survey. The remaining % therefore always concerns other care and can vary between 15% and 65% depending on the composition you choose.

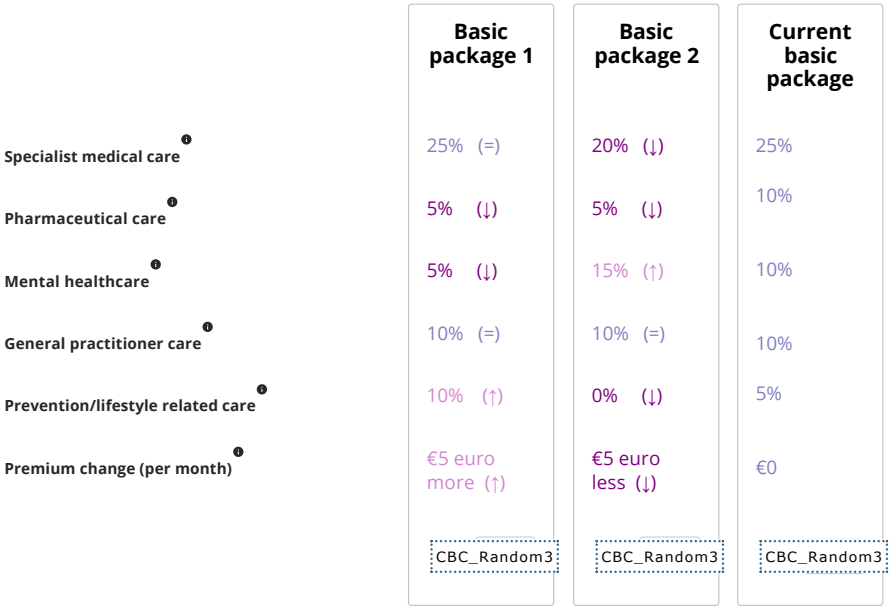
→

0% 100%

CBC_Random3

Which basic package would you prefer if you could choose for yourself?

(3 of 12)



Explanation:
The percentage indicates how much of the total basic package consists of that type of care.
This is not a comprehensive description of the basic package. There is still a lot of care that falls within the basic package that is not directly included in this survey. The remaining % therefore always concerns other care and can vary between 15% and 65% depending on the composition you choose.

→

0% 100%

CBC_Random4

Which basic package would you prefer if you could choose for yourself?

(4 of 12)

	Basic package 1	Basic package 2	Current basic package
Specialist medical care	30% (↑)	25% (=)	25%
Pharmaceutical care	15% (↑)	15% (↑)	10%
Mental healthcare	10% (=)	10% (=)	10%
General practitioner care	5% (↓)	10% (=)	10%
Prevention/lifestyle related care	10% (↑)	5% (=)	5%
Premium change (per month)	€5 euro less (↓)	€5 euro more (↑)	€0
	CBC_Random4	CBC_Random4	CBC_Random4

Explanation:
The percentage indicates how much of the total basic package consists of that type of care.
This is not a comprehensive description of the basic package. There is still a lot of care that falls within the basic package that is not directly included in this survey. The remaining % therefore always concerns other care and can vary between 15% and 65% depending on the composition you choose.

→

0% 100%

CBC_Random5

Which basic package would you prefer if you could choose for yourself?

(5 of 12)

	Basic package 1	Basic package 2	Current basic package
Specialist medical care	25% (=)	25% (=)	25%
Pharmaceutical care	5% (↓)	10% (=)	10%
Mental healthcare	5% (↓)	10% (=)	10%
General practitioner care	5% (↓)	5% (↓)	10%
Prevention/lifestyle related care	0% (↓)	10% (↑)	5%
Premium change (per month)	€5 euro more (↑)	€0, remains the same (=)	€0
	CBC_Random5	CBC_Random5	CBC_Random5

Explanation:
The percentage indicates how much of the total basic package consists of that type of care.
This is not a comprehensive description of the basic package. There is still a lot of care that falls within the basic package that is not directly included in this survey. The remaining % therefore always concerns other care and can vary between 15% and 65% depending on the composition you choose.

→

0% 100%

CBC_Random6

Which basic package would you prefer if you could choose for yourself?

(6 of 12)

	Basic package 1	Basic package 2	Current basic package
Specialist medical care	25% (=)	30% (↑)	25%
Pharmaceutical care	15% (↑)	5% (↓)	10%
Mental healthcare	5% (↓)	10% (=)	10%
General practitioner care	10% (=)	15% (↑)	10%
Prevention/lifestyle related care	5% (=)	0% (↓)	5%
Premium change (per month)	€0, remains the same (=)	€0, remains the same (=)	€0
	CBC_Random6	CBC_Random6	CBC_Random6

Explanation:
The percentage indicates how much of the total basic package consists of that type of care.
This is not a comprehensive description of the basic package. There is still a lot of care that falls within the basic package that is not directly included in this survey. The remaining % therefore always concerns other care and can vary between 15% and 65% depending on the composition you choose.

→

0% 100%

Bedankt1

Thank you for repeatedly answering the same kind of questions.
This is important for us to know your preferences regarding the basic health package.

You have answered 6 of the 12 selection questions. One evaluation question follows now.

Tussenvraag2

On a scale from 1 (strongly disagree) to 5 (strongly agree), to what extent do you agree with the following statement?

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I understand the questions so far.	Tussenvraag2_r1=1	Tussenvraag2_r1=2	Tussenvraag2_r1=3	Tussenvraag2_r1=4	Tussenvraag2_r1=5

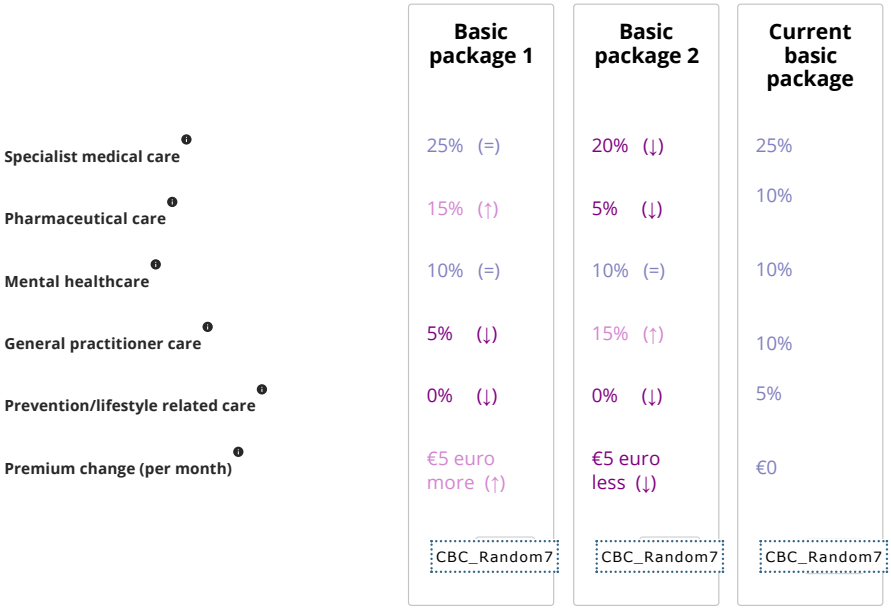
volgendevragen3

Now come the last 6 choice tasks.

CBC_Random7

Which basic package would you prefer if you could choose for yourself?

(7 of 12)



Explanation:
The percentage indicates how much of the total basic package consists of that type of care.
This is not a comprehensive description of the basic package. There is still a lot of care that falls within the basic package that is not directly included in this survey. The remaining % therefore always concerns other care and can vary between 15% and 65% depending on the composition you choose.

→

0% 100%

CBC_Random8

Which basic package would you prefer if you could choose for yourself?

(8 of 12)

	Basic package 1	Basic package 2	Current basic package
Specialist medical care	20% (↓)	20% (↓)	25%
Pharmaceutical care	15% (↑)	5% (↓)	10%
Mental healthcare	5% (↓)	10% (=)	10%
General practitioner care	10% (=)	5% (↓)	10%
Prevention/lifestyle related care	0% (↓)	5% (=)	5%
Premium change (per month)	€5 euro more (↑)	€5 euro less (↓)	€0
	CBC_Random8	CBC_Random8	CBC_Random8

Explanation:
The percentage indicates how much of the total basic package consists of that type of care.
This is not a comprehensive description of the basic package. There is still a lot of care that falls within the basic package that is not directly included in this survey. The remaining % therefore always concerns other care and can vary between 15% and 65% depending on the composition you choose.

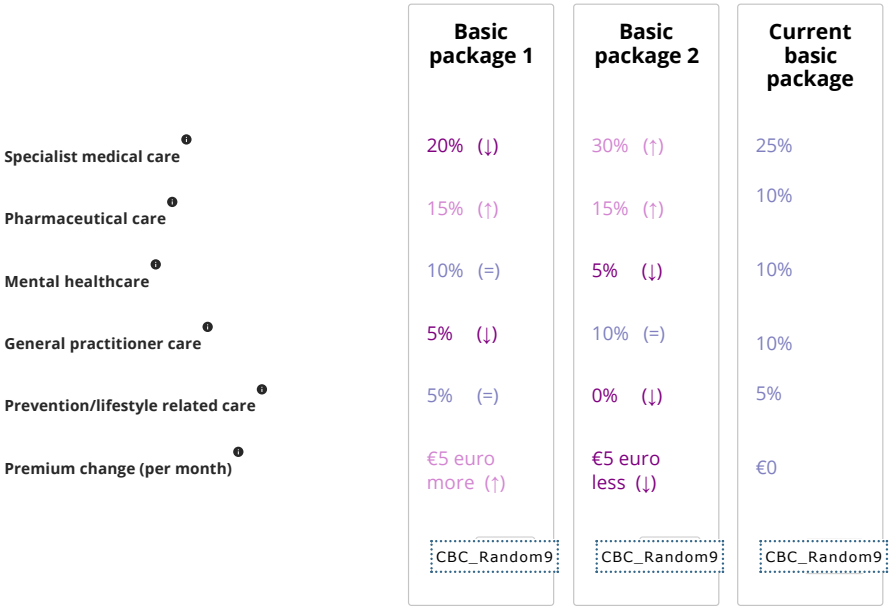
→

0% 100%

CBC_Random9

Which basic package would you prefer if you could choose for yourself?

(9 of 12)



Explanation:
The percentage indicates how much of the total basic package consists of that type of care.
This is not a comprehensive description of the basic package. There is still a lot of care that falls within the basic package that is not directly included in this survey. The remaining % therefore always concerns other care and can vary between 15% and 65% depending on the composition you choose.

CBC_Random10

Which basic package would you prefer if you could choose for yourself?

(10 of 12)

Explanation:
The percentage indicates how much of the total basic package consists of that type of care.
This is not a comprehensive description of the basic package. There is still a lot of care that falls within the basic package that is not directly included in this survey. The remaining % therefore always concerns other care and can vary between 15% and 65% depending on the composition you choose.

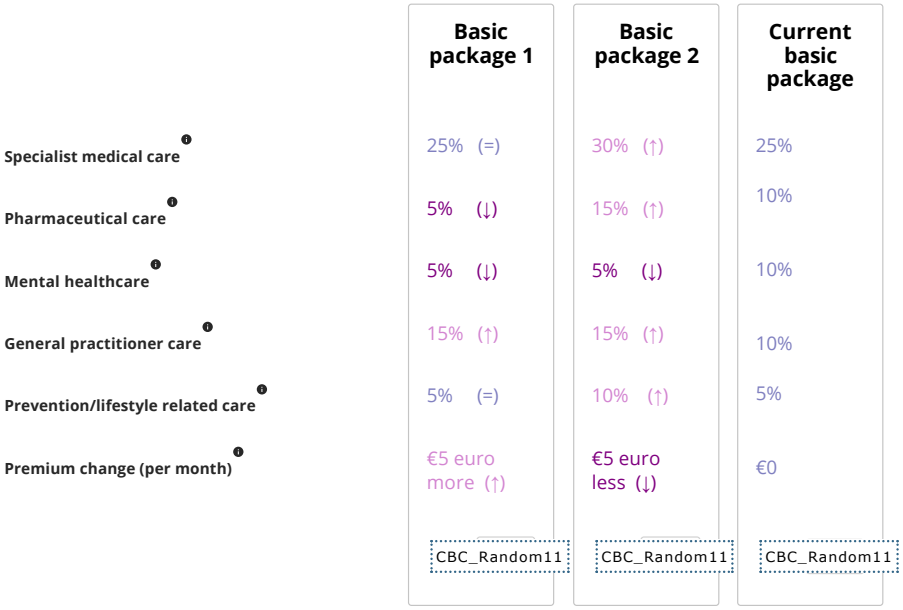
→

0% 100%

CBC_Random11

Which basic package would you prefer if you could choose for yourself?

(11 of 12)



Explanation:
The percentage indicates how much of the total basic package consists of that type of care.
This is not a comprehensive description of the basic package. There is still a lot of care that falls within the basic package that is not directly included in this survey. The remaining % therefore always concerns other care and can vary between 15% and 65% depending on the composition you choose.

→

0% 100%

CBC_Random12

Which basic package would you prefer if you could choose for yourself?

(12 of 12)

	Basic package 1	Basic package 2	Current basic package
Specialist medical care	20% (↓)	25% (=)	25%
Pharmaceutical care	15% (↑)	5% (↓)	10%
Mental healthcare	5% (↓)	10% (=)	10%
General practitioner care	15% (↑)	15% (↑)	10%
Prevention/lifestyle related care	10% (↑)	5% (=)	5%
Premium change (per month)	€0, remains the same (=)	€0, remains the same (=)	€0
	CBC_Random12	CBC_Random12	CBC_Random12

Explanation:
The percentage indicates how much of the total basic package consists of that type of care.
This is not a comprehensive description of the basic package. There is still a lot of care that falls within the basic package that is not directly included in this survey. The remaining % therefore always concerns other care and can vary between 15% and 65% depending on the composition you choose.

→

0% 100%

Eindechoicetasks

You have completed the 12 choice tasks! In the next part of the questionnaire, we would like to ask you a few more in-depth questions.

Werktuindezorg1

Do you work in the healthcare sector?

Werktuindezorg1=1 Yes

Werktuindezorg1=2 No

Zorgverlener1

In which of the following sectors are you employed?

- Zorgverlener1=1 ○ Specialist medical care
- Zorgverlener1=2 ○ Pharmaceutical care
- Zorgverlener1=3 ○ Mental healthcare
- Zorgverlener1=4 ○ General practitioner care
- Zorgverlener1=5 ○ Prevention/lifestyle related care
- Zorgverlener1=6 ○ As a policy officer/advisor in health care
- Zorgverlener1=7 ○ Others

Idealebasispakket

Some questions related to the basic health package follow below:

Suppose you could put together the basic health package of your choice, but you would have to pay an extra premium every month. How much extra would you be willing to pay per month for this? The monthly health care premium is currently about €125 per month.

- Idealebasispakket=1 — €5 extra (so €130 per month)
- Idealebasispakket=2 — €10 extra (so €135 per month)
- Idealebasispakket=3 — €15 extra (so €140 per month)
- Idealebasispakket=4 — More than €15 extra (so more than €140 per month)
- Idealebasispakket=5 — I don't want to change anything, so €0 extra (so €125 per month)

Kennisbasisverzekering

How would you rate your own knowledge of the basic health package and health insurance in the Netherlands?

Very little knowledge	Little knowledge	Neutral	Good knowledge	Very good knowl
Kennisbasisverzekering_r1=1	Kennisbasisverzekering_r1=2	Kennisbasisverzekering_r1=3	Kennisbasisverzekering_r1=4	Kennisbasisverzekeri

Tevredenheidbasispakket

How satisfied are you with the composition of the current basic health package?

Very unsatisfied	Unsatisfied	Neutral	Satisfied	Very
Tevredenheidbasispakket_r1=1	Tevredenheidbasispakket_r1=2	Tevredenheidbasispakket_r1=3	Tevredenheidbasispakket_r1=4	Tevredenheid

→

0% 100%

Covidvragen

We will now ask you some questions related to your health and the coronavirus:

Chronischziekte

Do you have one or more long-term or chronic diseases? (e.g. diabetes, high blood pressure, rheumatism, lung disease, cancer)?

- Chronischziekte=1 — I have no long-term or chronic illness
- Chronischziekte=2 — I have one long-term or chronic illness
- Chronischziekte=3 — I have several long-term or chronic diseases

Algemenegezondheid

In general, how do you rate your health?
(from 0 to 10 where 0 is very bad and 10 is very good)

0	1	2	3	4	5	6	7
Algemenegezondheid_r1=1	Algemenegezondheid_r1=2	Algemenegezondheid_r1=3	Algemenegezondheid_r1=4	Algemenegezondheid_r1=5	Algemenegezondheid_r1=6	Algemenegezondheid_r1=7	Algemenegezondheid_

COVID

Have you tested positive and been infected with COVID-19 in the past?

- COVID=1 — No, I have not been infected
- COVID=2 — Yes, I have been infected and have had a mild course of disease
- COVID=3 — Yes, I have been infected and have had a serious course of events

→

0% 100%

COVID2

How long have you been unable to carry out your daily activities due to (persistent) health problems caused by the coronavirus?

COVID2=1 I have had no health problems

COVID2=2 < 1 week

COVID2=3 1 to 3 weeks

COVID2=4 3 to 6 weeks

COVID2=5 > 6 weeks

leefstijlintro

Now follows some questions about your lifestyle:

Lengte

What is your height in cm? _____

Gewicht

What is your weight in kg? _____

If you prefer not to answer this question, you can leave the answer field empty.

Roken

Do you smoke, and if so how much?

- Roken=1 ○ No
- Roken=2 ○ Incidental
- Roken=3 ○ 0-10 times a day
- Roken=4 ○ 10-20 times a day
- Roken=5 ○ > 20 times a day
- Roken=6 ○ Ex-smoker, stopt < 5 years ago
- Roken=7 ○ Ex-smoker, stopt > 5 years ago

Alcoholconsumptie

What is your (average) alcohol consumption?

- Alcoholconsumptie=1 ○ Never
- Alcoholconsumptie=2 ○ Incidental
- Alcoholconsumptie=3 ○ 1-7 glasses per week
- Alcoholconsumptie=4 ○ 7-14 glasses per week

Alcoholconsumptie=5

14-21 glasses per week

Alcoholconsumptie=6

> 21 glasses per week

Fysiekeactiviteit

Which description of physical activity fits you best?

Fysiekeactiviteit=1

than 2.5 hours a week of moderate intensity exercise (e.g. walking or cycling) & **less than twice a week** of muscle and bone strengthening activity (e.g. weight training)

Fysiekeactiviteit=2

ours per week moderate-intensity exercise (e.g. walking or cycling) & **twice per week** muscle and bone strengthening activities (e.g. weight training)

Fysiekeactiviteit=3

than 2.5 hours per week of moderately intense exercise (e.g. walking or cycling) & **more than twice a week** of muscular and bone-strengthening activity (e.g. weight training)

→

0% 100%

Preventievragen

Finally, we would like to ask you some prevention-related questions.

MatrixPreventie

On a scale from 1 (do not agree at all) to 5 (agree at all), to what extent do you agree with the following statements?

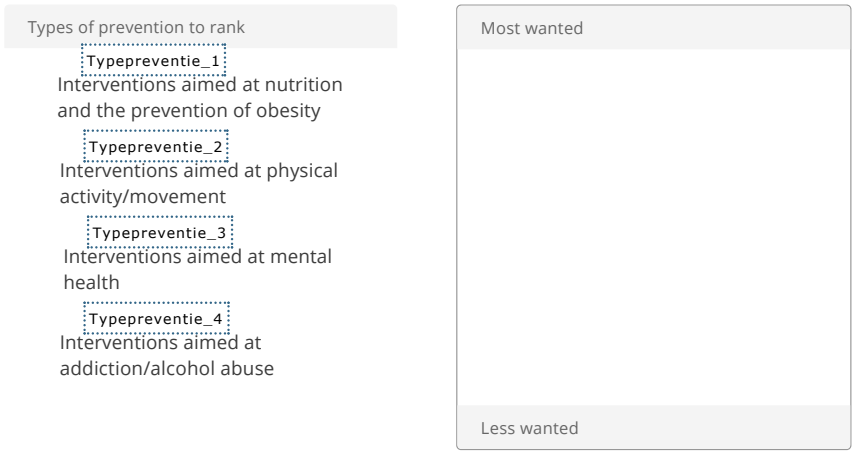
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
If a treatment ensures that complaints can be prevented later in life, that is a reason to reimburse the treatment.	MatrixPreventie_r1=1	MatrixPreventie_r1=2	MatrixPreventie_r1=3	MatrixPreventie_r1=4	MatrixPreventie_r1=
Measures that contribute to people's awareness of their lifestyle should be eligible for reimbursement from the basic health insurance package.	MatrixPreventie_r2=1	MatrixPreventie_r2=2	MatrixPreventie_r2=3	MatrixPreventie_r2=4	MatrixPreventie_r2=
If lifestyle has played a role in the occurrence or continuation of the disorder, this may be a reason not to reimburse the treatment.	MatrixPreventie_r3=1	MatrixPreventie_r3=2	MatrixPreventie_r3=3	MatrixPreventie_r3=4	MatrixPreventie_r3=
More money should be made available for preventing diseases instead of curing them.	MatrixPreventie_r4=1	MatrixPreventie_r4=2	MatrixPreventie_r4=3	MatrixPreventie_r4=4	MatrixPreventie_r4=

→

0% 100%

Typepreventie

How important do you think the following types of prevention are? Drag the types of prevention from left to right in order of preference.



0% 100%

Feedback

Do you have any feedback?

This is the end of the survey. We would like to thank you very much for your participation! Please click on the arrow to hand in your answers.