What stops households from taking up much needed benefits?

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Abstract

Non-take-up of benefits intended for the poor is a well-known phenomenon. The most common explanation is that people make a rational choice between the utility they expect from the benefit and the effort required for take-up (transaction costs). This study documents non-take-up of an income-dependent compensation of the health care premium in the Netherlands. Analysis of data for almost all 5 million Dutch households entitled to such an income-dependent compensation shows that one in six refrains from take-up. The analysis largely confirms the transaction-costs hypotheses. But there is also an unexpected effect. Although, in general, the probability of take-up increases when income decreases, those with the lowest income or wealth do not have the highest probability of take-up. This means that households who need the benefit the most do not have the highest take-up rates.

Keywords: *Take up, health care allowance, transaction costs*

1 Introduction

Non-take up is the extent to which households do not collect the benefits they are entitled to. In general, the explanation that is commonly given for non-take-up, is that it is the result of an implicit cost-benefit analysis made by the eligible household. The lower the expected utility of the benefit, and the higher its transaction costs, the more likely the household will decide for non-take-up. This explanation is confirmed by many studies across different countries, types of benefits and characteristics of intended recipients. Studies also reveal different factors that determine utility. These include level of the benefit and expected duration of receiving it. Furthermore, expected utility increases with the need of the entitled household, determined by the total income of the household, among other things.

This paper analyses non-take-up behaviour of Dutch households concerning the income-dependent health care allowance. The analysis largely confirms the expected utility and transaction-costs hypotheses found in the literature. There is also an additional unexpected effect. Although, in general, the probability of take-up increases when income decreases, those with the lowest income or wealth do not have the highest probability of take-up. This means that households who need the benefit the most do not have the highest take-up rates.

2 Empirical evidence

Anderson and Meyer (1997) study take-up rates of unemployment insurance in the United States before and after these benefits became subject to income tax. They find that a decline of the after-tax value of the benefits leads to a decrease in take-up. Their estimates suggest that a ten percent increase in the weekly benefit level would increase the take-up rate by between 2 and 2.5 percentage points. They also find an effect of the potential duration of the benefits: a 10 percent increase in the potential benefit duration would increase the take-up rate by an additional 0.5 to 1 percentage point. Additional evidence for this direct relation between the expected utility of the benefit and the take-up rate was found in a study of benefits related to water consumption offered by the city of Jerusalem (Dahan and Nisan , 2007). Here, households consisting of more than four persons are entitled to an additional amount of annual water consumption per person at a lower rate. The study finds a take-up rate of 65 percent. Moreover, take-up rates are proportional to the level of the benefit: take-up rates in households of four members where twin children were born are twice as large as those in households of four members where one child was added. A third study concerns non-take-up of subsidies for the public health care premium of over two million persons in British Columbia (Warburton, 2005). Here, take-up rates are higher among households that qualified for a higher subsidy percentage. Conversely, non-take-up increases when employers rather than the members of the household receive the subsidies meant to compensate for health care premiums, resulting in a lower utility for households.

The utility of the benefit also depends on the need of the eligible household, which is determined by, e.g., the total income of the household and the vulnerability of its members, based on their earnings profile or age. The higher the need, the higher the utility of the benefit. The need for benefits increases for households with children. Children are more vulnerable than their parents and would suffer more from low household income. Adults are more protective of children and might be more willing to obtain income-dependent benefits from which their children would profit. A study of social-assistance benefits among over 40,000 German households confirms that take-up rates are indeed higher among households with children (Riphahn, 2001). Her study also finds evidence for lower take-up rates among those with lower needs. Specifically, it shows a lower take-up rate among house owners as opposed to other groups, controlled for income – where house ownership is interpreted as the outcome of a superior earnings profile, and is therefore regarded as reflecting a lower need for benefit.

Others studies analyse the effects of transaction costs on non-take-up rates. These costs reflect the effort required by individuals to apply for a benefit, such as the amount of forms that need to be filled in and the time needed to search for information about the existence of benefits and the individual's eligibility. Bitler et al. (2003) study non-take-up for a programme called WIC, offered across the United States. WIC provides nutrition education and food supplements to low-income pregnant and lactating women, and to children younger than five who are at a nutritional risk. Participation is found to be higher in States that reduce the transaction costs of using the program, e.g., by requiring fewer visits from the household. Lower participation rates are found in States that require proof of income or that impose stricter program rules. Finally, participation among married couples, who can split transaction costs, is higher than among single-parent

households, in which the head of the household has to bear all costs associated with program participation. A review of literature regarding the take-up of social programs in the US and UK (Currie, 2004) finds higher take-up rates on automatic or default enrollment and lower rates when administrative barriers are imposed. The earlier mentioned study of social-assistance benefits for German households (Riphahn, 2001) finds higher non-take-up rates among immigrant households and explains this in terms of the higher transaction costs incurred (i.e., effort required for obtaining the benefit) by immigrants. The review of social programs in the US and UK (Currie, 2004) mentions the same effect: conditional on being poor, Hispanic children are less likely to be enrolled in the SSI program in the US (Duggan, 2003). Conditional on eligibility, immigrant children in the US, many of whom are Hispanic, are less likely to be enrolled in Medicaid. Take-up rates among immigrant households in Canada, Germany, the US and UK increase significantly after assimilation (cf. Blau, 1984; Borjas and Trejo, 1991, 1993; Borjas and Hilton, 1996; Baker and Benjamin, 1995; Riphahn, 2001). Currie (2004) also finds that take-up of a tax benefit increased after the poor were seen as potential income generators by tax advisors. These advisors actively searched for those entitled and informed them about the existence of the benefits and their entitlement to it and familiarized them with the take-up procedure.

Summing up, the empirical literature confirms the hypothesis that non-take-up can be explained by households implicitly making a cost-benefit analysis regarding benefits. This study confirms these explanations for the take-up of the Dutch health care allowance.

3 Dutch health care system

3.1 General features of the Dutch health care system

It is compulsory for all Dutch residents to have health insurance, based on the Health Care Insurance Act (2006). Private health insurance companies must offer a package which includes standard cover, such as the cost of consulting a general practitioner or a medical specialist. The cover of this standard package is regulated by the government. Additionally, insurers can offer supplemental health insurance packages to reimburse expenses that are not covered by the basic insurance, such as extensive physiotherapy or dental care.

A key feature of the Dutch system is that insurers must offer the standard package at a fixed price for all, whether young or old, healthy or sick. This price can vary from one company to another. Health insurers are obliged to accept anyone who applies for the standard insurance. In order to create a level playing field and counter risk selection, a system of risk equalization compensates insurers for insured with unfavorable risks (for example the elderly or chronically ill). Premiums paid by the insured for the basic package were on average about € 1.100 in 2008 with a deductible of € 150 a year. Children under 18 are covered for free.

3.2 The health care allowance

To help alleviate the costs of health insurance the government provides a health care allowance. To be eligible for the health care allowance individuals must meet certain requirements. First of all, only individuals aged 18 and over can apply for the allowance, as from that age onward they must pay an insurance premium. Secondly, one must have health care insurance. Although insurance is compulsory, there are a few exceptions. For example, military personnel and people who consciously object for religious reasons may be exempted. Clearly, they also lose the right for health care allowance. Thirdly, people must have the Dutch nationality or a legal resident's permit. And, finally, yearly (household) income must be lower than a certain threshold. In 2008 the income threshold was € 29,069 for a single-person household and € 47,520 for a couple. This results in about five million eligible households.[1]

The level of the allowance depends on the income: the lower the income, the higher the allowance with a maximum of € 553 a year for a single-person household and € 1,475 for a couple. A single person is entitled to the maximum allowance if his or her income is below € 18.500 per year. The allowance is paid if it is at least € 24 a year. Payment of the allowance is administered by the Dutch Tax Authority. When applying for the allowance, individuals must make an estimate of next year's annual income. The tax authorities then make advance payments of the benefits, based on this estimate. When the annual income is verified later on and found to deviate from the estimate, people may have to repay (part of) their benefit or may receive additional allowance.

[1] Households consist of single-person households or couples. Adult children living with their parents are considered to be a separate single-person household

4 Data

The data used for this analysis are based on administrative data sources collected by the Dutch statistical office (Statistics Netherlands). The advantage of using administrative data is that the take-up measures are not biased by misreporting or measurement errors. This results in a more correct identification of eligible households than identification based on surveys, which will be subject to reporting or recall error.

The core of the dataset is the Dutch municipal registration for 2008 within which nearly all people residing in the Netherlands are registered.[2] This dataset contains information about gender, age, civil status, nationality, type of residential permit, the number of children in the household and municipality, for more than 16 million individuals. Using the individuals personal registration number, data from tax records are matched. The tax records contain information about personal and household income, the most relevant source of income (e.g. labour, welfare benefits, pensions), household wealth, housing status and the use of the health care allowance. Finally, publicly available data on municipalities are merged to this dataset (such as population size, job vacancies, et cetera). After removing records with missing data or obvious registration errors, the remaining dataset contains a little over 15 million individuals.[3] This is approximately 90 percent of the total Dutch population.

Next, it is established for each individual whether he or she is entitled to health care allowance and whether or not they have taken up the allowance. It is found that almost 5 million households are eligible. Around eight hundred thousand do not apply for the allowance, resulting in a non-take-up rate of 17 percent.

Table 4.1 shows that the average household head of eligible households is 48 years old. The majority is single and native Dutch. Approximately a quarter of the households has children and almost half owns their own home. For most households their main source of income is a wage from paid work or income from self employment, followed by pensions. Only a few eligible households depend on social welfare (4%). The median household income is around € 19,000 yearly. Households are also categorized according to their income with regard to the so called social minimum. This is the amount households need, according to the government, to satisfy their basic living needs.[4] Households with an income up to 120 percent of this social minimum are considered poor. Poor households represent 18 percent of the eligible households for the health care allowance. The median assets of the eligible households are approximately € 11,000, these assets exclude the value of a household's home. About 15 percent of the eligible households have no assets or debt and 30 percent has assets that are worth more than € 30,000. Finally, a quarter of the households are newly eligible. These people were eligible in 2008, but not

2 With the exception of people without a home address, such as homeless people.
3 Excluding students
4 The level of the social minimum depends on household characteristics, such as age, the presence (and number) of children and marital status. For a couple with children the social minimum varied from € 16,279 to € 18,084 yearly in 2008.

in 2006 when the law was first introduced. Newly eligible households are added as they meet the income requirements or turn 18.

Table 4.1 Descriptives of eligible households

Description	
Number of eligible households	4,933,901
Rate of non-take up	17%
Average age of household head	48
Single	66%
Dutch native	81%
Western background (excl Dutch)	8%
Non-western background	11%
Children living in the household	24%
Own home	47%
Main source of income:	
- Wage from work	48%
- Self employed	11%
- Unemployment benefits	1%
- Disability benefits	5%
- Pension	29%
- Social welfare	4%
- Other social assistance	2%
Median income	€ 19,387
Median assets	€ 11,228
Income <= 120% of social minimum	18%
Income between 120% and 160% of social minimum	20%
Income between 160% and 200% of social minimum	20%
Income between 200% and 240% of social minimum	16%
Income > 240% of social minimum	27%
No assets or debt	15%
Assets <= € 5,000	22%
Assets between € 5,000 and € 10,000	11%
Assets between € 10,000 and € 30,000	22%
Assets > € 30,000	30%
Newly eligible	24%
Newly eligible due to turning 18	6%

Table 4.2 describes the non-take-up rates for different household types. The rates vary greatly among different types of households. It can be seen that the non-take-up rate first increases with the age of the household head and then slowly decreases. The lowest non-take-up is found amongst the elderly (7%). The non-take-up rates for singles are lower than for couples. The take-up rates for foreign of native households do not seem to differ much. A striking result is that people who own their home have a much higher non-take-up rate than the average: 24%. The source of income is also of major importance. People receiving benefits (disability, unemployment, welfare) have much higher take-up rates than people that provide for their income by work. Table 4.2 also shows that the higher the household income or assets or the lower the allowance, the lower the take-up rate. Finally, newly eligible people have an extremely high non-take-up rate (41%), except when their eligibility is due to turning 18.

Table 4.2 Non-take-up rate by household characteristics

Household type	Non-take-up rate	Household type	Non-take-up rate
All eligible households	17%	- Pension	11%
25 years old or younger	11%	- Social welfare	4%
Between 25 and 45 years old	25%	- Other social assistance	4%
Between 45 and 65 years old	21%	Income <= 120% of social minimum	8%
Between 65 and 80 years old	10%	Income between 120% and 160% of social minimum	6%
Older than 80	7%	Income between 160% and 200% of social minimum	14%
Single	15%	Income between 200% and 240% of social minimum	27%
Couple	21%	Income > 240% of social minimum	27%
Dutch native	17%	No assets or debt	14%
Western background (excl Dutch)	19%	Assets between € 0 and € 5,000	14%
Non-western background	16%	Assets between € 5,000 and € 10,000	16%
Children living in the household	16%	Assets between € 10,000 and € 30,000	16%
Own home	24%	Assets > € 30,000	21%
Main source of income:		Allowance less than € 40 yearly	66%
- Wage from work	21%	Allowance less than € 80 yearly	62%
- Self employed	28%	Newly eligible	41%
- Unemployment benefits	17%	Newly eligible due to turning 18	17%
- Disability benefits	9%		

5 Estimation results

In order to disentangle the joint effects of the different possible determinants a logit model, with take-up of the health care allowance as the dependent variable, is estimated. The estimation results are given in Table 5.1. In line with the earlier empirical literature we find that the higher the allowance, the higher the probability of take-up. Riphahn (2001) also finds evidence that the take-up rate increases with the number of children in the household. This analysis does not show a higher probability of take-up for households with young children. This might be because health insurance is free of charge for children in the Netherlands.

This study does find that home ownership leads to a much lower probability of take-up. This was also found by Riphahn (2001), who relates this to a superior earnings profile and a lower need for the benefit. We also believe that part of this is due to information issues. Home owners more often will believe they are not entitled to the allowance. They will consider their house an asset which makes them ineligible, when, in fact, they are eligible as eligibility does not depend on assets, but solely on income.

Furthermore we find, in general, that the probability of take-up increases when the household income decreases. There is also a somewhat surprising result. The probability of take-up for the households with the lowest income is lower than for households with an income between 120 and 160 percent of the social minimum. This implies that the people who need the allowance the most, more often do not take-up the allowance.[5] A similar –even stronger- result is found for household assets. In this case people with debt or zero assets have the lowest probability of take-up. This means that they take-up the allowance even less often than people with assets exceeding thirty thousand euro. This is a surprising result, although the effect is small.

There are two possible explanations for this unexpected effect. First of all, people may not be capable of analyzing the costs and benefits of take-up in all relevant circumstances and conditions. Addiction and psychiatric disorders or other conditions may not only result in low incomes, creating a need for benefits, but may also occupy those afflicted to such an extent that they lack the conditions (such as strength, motivation or capabilities) required for take-up. Secondly, the specific rules imposed for application for the health care allowance might pose problems, especially for those with low incomes or debt. When applying for this benefit, people are required to, among other things, provide information about their family situation. This includes making an estimate of next year's annual income. The advance payments of the benefits are based on this estimate. When the annual income is verified later on and found to exceed the estimate, people have to repay (part of) their benefit. This may create serious financial problems for people in debt or without (large) savings, who have already spent the entire benefit. These people might therefore want to protect themselves from having to pay back the benefit (when they already spent it) by not taking it up in the first place.

[5] That the level of the allowance depends on income does not pose collinearity problems in the analysis as income categories are used and the allowance cannot become higher than a certain maximum.

Table 5.1 Estimation results, dependent variable is take-up of the health care allowance

Variable	Coefficient	Standard error
Constant	4,509*	0,104
25 years old or younger	1,197*	0,006
Between 25 and 45 years old (reference)	-	-
Between 45 and 65 years old	0,162*	0,004
Between 65 and 80 years old	0,546*	0,007
Older than 80	0,604*	0,009
Male	-0,164*	0,003
Female (reference)	-	-
Single	0,237*	0,004
Couple (reference)	-	-
Children living in the household	0,163*	0,004
Child under 6 years of age	-0,183*	0,005
Western background (excl Dutch)	-0,303*	0,005
Non-western background	-0,226*	0,005
Dutch native (reference)	-	-
Own home	-0,615*	0,004
Rental home (reference)	-	-
Main important source of income:		
- Self employed	-0,654*	0,004
- Wage from work (reference)	-	-
- Unemployment benefits	0,025	0,016
- Disability benefits	0,403*	0,009
- Pension	-0,023*	0,006
- Social welfare	0,956*	0,013
- Other social assistance	0,704*	0,018
- Other	-0,512*	0,019
Income <= 120% of social minimum	0,525*	0,007
Income between 120% and 160% of social minimum	0,827*	0,006
Income between 160% and 200% of social minimum	0,515*	0,005
Income between 200% and 240% of social minimum	0,151*	0,004
Income > 240% of social minimum (reference)	-	-
No assets or debt	-0,089*	0,005
Assets <= € 5,000	0,066*	0,005
Assets between € 5,000 and € 10,000	0,075*	0,005
Assets between € 10,000 and € 30,000	0,079*	0,004
Assets > € 30,000 (reference)	-	-
Level of the allowance	0,002*	0,000
Newly eligible	-1,664*	0,003
Newly eligible due to turning 18	0,468*	0,007
N	4,729,034[a]	
Pseudo R-square	0.25	

* significant on 1% level. Due to the large sample size, small differences will be significant. Therefore coefficients are considered significant if they are on a 1% level.

Municipality characteristics, such as size of the municipality, average home value and the number of job vacancies are controlled for. These characteristics may influence a municipality's poverty policy which affects transaction costs and therefore take-up rates.

[a] About 200.000 eligible households are dropped from the analysis due to (partially) missing characteristics

With respect to transaction costs, we find that foreign households have a lower probability of take-up than Dutch natives. This might be explained by higher transaction costs, as is also found by Riphahn (2001) and Currie (2004). Non-native households may have language difficulties, which increase the effort required for obtaining the benefit. Bitler (2003) observes that couples make more use of allowances than single-person households and relates this to transaction costs

(the couple can share the costs of applying). This analysis does not confirm this. The opposite seems to hold: single-person households have a higher probability of take-up than couples. This might be because they do not have a partner that may be able to generate income, making them more dependent on the allowance for additional income.

Other forms of transaction costs are related to information issues. Time is required to search for information about the existence of allowances, eligibility and the take-up procedure. Although the health care allowance is quite well-known in the Netherlands, people may still be unaware of the allowance. This is confirmed by the analysis, as take-up mostly increases with age. Elderly people are probably better informed because organizations specifically aimed at the elderly will point them towards the allowance. It may seem odd at first that people under the age of 25 years old have the highest probability of take-up. But this is presumably because these persons apply for care insurance for the first time. As long as children live with their parents (even if they are older than 18) they can be insured through their parents' insurance. Once they leave home, they need to apply for their own insurance. During the application procedure people are informed about the allowance.

The effect of awareness on take-up is supported by the different take-up rates for households with different sources of income. The probability of take-up is the highest for people on social welfare. Social welfare is provided by the municipality. It is known that municipalities actively approach welfare recipients to inform them about all available income allowances, which shows up in the empirical results.

Another issue is that people know of the allowance but mistakenly believe they are not eligible. We find strong proof for this when we compare the take-up behaviour of people that have been eligible since 2006 (when the law was first introduced) to people that are newly eligible in 2008. The rationale behind this is that when the law came into effect in 2006 there was a huge campaign to make people aware of the allowance. People that were not eligible in 2006, probably believe they are still not eligible in 2008, even though the income thresholds have changed or they may have suffered a loss of income. The estimation results support this. Newly eligible households have a much lower probability of take-up than households that were also eligible in 2006. Most of the time, these newly eligible households become entitled to the health care allowance because they now meet the income requirements. Some new eligibility, however, is due to having turned 18.[6] The probability of take-up amongst young newly eligible people is higher than the probability of take-up of the other newly eligible. This supports the awareness hypothesis as individuals automatically receive information from the government regarding the allowance once they turn 18.

Another indication of the issue of unknown eligibility is that home owners have lower take-up rates. They are more likely to believe they are not entitled to the allowance, as they might consider their house as an asset, which makes them ineligible. When, in fact, this is not the case.

6 Households may also become eligible because they received a legal residents permit. This group is very small however.

6 Summary and policy implications

This study documents non-take-up of an income-dependent compensation of the health care premium in the Netherlands. Analysis of data for almost all 5 million Dutch households entitled to such an income-dependent compensation shows that one in six refrains from take-up. The most common explanation is that people make a rational choice between the utility they expect from the benefit and the effort required for take-up (transaction costs). The analysis largely confirms the transaction-costs hypotheses. But there is also an unexpected effect. Although, in general, the probability of take-up increases when income decreases, those with the lowest income or wealth do not have the highest probability of take-up. This means that although take-up of the health care allowance is generally high, some specific groups (such as people in debt, home owners, newly eligible households, households who work) have much lower take-up rates than expected.

The take-up of social benefits can be increased by lowering transaction costs and removing barriers for eligible individuals. People in debt or with no assets may refrain from take-up to avoid the risk of having to pay back (part of) the benefit when their estimate of next year's income is incorrect. This can be avoided by basing the benefit on last year's income, which is known by the tax authorities. To increase awareness, the tax authorities could notify households of their eligibility if they meet the income requirements during their tax declaration. Most Dutch households, especially home owners and people who work, make a tax declaration. Finally, transaction costs for households can be lowered by paying the premium directly to the care insurer rather than to the individual households.

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