

Financial risks of illness: a shared responsibility?

Citation for published version (APA):

van der Aa, M. J. (2018). *Financial risks of illness: a shared responsibility? Solidarity and deservingness in health insurance and disability insurance in the Netherlands*. [Doctoral Thesis, Maastricht University]. Gildeprint Drukkerijen. <https://doi.org/10.26481/dis.20180405ma>

Document status and date:

Published: 01/01/2018

DOI:

[10.26481/dis.20180405ma](https://doi.org/10.26481/dis.20180405ma)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
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- The final published version features the final layout of the paper including the volume, issue and page numbers.

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Financial risks of illness: a shared responsibility?

Solidarity and deservingness in
health insurance and disability insurance
in the Netherlands

Maartje Johanna van der Aa

Colofon

The studies presented in this dissertation were conducted at the Care and Public Health Research Institute (CAPHRI), department of Health Services Research, Maastricht University. CAPHRI participates in the Netherlands School of Primary Care Research (CaRe), which has been acknowledged by the Royal Netherlands Academy of Science (KNAW).

Funding for the research of this dissertation was provided by the Academic Collaborative Center on Sustainable Care, which is an initiative of Maastricht University Medical Center+ and Maastricht University.

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Cover design: Maartje van der Aa

Cover illustration: Evelien Jagtman (www.evelienjagtman.com)

Printed by Gildeprint Enschede (www.gildeprint.nl)

ISBN: 978-94-6233-894-4

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Financial risks of illness: a shared responsibility?

Solidarity and deservingness in health insurance and disability insurance in the Netherlands

PROEFSCHRIFT

ter verkrijging van de graad van doctor aan de Universiteit Maastricht,
op gezag van de Rector Magnificus, Prof. dr. Rianne M. Letschert
volgens het besluit van het College van Decanen,
in het openbaar te verdedigen

op donderdag 5 april 2018 om 16.00 uur

door

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Ad maiorem Dei gloriam

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CHAPTER I

General Introduction

*Stories never really end...
even if the books like to pretend they do.
Stories always go on.
They don't end on the last page,
any more than they begin on the first page.*

Cornelia Funke (1958)
German novelist

I. Introduction

Europe has a longstanding history of solidarity with the ill. In most countries, this has resulted in a rather stable system of public social insurance arrangements, which protects citizens against the financial risks of illness. These risks are twofold. On one hand, ill individuals may be confronted with costs of using health services while, on the other hand, they may face a loss of income due to a reduced capacity to work. These distinctive risks are covered, respectively, by health insurance (HI) and disability insurance (DI); these arrangements are the topic of this dissertation.

I.1. Social insurance: expansion and contraction

The first public social insurance arrangements came about at the end of the 19th century. Until then, the financial risks of illness had to be coped with individually, by charity or by the voluntary support of others (Companje et al. 2009). This system contained social aspects, but it was not inclusive because some citizens had limited or no access to healthcare services and/or income compensation. For example, the so-called undeserving poor could not count on voluntary support (De Swaan 1988). In order to cover all citizens, most European countries introduced public social insurance arrangements at the end of the 19th century (Saltman and Dubois 2004). These arrangements incorporated the principle of solidarity. However, to what extent and how solidarity might be formalised was heavily debated, because there was (and is) no single way to translate the concept of solidarity into policies. Significant variations in the set-up of social arrangements are a testimony to this fact (Busse et al. 2004).

Welfare states all over Europe have been discussing the reform of public social insurance arrangements ever since their introduction. Until the 1970s, these debates resulted mainly in expanding the scope and generosity of social arrangements (Clasen and Siegel 2007). For example, increasing numbers of individuals were covered and the benefit basket was gradually enlarged. As a consequence of the increased demand for and use of health services, matching revenues had to be collected or freed up to finance the arrangements (Ter Meulen et al. 2001). Disability insurance also faced rising expenditures in the Netherlands, for example the number of beneficiaries had increased to 10 percent of the labour force by 1981 (De Jong 2012). These financial needs nurtured the perception that neither health insurance nor disability insurance could be sustained in their existing form. In addition, demographic, technological and broader sociological developments also fed these concerns (Gevers

et al. 2000). For instance, individualisation and increasing dependence on the welfare state were considered to pose new challenges for the insurance arrangements. Specifically, generous welfare benefits may have increased citizens' expectations for income compensation by the state (formal solidarity) and provide a disincentive for individuals to secure their financial independence individually or within their circle (informal solidarity). This mechanism is also known as the crowding out theory (Frey 1994) and has been linked to both health insurance and disability insurance (Van Oorschot and Arts 2005). In sum, whereas the enlargement of illness-related social insurance arrangements was almost incontestable until the 1970s, several subsequent developments jointly created a momentum for change afterwards.

As a result, the illness-related social arrangements of health insurance and disability insurance became subject to serious reforms from the 1980s onwards. These reforms often aimed at reducing expenditures, but they also touched upon the more fundamental question of how solidarity is shaped. Illustrative are the disability insurance reforms in the 1990s in the Netherlands, which allocated to employers part of the responsibility for providing disability benefits. More recently, the state transferred some of its responsibilities for the provisions of long-term care to families and individuals as well (Van den Broek et al. 2015). In conclusion, reforms in illness-related social insurance may – directly or indirectly – have affected solidarity, one of the core values of the system. Against the context of this potential impact, **the first aim of this dissertation is to understand how reforms since the 1980s have affected formal solidarity in health insurance and disability insurance.**

1.2. Deservingness opinions

Despite policy reforms, policy makers remained concerned about the sustainability of illness-related social insurance arrangements for at least two reasons. First, because expenditure trends have not always bent as was hoped for. For example in the Netherlands, the ever-increasing expenditures of health insurance are still not considered future-proof, even though increases have flattened due to previous reforms (Maarse et al. 2015). Second, new concerns have emerged in relation to the perceived effects of previous policy reforms on social values – such as solidarity (Van Hoof et al. 2009, Chapman 2014). For example in Dutch disability insurance arrangements, reforms have successfully reduced demand (Van Sonsbeek and Gradus 2013) and moderately reduced expenditures (De Jong and Velema 2010), but at the same time the reform measures are being contested due to their effects on solidarity, such as the

conditionality of benefits (Bannink et al. 2006). In the Netherlands, which is not different from other European countries in this respect, the sustainability of illness-related social arrangements is thus under strain, not only in economic, but also in social terms. These developments are considered to require an adequate policy response.

As a consequence, the illness-related social arrangements of health insurance and disability insurance are expected to be subject to further reforms. Within this context, it is important to note that Europe is facing a policy trend of increasing the selective allocation of benefits (Van Oorschot 2000), which means that claimants increasingly have to meet additional criteria – besides being ill – in order to qualify for services or benefits. Any form of allocation – unconditional or selective – is based on perceptions of the deservingness of claimants, i.e. answers to the question of who deserves what benefits and why? In the view of the policy trend towards increasing selective allocation, opinions on deservingness can provide valuable insights for policy-makers. Therefore, **the second aim of this dissertation is to analyse opinions about deservingness in health insurance and disability insurance.**

1.3. Health insurance versus disability insurance

Health insurance and disability insurance both cover a financial risk of illness. However, a distinction is made between the financial risk of healthcare costs and the financial risk of income compensation. In politics, coverage of these risks is arranged by different ministries, resulting in different policy processes and arrangements. In academics, disability insurance arrangements are typically studied within the social sciences and law, while studies on health insurance arrangements mainly take place in the health sciences. As a consequence of their separate academic branches, health insurance and disability insurance have their own bases of knowledge. In turn, these separate bodies of evidence inform related distinctive policy branches. As a result, both within academics and politics, solidarity is approached differently in health insurance and disability insurance, even though both arrangements cover a risk that has the same root. Consequently, the two kinds of insurance have scarcely been subject of comparative analysis, even though doing so may be valuable for policymakers as they search for more sustainability in insuring social risks (Morel 2006). For example, certain aspects of the developments in disability insurance may be relevant when considering future reforms in health insurance, and vice versa. In the light of future reform, **the third and overarching aim of this dissertation is to understand the similarities and differences between health**

insurance and disability insurance regarding (i) the impact of reforms on solidarity and (ii) on opinions regarding deservingness.

2. Conceptual considerations

In order to study past reform and opinions about illness-related social insurance arrangements from the perspective of solidarity, considerations about what solidarity is are indispensable. Everyone has some understanding of the concept of solidarity and there is also a certain agreement on the need to have arrangements that reflect solidarity. However, there is no agreed definition of solidarity and no one-size-fits-all approach to translating solidarity into public policy.

2.1. Solidarity: a broad concept

Generally, solidarity refers to social cohesion between the individuals of a community (Durkheim 1997). This cohesion is driven by a shared fate (Jeurissen and Sanders 2007). In the case of health insurance and disability insurance, this shared fate is the risk of falling ill. This dissertation concentrates on the financial component of this risk, which is nowadays largely covered by public social arrangements (Saltman and Dubois 2004). Welfare states institute these arrangements, which incorporate a specific formalised form of solidarity (Bayertz 1999). Nevertheless, informal solidarity may have an important role in covering risk as well. For instance, companies and trade unions make collective bargaining agreements in which the companies commit to sharing their employees' risk of loss-of-income. An increase in informal solidarity may lead to the narrowing of formal solidarity because they are interconnected vessels. This dissertation focuses on formal solidarity.

Within formal solidarity, a welfare state arranges redistribution of resources between citizens based on the assumption that all citizens should be protected against the financial risks of getting ill. Citizens are both contributors and recipients of the redistributive arrangement. Accordingly, the actual solidaristic relationship therefore refers to social cohesion between citizens. Although solidarity is a bond between citizens, the states have an important role in shaping it because they organise the bond formally through social arrangements.

Solidaristic arrangements are an expression of a shared responsibility within a community for certain individual risks (Lehtonen and Liukko 2011). However, their members do not always *feel* responsible for each other's risks. Motives to contribute social insurance arrangements range from feelings of affection and moral convictions to self-interest, acceptance of authority or a combination of all four (Van Oorschot 1998). Despite individual motives, the welfare state stipulates that all members contribute to the social arrangement and that all can receive benefits when in need. In this way, social insurance formally obliges the sharing of the financial burden of illness, which shapes the actual bond of solidarity that is the topic of this dissertation.

2.2. Translating solidarity into policy

The welfare state formalises solidarity through the specific details of social insurance arrangements. Various countries do this in different ways. In the case of health care, there is statutory health insurance (e.g. the Netherlands) and national health service (e.g. United Kingdom). These are often referred to as the Bismarck and Beveridge model, after their founders. These labels are also used in disability insurance, which refers to two forms as insurance-based (Bismarck) and residence/tax based (Beveridge) systems. Variation in the set-up of solidarity is also found in revenue collection, and in the scope of benefits and allocation. In short, there is no single way to translate solidarity into concrete social insurance arrangements.

Differences in the set-up of illness-related social insurance arrangements largely stem from the political context and the institutions that are in place to deal with clashing interests (Marmor et al. 2012). In addition, politicians (and others) may hold different values and thus have different ideas on the extent to which and how solidarity should be arranged publicly. These ideas relate to one's underlying ideology about redistributive justice, which is about the perception of a fair distribution of resources and the role of the state in achieving this. This is a continuous topic of debate in the political arena and beyond (Immergut 1992).

2.3. Contested, ambiguous and dynamic

It is important to acknowledge the political context of solidarity, also in a scientific study, because the concept is predominantly interpreted normatively (Bayertz 1999). This normative understanding regards not only the contestedness of solidarity in policies (conception), but also the understanding of the concept itself (conceptualisation). This relates to the nature of solidarity: it

does not have a universal definition. Walter Gallie (1955) introduced the term “essentially contested concept” to describe abstract concepts that have various understandings. Privacy and religion are also examples of an essentially contested concept. Everyone has an idea of what it is, but it is hard to agree upon a comprehensive definition because the boundaries of essentially contested concepts are open to interpretation. In the case of solidarity, for instance, people disagree about whether a system of social insurance arrangements per industry (a sectorial arrangement), e.g. one arrangement for medical professionals and one for construction workers is solidaristic. Such a system creates solidarity within groups, but risks are not shared between groups. Whether this example is considered solidaristic or not depends on the perceived boundaries of the solidarity concept, which vary from person to person.

Accordingly, the concept of solidarity is ambiguous. Moreover, views on what solidarity is develop over time (Cox 1998). The way the concept of solidarity developed in Europe (Stjernø 2009) illustrates its dynamic character. From a familial affair and other voluntary relationships within a community solidarity gradually transformed into mandatory public arrangements (Companje et al. 2009, Saltman and Dubois 2004). In the 18th century, one would have regarded the redistributive relationship within families, e.g. an uncle financing the educational career of a cousin, as a typical solidaristic relationship within society. Nowadays, within the context of a welfare state, most European countries would consider this dependence on the family circle to represent a limited form of solidarity. Therefore, the trend of expanding social insurance arrangements went hand in hand with a changing understanding of the concept of solidarity.

2.4. Political versus scientific discourse

Essentially contested concepts are often defined in accordance with one’s view regarding their conception (Hart et al. 2012). The understanding of solidarity is predominantly political (Bayertz 1999), which means that an individual tends to define the concept of solidarity in a way that matches his/her view of how solidarity should be shaped in policy practice. In order to analyse solidarity scientifically and to rise above its political understanding, it is important to consider the characteristics that distinguish the political and the scientific discourses.

How does the scientific discourse approach a contested concept such as solidarity? First, a scientific discourse is neutral and separate from contextual factors that may distort neutrality (Juntti et al. 2009). This contrasts with features of the political discourse, which interprets concepts subjectively in relation to contextual factors, such as freedom of choice. The political discourse may also assign different weights to specific dimensions of solidarity, whereas the scientific discourse considers all dimensions of a concept to be relevant. For instance, a politician might review solidarity only by its financial redistributive effect and neglect all other dimensions, while a scientist will not. However, the scientific discourse does not consider all dimensions equally important because the word “equal” also implies value as well. The scientific multidimensional approach describes each dimension qualitatively and does not allow summing them up into a single measure of solidarity. In conclusion, the scientific discourse approaches solidarity in isolation from competing values and considers all of its dimensions in a descriptive qualitative way (Table I).

Table I. Characteristics of the political and the scientific discourse of solidarity

Political / normative discourse	Scientific discourse
Multiple values Politicians weight solidarity against other values. E.g., there may be objections to reforms based on their (side-)effect on professional autonomy or freedom of choice (Immergut 1992).	Isolated / disjoint from context Competing values that may be relevant in the interpretation of solidarity are not taken into account in its scientific description (Juntti et al. 2009), which focuses on solidarity solely.
Selected dimensions Weights are applied to different aspects of solidarity, which are considered (value judgement) more or less important (Gallie 1955). This may lead to solidarity being understood according to only one of its aspects (unidimensional).	Multidimensional The scientific discourse views solidarity as a multidimensional concept. Different relevant aspects of social insurance determine how the solidaristic bond is shaped. None of the aspects is more important than another and they do not sum up to a single measure of solidarity.
Evaluation / interpretation Solidarity is a moral concept and thus understood in terms of right or wrong (subjective). These value judgements are based on an ideology (future) and how the current situation compares to that view (Sabine 1912).	Descriptive / neutral Solidarity is viewed objectively by considering its characteristics, which do not contain any value judgement (Juntti et al. 2009), e.g. it may be mandatory or voluntary, universal or segmented, etcetera (De Beer and Koster 2009).

3. Conceptual framework

Clarification of the characteristics of the scientific discourse does not provide a blueprint for analysing solidarity and deservingness opinions in health insurance and disability insurance. However, it makes clear that a scientific approach requires a breakdown of solidarity into dimensions.

3.1. Finding dimensions of solidarity

Several studies provide clues about what these dimensions are, but these stem from different fields of study. This is a consequence of the different academic disciplines involved in studying health insurance and disability insurance. Accordingly, analysing and comparing them is a multidisciplinary activity. This type of research is hampered by the fact that each discipline has its particular knowledge base and methodologies (De Jonge Akademie 2015). However, a multidisciplinary theory could overcome these obstacles (Brown 1983). For the purpose of comparison (our third aim), this dissertation uses a framework of solidarity dimensions that is built upon knowledge from health and social sciences. This framework will be elaborated upon in the next sections.

3.1.1. *Decommodification*

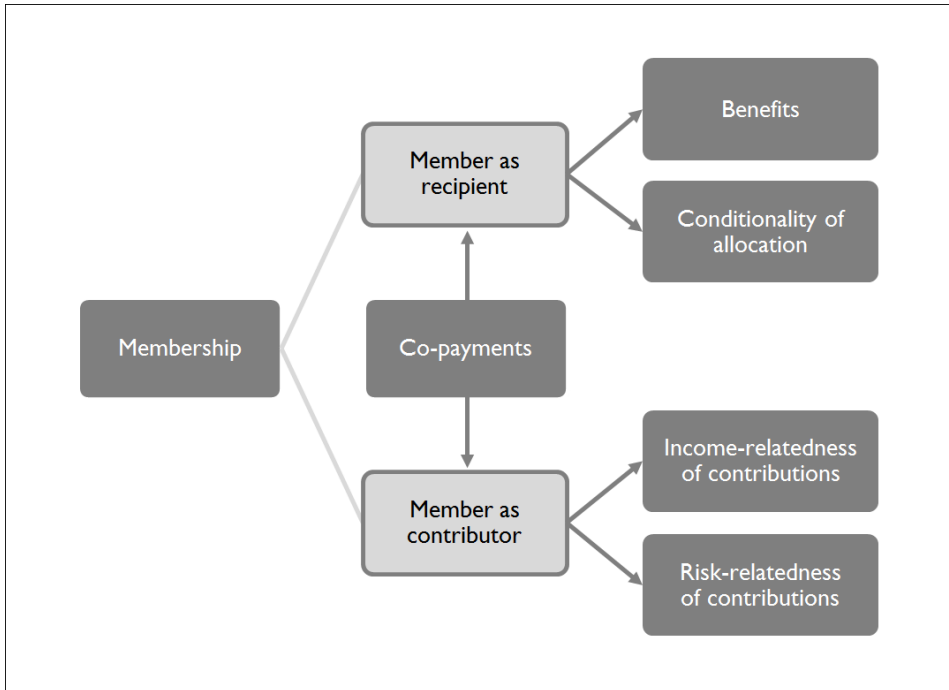
The renowned works of Esping-Andersen about welfare state typologies provides a starting point in identifying the dimensions of the concept of solidarity. He introduced the term “decommodification”, which is a measure that describes the extent to which an individual’s welfare does not depend on individual responsibility, charity or the market (Esping-Andersen 1990). Decommodification is measured by a set of quantitative indicators, which cover the scope of benefits, their take-up and an individual’s share in the total contributions. Over the years, these indicators have been criticised. Esping-Andersen was the first to acknowledge that a measure of generosity is irrelevant if citizens are not a member of the arrangement, which prevents them from accessing benefits (Esping-Andersen 1990). Other criticism regards for instance the inability of the decommodification index to incorporate conditionality (Clasen and Clegg 2007). Nevertheless, knowledge and criticism about the measurement of decommodification have introduced four relevant dimensions of welfare state generosity; these are membership, benefits, allocation and contributions.

The decommodification index differs from the measurement of solidarity in this dissertation in three ways. First, decommodification is eventually represented by a single quantitative value, while we aim at a qualitative description of all the dimensions of solidarity separately. The single decommodification index may be appropriate when measuring a narrowly defined concept such as decommodification, but disregards many details that are relevant for the understanding of an essentially contested concept such as solidarity. Second, the decommodification index has a social rights perspective, which is about state generosity from the state *towards* individuals (one side of the solidaristic relationship). In contrast, we take the perspective of solidarity, which looks at the bond of social cohesion *between* individuals (two sides of the solidaristic relationship). The specific set-up of the roles of recipient (some members) and contributor (all members) jointly constitute this two-sided solidaristic bond (Rommelse 2014). Dimensions of both roles are therefore relevant in studying solidarity. Third, the decommodification index is considered inadequate for analysing welfare arrangements that provide services rather than cash (Bambra 2005), which is the case for the health insurance arrangements that we study.

3.1.2. From decommodification to dimensions of solidarity

Starting from the dimensions of decommodification, which we identified as membership, benefits, (conditional) allocation and contributions, we need to take into account the differences between decommodification and solidarity to come to the dimensions of the latter. First, the dimensions of decommodification are measured quantitatively and summed up into a single measure, while the dimensions of solidarity require a description of each dimension separately (see Section 2.4). Second, the decommodification index focuses on an insurance member's role as recipient, whereas solidarity also considers a member's role as contributor. The dimensions of the contribution side of social insurance are its income-relatedness and risk-relatedness (Arts and Verburg 2001, Maarse and Paulus 2003, Stone 1993). Third, the benefit dimension of the decommodification needs to be adjusted for its use in health insurance, which provides services rather than financial benefits. The scope of benefits is typically described as a percentage of a recipient's previous salary, but health services are indivisible goods. In this regard, studies on health insurance assess an additional dimension, which describes the proportion of the services' costs covered (WHO 2010).

Figure 1. Conceptual representation of the six dimensions of solidarity.



In conclusion, we come to a framework of six dimensions of solidarity (Figure 1). First of all, the membership dimension determines who is actually enrolled in the social insurance arrangement and is thus part of the solidaristic relationships instituted by the arrangements. Subsequently, several dimensions represent a member's role of recipient and contributor in the arrangement. Regarding the recipient side, we distinguish between the benefits available to recipients, conditionality of allocation and the proportion of costs covered. When the latter is not 100 percent, co-payment is required and thus also relates to the contributing role of a member in social insurance, because co-payments also contribute to the arrangements' revenues. Cost coverage is therefore conceptually positioned between an insurance member's role as contributor and as recipient. The contribution side furthermore includes the dimensions of income-relatedness and risk-relatedness. First, contributions of members are somehow related to their ability to pay, which results in members with higher revenues being in solidarity with those who earn less. This aspect of solidarity is also referred to as income solidarity, which is determined by the way that contributions are linked to income levels. Second, contributions of members are collected independent of their risk of falling ill, so that healthy

members are in solidarity with those members who will eventually receive resources. This aspect of solidarity is also referred to as risk solidarity, which is determined by the extent to which contributions are delinked from the individual risks of members. These six dimensions, which determine the shape of the solidaristic relationship within social insurance arrangements, form the basis of the studies presented in this dissertation. Chapters 2 and 3 expand further upon these dimensions and their analysis.

3.2. Analysing deservingness opinions

How do deservingness opinions, which are the topic of our second aim, relate to the dimensions of solidarity? Deservingness is about the perceptions of individuals regarding who is most worthy of receiving publicly financed benefits and why. This concerns the specification of the recipient role of a member of social insurance and therefore relates to the upper part of the conceptual representation of the dimensions of solidarity (Figure I). Deservingness opinions in this study are restricted to the question *who* deserves benefits rather than *what* benefits they deserve. Therefore, our analysis of deservingness opinions is conceptually positioned in the solidarity dimension ‘conditionality of allocation’.

Measuring deservingness opinions has been topic of previous research, especially in the social sciences. We can learn from these studies that individuals do not often not explicitly state deservingness opinions (Cook and Barrett 1992); these opinions are mostly revealed implicitly (e.g. Jeene et al. 2013, Reeskens and Van Oorschot 2012, Van Oorschot 2006). This is done by measuring the importance of claimants’ characteristics – i.e. deservingness criteria – in allocating welfare benefits. Literature describes five characteristics of claimants that influence their perceived deservingness for collectively financed support: severity of illness, control over the claim, attitude towards support, and identity characteristics, such as age, and past and potential future contributions to the social arrangement (Van Oorschot 2000). We use an adapted version of this conceptualisation and represent deservingness opinions according to the relative importance of these criteria. We will further expand upon the measurement of deservingness opinions in Chapters 4, 5 and 6.

4. Research questions

The foregoing sections provide a basis for investigating solidarity and deservingness in illness-related social insurance arrangements. In this section, we will discuss the status quo of knowledge about the impact of reforms on solidarity

in health insurance and disability insurance (our first aim), deserving-ness opinions regarding allocation within these arrangements (our second aim) and how health insurance and disability insurance compare (our third aim). This short overview will show which aspects have not been or have been only little exposed to research, leading up to the research questions of this dissertation.

4.1. Effects of reforms on solidarity (first aim)

Knowledge about the effects of reforms in health insurance and disability insurance from the perspective of solidarity is limited. Anecdotal evidence from the United States – based on experiences – shows that traditionally solidaristic countries remain solidaristic despite reforms (Peterson 2000). In contrast, empirical analysis shows that over time, different dimensions of solidarity have developed considerably in European social health insurance (Saltman 2015). Maarse and Paulus (2003) present a structured analysis of health insurance arrangements and demonstrate that reforms had a mixed impact on those dimensions in four European countries. They also conclude that additional solidarity-maintaining measures were often taken if a reform impacted solidarity negatively. In their book *Solidarity in Health and Social Care*, Ruud ter Meulen et al. (2001) also include several chapters that present empirical studies on solidarity. However, each of these accounts is narrative and concerns selected dimensions of solidarity. This is also the case for disability insurance, in which for instance increasing financial incentives in allocation are observed in the Netherlands (Van Vuren and Van Vuuren 2007). Research on social rights – from which the concept decommodification originates (Section 3) – includes different dimensions, but integrates them into a single measure. Consequently, they do not provide detailed information about the development of separate dimensions. In sum, literature shows that knowledge about the impact of reform on separate dimensions of solidarity is limited and scattered. Understanding the effect of reforms in illness-related social arrangements on solidarity, which is one of the cornerstones of social insurance, would thus fill a scientific research gap.

In the light of future changes in both health insurance and disability insurance, insight into the effects of past policy reforms on solidarity also has societal relevance. A large body of information about past and present enables the prediction of potential policies' effects (Rescher 1998), which is relevant for consideration in the policy making process. We aim to gain on reforms' effects on solidarity (aim I) by performing a policy analysis of illness-related social insurance arrangements before and after reforms. We use the Netherlands as a

case study. In line with the scientific understanding of the concept of solidarity (see Section 2.4.), we analyse multiple dimensions of solidarity descriptively. This leads to the following research question regarding our first aim.

Research question 1: What has been the impact of post-1980 reforms on each dimension of solidarity in health insurance and disability insurance in the Netherlands?

4.2. Deservingness opinions (second aim)

Evidence shows that solidarity in social insurance is highly supported among the general public in Europe (Vis et al. 2011, Gevers et al. 2000). Moreover, longitudinal research demonstrates that the general public in the Netherlands remains supportive of solidarity in health insurance (CBS 2015). Popular support for social security in general remains stable (Raven 2012). Does that imply that claimants of illness-related services and benefits are considered unconditionally deserving? This does not seem the case because the Dutch population shows support for conditional allocation, for instance by lifestyle, to some extent as well (CBS 2015). Claimants of disability benefits are also not considered to be unconditionally deserving (Jeene et al. 2013). Moreover, regarding future developments, an increasing share of the Dutch population holds the view that allocation of services cannot be continued as it is because healthcare expenditures are too high (Ter Meulen and Van der Made 2000).

Despite the indications that unconditional allocation of illness-related insurance benefits may not be supported, it is not known what criteria may condition claimants' deservingness. Which characteristics of claimants are considered to condition their deservingness and to what extent? The relative importance of these characteristics – in determining deservingness – is measured in deservingness opinions. These opinions may be valuable in developing reforms in illness-related social insurance arrangements that are widely supported. To retrieve deservingness opinions, we conducted a discrete choice experiment in the form of a survey among a sample of the Dutch population and policy makers. This leads to the following research question in relation to our second aim.

Research question 2: What is the opinion regarding deservingness in health insurance benefits and disability insurance benefits?

4.3. Comparing health and disability insurance (third aim)

A comparison between health insurance and disability insurance is rarely made. Regarding the effects of reforms on solidarity, we identified a research gap on multidimensional analysis in either arrangement. As a consequence, we are not aware of any comparative study on health insurance and disability insurance using solidarity as a dependent variable. Regarding deservingness opinions, only a few studies have explicitly made this comparison, to our knowledge. Schlesinger and Lee (1993) show that public health insurance has more popular support in the United States than more overtly redistributive policies, such as disability insurance. Jensen and Petersen (2017) demonstrate that recipients of health insurance benefits are considered more deserving than recipients of social security benefits. However, although the latter did cover disability insurance, they considered only non-illness-related arrangements such as unemployment benefits. Finally, Wim van Oorschot (2000) showed that sick people are considered most deserving for publicly financed benefits, but does not make a distinction between deservingness for health services and deservingness for disability benefits.

Knowledge about the similarities and differences between health insurance and disability insurance may contribute to the policy making process of these arrangements. After all, policymakers search for more sustainability in both illness-related social arrangements, because demographic, technical, financial and sociological developments pose challenges to their present structure. For instance, knowledge about the effects of reforms on solidarity in disability insurance may be relevant when considering future reform in health insurance, and vice versa. Despite the relevance of such information, only few comparisons have been made between health insurance and disability insurance. In order to improve the understanding of the concepts of solidarity and deservingness in illness-related social insurance arrangements, we compare the results of health insurance and disability regarding the effects of reforms on solidarity (research question 1) and regarding deservingness opinions (research question 2). This leads to the following research question in relation to our third aim:

Research question 3: What are the similarities and differences between health insurance and disability insurance with regard to (i) the impact of post-1980 reforms on formal solidarity and (ii) deservingness opinions?

5. Outline of this dissertation

The research questions above match the three aims of this dissertation, which are to understand how reforms since the 1980s have affected formal solidarity in health insurance and disability insurance (first aim); to analyse deservingness opinions about the allocation of these arrangements (second aim); and to compare health insurance and disability insurance regarding the previous aims (third aim). We address the impact of social insurance reforms on solidarity (including the comparison between health insurance and disability insurance) and deservingness opinions (*idem*) in two distinctive parts of this dissertation.

In the first part, Chapters 2 and 3 identify effects of post-1980 reforms on solidarity in illness-related social insurance arrangements by means of a multi-dimensional policy analysis. **Chapter 2** focuses on the effects on solidarity in health insurance and disability insurance, while **Chapter 3** zooms in on the effects within health insurance, by distinguishing between medical care (in the Netherlands commonly labelled as ‘cure’) and long-term care (‘care’). These chapters also attend to differences in the development of solidarity between the different arrangements and discuss potential explanations.

In the second part, Chapters 4, 5 and 6 provide an overview of deservingness opinions in health insurance and disability insurance. Who deserves collectively financed support and why? The answer to this question depends on whom you ask and which insurance arrangement (health insurance or disability insurance) is concerned. **Chapter 4** presents deservingness opinions of the Dutch population regarding health insurance, while **Chapter 5** includes a comparison between these deservingness opinions about health insurance and deservingness opinions about disability insurance. In addition, **Chapter 6** presents the healthcare deservingness opinions of policy makers and compares them with public opinion. Similarities and differences between these opinions are discussed in relation to social legitimacy.

Finally, **Chapter 7** discusses the results of the policy analysis (the reforms’ effect on solidarity) and discrete choice experiments (deservingness opinions). How have the results of Chapters 2 and 3 contributed to the understanding of the impact of reforms on solidarity in health insurance and disability insurance; what did we learn from Chapters 4, 5 and 6 about the similarities and differences in deservingness opinions on both illness-related social insurance arrangements. Eventually, the discussion section draws lessons from the Dutch case for science and practice.

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CHAPTER 2

Solidarity in insuring financial risks of illness: a comparison of the impact of Dutch policy reforms in health insurance and disability insurance since the 1980s

*De interne deugd van weleer is een
staatsgestuurde vanzelfsprekendheid geworden (...)
Het nadeel van deze formulering is dat solidariteit
voor velen aanvoelt als een opgelegde wederkerigheid.*

Adriaan van Veldhuizen (1932-2013)
Nederlands theoloog en politicus

Solidarity in insuring financial risks of illness: a comparison of the impact of Dutch policy reforms in health insurance and disability insurance since the 1980s

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Published online ahead of print in the Journal of Comparative Policy Analysis (2018)

Abstract

Solidarity is the “moral infrastructure” of social insurance arrangements that protect citizens against financial risks of illness: costs of medical care (health insurance) and loss of income (disability insurance). Although these arrangements have both met reforms, the effects of these reforms on the two forms of insurance have not yet been compared. This article presents a comparative analysis of these reforms’ impact on solidarity since the 1980s in the Netherlands. It develops an analytical framework, distinguishing coverage and financing dimensions, and concludes that the reforms affected several solidarity dimensions and that the effects were partly different in health insurance and disability insurance.

Introduction

Solidarity has always been an important normative pillar of social arrangements on the European continent, arrangements to protect people against the financial risks of illness. In the eighteenth and nineteenth century in various countries guilds, doctors, religious groups, unions and other social actors set up risk pools to compensate for the loss of income due to illness and the costs of medical care (Companje et al. 2009). Such pools were financed by their members. At the end of the eighteenth century and the first half of the twentieth century, many of these grass-root and 'non-public' arrangements were gradually transformed into formal public arrangements which were either funded by taxation (national health insurance) or contributions to a third party (social health insurance) (Immergut 1992). As a consequence, coverage of the financial risks of illness became, to a great extent, a public responsibility. The expansion of the welfare state after the Second World War resulted in a further increase of public solidarity arrangements (Ter Meulen et al. 2001). This growth also involved a rapid growth of welfare expenditures, which has constantly been criticized and made social policies a major concern after the oil crises in the 1970s. In various countries public policymakers started to express great concern about escalating costs which, in their view, could ultimately jeopardize sustainability of the welfare state. They responded to this perceived threat by starting reform programs to achieve effective cost control and reinforce efficiency.

The effects of these programs on efficiency and cost control have been the subject of several investigations (e.g. Abel-Smith and Mossialos 1994; Yang 2014). However, the focus in this article is on the impact of reforms on solidarity. Knowledge about these effects is relevant because in many European countries further social policy reforms are on the horizon and their potential effects on solidarity, which is – according to Saltman and Dubois (2004) – “the beating heart” of social insurance arrangements in the European Union, are hardly known. We therefore concentrate on the consequences for solidarity in both health insurance and insurance arrangements covering loss of income due to illness. The latter concerns sickness arrangements – covering for loss of income as a result of short-term and/or curable illness – and disability arrangements – covering for income lost due to long-term illness and/or disability. For practical reasons, these latter arrangements are hereafter referred to as disability insurance (Bannink et al. 2006). The study thus attends to the following questions: how did reforms since the 1980s influence solidarity in health

insurance and disability insurance? Are there differences observable between the fields?

The impact of recent reforms on solidarity in social insurance is not a new research topic, although the comparison between health insurance and disability insurance is. For instance, Maarse and Paulus (2003) studied the impact of health reforms on solidarity in four European countries. They found that solidarity had increased rather than decreased in many respects and that solidarity had remained a key principle of the welfare state and had worked as an effective political constraint to reforms. Regarding disability insurance, Okma et al. (2010) found that the Netherlands had moved away from the solidarity-based model, by introducing some restrictions to its public arrangements. In summary, separate studies provide some information about the development of solidarity in health insurance and disability insurance separately, but these similar arrangements have not yet been compared systematically, and variation in methodology does not enable comparison of results of previous studies. This points to the value of conducting this study, which formulates a model in order to compare solidarity developments in various social insurance arrangements.

To answer our research questions, we present a comparative case study on the impact of reforms on solidarity in health insurance and disability insurance in the Netherlands since the early 1980s. Our study analyses reform programs *empirically* in order to understand their impact in practice. The focus in this comparison is on formal public arrangements (macro-level). Informal solidarity (micro-level), for instance between individuals, neighborhoods or within families (De Beer and Koster 2009), is not considered. It is not our purpose to evaluate the fairness of these programs from the perspective of solidarity. This is a matter of political appreciation which falls beyond the scope of our analysis.

The structure of the article is as follows. We start with a discussion of the concept of solidarity and the presentation of a multidimensional analytical model of solidarity. Next follows a comparative analysis of the impact of major reforms in health insurance and disability insurance on each of the dimensions of solidarity. The final section includes a brief discussion of the results of our study.

The concept of solidarity

Solidarity is a highly ambiguous concept. It has many meanings and there are many theories on solidarity, even within disciplines (Bayertz 1999, Ter Meulen et al. 2001, Stjernø 2009). Whereas one individual may consider an arrangement solidary, another may label it non-solidary. This is also true for the political arena where politicians often agree on the need for solidarity, but strongly disagree on how to translate it into concrete arrangements and how to find a proper balance between solidarity and other important values such as individual responsibility, privacy or freedom of choice. Solidarity is a concept that gives direction to functioning of societies in Europe; it has developed as a leading principle which defines a key element of the “moral infrastructure” of the modern welfare state (Hinrichs 1995). In politics, solidarity is treated as a moral concept (normative discourse), as a consequence of which its ambiguousness manifests itself particularly in the political debate. However, solidarity in this article is approached descriptively (scientific discourse).

The objective of solidarity arrangements under study is to guarantee its members access to a predefined set of benefits (medical care, income compensation). To achieve this objective the costs of the arrangement are shared by the community (Stone 1993). Solidarity in social insurance essentially implies risk pooling, which involves both rights (coverage) and obligations (contributions). As for the function of coverage, it guarantees all members of the arrangement access to the same benefits. Contributions are based on income and not related to risk. Solidarity differs fundamentally from the principle of actuarial fairness in insurance. Insurance schemes based on this principle apply risk rating and may exclude applicants or limit coverage because of pre-existing medical conditions (Light 1992). Solidarity is intended as a redistributive and subsidizing arrangement in which rich people subsidize poor people and healthy people subsidize unhealthy people.

Framework

Despite consensus about the objective of solidarity arrangements, there is no single way of translating solidarity into concrete arrangements. Significant variations in the set-up of social arrangements are a testimony to that fact (Busse et al. 2004). Analyzing and comparing developments of solidarity therefore requires a framework bringing together all dimensions of solidarity – meaning those which are relevant in formal social insurance arrangements.

A starting point for the multidimensional framework for measuring solidarity is the decommodification index introduced by Esping-Andersen. Decommodification is a term that describes the extent to which an individual's welfare does not depend on the market (Esping-Andersen 1990). It is measured by combining a set of quantitative indicators that summarize the generosity of benefit provision. However, decommodification differs from solidarity in at least three ways. First, solidarity considers two sides of the insurance relationship (contributor and recipient), whereas decommodification takes a social rights perspective and focuses on the recipient side. Second, the decommodification index is a single quantitative measure, while we study solidarity multidimensionally and qualitatively because we aim to understand the impact of reforms on solidarity. Third, decommodification is not suitable for arrangements that provide services rather than cash (Bambra 2005).

These differences explain our multidimensional and qualitative approach, but not yet what the dimensions of solidarity are. First, membership is distinguished because it is a prerequisite for accessing benefits from the arrangement (and for contributing) (Esping-Andersen 1990). On the recipient side (coverage), benefits are subdivided into three dimensions based on the WHO conceptualization (2010). This model distinguishes between conditioning (breadth!) – which includes population coverage – material coverage (scope) and the cost coverage (depth) of benefits. The former matches the membership dimension, but also covers conditionality of allocation, because access to services may be restricted by predefined conditions (Ter Meulen and Maarse 2008). This dimension is neglected in the decommodification index (Clasen and Clegg 2007). On the contribution side (financing), the framework distinguishes between risk solidarity and income solidarity (Maarse and Paulus 2003, Rommelse 2014). This results in a framework of six dimensions of solidarity, which is presented in Table I.

Table 1. Framework describing dimensions of solidarity in social insurance

Insurance function	Solidarity dimension
Coverage	<p>1.1. Membership or population coverage (breadth¹): This dimension refers to the proportion of the population that is a member of an insurance arrangement and the extent of segmentation within these arrangements. Membership solidarity increases if arrangements cover a larger portion of the population. If an arrangement covers all people but puts them in separate segments by means of specific schemes for specific groups, we consider it less solidary than an arrangement without segmentation (single risk pool).</p>
	<p>1.2. Material coverage (scope): This dimension refers to the generosity of the benefit package. An arrangement is considered more solidary if its benefit package is more generous in terms of the types of benefits and, if applicable, the duration of provision.</p>
	<p>1.3. Cost coverage (depth): This dimension refers to the percentage of the costs users must pay for the benefit received, e.g. through user charges. An arrangement is considered more solidary if it covers a greater percentage of the costs. This dimension solely applies to health insurance.</p>
	<p>1.4. Conditioning (breadth): This dimension refers to the extent healthcare access is subjected to predefined restrictions. Being insured does not automatically imply coverage, because access to services may be restricted by conditions. Solidarity is higher if fewer conditions are applied to restrict access, and vice versa.</p>
Financing	<p>2.1. Risk relatedness: This dimension refers to the degree to which the contribution of the insured is unrelated to their health risk profile. More risk rating in premium setting implies lower risk solidarity. The effect of risk solidarity is that low-risk groups subsidize high-risk groups.</p>
	<p>2.2. Income relatedness: This dimension refers to the connection between premium contribution and income level. Income solidarity increases if premiums are more related to the ability to pay of each member. The effect of income solidarity is that high-income groups subsidize low-income groups.</p>

The degree of solidarity in each dimension can be visualized on a spectrum with unconditional subsidization on the one end of the spectrum and actuarial fairness on the other end. The more an arrangement moves from unconditional subsidization to actuarial fairness (conditional subsidization), the less solidary it is and vice versa. However, in practice, the dimensions of solidarity arrangements are related. For instance, the introduction of a co-payment regime not only decreases solidarity in the cost coverage dimension but also in the dimensions of income solidarity and risk solidarity. In a similar way one may argue that broadening population coverage will strengthen the impact of arrangements for income and risk solidarity.

The framework does not assign different weights to the dimensions, as this is a normative affair and we approach solidarity descriptively: cost coverage is not more or less important than material coverage, nor is risk solidarity considered more or less important than income solidarity, and so on. The framework thus conceptualizes (variation in) solidarity of social insurance by multiple dimensions and does not allow for a unidimensional understanding of the concept of solidarity, adding up its dimensions. Our analysis of the effect of reforms on solidarity within the scientific discourse is therefore able to identify changes only in the dimensions of solidarity and is not able to draw conclusions about solidarity as a whole because that would require assignment of – equal or unequal – weights to its dimensions.

Methods

The framework described above forms the basis for analyzing developments in solidarity resulting from reform measures altering the Dutch arrangements of health insurance and disability insurance. The reforms' effects are formulated in terms of an increase (+) or decrease (–) or no effect (0) of each of the solidarity dimensions. If a reform has both a positive and negative effect, the score is +/- . On the recipient side, an increase in solidarity is identified when benefit allocation becomes more generous – for instance, when more people are members of the social arrangement or when benefits are provided for a longer period of time. On the contributor side, a “+” is assigned when contributions are less risk-related or more related to ability-to-pay. The meaning of increased or decreased solidarity is explained separately for each dimension in Table I.

Analysis of the development of the effect of reforms on solidarity in each of the dimensions is based on policy documents including government documents and legislative texts on reforms in health insurance and disability insurance. We considered all major legislative changes regarding financing and coverage – the functions of social insurance – of the arrangements at stake. For instance, reforms aiming at quality improvements are beyond the scope of our paper because they do not affect financing or coverage. We investigate the impact of reforms in health insurance (Supplementary File 1) and disability insurance (Supplementary File 2) in the Netherlands that were implemented since the 1980s. Thus, our research covers a period of about 35 years. This long period has important consequences for our analysis. In order not to get stuck in a myriad of details, our analysis can only be global. Limited space also makes it necessary to omit many reform details.

Analysis

We first analyze the impact of reforms on each dimension of solidarity for both health insurance and disability insurance separately. Next follows an overview with a comparative analysis of their impact on health insurance and disability insurance respectively.

1.1. Population coverage

In the 1980s health insurance had a dual structure. In 1985 about 66 percent of the population was covered by the mandatory Sick Fund Act (this percentage also included persons in the so-called voluntary sick fund scheme for self-employed persons and the sick fund scheme for the elderly). An individual's eligibility for the mandatory scheme was determined by income. Only employees with an income below the state-set income threshold could enroll in it. The rest of the population was excluded from sick fund cover and had to rely on (voluntary) private insurance. Private health insurance thus fulfilled a substitutive role. Civil servants had a "sick fund-like" scheme of their own. The 2006 Health Insurance Act integrated all insurance schemes (including the substitute private health insurance) into a single basic mandatory scheme covering the entire population with the exception of "undocumented persons" (Enthoven and van de Ven 2007). The new legislation obligated insurers to accept each applicant, who was also given the right to switch to another insurer at the end of each year. As a result of this reform, solidarity increased significantly on the dimension of population coverage. Strengthening solidarity by

means of a single scheme was also explicitly formulated as an objective of the 2006 health insurance reform. In the post-2006 health insurance landscape private health insurance only fulfills a complementary function covering extra benefits. Notice that the new insurance legislation does not apply to complementary health insurance.

As for disability insurance, two public arrangements were in place in the 1980s to compensate employees for the loss of income due to illness. The Sickness Act substituted wage payment during the first year of illness. After this period, the Disability Insurance Act ensured compensation for loss of income. In 2005, this act was replaced by a new Disability Insurance Act. However, commencement of the latter acts had shifted in the 1990s with the introduction of mandatory continuation of wage payment by employers for the first period of illness (up to two years in 2004). This increased financial responsibility for the risk of illness for employers. To cover that financial risk, most employers opted for reinsurance on the private market. Income compensation during the first period of illness was therefore largely privatized. However, the sickness act remained in place as a public safety net for those employees who, for specific reasons not discussed here, could not benefit from mandatory continuation of wage payment. We conclude that solidarity on the dimension of population coverage did not fundamentally alter in disability insurance. What changed, however, was that the responsibility for solidarity was largely shifted from the state to employers (Hofman and Pennings 2013).

1.2. Material coverage

The benefit package of the old sick fund scheme and the new basic scheme is decided by the state. It is a fairly comprehensive scheme. Over the last three decades many services have been added, whereas other services, including cosmetic surgery without medical necessity (1991), glasses (1993) and dentistry for adults (1995), were 'delisted'. A few decisions on 'de-listing' were reversed or weakened at a later time. Examples are contraceptives, psychological consultations, lifestyle interventions and dentistry for youth. The 2006 reform was not used as leverage for a restriction or extension of the benefit package. There has been a running debate on determining what appropriate care, qualifying for coverage by health insurance, comprises of – a debate that already started in the 1980s. Should all that is medically possible also be covered by health insurance? In 1991 a commission introduced four criteria for including services in the basic benefit basket: necessity, effectiveness, cost-effectiveness and individual responsibility (Dunning 1991). However, these criteria were too

abstract to be applicable in practice. The discussion on the benefit package has never ended. Worldwide, it has become common to require an economic evaluation for decision-making (Taylor et al. 2004), which is referred to as the ‘fourth hurdle’. Nevertheless, in the Netherlands economic evidence does not seem to influence reimbursement decisions as much as other considerations (Boon et al. 2015, Roseboom et al. 2017). We conclude that solidarity on the dimension of material coverage has increased in some respects and decreased in others.

The benefit package covering loss of income underwent various changes as well. In the 1980s, under the sickness act, coverage had already declined from 75 to 70 percent of the last earned income (1986) and under the disability act from 80 to 70 percent (1985). In the 1990s, when the sickness act was largely privatized, this percentage of compensation remained unaltered: employers had to pay 70% as well. However, the impact of the above-mentioned reductions was weakened because employers continued to pay a higher percentage than they were obliged to (extra-legal), in half of the cases up to 100 percent of the last earned income during the first year of illness (DCA 1991, Wilms et al. 2013). These benefits-in-excess are part of a negotiated agreement between employers and the trade unions. Moreover, the period that employers were obliged to continue wage payment was extended. Their responsibility was initially limited to a period of six weeks (1994), but gradually shifted to one year in 1996 – thus replacing coverage by the sickness act – and two years in 2004, which postponed commencement of coverage by the Disability Insurance Act.

Whereas income compensation during the first period of illness increased due to benefits-in-excess, this was not the case for the subsequent period covered by the Disability Insurance Act. Originally, under the old act, loss of income compensation was provided until retirement (65 years). Level of benefits remained the same during that period and was calculated as a percentage of the claimant’s previous income. In 1993 however, a second scheme was introduced within the act. Duration of the initial scheme was restricted based on age. Afterwards, until retirement, the follow-up scheme was applied, in which benefits were calculated as a percentage of the legal minimum income instead of a claimant’s previous income, as used to be the case before. For instance, a person aged between 38 and 42 was entitled to income-related benefits for one year, whereas a person aged between 53 and 57 was entitled to income-related benefits for three years. Introduction of the subsequent follow-up benefits decreased material coverage of the public arran-

gement. As part of the new Disability Insurance Act, which came into force in 2005, the determinant restricting the benefit period was changed again: the criterion of work history replaced the criterion of age. This results in lower benefit levels for younger subgroups.

Our analysis of the impact of reform programs on the material coverage dimension of solidarity in disability insurance leads to a mixed conclusion. During the research period various restrictive measures were taken in the public arrangements. Both the duration of benefits and the benefit percentage were limited. However, in practice, the decrease in benefit percentage was (partly) compensated by extending the obligation of employers to continue wage payment during the first period of illness and collective agreements between employers and labor unions increasing the benefit percentage.

1.3. Cost coverage

Solidarity on the cost coverage dimension applies only to health insurance. Co-payment arrangements are absent in disability insurance, whereas in health insurance clients may be required to pay a user charge.

In health insurance, the sick fund scheme provided full cost coverage in the 1980s (Van de Ven and Van Praag 1981), whereas private insurers used to offer their clients a choice between plans with or without a user charge. In the 1980s and 1990s, several user charges were introduced in the sick fund scheme, e.g. for prescription medicines and specialist consultations, but they were quickly abolished for political or administrative reasons. User charges were introduced again in 2006, for example for dental care and maternity care, and have also become more widespread in mental care since 2012 (Statistics Netherlands 2014). In 2008, the government introduced a mandatory deductible in the Health Insurance Act – for which consultation of a general practitioner is exempted – as an alternative for the failed experiment with a no-claim arrangement. The state-set deductible gradually increased from €150 in 2008 to €360 in 2014 and can be topped up by voluntarily by a maximum of €500. Deductible and co-payments are flat-rate costs that most affect low-income groups (disproportionate impact) and high utilization groups (likelihood of care utilization). In 2008 and 2009, the government introduced arrangements to mitigate their impact by compensatory arrangements, which were again abolished in 2014. We conclude that increased deductibles and co-payments in health insurance have decreased solidarity on the dimension of cost coverage.

1.4. Conditions

As for the dimension on conditions the reforms had no or only little impact on solidarity in health insurance. Medical professionals have kept their responsibility for diagnosis and treatment of patients. Only medical criteria should be decisive in determining what services are allocated. However, some services require a pre-authorization of health insurers. There is information that some insurers have adopted a stricter policy in this respect, but the scale at which this happens is unknown. In a recent appeal procedure on a refused authorization, the court decided that insurers should follow the opinion of the medical professional (Court Breda 2017).

The autonomy of medical professionals in healthcare is in stark contrast with the decline of medical specialists' autonomy in disability insurance. They are increasingly side-lined. The assessment of a claimant's degree of labor incapacity, which determines access and the percentage of compensation, has been bureaucratized. Presently, besides insurance doctors, company doctors and labor experts are also involved in the process of assessing labor incapacity. New regulations establish that the degree of labor incapacity equals the proportion of the previous income that a claimant is unable to earn due to the illness, which is determined by calculating the opposite: residual earning capacity. Residual capacity is the proportion of the previous income that claimants theoretically could earn, which is based on the wages of jobs they would be able to perform given their health status. Persons with a low income suffer most from this revised procedure because their assessed residual capacity is more likely to be high because their previous income is comparatively low.

The criteria for accessing loss of income benefits have also been adjusted. First, the definition of labor incapacity has become stricter. Second, the threshold for access increased from 25 to 35 per cent. Third, as discussed in the section on material coverage, there are also requirements that regulate access to and the duration of benefits. In addition, the beneficiary's response to activation incentives is used as a criterion for access to higher benefits; if a person earns at least 50 per cent of their theoretical residual earning capacity, they maintain income-related benefits. Otherwise, benefits will be a proportion of the minimum wage. In conclusion, various changes have been introduced in disability insurance regarding the conditioning dimension, each with the effect of reducing solidarity.

2.1. Risk solidarity

Risk solidarity has always been an important normative pillar of the sick fund scheme and the schemes for public servants: contributions were not risk-related. However, risk rating was common practice in private health insurance. Some reforms in the 1980s, known as the ‘small’ health insurance reform, had already increased risk solidarity by creating financial links between public and private insurance (Maarse and Jeurissen – forthcoming in 2018). These reforms were the government’s response to the aggressive strategy (low premiums and other benefits) of private insurers to attract young healthy persons to enroll in the sick fund scheme. As a consequence, the financial sustainability of the public scheme, which had already been weak for a long period of time, was further undermined. The government adopted new legislation, which introduced a safety net in private health insurance for people who were not eligible for the sickness fund, but could neither purchase private insurance due to medical (pre-existing conditions) or financial (high premiums) reasons. This scheme included a government-defined benefits package and a flat-rate premium as well as open enrolment and full risk pooling. Since premium revenues did not cover all expenditures, individuals with private insurance had to pay an annual surcharge to cover the deficit. Another reform was the abolishment of the suspended sick fund scheme for the elderly. All subscribers were transferred to the sick fund scheme. To compensate sick funds for the resulting overrepresentation of older people among their members, the government obliged private insurees to make a solidarity contribution to the sick fund scheme (Schut 1995).

All these measures thus increased risk solidarity, which was further reinforced by different elements of the 2006 reform: (a) the introduction of a mandatory basic health insurance scheme (single risk pool); (b) the obligation for insurers to accept each applicant (ban on risk selection); (c) the introduction of a uniform state-set benefit package (ban on package differentiation); and (d) the obligation of community rating (ban on premium differentiation). However, effectiveness of these measures on risk solidarity is a subject of debate because of some loopholes in the legislation and the impact of complementary voluntary health insurance (Van Kleef et al. 2013). Furthermore, it is important to note that risk solidarity has always been a topic of debate. Knowledge about the contribution of lifestyle factors to developments of diseases makes it harder to imagine the “veil of ignorance” (Rawls 1999). Proposals for restrictions to risk solidarity have always met much resistance and do not receive political support.

Risk differentiation was introduced in disability insurance in 1998, but only for a certain proportion of the premium. Consecutive elevations of this proportion (Van Sonsbeek and Schepers 2001) have reduced risk solidarity. Between 1994 and 2004 employers gradually were made responsible for the financial risk of their employees' loss of income during the first two years of illness. Previous sections mentioned that employers reinsure the financial risk in the private sector. The premiums for these insurance policies are also partially risk-related (Veerman and Molenaar-Cox 2006). The increased insurers' responsibility may incentivize them to select healthier job applicants, which also implies a decrease of risk solidarity in disability insurance.

2.2. Income solidarity

The dual structure of health insurance in the early 1980s not only restricted risk solidarity, but also income solidarity. The contribution to the sick fund scheme and the scheme for the civil servants was income-related, but only to a certain extent because of a state-set cap on the contributions. Income solidarity was absent in private health insurance.

The 2006 health insurance reform had various consequences for income solidarity. The pooling of all persons in a single scheme increased income solidarity. Income-related contributions plus a new state-set cap to maximize the contribution have remained in place but cover only 50 per cent of healthcare costs. The other 50 per cent is covered by the flat-rate premium (36.6 per cent) – set by each insurer separately to foster competition – out-of-pocket payments (7.5 per cent) and a tax-funded state grant for children (5.9 per cent) (Budget Ministry of Health 2016). As a consequence of the new premium structure the average flat rate premium jumped from €380 in 2005 to €1,060 in 2006 (Vektis 2006). A tax allowance regime was introduced to restore income solidarity by mitigating the effect of this jump for persons with low incomes: the regime maximized the premium to 4.0 per cent of a person's income and 6.5 per cent of the total family income (Explanatory memorandum 2004). Since 2006, there have been various changes in the contribution rate and flat-rate premiums, but they were less dramatic compared to the changes in 2006. For instance, in 2014 the contribution rate was 6.5 per cent compared to 7.5 per cent in 2006 and the average flat-rate premium €1,157 compared to the abovementioned €1,060 (Vektis 2014).

The impact of these premium reforms on income solidarity is complex as they worked out differently for various income categories. A global analysis of Vermeend and Van Boxtel (2010) suggests that the combination of a single scheme, income-related contributions, flat rate premiums and fiscal compensation did not put an end to the slightly regressive structure of health insurance which was found by Wagstaff and his colleagues (1999) in the pre-reform period. They demonstrated that the dual structure of health insurance plus the cap on the contribution in the sick fund scheme had resulted in a slightly regressive distribution of the financial burden (Wagstaff et al. 1999). We conclude that the reforms had several effects on income solidarity in health insurance. Some reforms increased income solidarity in health insurance, whereas other reforms had an opposite effect.

Income solidarity in disability insurance did not change significantly either. Premiums for the public arrangements have remained income-related. Although employers bear the financial risk of compensating for the first two years of loss of income, approximately 80 per cent of employers reinsure this risk privately (Hofman and Pennings 2013). However, the premiums from risk reinsurance are also income-related. Therefore, we conclude that there have been no significant changes in income solidarity in disability insurance.

Towards a comparison of the impact of reforms on solidarity

The reforms since the 1980s to improve the fiscal sustainability of welfare arrangements have influenced solidarity in health insurance and disability insurance in many respects. However, our analysis clearly demonstrates differences in effects (Table 2).

Table 2. Development of solidarity in health insurance and disability insurance since the 1980s in the Netherlands

Health Insurance		Score	Disability Insurance	Score
Coverage function				
1.1. Population coverage	Since 2006, all documented citizens are covered by a single universal scheme. Thus, the substitutive function of the private tier has been dissolved, which implies a shift of responsibility from private to public ('publicization').	+	No significant changes in membership of the public arrangements. Since 1994, all employees are entitled to continuation of wage payment during the first period of illness. The private tier thus replaced part of the public arrangements, which implies a shift of responsibility (privatization).	O
1.2. Material coverage	Package extensions and restrictions, but no significant developments, although these were debated. The new health insurance introduced a uniform package.	+/-	Duration and amount of income-related benefits has been restricted, mainly in the early 1980s. However, mandatory continuation of wage payment during the first two years is often topped up by benefits in excess.	+/-
2.3. Cost coverage	Increase in out-of-pocket payments, especially in mental care.	-	N/A	N/A
1.4. Conditioning	Insurers tend to view the medical need assessment more critically, but this rarely influences coverage, because professional autonomy prevails. Conditions remain strictly medical.	O	Allocation limited directly and indirectly by privatization: Access and duration of benefits have decreased, especially for low income groups, due to a stricter assessment process, definition and threshold. Moreover, in practice some employers have been observed to be selective in hiring employees and to dispute claims for continued wage payments during illness.	-
Financing function				
2.1. Risk solidarity	Open enrolment and ban on risk-related premium differentiation, although risk differentiation is debated upon regularly. Insurers apply community rating in the private tier, although they may charge risk-differentiated premiums.	+	The private reinsurance schemes, in place since the 1990s, have risk-differentiated premiums. Moreover, part of the premiums of the public arrangements became risk differentiated, although this is retracted if employers choose to bear their own risk.	-
2.4. Income solidarity	Significant changes in 2006, resulting in a complex system combining flat-rate premiums and compensations. Financing remained regressive.	+/-	Premiums remained income-related. No significant changes.	O

+ = strengthening on this specific solidarity dimension; - = weakening on this specific solidarity dimension; O = no significant effects on this specific solidarity dimension;

+/- = both positive and negative developments on this specific solidarity dimension.

In health insurance, we observed a trend towards increased solidarity on the membership dimension, although this dimension was not affected by the reforms in disability insurance. The latter is explained by the fact that all employees were already covered at the beginning of the period analyzed. Regarding material coverage, some extensions and restrictions were observed in both policy areas, but these did not result in significant effects on solidarity. This contrasts with the effects of reforms on cost coverage, which is the sole dimension in which we found a decrease in solidarity in health insurance. Regarding conditioning, we identified differences between health insurance and disability insurance. While not much changed in health insurance, the stricter assessment process and adjustment of the definition and threshold of the qualification for disability benefits resulted in a decrease of solidarity in disability insurance. A similar solidarity-restricting trend was observed in the dimension of risk-relatedness in the financing of disability insurance. This contrasts most with the trend in health insurance reforms, which sought to reinforce risk solidarity. Finally, we found several effects on income-relatedness in the financing of both insurance arrangements, but these did not significantly alter income solidarity in either health insurance or disability insurance.

In sum, the impact of the reforms on solidarity differed. While solidarity in health insurance was reinforced on two dimensions (population coverage and risk solidarity), the reforms had no similar reinforcing effect on solidarity in disability insurance. Furthermore, we found that the reforms in health insurance reduced solidarity in only one dimension (conditioning), whereas they reduced solidarity in two dimensions in disability insurance (conditioning and risk solidarity). These results suggest that solidarity in health insurance has been less affected by restrictions than has solidarity in disability insurance.

Discussion

Our comparative case study demonstrates that post-1980 reforms impacted on most dimensions of solidarity in both health insurance and disability insurance. The comparison identified general trends in the impact of post-1980 reforms on solidarity in these arrangements. Reforms in disability insurance restricted several dimensions of solidarity, while they had mainly positive and only slight negative effects in health insurance. We thus observe a diverging trend between health insurance and disability insurance regarding solidarity.

International comparative research is required to find out whether and in which respect reforms in other countries are similar to the ‘Dutch experience’. For instance, are the reforms in the Netherlands and their impact on solidarity in line with the general decrease of generosity in welfare provisions found by Clasen and Siegel (2007) or do they present an exceptional case, and if so why? Does health insurance funded by taxation in other countries have a similar “status aparte” in welfare reform programs as it has in the Netherlands? In the context of escalating costs, reforms have been implemented in both types of insurance over the last 35 years in order to ensure their fiscal sustainability (Mladovski et al. 2012); further reform will be implemented in the future. In this process, information about the potential effects of reforms on solidarity, a core value in both systems, is relevant.

Our empirical findings raise the question of how to explain the differences in impact on solidarity between health insurance and disability insurance. This question is beyond the scope of our analysis. Further research is needed to find an answer. However, our tentative suggestion is that the well-known proposition that ‘health care is different’ (Schlesinger and Lee 1993, Daniels 1985) may also help to explain the differential impact on solidarity arrangements in health insurance and disability insurance. It is a deeply rooted and widely supported belief in Dutch health care that there should be no financial barriers to health care. Thus, reforms that compromise this right are very controversial. Whereas it is widely accepted that every person unable to work due to illness should get fair financial compensation, the level of compensation may be debatable. Furthermore, there have always been voices suggesting that generous income compensation will discourage recipients from seeking an alternative way to earn an income. A similar argument for health insurance has scant political support in the Dutch context. Finally, the difference in the reforms’ impact on solidarity may relate to differences in power structure. Resistance to restrictions on solidarity in health insurance has always been more united than resistance on restrictions to solidarity in disability insurance, where clashes between employer and employee organizations have been common.

Strengths and limitations

The analysis of the consequences of social insurance reforms on solidarity had been rather neglected in empirical research. This may be related to the ambiguity of the concept of solidarity, which complicates analysis. We developed an analytical framework that enabled us to assess solidarity developments in a structured manner. Thus, our study may be a good starting point for future

research. It would be interesting to know to what extent and in which respect the “Dutch experience” fits into a wider international perspective. Comparative research – in which the framework may be a starting point as well – could shed more light on the “status aparte” of health insurance compared with other welfare arrangements. From the policy perspective, our study is also relevant as it identifies the effects of social insurance reforms on different dimensions of solidarity. Today, social reform is still on the horizon and its potential effects are relevant in the policy making process.

Our empirical analysis is based on a multidimensional model of solidarity, which involves more dimensions than the decommodification model of Esping-Anderson. Although we consider this multidimensionality to be a strength overall, it does have some limitations. In particular, informal solidarity has been left out of consideration. Our model is particularly suited for an analysis of formal insurance arrangements. The analysis has some other limitations as well. The framework does not differentiate between public and private arrangements for solidarity. This is an important issue because the effect of reforms may be that public arrangements for solidarity are replaced with private arrangements. The case of disability insurance illustrates this point. When population coverage under the Sickness Act was significantly reduced in the 1990s (it remained in place only as a public safety net) employer and employee organizations negotiated a collective agreement to uphold solidarity. Furthermore, an assessment of the fairness or unfairness of changes in solidarity falls beyond the scope of our empirical analysis. An empirical analysis (scientific discourse) differs in three aspects from a normative analysis (political discourse). First, whereas an empirical discourse aims at a descriptive and exploratory analysis, a political discourse is intended to provide a normative judgment (interpretive). Secondly, a political discourse may focus only on a single or just a few aspects of solidarity. For instance, politicians may label a reform to be non-solidary if it is presumed to result in adverse consequence on a specific dimension of solidarity, for instance on material or cost coverage, even if it has positive consequences for the other dimensions. The focus in our empirical analysis is upon each dimension of solidarity. Thirdly, it is important to note that a political judgment involves other values as well. For instance, politicians must not only assess the consequences of a reform for solidarity but also its consequences for individual responsibility, privacy or freedom of choice. An empirical analysis may be restricted (as in our study) to its consequences for a single value (here solidarity).

Moreover, many details of the reforms were left out of consideration, as a result of which our study was rather global. Also it should be emphasized that changes in solidarity are not only motivated by the need for cost control and efficiency but also reflect other social and cultural developments (e.g. Ferge 1997). Finally, one should not lose sight of the inherent ambiguity of the concept of solidarity.

Conclusion

Solidarity has been a source of political inspiration for the building of the welfare state in the Netherlands. It is the “moral infrastructure” of social insurance arrangements that protect citizens against financial risks of illness, meaning both costs of medical care (health insurance) and loss of income (disability insurance). This article reports on a comparative analysis of the impact of reforms on solidarity in these arrangements since the 1980s. How did they influence solidarity? Did reforms affect solidarity in a similar way? To answer these questions we developed a multidimensional analytical framework of solidarity, which distinguishes between coverage (population coverage, material coverage, cost coverage and conditions) and financing (risk and income solidarity). We conclude that reforms had effects on solidarity and that several of these effects were different for health insurance and disability insurance. We observed that solidarity in health insurance has been more ‘immune’ to restrictions in solidarity than has disability insurance. As a result, health insurance and disability insurance have been developing along different paths regarding solidarity since the 1980s. These conclusions are relevant considerations in discussing future social policy reform, which will no doubt be implemented, both in the Netherlands and worldwide.

Notes

1. The terms breadth, scope and depth are part of the understanding of universal coverage, which has been developed by the (WHO 2010). They refer to representation of the coverage dimension by a box, which has a certain breadth (population coverage), scope (material coverage) and depth (cost coverage).

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Appendices

Supplementary File I

Overview of the major reforms in Dutch health insurance since the 1980s

Year	Summary of the relevant policy developments
1986	<p>Small health system reform [Kleine Stelselwijziging (KSw)]:</p> <ul style="list-style-type: none"> • Act governing health insurance accessibility [Wet toegang ziektekostenverzekering (Wtz)] Public regulations stipulated a standard benefit package for a nominal premium for those who had difficulty in signing into the private tier. Risk-differentiation was banned. The scheme was optional. This resulted in surcharges for others in the insurance pool. • Act on cost equalization within private insurance companies [Wet Interne Lastenverevening Particuliere Ziektekostenbedrijf (ILPZ)] The private insurance tier was obliged, by equalizing costs, to be solidary over all segregated insurance companies. • Act on co-financing the overrepresentation of the elderly in the public sick funds [Wet medefinanciering oververtegenwoordiging oudere ziekenfonds-verzekerden (MOOZ)]. Private insurers were obligated to co-finance costs in the public tier, in response to the high costs resulting from the expansion (by the Wtz) of the insurees in the sick funds.
1987	Deregulation of premium setting.
1989	<ul style="list-style-type: none"> • Expansion of the KSw, creating access to health insurance for all of the elderly. • Introduction of a partial nominal premium in the sick funds.
1991	Abolishment of the restriction for sick funds to operate within particular regions. Now they are allowed to operate nationwide.
1996	Restrictions in duration of the reimbursement of physiotherapy, except for those conditions included on the Borst list [Lijst van Borst].
1997	Uniform price setting (removing differences between private and public prices)
2006	<ul style="list-style-type: none"> • Health insurance act [Zorgverzekeringswet (Zvw)] Mandatory health insurance for all citizens by means of an obligatory private agreement between citizen and insurer. Insurer is obliged to accept all applicants for the basic package and charge equal premiums; i.e. ban on premium differentiation. • Act on healthcare allowances [Wet op de zorgtoeslag (Wzt)] Lower income groups are supported by an allowance in order to maintain the financial accessibility of mandatory health insurance.
2008	<ul style="list-style-type: none"> • Implementation of a deductible, replacing the no-claim regulation (of 2006) • Deductible compensation act [Compensatie eigen risico (CER)] Groups with a higher risk of using care are compensated for not being able to prevent using healthcare due. The compensation amounts to the average deductible actually paid.
2009	<p>Act on compensation for chronic diseases and disabilities [Wet tegemoetkoming chronisch zieken en gehandicapten (WTCG)] Arrangement of compensation for other disproportional costs beyond the deductible (e.g. personal contributions) for high risk groups.</p>
2014	Abolishment of the act on compensation for chronic diseases and disabilities, because the arrangement did not fully meet its intended goals. The arrangement failed, among other reasons, because it also supported individuals with private capital.

Supplementary File 2

Overview of the major reforms in Dutch disability insurance since the 1980s

Year	Summary of the relevant policy developments
1985	Decrease in the percentage of benefits provided by the disability insurance act (80% to 70%).
1986	Decrease in the percentage of benefits provided by the sickness act (75% to 70%).
1992	Disability volume reduction act [Wet terugdringing arbeidsongeschiktheidsvolume (Wet TAV)] <ul style="list-style-type: none"> • Introduction of bonus/malus system as financial incentive to provide disabled employment contracts and to maintain them in the labor process. • Introduction of premium differentiation in the sickness act.
1993	Act on reduction of claims for disability benefits [Wet terugdringing beroep op arbeidsongeschiktheidsregelingen (Wet TBA)] <ul style="list-style-type: none"> • Adjustment of the definition of labor incapacity; rather than focusing on incapacity for one's customary labor to one's capacity to perform some form of labor. • Income-related benefit period restricted by time (based on age). Afterwards, benefits are related to minimum income, which creates a gap (WAO-hiaat). • The number of controls on the level of labor incapacity increased.
1994	Act on reducing sick leave [Wet terugdringing ziekteverzuim (Wet TZ)] <ul style="list-style-type: none"> • Introduction of employers' continued payment of wages during sickness (6 weeks). This leads to a waiting period for receiving benefits under the disability insurance act. • Similarly, the benefit period of the sickness act has been extended.
1995	Act on abolishing bonus/malus incentives and promoting reintegration [Wet afschaffing bonus malus en bevordering re-integratie (Wet Amber)] Reverses most of the bonus/malus system introduced in 1992.
1996	Act extending the period for continued payment of wages during sickness [Wet uitbreiding loondoorbetaling bij ziekte (Wvulbz)] <ul style="list-style-type: none"> • Extension of the period of continued payment of wages by employers during sickness of employees from 6 to 52 weeks. • Stricter conditions for claiming benefits of the disability insurance act.
1998	Act on premium differentiation and market forces concerning labor incapacity [Wet premiedifferentiatie en marktwerking bij arbeidsongeschiktheid (Wet Pemba)] <ul style="list-style-type: none"> • Employer contribution becomes dependent on their personnel's risk for claiming benefits on the disability insurance act (based on the number of employees receiving these benefits in the past). • Employers are allowed to carry their own risk for labor incapacity (in Dutch: eigenrisicodrager, ERD). This exempts them from the risk-differentiated part of the premium of the disability insurance act, but obliges them to pay loss of income benefits for ten years in case of labor incapacity of their employees.
2002	Gatekeeper improvement act [Wet verbetering poortwachter (WVP)] Employer and employee are obliged to make efforts to minimize absenteeism and improve reintegration.
2003	Act on carrying own risk for disabled employees [Wet eigen risico dragen Ziektewet (WEZ)]. Employers can opt to carry their own risk of the sickness act (safety net for those who are not covered by the obligated continued payment of wages during sickness). The WEZ exempts employers from the premium of the sickness act, but obliges them to pay for the benefits in case of sickness of temporary employees. Similar to the ERD of 1998.

2004 (Second) act prolonging the period of continued payment of wages during sickness

[Wet verlenging loondoorbetalingsplicht bij ziekte (VLZ)]

- Following 1994 (6 weeks) and 1996 (52 weeks), the period of continued payment of wages during sickness was prolonged to 104 weeks.
- The introduction and prolonging of wage payments during sickness are established in the sickness act (the safety net).

2005 Work and income according to labor capacity act: a new disability insurance act

[Wet werk en inkomen naar arbeidsvermogen (Wet WIA)]

- Two main classes were implemented. The first is the IVA for those who are wholly (>80%) and permanently incapacitated. Height of benefits: 75% of previous income.
 - The second class is the WGA for those who are partially incapacitated. The minimum level of labor incapacity to claim benefits was increased from 15% to 35%. There are two regimes: an income-related regime and a follow-up regime.
 - Duration of the income-related benefit period is conditioned and shortened by employment history.
 - The height of benefits in the first two months of the income-related period increased from 70% to 75%. The remainder of this period provides 70%.
 - The subsequent follow-up regime consisted of two schemes; which one is applied is based on the ability to use more or less than 50% of residual earning capacity.
 - A deduction mechanism of earned income was introduced, in which income is kept and benefits adjusted, instead of decreasing the level of labor incapacity.
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CHAPTER 3

The impact of reforms on solidarity in social health insurance in the Netherlands: comparing medical care and long-term care

*It is very possible that in one respect social action has regressed
whilst in others it has been enlarged, so that in the end
we mistake transformation for disappearance.*

David Émile Durkheim (1858-1917)
French sociologist

The impact of reforms on solidarity in social health insurance in the Netherlands: comparing medical care and long-term care

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Under review

Abstract

Background: Throughout Europe, the financial risks of medical care and long-term care (LTC) are covered through public social insurance arrangements. Members of these arrangements share their risks for using health services based on solidarity – a bond of social cohesion. There is not much known about the effect of social insurance reforms on solidarity. It is important to increase our insights into this matter, especially in light of new reforms which are expected in the near future. Therefore, we aim to understand the effects of past reforms on solidarity in medical care and in LTC.

Methods: A comparative policy analysis was conducted on major reforms in the Netherlands; these reforms were implemented in the insurance arrangements of both medical care and LTC in the 21st century. We developed a multidimensional analytical framework – covering six dimensions of solidarity – to analyze the impact on solidarity of these reforms.

Results: In medical care, the Health Insurance Act (2006) had a mixed impact on solidarity, including strengthening effects. However, we also observed slight restrictions on solidarity in the coverage of costs. LTC was subjected to two significant reforms (2007 and 2015), which had either no effect or a restricting effect on the six dimensions of solidarity. Moreover, LTC went through a normative reorientation that adjusted the role of the state in covering the financial risks of illness.

Conclusions: The Dutch case shows that recent reforms had different effects on solidarity in medical care and in LTC. Solidarity in medical care was mainly strengthened, while several restrictions were observed on solidarity in LTC. We recommend further comparative research to improve insight into reforms' effects on solidarity – for which this study offers an analytical tool.

Background

In the last two decades, public arrangements covering the financial risk of medical care and long-term care (LTC) have been subject to reform all over Europe. The objectives of these reforms were manifold, but in common they aimed to ensure the sustainability of these arrangements in future (Gevers et al. 2000, Colombo et al. 2011, Maarse and Jeurissen 2016, Companje 2014). The effects of these reforms have been studied frequently, in particular with regard to their impact on healthcare expenditures. However, they may also have affected solidarity. Despite its role as a guiding normative principle in the public finance of the costs of illness, there are only a few empirical studies providing an analysis on the implications of social insurance reforms for solidarity (Maarse and Paulus 2003, Saltman 2015, Stock et al. 2007). As a consequence, only little is known on how the reforms may have affected solidarity. Nevertheless, knowledge of the reforms' impact on solidarity is important, the more so because public financing arrangements are considered to be under strain in Europe and new reforms are expected in the future. The recommendation of the Council of the European Union that social values should be respected in reforms (Council of the European Union 2006) requires evidence about their potential effects on these values including solidarity. The purpose of this article is to gain better insight into the impact of past reforms on solidarity in the insurance of both medical care and long-term care. Our focus is on the Netherlands, a country with a long history of public social insurance arrangements for covering the financial risks of illness. In 2017, the share of public financing for medical care was 5.8 percent of the gross domestic product (GDP), whereas the share of public funding for LTC amounted to 3.7 percent (CPB 2017).

Analyzing solidarity scientifically presents a challenge because there is no common understanding of the concept. Generally, solidarity refers to social cohesion among the individuals in a community (Durkheim 1997). In practice, social cohesion is expressed in varying degrees and in many different forms, ranging from small-scale informal support of an ill neighbour to formal public arrangements. Within the context of public health insurance, solidarity refers to a formalized form of social cohesion that is instituted by the welfare state (Bayertz 1999). Social cohesion among community members is the result of all members paying a contribution to a risk pool, while only some of them – those who fall ill – appeal to the resources collected. Consequently, resources are redistributed and ensure access to healthcare services to all members, including

those who would otherwise be unable to bear the costs of these services individually (Lehtonen and Liukko 2011). In short, this article considers solidarity as the bond of social cohesion that is expressed through the redistributive mechanism of public social insurance.

Despite being a leading normative principle of public social insurance arrangements on the European continent (Stjernø 2009), there is no clear-cut way to translate solidarity in concrete public arrangements (Saltman 2015). There is wide variation in the set-up of social insurance arrangements both in time and place (Saltman and Dubois 2004). The financial risks of medical care and long-term care are covered in many ways, each shaping the bond of solidarity differently. Consequently, it is likely that solidarity in each area may have been differently affected by reforms as well. This article investigates the Dutch case regarding the impact on solidarity of recent reforms undertaken in the social insurance arrangements for both medical care and LTC. In particular, we are interested in the impact of the overhaul of health insurance in 2006 – also known as the market-oriented reform (Maarse et al. 2015) – and the reforms of long-term care in 2007 and 2015 respectively, which involved a partial decentralization of services (Schut et al. 2013). Gaining insight into these reforms' effects in both areas contributes to the broader understanding of how reforms may impact solidarity, which could inform policymakers in finding a proper balance between respecting and reforming solidarity. Our research questions are: (1) what is the impact of the aforementioned reforms on solidarity in the insurance arrangements of medical care and long-term care; and (2) did the reforms have a similar or different impact on solidarity in both arrangements?

Framework

The essence of solidarity in social insurance is the formalized relationship between individuals and society (Stone 1993) expressing a bond of social cohesion (Durkheim 1997). How can this relationship be measured given the great variety in institutional arrangements worldwide (Busse et al. 2004)? To answer this question, we have to identify the universal elements of the arrangements that shape solidarity. These elements are found in the recipient-side and contributor-side of the bond of solidarity in social insurance arrangements.

A first element is membership or population or population coverage. Who belongs to the group of individuals who form a solidary community by sharing the financial risks of medical care and LTC (Stone 1993)? Beyond population coverage, literature provides various – partly overlapping – solidarity-shaping elements in social insurance. From the legislative perspective, Mesa-Lago presents three elements of social insurance that define solidarity¹: coverage, benefits and financing (Mesa-Lago 1978). Sociologists mostly relate solidarity to the deservingness of coverage, distinguishing between the elements of ‘who’ is deserving, ‘what’ is deserved and ‘when’, i.e. under which conditions (2000). The World Health Organization (WHO) presents a partly overlapping subdivision of elements of the coverage dimension of social insurance. Next to the ‘who’ and ‘what’, it also introduces the element of ‘how much’ is covered by a social insurance arrangement in terms of the percentage of the costs of the service covered (WHO 2010). Finally, in health sciences, the financing dimension of social insurance has been further defined by distinguishing between the risk-relatedness and income-relatedness of the contributions of the arrangements (Maarse and Paulus 2003). Thus, different disciplines have identified various elements that shape solidarity in social insurance.

From combining these insights of various disciplines it follows that solidarity is a multidimensional concept, with two key dimensions: coverage and financing (Box 1). The coverage dimension has four elements: membership or population coverage (who?), material coverage (what?), cost coverage (how much?) and conditioning (when?). The financing dimension has two elements: income-relatedness (income solidarity) and risk-relatedness of contributions (risk solidarity).

As described in Box 1, each element is operationalized on a continuum of shared responsibility versus personal responsibility (Carrera et al. 2008): arrangements are considered to be more solidary if responsibilities are more broadly shared. In contrast, health care is understood to be a personal responsibility if no solidary arrangement is in place. Regarding the coverage dimension, elements institute a stronger bond of solidarity if more people and more services are covered, if co-payments in the costs of services are lower and if access to services is based only on medical need. As for the financing dimension, elements institute a stronger bond of solidarity if contributions are related to income according to ability-to-pay and not related to risk.

Box 1. Dimensions of solidarity in social health insurance

COVERAGE

How is the bond of social cohesion shaped regarding the provision of collectively financed resources?

- **Membership or population coverage (breadth²)** *Who* is a member of the arrangement? Solidarity is stronger if more people are covered. Segmented systems, i.e. separate insurance schemes for specific groups, weaken the bond of social cohesion.
- **Material coverage (depth)** *What* benefits are provided? The bond of social cohesion is stronger if the package of benefits or health services is more generous (assuming that these are effective, safe and meet the quality standard).
- **Cost coverage (height)** *How much* do individuals have to contribute at the moment of provision? The bond of social cohesion strengthens if a higher share of the costs is covered by the arrangement. Accordingly, co-payments weaken the bond.
- **Conditioning** *Under which conditions* are benefits provided? Which conditions have to be met in order to receive the benefits covered? Solidarity is stronger if fewer conditions are applied, because that implies more allocation and thus more binding ties between individuals.

FINANCING

How is the bond of social cohesion shaped regarding the collection of contributions?

Solidarity in financing is achieved through two elements³:

- **Income-relatedness of contributions** To what extent does the arrangement follow the principle of ability-to-pay? The bond of social cohesion is stronger if people with a low income pay less for the same policy in comparison with people with a high income because it implies redistribution from high to low income groups.
- **Risk-relatedness of contributions** To what extent does the arrangement prevent premium-setting based on individual risks? Solidarity is strong if risks are *disregarded* in premium setting because this implies a redistributive effect from high risk to low risk groups.

Methods

We analyze the effects of recent Dutch reforms in medical care and in LTC on solidarity by means of the multidimensional analytical framework presented in the previous section. Our interest is to measure changes empirically, not to assess them by normative principles. In order to do this, we compare the degree of solidarity in the pre-reform era with the degree of solidarity in the post-reform era. We do this for each dimension separately; none of the dimensions is considered more important than another (Gallie 1955). Therefore, our analysis does not lead to a single outcome measure of solidarity, but presents the effects of reforms on each element of solidarity separately.

Herein, a scientific approach significantly differs from a political discourse which intends to formulate a normative judgment of solidarity and often focuses on a single or a few of the dimensions of solidarity. Political discourses are also different because they bring in other (competing) values, while our scientific view focuses solely on solidarity.

Following a scientific approach, we will first briefly describe the situation prior to the reform as a reference point, and roughly sketch the latest Dutch reforms in medical care and LTC. Hereafter, we will assess their effect on each of the dimensions of solidarity separately for medical care and for LTC. In doing so, we are interested in global changes in the set-up of the redistributive bond itself (qualitative; descriptions) rather than in the exact redistributive effect (quantitative; calculations). The analysis is done by a multidisciplinary team to improve neutrality in interpreting the data. The assessment is based on government documents (laws, policy memoranda) and on scientific literature.

Results

The pre-reform state of both medical care and LTC are strongly characterized by the “universalistic pretensions” that surround the development of the welfare state (Ter Meulen et al. 2001).

Pre-reform State of the Insurance of Medical Care

Before 2006, approximately two-thirds of the population was covered by the Sickness Fund Act (*Ziekenfondswet 1964*, Zfw), a social arrangement based on the Bismarck model (Cohu et al. 2006). Employees with earnings above a level set by the state were excluded from this Sickness Fund scheme and could purchase a private insurance plan. They were not obligated to do so, but most did.

The public Sickness Fund scheme covered a wide range of medical services in acute and planned care including family care, specialist care, hospital admissions, pharmaceuticals and many other services. The public arrangement also featured a high level of solidarity regarding financing – safeguarded by public regulations, income-related premiums and the absence of any form of risk selection or risk-related premiums. In contrast, the private tier had fewer features of solidarity: private insurers could deny applications, restrict coverage and charge flat-rate premiums. In practice, they applied a combination of community-rating and risk rating. Private health insurance fulfilled a substitutive role, which means that citizens were either members of the Sickness Fund

scheme or relied on private insurance, depending on income level. In the 1970s and 1980s, access to health insurance became rather problematic for individuals who were not eligible for the Sick Fund scheme, but had great difficulty in purchasing private health insurance. To ensure their access to health insurance, the government implemented a specific insurance scheme with a state-set premium. Since these premiums did not cover all expenditures of the scheme, members of 'purely' private health insurance had to pay a mark-up on their premium to cover the deficit. Moreover, private insurers were forced to pay a yearly amount of money to the sick funds because they insured individuals who were at higher risk of illness. These policy measures of cross-subsidization between public and private insurance foreshadowed the 2006 reform in medical care, which eventually replaced the two-tier system with a single insurance scheme.

Pre-reform State of the Insurance of Long-term Care

Before 2007, the so-called Exceptional Medical Expenses Act (*Algemene Wet Bijzondere Ziektekosten 1968, AWWBZ*) was in place to cover the financial risk of long-term care. It was set up as a statutory scheme covering the entire population (universal coverage). The scheme paid for a broad range of care provision for a wide category of recipients, such as the elderly, the disabled and patients in need of chronic mental care (Colombo et al. 2011). After its introduction in 1968, the benefit package in LTC was gradually extended (Companje 2014). On the eve of the 2007-reform its benefit package covered nursing home care, home care, household services, residential care for people with a cognitive or physical handicap, long-term psychiatric care and many other services. Each person meeting the need-based assessment criteria was entitled to care (right-based). The Exceptional Medical Expenses Act was funded by means of income-related contributions and instituted a strong bond of solidarity. In 2006, the expenses of this generous insurance arrangement in LTC were about 45% of the total expenses in healthcare (CPB 2017). Since the 1980s, mostly due to the ongoing expansions in scope and increased expenditures, reform of long-term care became a topic of debate, but this did not lead to reform until 2007.

Main Characteristics of the Reforms

Eventually, both the insurance of medical care and the insurance of LTC have been subject to a major overhaul after 2000 (Table I).

Table 1. Main characteristics of recent reforms in medical care and LTC in the Netherlands

	Reform of medical care (2006)	Reform of long-term care (2007 and 2015)
Primary motive for reform	<ul style="list-style-type: none"> • Strengthening solidarity • Strengthening efficiency • Enhancing individual choice 	<ul style="list-style-type: none"> • Controlling expenditure growth • Strengthening efficiency and client-orientation • More emphasis on individual responsibility
Set-up before reform*	<ul style="list-style-type: none"> • Sickness Fund Act (66%) • Substitutive private tier (33%) 	<ul style="list-style-type: none"> • Exceptional Medical Expenses Act (AWBZ) (100%)
Set-up after reform*	Abolition of the Sickness Fund Act, which was replaced by: <ul style="list-style-type: none"> • Health Insurance Act (Zvw) (100%) • Private insurance covers only complementary health services (services not covered by the Zvw) 	Abolition of Exceptional Medical Expenses Act, which was replaced by three acts (all 100%): <ul style="list-style-type: none"> • New Long-term Care Act (Wlz) • Social Support Act (Wmo) in 2007, which was renewed in 2015 (Wmo2015) • Health Insurance Act (Zvw)
Institutional measures	<ul style="list-style-type: none"> • Introduced regulated competition • Set regulations to safeguard public interests (universal access). 	<ul style="list-style-type: none"> • Decentralization to local government • Made health insurers responsible for community nursing
Financial measures	<ul style="list-style-type: none"> • No expenditure cuts • Extra budgets to finance coverage for children and reduce premiums for persons on low income 	<ul style="list-style-type: none"> • Expenditure cuts, mainly in the 2015-reform
Financial impact	From 3.0 percent of the GDP in 2005 to 4.3 percent in 2006**	From 4.3 percent of the GDP in 2014 to 3.8 percent in 2015**

* Percentages represent the fraction of the population covered.

** Source: CPB 2017

The insurance of medical care was reformed in 2006 by the Health Insurance Act (*Zorgverzekeringswet*, Zvw), which integrated the Sickness Fund Act and all private health insurance arrangements into a universal and mandatory insurance scheme. The Sickness Fund Act was subsequently abolished and private health insurance lost its former substitutive function; it covers only health services that are not covered by the Health Insurance Act. This new act included many public safeguards to ensure that the principle of solidarity in social health insurance was maintained. One of the purposes of the reform was to strengthen solidarity. The reform in medical care was part of what is known

as the ‘market-oriented reform’ because it also established regulated competition (Maarse et al. 2015).

The insurance of LTC was reformed in 2007 and in 2015. In 2007 various services were shifted from the benefit package of the Exceptional Medical Expenses Act to the newly created Social Support Act (*Wet Maatschappelijke Ondersteuning*, Wmo). This reform meant that, instead of regional care offices, local government was made responsible for these services. The underlying assumption was that local government could run these services much more efficiently than the care offices. Therefore, they were given substantial policy discretion to set up public tenders to contract providers, negotiate prices, include quality arrangements in contracts, and so on. The Social Support Act covered about 5% of the total costs of LTC.

A second reform took place in 2015. The Exceptional Medical Expenses Act was abolished and replaced with a new universal insurance scheme titled the Long-term Care Act (*Wet Langdurige Zorg*, Wlz). The objectives of the reform were to ensure the financial sustainability of LTC in the future. Furthermore, the reform involved what may be called a normative reorientation (Maarse and Jeurissen 2016) because it reconsidered the broad scope of the LTC insurance scheme and the role of the state in LTC. As a result of the reforms, the benefit package of the Exceptional Medical Care Act was reshuffled. The Long-term Care Act covers all 24/7 residential care (60% of the total costs of LTC), whereas community nursing (about 20%) was transferred to the 2006 Health Insurance Act (Ministry of Health 2014). Finally, the benefit package of the renewed Social Support Act was extended with various new services, after which it covers about 20% of total costs in LTC (Ministry of Health 2014). As a consequence, the role of local government was extended further. The reforms also made substantial cuts in budgets in LTC. In sum, the 2007 and 2015 reforms overhauled the insurance of LTC in the Netherlands by both rigorous institutional, normative and financial measures.

Reforms’ Impact on Solidarity

The effects of the reforms on the six dimensions of our solidarity framework are presented separately for medical care and LTC in the next section. The section thereafter presents a comparison between the impact on solidarity in medical care and long-term care.

Population Coverage

An important policy objective of the 2006 Health Insurance Act was to strengthen solidarity by putting an end to the traditional two-tier structure in the insurance of medical care. The former Sick Fund Scheme (covering about 66% of the population) and private health insurance arrangements (covering the remaining 34%) were integrated in a new basic mandatory health insurance scheme covering each person legally residing in the Netherlands. To ensure that citizens are able to take out an insurance policy, a public safeguard was implemented in the form of an obligation for insurers to accept all applicants for the basic package within their area of activity (open enrolment). Moreover, insurers are forbidden to apply risk selection. In the new financing regime, private health insurance fulfills a complementary role by covering health services beyond the basic benefit package. Before 2006, one-third of the population had to resort to the voluntary substitutive private tier, but since 2006 all residents are members of a common risk pool. Therefore, solidarity has increased on the membership dimension.

The new Long-term Care Act and the (re)newed Social Support Act cover all citizens by law as did the previous scheme. Community nursing was shifted to the Health Insurance Act, which theoretically covers all residents as well (see previous paragraph). Thus, reforms in long-term care did not affect population coverage.

Material Coverage

The 2006 reform did not change the basic benefit package: the benefit basket of the Health Insurance Act was almost the same as the basket of the previous Sickness Fund Act. Ever since, various medical services have been added to the list of services covered, but some (of these) services have also been delisted. The package is determined by the state and there is a ban on package differentiation to safeguard universal access to a basic package of services. Thus, solidarity dimension of material coverage in medical care insurance was not affected by the 2006 reform.

The impact of the 2007 and 2015 reforms on material coverage in LTC appears to be more ambiguous. The abolition of the former Exceptional Medical Expenses Act may be seen to have decreased material coverage. However, coverage of 24/7 long-term care was shifted to the new Long-term Care Act, coverage of community nursing to the Health Insurance Act and the remainder

of services were shifted to the Social Support Act. Each reform measure thus meant a shift of coverage, but not a change in material coverage.

However, the picture is more complicated for two reasons. First, the Exceptional Medical Expenses Act gave persons who fulfilled the state-set criteria for need assessment the right to a predefined set of services. This rights-based arrangement is still in place for persons who need 24/7 care and community nursing. However, the situation is different for persons who need social support. The new Social Support Act also formulates a right to social support, but gives local government substantial policy discretion in determining what kind of support is needed. The government assumed that this would make provision more client-tailored than the right-based entitlements could ever achieve. However, there are various indications that this shift from a right-based arrangement to broader client-tailored support has led to local variation in allocation (see conditioning). Second, the reforms in LTC included significant budget cuts. For instance, the state budget granted to municipalities to carry out the Social support Act was reduced by approximately 5 percent in 2015 (Maarse and Jeurissen 2016). The government assumed that this would not affect access to support because municipalities could work much more efficiently than the regional care offices which had been responsible for these services. However, the validity of this policy assumption is contested. There are signs of reduced allocation of support and increased co-payments (see cost coverage). In summary, the combination of transforming right-based entitlements into client-tailored support and accompanying budget cuts may have affected material coverage in long-term care. Although this has not been formalized by means of restrictions in the benefit package in LTC, its effect could manifest itself in the dimensions of conditioning and cost coverage.

Cost Coverage

Since 2008, the Health Insurance Act contains a mandatory deductible, which has increased by 150 percent (up to €385) from 2008 to 2016. Moreover, it may be voluntarily topped up by €500 in return for a premium discount. After the introduction of the Health Insurance Act in 2006, co-payments for specific services are also increasingly common, e.g. for dental care, physiotherapy, seated transport and mental care. In sum, the 2006 reform has somewhat restricted the cost coverage dimension of solidarity in medical care.

In LTC, cost coverage has decreased as well. Co-payments, set by the state, already existed under the former insurance legislation. They were raised in 2013 by increasingly taking the partner's income and assets (excluding housing) into account in calculating the co-payments. The fraction of costs covered for services that were shifted to the Social Support Act is likely to decrease as well; to a certain extent municipalities are free to set up their own co-payment regime. Higher co-payments seem likely because of significant budget cuts (see material coverage). The discretionary power of municipalities to set up their own regimes has also caused inter-municipality differences regarding cost coverage (De Koster 2015). In sum, the 2007 and 2015 reform in LTC decreased solidarity in cost coverage.

Conditioning

The 2006 reform did not change the conditions for access to services in medical care. Medical professionals determine the need for medical care by assessing the health status of patients. In doing so, they take into account the patient's medical status, the treatments' expected effectiveness and their potential side-effects; other personal characteristics such as lifestyle are not taken into consideration.

The guidelines for need assessment in LTC have been made stricter under the new Long-term Care Act. The 'reshuffling' of services to the Social Support Act also had implications for conditioning. Under the old regime need assessment was performed by regional care offices. These offices checked only whether claimants met certain nationally established eligibility criteria (right-based entitlement). Under the Social Support Act, municipalities are, with some constraints, free to set their own criteria in determining which citizens need what kind of services in order to participate in society (goal-oriented and client-tailored support). Therefore, municipalities have some discretionary power regarding conditioning, which they are likely to use given the budget cuts for these services. The purpose of this discretionary power is to make social support more client-tailored and more efficient. However, it may also decrease access and lead to inter-municipality variation in allocation (De Koster 2015, Van der Aa et al. 2014) because municipalities can take non-medical factors into account in need assessment, such as the skills and capacities of the claimants and their social network (Hofman and Pennings 2013). However, means testing remains forbidden. In summary, conditioning in LTC has become stricter.

Income-relatedness of Contributions

The 2006 reform had significant consequences for the distribution of the financial burden of medical care, but its effect on income-relatedness is unclear. In the pre-reform era, contributions to the Sickness Fund scheme were income-related. Subscribers also had to pay a nominal (flat-rate) premium (380 euros in 2005 (Vektis 2006)). Private schemes collected nominal premiums only. Overall, income-related premiums covered almost 60 percent of total spending in medical care. Since the 2006 reform, all insured pay a flat-rate nominal premium for the basic health insurance scheme, which was on average €1162 in 2015 (NZa 2014.). These premiums covered 50 percent of the total financing for medical care. In addition, subscribers paid a state-set income-related contribution, with a capped maximum. The state also pays the premium for children (tax funding). Moreover, persons with low income can apply for a tax allowance to restore the income-relatedness of contributions. The combination of nominal premiums, income-related contributions and allowances has created a complex financing arrangement. As said above, its impact on income solidarity is unclear, but it seems reasonable to argue that, overall, income solidarity has not significantly altered.

The reforms in long-term care did not affect the income-relatedness of financing either. As in the past, LTC is financed through income-related contributions (Long-term Care Act) and taxes (Social Support Act). Income solidarity has been influenced by an increase of co-payments (see cost coverage). However, these co-payments are income-related as well and cover only about 10% of the LTC costs (Vektis 2006). In sum, the reforms in long-term care did not significantly affect income solidarity.

Risk-relatedness of Contributions

The 2006 reform had significant consequences for the risk-relatedness of financing in medical care. The new Health Insurance Act includes a ban on risk-rating: insurers must apply community-rating in setting their nominal premium (Van de Ven and Schut 2008). Risk-rating was also excluded by law in the public Sickness Fund scheme. However, in private health insurance it was (with few exceptions) common. Because the reform created a universal scheme (see population coverage), the new financing regime became applicable to all, including those who had paid risk-related premiums in the private tier prior to the reform. Altogether, the 2006 reform decreased the risk-relatedness of financing in medical care and thus increased risk solidarity.

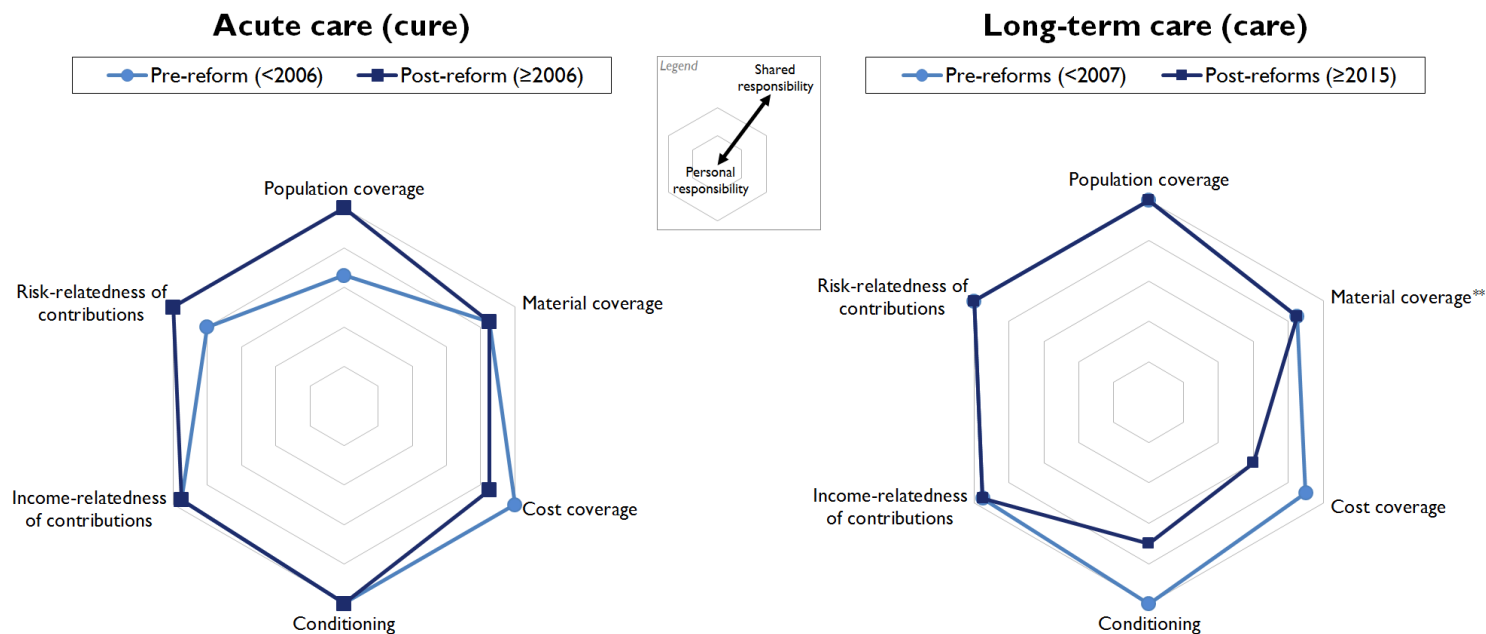
Risk-related premiums have always been absent in the financing in the main LTC act. Neither the 2007 nor 2015 reforms altered this. The Social Support Act is financed through tax-based contributions, which are not risk-related either.

Impact on Solidarity: Comparing Medical Care and Long-term Care

In medical care, changes in population coverage and financing led increasingly to a stronger bond of solidarity. The benefit package and conditions for access to services remained unaltered. However, cost coverage of publicly financed medical care services decreased slightly due to the increase in co-payments. In LTC, the reform had no consequences for population coverage, material coverage or financing. However, it weakened solidarity in the dimensions of cost coverage and conditioning. This regards mainly the services that are covered by the Social Support Act since the reform, which account for approximately one-fifth of long-term care expenses.

Comparing the results of our analysis leads to the conclusion that the reforms had differing consequences for solidarity in the financing of medical care and LTC (Figure 1). In medical care, the 2006 reform largely maintained solidarity, and even reinforced solidarity in the dimension of population coverage (common risk pool). In LTC, on the other hand, we observed a weaker notion of solidarity in several dimensions, even though it was maintained in other dimensions. Altogether, we conclude that solidarity was affected more in LTC than in medical care. The public financing arrangements for medical care appeared to be relatively immune to solidarity-restricting measures.

Figure 1. The effect of recent reforms in medical care and long-term care in the Netherlands on solidarity.



* The diagrams represent the effect of the reforms on solidarity, operationalized by the effects of reforms on each of the six dimensions of solidarity (Box 1). The more a marker is on the outside of the diagram, the more shared responsibility is and the stronger the solidaristic bond on the respective dimension. More inward positions of markers point at higher personal responsibility and a weaker solidaristic bond on that dimension. The differences between the red dots (pre) and blue squares (post) show the impact of reforms on the shape of solidarity.

** The effect of the LTC reforms on material coverage in the Social Support Act is ambiguous because entitlements are now more loosely defined than they were in the previous legislation. Furthermore, the reforms included substantial budget cuts. There are indications that this has affected coverage, but this effect is seen in the dimensions conditioning and cost coverage.

Discussion

The purpose of our research was to gain insight into the effects of recent reforms on solidarity in illness-related social insurance arrangements in the Netherlands (Figure 1). In medical care, we observed that solidarity remained largely unaltered in several dimensions; in some dimensions (population coverage and risk-relatedness of contributions) it was even strengthened. In long-term care, reforms either did not affect solidarity or had a weakening effect on it (cost coverage and conditioning). However these reductions in solidarity did not concern all areas of long-term care.

Our study raises the question of the generalizability of the results concerning the reforms' impact on solidarity. Comparative research is needed to find out whether this study reflects a typical 'Dutch experience' or whether similar effects can also be observed in other countries. In this respect it seems plausible to assume that the starting point of the reform matters. On the eve of the reforms in 2007 and 2015 the system of LTC in the Netherlands was extensive and generous (Maarse and Jeurissen 2016, Comanje 2014, Colombo et al. 2011). It gave people access to a wide range of services paid for publicly. Many policymakers were concerned about the financial sustainability of the system in the future. This was an important reason for them to start a reform which, as our analysis demonstrates, had consequences with regard to the degree of solidarity. The starting point in other countries may be quite different (Mosca et al. 2017). France provides a good example (Morel 2006, Doty et al. 2015). Their 2002 reform introduced universal coverage of social assistance benefits and expanded allocation to a wider group of needy – although allocation is conditioned by income. Using our framework of solidarity, this reform seems to increase solidarity in LTC-financing. However, one should keep in mind that LTC in France was still covered largely informally in the early 1990s (Morel 2006), while a Dutch public arrangement for long-term care had already been implemented in 1968. Further international comparative research – in which our framework could be a starting point – is needed to better understand the situation prior to reforms as well as their impact on solidarity in social health insurance.

Explaining Differential Impact in Medical Care and Long-term Care

Our findings raise the question of how to explain the differences in impact on solidarity between medical care and long-term care. Further research is required to find an answer, but we suggest two complementary explanations.

'Softness' of needs

One possible explanation is that various services in LTC such as cleaning, shopping, doing dishes and personal guidance refer to 'soft needs'. These services are an easier target for reform including budget cuts than are medical services which are associated with 'hard needs'. Whereas sick people need medical care, they may not necessarily need extensive personal assistance. Also note in this respect that the various support services are provided by workers with only limited training (Casey et al. 2013). However, this explanation should not be overstated. Current regulations still make public funding of the aforementioned support services possible; only need assessment has become stricter. It is up to local government to assess whether an applicant needs social support and to what extent. For instance, it may be decided that a client who received four hours of cleaning a week in the old system now qualifies for only two hours. In medical care such practice is hardly conceivable.

Power of stakeholders

Our second explanation has to do with power. The medical profession is traditionally known to be very powerful in policymaking in medical care (Denis and van Gestel 2016). In the past doctors have often successfully resisted policy measures they considered to be in conflict with their professional autonomy, ethical principles and private interests. Many workers in LTC are viewed as "moderate professionals" (Trappenburg 2014). They possess fewer political resources to resist reforms. This is likely to be most true for social support workers (whose salaries are also low). The power-to-resist of the professionals in LTC is also weakened by the heterogeneity of the working force in LTC. While some work in nursing homes, others work in residential homes for persons with some kind of handicap; while some work in facilities for psychiatric care, others provide social services. The weaker power of stakeholders in long-term care makes this sector – in comparison with medical care – a more convenient target for solidarity-restricting measures.

Contribution to scientific knowledge and methodology

This article presented an analytical framework for investigating the impact of ongoing reforms in medical care and long-term care on the ambiguous concept of solidarity. Solidarity was presented as a multidimensional concept. Our framework emphasizes that reforms may have various consequences for solidarity. The study of the impact of reforms on solidarity should take each dimension and its elements into consideration. The focus in research on solidarity should not be restricted to only one dimension nor to only a few

elements as so often happens in political discussions on the impact of reforms on solidarity. Put differently, our model helps to avoid what may be called political reductionism. It also gives policymakers an analytical instrument to assess the consequences of reform proposals with regard to solidarity.

Limitations

This study has several limitations, which mainly relate to the lack of a common understanding of the ambiguous concept of solidarity, which hampers empirical research (Bayertz 1999).

First, the lack of clear boundaries of the dimensions of solidarity complicates assessment of the various effects that reforms have. Waiting lists for instance, may affect allocation but do not impact the benefit package (material coverage) nor the requirements for benefit entitlement (conditioning). Services are accessible, albeit not immediately. Such effects are beyond our framework, which is therefore not able to cover all ambiguous effects of reforms on solidarity.

Second, our study is based upon a model of solidarity which was specifically designed to study the effects of the reform of formal public arrangements for covering the financial risks of falling ill. We left the informal dimension of solidarity out of consideration, i.e. solidary actions that are not arranged by the state, such as caring for a family member. In future research, we advise incorporating the informal dimension of solidarity in the framework because it is of particular importance in LTC. Our framework – focused on formal solidarity – recognized ‘informalization’ as a weakening of solidarity, but we emphasize that it rather involves a shift on the government interference-subsidiarity continuum (Carrera et al. 2008). The increasing role of informal solidarity in long-term care in the Netherlands calls for a discussion on methodologies to study solidarity empirically.

Third, our research was set up as a qualitative study. We did not attempt to quantify the impact of the reforms on solidarity. The effects were assessed qualitatively and eventually summarized per dimension in a single point on a radar diagram (Figure 1) based on the body of evidence found in government documents and scientific literature. The neutrality of interpretation of the data was ensured by the assessment by a multidisciplinary team. However, it is evident that the diagrams are only a simplified representation of the effects of complex policy projects.

Conclusions

Solidarity is under strain in many European countries. This paper introduces a framework for analyzing the effect of reforms with regard to solidarity. In the Netherlands, the social insurance of both medical care and LTC have been reformed recently. We observed that the characteristics of reforms in medical care and LTC varied (Table I) as did the reforms' impact on the dimensions of solidarity (Figure I). The results of this study may contribute to the political and academic debate about the future of illness-related social insurance arrangements.

Notes

1. Mesa-Lago distinguished a fourth cluster/dimension of 'appearance in legislation'. This dimension referred to the embedding of the redistributed bond in different types of legislation, e.g. health care and pensions. This distinction is not relevant in our study.
2. The terms height, depth and breadth are part of the understanding of universal coverage, which has been developed by the WHO (2010). The definitions of the dimensions of coverage presented in this article are based on the publications of the WHO regarding universal coverage.
3. Solidarity among different income groups and solidarity among different risk groups are often referred to as separate forms of solidarity: income solidarity and risk solidarity. However, these are not the only forms of solidarity. For example, intergenerational solidarity refers to the subsidizing activity of arrangements between different age groups. We limit the assessment on financing to income-related policies and risk-related policies because these are specifically targeted by social health insurance policies.

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CHAPTER 4

Varying opinions on who deserves collectively financed healthcare services: a discrete choice experiment on allocation preferences of the general public

Those who deny freedom to others deserve it not for themselves.

Abraham Lincoln (1809-1865)
American lawyer and 16th president of the United States

Varying opinions on who deserves collectively financed healthcare services: a discrete choice experiment on allocation preferences of the general public

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Published in INQUIRY: The Journal of Health Care Organization, Provision, and Financing, 2018:55.

Abstract

In Europe, health insurance arrangements are under reform. These arrangements redistribute collectively financed resources in order to ensure access to health care for all. Allocation of health services is historically based on medical needs, but use of other criteria, such as lifestyle, is debated upon. Does the general public also have preferences for conditional allocation? This depends on their opinions regarding deservingness. The aim of this study was to gain insight in those opinions, specifically by examining the perceived weight of different criteria in allocation decisions. Based on literature and expert interviews, we included five criteria in a Discrete Choice Experiment: need, financial capacity, lifestyle, cooperation with treatment and package/premium choice. A representative sample of the Dutch population was invited to participate ($n=10,760$). A total of 774 people accessed the questionnaire (7.2%), of whom 375 completed it (48.4%). Medical need was overall the most important criterion in determining deservingness (range $\beta=1.60$). Perceived deservingness decreased if claimants had higher financial capacity (1.26), unhealthier lifestyle (1.04), if their cooperation was less optimal (1.05) or if they had opted for less insurance coverage (0.56). However, preferences vary among respondents, in relation to demographic and ideological factors.

Introduction

All over Europe, both the scope (Clasen and Siegel 2007) and expenditures of social health insurance (SHI) have increased (OECD 2011). Governments increasingly consider the expenditure trend to be unaffordable over time. In order to curb this trend, they discuss and initiate reforms of SHI. These reforms may put pressure on solidarity, which is one of the core values of SHI. Solidarity in SHI is the shared responsibility for financial risks of healthcare use of all individuals (Bayertz 1999). Shared responsibility manifests itself in health care by collecting financial resources from all citizens and redistributing them to certain “agreed-upon individuals” (Stone 1993). Without such solidaristic arrangements, healthcare services may not be accessible for all (Kornai and Eggleston 2001).

There has always been debate about who are the “agreed-upon individuals” whom we want to be solidaristic with or, in other words, who is granted access to collectively financed healthcare resources. In the Netherlands, as in most OECD countries, access is historically based on the allocation criterion ‘medical need’ (Van Delden et al. 2004). However, other allocation criteria, for instance lifestyle, are currently topic of the political and social debate (RVZ 2013). Adjustments in allocation criteria may affect access, subsequently the redistributive effect of SHI and eventually solidarity. Does the general public also have preferences regarding allocation which takes non-medical criteria into account? This depends on their opinion about allocation in publicly financed social arrangements, which is highly influenced by their perceptions of deservingness (Jensen and Petersen 2017).

Deservingness is a concept that refers to moral judgements on who are the “agreed-upon individuals” whom we want to be solidary with. The central question in determining this group, and thus the question at the heart of social arrangements, is ‘who deserves to be allocated collectively financed healthcare services and why’ (Van Oorschot 2000)? Deservingness of claimants depends on the specific situation of these claimants. Social policy research has shown that ill individuals, especially when older, are generally considered most deserving (Van Oorschot 2006). In line with this deservingness opinion (subjective), healthcare allocation (objective) has always been primarily need-based. At the same time, several studies in the field of health economics identify allocation criteria beyond need (Gu et al. 2015, Guindo et al. 2012, Stolk et al. 2005). Over the years, social policy researchers have developed a comprehen-

sive set of five criteria – characteristics of claimants – that are considered to determine the perceived deservingness of claimants (Van Oorschot 2000). Beyond claimants' necessity for support (need), people are considered deserving when they are 'one of us' (identity) and when they have given or will give society something in return (reciprocity). Moreover, it is considered important that claimants try to control their need (control), and are docile and grateful when receiving support (attitude). Despite the extensive body of knowledge on deservingness in social policies, deservingness is an uncharted field in health care. Healthcare research has mostly focused on the efficiency part in the efficiency-fairness trade-off or investigated the influence of a single indicator on allocation preferences, e.g. age. Therefore, this study addresses the following research question: does variation in the values of deservingness criteria influence public opinion about deservingness for collectively financed healthcare services and if so, how and how much?

Social policy research has shown that people with different demographic and ideological backgrounds place different emphasis on each of the deservingness criteria (Blekesaune and Quadagno 2003). Hence, deservingness of claimants is influenced not only by the claimant's characteristics, but also by the appraiser's characteristics. Nevertheless, evidence is unequivocal about how the appraisers' characteristics relate to deservingness opinions. For instance, levels of income and/or education – typically treated as measures of self-interest – have been related both positively and negatively to welfare support. On the one hand, an inverse relationship between income level and welfare state support is explained by the theory that individuals with lower income become more dependent on the system and will therefore support it (Jæger 2006). On the other hand, individuals are theorized to be also supportive towards the welfare state due to their experience that it has aided them in reaching their position (Svallfors 1991). Moreover, in the case of healthcare, there has also been argued that income level is not related to welfare support, because illness is distributed randomly as a result of which everyone has the risk to become dependent (Jensen and Petersen 2017). Regarding the influence of ideological background of appraisers on their deservingness opinions, literature is less ambiguous. Respondents' political stance has been found to influence deservingness opinions in different social policies (Jeene et al. 2013, Roosma and Jeene 2017). However, it is unknown whether deservingness opinions in health care also vary among individuals. Therefore, it is unknown whether deservingness opinions in health care also vary among individuals. Therefore, this study additionally addresses the research question: what are the differences in health-

care deservingness opinions among subgroups with different demographics (e.g. gender) and ideological factors (e.g. political opinion)?

The previously described background shows that the body of knowledge on deservingness opinions stems mostly from social policy research. We will use that knowledge – for instance the five deservingness criteria – as a starting point to investigate deservingness opinions in the field of healthcare, about which not much is known. Deservingness underlies healthcare allocation policies that are currently under reform. In order to inform such decisions, this study aims to gain insight in deservingness opinions of the general public regarding healthcare, meaning the role of different criteria in allocation.

Methods

This study conducts a discrete choice experiment (DCE) to retrieve preferences for these criteria. A DCE is a method that is able to elicit group-level preferences and to quantify trade-offs between preference criteria (De Bekker-Grob et al. 2012, Lancsar and Louviere 2008). We conducted the experiment in the Netherlands.

Discrete choice experiments

The technique of a DCE is based on the premise that welfare claimants can be described by a number of characteristics (i.e. attributes) and that their deservingness is influenced by the variations (i.e. levels) within these attributes (Ryan 2004). Specific combinations of attribute levels are lined-up side-by-side and respondents are asked to state which of the alternatives they find most deserving. These choices require trading-off among attributes. Statistical analysis makes these trade-offs explicit by retrieving the weight different attributes have in these choices.

Although originating in the field of economics, DCEs are increasingly used in healthcare, with a wide range of applications (Clark et al. 2014). In conducting our experiment, we followed renowned DCE guidelines that have been developed for use in healthcare research (Bridges et al. 2011, Lancsar and Louviere 2008). The experiment consists of four steps: (i) identification and selection of attributes and levels, (ii) design, (iii) data collection and (iv) data analysis.

Attributes and levels

Identifying and selecting attributes and levels is an important step to guarantee the reliability of a DCE. We reviewed relevant literature by searching the terms "deservingness criteria" in EBSCOhost and Google Scholar. It showed that the concept of deservingness has much developed in the last three decades, mainly in the field of social policies (e.g. by De Swaan (1988)). Currently, the five criteria of Van Oorschot (2000), also mentioned in the introduction, are widely adopted. However, these criteria of need, identity, control, attitude and reciprocity are not developed for the field of health care. Therefore, these criteria were used as a starting point and discussed in expert interviews ($n = 12$) to critically assess their applicability to health care. This exercise showed that deservingness criteria require more nuance in healthcare than in the loss-of-income insurance arrangements they originate from. To make them applicable to healthcare, we made five adjustments to the criteria of Van Oorschot.

First, the need criterion was disentangled into a medical and financial component, because the medical component is insufficiently reflected by the general need criterion. Second, identity was excluded in this study, because identity-related allocation is outlawed based on discrimination legislation. Third, the criterion 'control' was subdivided into lifestyle (behaviour prior to the onset of an illness) and cooperation (behaviour during treatment), because this was considered a relevant distinction in health care. Fourth, the criterion 'attitude' was excluded because it is impracticable for use in future policies – which was a requirement for inclusion – because it is hard to operationalize attitudes. Finally, reciprocity was conceptualized according to the *quid pro quo* principle, which refers in health insurance to members' contributions to social insurance and their relation to allocation. In summary, based on literature and expert interviews, we selected five attributes for the experiment, which is a feasible number of attributes to conduct a DCE: need, financial capacity, lifestyle, cooperation with treatment directions and choice of package/premium (Table I).

We also used literature as a starting point for level selection and additionally consulted methodological experts ($n = 5$), which resulted in the selection of two or three levels per attribute. The criterion of 'medical need' is commonly expressed by levels that represent a specific disease. However, we phrased it into more abstract terms– severity in terms of loss in quality adjusted life years (QALYs) –, because labels of specific diseases could wake perceptions/images of these diseases instead of actual opinions about the deserving-

ness criterion. The levels of lifestyle and cooperation were not phrased as “optimal” and “obstructing”, because the latter was considered both unlikely in practice and likely to disrupt the results by the dominant view of being undeserving in case of obstruction treatment. Instead, we used “sub-optimal” because it is more realistic.

Table 1. Deservingness criteria used in the experiment

Attributes	Levels	Coefficient in analyses
Medical need (severity of illness) The impact that an illness has on the quality of life in event of non-treatment	Low (20% loss in quality of life) Average (40% loss in quality of life) High (60% loss in quality of life)	β_1 (continuous)
Financial capacity Financial resources available to cope with healthcare expenses	Low Moderate High	Reference β_2 β_3
Lifestyle The patient's behavior prior to the onset of illness	Optimal Suboptimal	Reference β_4
Cooperation The patient's behavior during treatment	Optimal Suboptimal	Reference β_5
Choice of package/premium The chosen level of coverage (and accordingly premium) of the health insurance policy	High Medium Low	Reference β_6 β_7

Designing choice sets and questionnaire

Out of the selected attributes and levels 11,664 unique alternatives ($3^2 \times 3^2 \times 3^2 \times 2^3 \times 2^3$) and numerous choice sets – each consisting of two alternatives – could be constructed, which could not all be presented to the respondents. A Bayesian efficient experimental design was used to select a feasible number of nine choice sets. D-efficiency was maximized in this design, which is in line with the DCE guidelines mentioned previously. We used Ngene software (version 1.1.1) to do so. In each choice set, the respondent has to identify the person who is most deserving of two hypothetical persons (alternatives) who differ according to the attributes. Figure 1 shows an example choice set of the DCE.

Figure 1. Example choice set in the discrete choice experiment

	Person A	Person B
Medical need	High severity: Quality of life from 10 to 4*	Average severity Quality of life from 10 to 6*
Financial capacity	High	Moderate
Lifestyle (before treatment)	Avoids health risks to a large extent	Sometimes practicing lifestyle that may involve a health risk
Cooperation (during treatment)	Optimal	Suboptimal
Choice of package/premium	Basis benefit package: low premium	Basic benefit package and additional dental care: average premium
Both person A and person B seek support from a collectively financed arrangement – to which you contribute as well – to address their health condition.		
	<input type="checkbox"/>	<input type="checkbox"/>
In your opinion, which person deserves support the most? (Tick one box)		

* The number 10 refers to a perfect quality of life, 6 to loss of quality of life that slightly limits daily activities and 4 to loss of quality of life that has a high impact on functioning. This was well explained to the respondents at the beginning of the questionnaire.

The final questionnaire contained eleven choice sets, which were the same for all respondents. Nine choice sets were part of the experiment. Additionally, the questionnaire included two validity tasks. First, we included a dominance test, which presented the most deserving scenario (highest need, optimal cooperation, et cetera) and the least deserving scenario. Second, we ensured test-retest reliability by presenting one of the choice sets again. All choice sets were presented as unlabeled choices between person A and person B, which encourages respondents to state their preference by only trading-off attribute levels (De Bekker-Grob et al. 2010). Respondents could not opt-out in these questionnaire items – forcing them to make a choice – in order to make the experiment realistic: policy makers also have to make these allocation decisions, because resources can be allocated only once.

Additionally, the questionnaire contained several questions to obtain information on respondents’ personal characteristics and welfare attitude in general. The questionnaire was developed in Dutch and included a comprehensive

explanation of the attributes and levels at the beginning, also providing concrete examples to make clear what each abstract level meant. It was designed in Qualtrics online survey software (version 7812362). The questionnaire was piloted (n=5) to check interpretation, face validity and layout. Only minor changes were made in phrasing and layout.

Data collection and respondents

A representative panel sample of the Dutch population (sex, age, region and educational level) was invited to participate in the experiment. To prevent selective response among the invitees, batches of samples were drawn that corrected for overrepresentation in the sample at that point. The samples were drawn by CG Selecties based on the gold standard developed by the Organization for Market Research (MOA) in collaboration with Statistics Netherlands (CBS). Potential respondents were approached in batches, which allowed for adjusted targeting and thus overcoming participation bias. A total of 10,760 members of the panel received an invitation through the Qualtrics email function. Their data were collected by the same online survey software in July 2015.

Statistics and data analysis

Choice data were analyzed statistically based on random utility theory, which assumes that respondents made rational decisions, i.e. maximizing utility (Cascetta 2009). Utility, a latent trait describing desirability, can be decomposed into a constant, attribute levels that each have a preference coefficient, and an error term (Lancsar and Louviere 2008). Preferences of respondents (i) are statistically represented by utility (U), which is the sum of their preference scores for attributes/levels expressed in their choices (j) in different choice sets. The term η is the error term capturing unexplained variation between respondents. We used a panel model to control for repeated observations within the same individual. This led to the following utility function:

$$\begin{aligned}
 U_{ij} = & \text{Constant} + \\
 & (\beta_1 + \eta_{1i}) \cdot \text{Need} \cdot j + \\
 & (\beta_2 + \eta_{2i}) \cdot \text{FinancialCapacity}_{\text{Moderate}} \cdot j + (\beta_3 + \eta_{3i}) \cdot \text{FinancialCapacity}_{\text{High}} \cdot j + \\
 & (\beta_4 + \eta_{4i}) \cdot \text{Lifestyle}_{\text{Suboptimal}} \cdot j + \\
 & (\beta_5 + \eta_{5i}) \cdot \text{Cooperation}_{\text{Suboptimal}} \cdot j + \\
 & (\beta_6 + \eta_{6i}) \cdot \text{PackagePremium}_{\text{Medium}} \cdot j + (\beta_7 + \eta_{7i}) \cdot \text{PackagePremium}_{\text{Low}} \cdot j
 \end{aligned}$$

Preference or utility for a certain choice alternative can therefore be defined as a sum of preference scores for attributes/levels within this alternative. Dummy coding was used for all attributes, except for 'need'. The first level of each of the dummy coded attributes is the reference level, which means that they are left out of the function. The attribute need was operationalized as a continuous variable (percentage of loss in quality of life), even though choice sets contained only three alternatives (60%, 40% or 20%). Such a specification of numerical attribute levels into a continuous variable has been explained by Hauber et al. (2016).

Betas in the utility function represent the weight given to the respective attribute. The weight is relative, and should thus be interpreted in relation to weights of other attributes within the same model. A higher beta parameter indicates that the respective attribute has a higher weight in determining which of the alternatives was considered more deserving. We used a mixed logit model (1000 Halton draws) to determine the beta parameters and other components in the utility function. This model assumes that parameters are randomly distributed. A mixed logit model therefore allows assessment of preference heterogeneity by estimating the standard deviation of each beta's distribution.

Relative importance of attributes can also be expressed by the proportion that an attribute's variation has in explaining the variation in utility (Malhotra and Birks 2005), which is a measure easier to interpret, facilitating comparison between weights of different models. Relative importance is derived by dividing the range of betas of an attribute's levels by the sum of the ranges of all attributes' levels within the model.

Only complete responses of respondents that passed the dominance test were included in these statistical analyses, which were performed in Nlogit econometric software (version 5).

Subgroup analysis

Several subgroup analyses were conducted to assess the impact of covariates on preferences, in particular the influence of demographic and ideological variables, which have been associated with deservingness opinions in other social policies. For instance, respondents aged between 46 and 64 preferred more conditional allocation preferences in comparison with younger and older respondents, while respondents of lower socioeconomic status and/or a history

of receiving benefit have shown a preference for less conditional allocation, mainly regarding the control attribute (Jeene et al. 2013). The same experiment found that those on the political right prefer conditional allocation based on reciprocity, which is represented by our criterion of premium/package choice. We conducted subgroup analysis on variables that were identified to influence deservingness – in literature – and that were available in the dataset: age, gender, education, income, opinion about the state's responsibility for the health system and political preference on the left-right continuum.

To analyse subgroup variation, we created dummy variables for the respondents' characteristics that potentially could influence deservingness opinions. We estimated joint models according to the utility formula, in which each included the dummy variable (one per model) and its interaction coefficient in each term. These models assessed whether coefficients of the attribute levels varied among the subgroups. Dummy coding on the variables age, education, income and perceived state responsibility for health care was done by a subdivision that approximated an equal number of respondents in each group. The positioning of political parties in the political landscape by experts in the recent study of Otjes (2016) provided the basis for the Dutch left-right spectrum used in this article. The labour party (PvdA), socialist party (SP), green party (GL), Christian socialists (CU) and the single-issue animal rights party (PvdD) were positioned left, while the Christian democrats (CDA), protestant orthodox (SGP), left-wing liberals (D66), right-wing liberals (VVD) and right-wing populists (PVV) were positioned right. The researchers placed the new pensioners' party (50PLUS) on the left due to their socialist political stance on demographic topics. The opt-out, non-response and the options 'rather not tell' and 'other' were not dummy coded.

Results

The response rate was 7.2%, which means that 774 members participated in the study. A total 375 respondents completed all choice tasks (48.4%). Out of the incomplete responses, only five respondents filled out at least half of the choice tasks, which is needed to get reliable results. Sensitivity analysis showed that inclusion of these five incomplete cases did not affect the results. Within the 375 complete responses, there were 30 respondents who did not pass the dominance test. These responses were excluded for analysis, upon which data of 345 cases was analyzed. The respondents covered a wide variety of population groups by age, educational levels and political stands (Table 2). The

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characteristics of the respondents are similar to those of the Dutch population, although there was some oversampling of tertiary educated individuals. In general the respondents considered the welfare state highly responsible for healthcare (on a scale from 1 to 10: $\mu=7.95$; $\sigma=1.687$).

Table 2. Baseline characteristics of respondents

	Data set	Dutch population ¹
N	345	16,900,726
Questionnaire duration (in mm:ss) (5% trimmed mean)	16:42	-
Gender		(2015)
Male	161 (46.7%)	8,372,858 (49.5%)
Female	184 (53.3%)	8,527,868 (50.5%)
Age (in years) (mean)	46.4 (± 14.9)	41.3
Educational level		(2012)
Primary (basisschool)	5 (1.4%)	890 (8.2%)
Lower secondary/equivalent (vmbo/lbo)	49 (14.2%)	2,453 (22.5%)
Upper secondary/equivalent (mbo/havo/vwo)	148 (42.9%)	4,432 (40.7%)
Tertiary (hbo/wo)	143 (41.4%)	3,109 (28.6%)
Income level (net)		(2014) ²
No income or <€750 per month	31 (8.9%)	2,561,000 (19.8%)
€750-€1500 per month	102 (29.6%)	3,036,000 (23.5%)
€1500-€3000 per month	136 (39.4%)	4,241,000 (32.8%)
€3000-€5000 per month	26 (7.5%)	1,212,000 (9.4%)
>€5000 per month	2 (0.6%)	1,864,000 (14.4%)
Opt out	48 (13.9%)	-
Government's responsibility for healthcare (0=no responsibility; 10=full responsibility) (mean)	7.95 (± 1.69)	-
Political opinion		(2012)
No preference	69 (20.0%)	25% (blank vote)
Labor Party (PvdA)	28 (8.1%)	19%
Socialist Party (SP)	52 (15.1%)	7%
Left-wing Liberals (D66)	47 (13.7%)	6%
Right-wing Liberals (VVD)	43 (12.5%)	20%
Right-wing Populism (PVV)	33 (9.6%)	8%
Christian Democrats (CDA)	16 (4.6%)	6%
Other	38 (11.0%)	9%
Opt out	19 (5.5%)	25% (no vote)

Values represent crude numbers instead when it is stated that they represent means. In case of crude numbers, the values in brackets represent percentages. In case of means, values in brackets represent standard deviation.

¹ Data of Statistics Netherlands (CBS).

² Data was available per year and grouped by €10,000. The thresholds of the income groups in the experiment were multiplied by 12 and linked to the closest income group in the available data of the Dutch population.

Trade-offs between deservingness criteria

Betas of the attributes determining the latent trait of healthcare deservingness (U) are reported in Table 3. They are derived from a mixed logit model. Betas represent the weight that each level has in influencing the deservingness trait, in comparison with the weight of other levels. The results show that the levels of medical need have the highest coefficients (range $\beta_1=1.60$). The positive value of the beta per percentage indicates that higher levels of need are considered more deserving. A drop of one percent in need results in claimants being considered 0.04 less deserving of support, indicating a maximum utility/deservingness of 2.4. All other criteria have a negative sign and thus deservingness decreases. Financial capacity decreases deservingness the most (range $0-\beta_3=1.26$), but cooperation ($0-\beta_5=1.05$) and lifestyle ($0-\beta_4=1.04$) also influence deservingness. For instance, having high financial capacity decreases perceived deservingness by 0.77 in comparison with moderate financial capacity. A claimant's choice of premium / package ($\beta_7=0.56$) influences deservingness the least. If someone opts for a broader benefits scheme, he/she is considered 0.27 more deserving of receiving publicly financed support than someone who opts for a medium package. In addition, we calculated the relative importance of attributes, indicating the role of an attribute in deservingness decisions. These proportional measures show that need determines deservingness for about 30%, whereas the other attributes had a smaller role (10-23%).

Table 3. Betas and relative importance of healthcare deservingness criteria

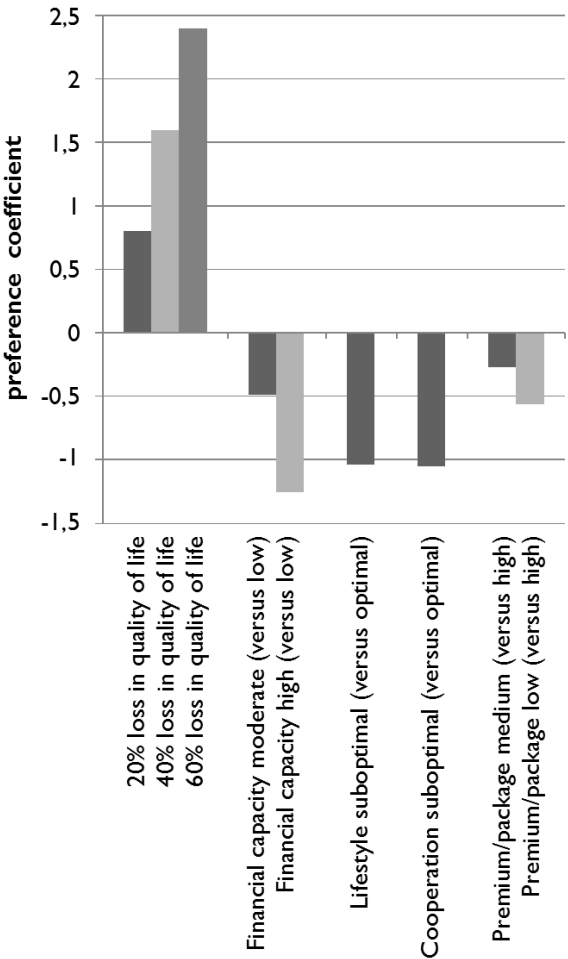
Attribute	Level	Weight				RI †
		Beta	Stand. error	Stand. deviation	Range betas	
Medical need (percentage)	20% loss	0.04***	0.00	0.05***	1.60	30%
	40% loss	(per %)				
	60% loss					
Financial capacity (categorical)	Low	(ref)			1.26	23%
	Moderate	-0.49***	0.09	0.01		
	High	-1.26***	0.11	0.77***		
Lifestyle (categorical)	Optimal	(ref)			1.04	19%
	Suboptimal	-1.04***	0.08	0.60***		
Cooperation (categorical)	Optimal	(ref)			1.05	19%
	Suboptimal	-1.05***	0.09	0.90***		
Premium / package choice (categorical)	High	(ref)			0.56	10%
	Medium	-0.27***	0.08	0.03		
	Low	-0.56***	0.09	0.54***		

*** $p < 0.01$.

† RI = Relative Importance. Percentage total does not add up to 100 per cent due to rounding.

The betas of different levels also provide information about the trade-off of different criteria. The weight of medical need in U (β_1) is 2.4 when an illness causes a 60% loss of quality of life, but 0.8 when that loss is 20% (see Figure 2), which shows the role of medical need in deservingness decisions depends on the exact level of need. Comparing the betas of medical need to those of the non-medical criteria indicates that medical need is the most important criterion when the level of need is above approximately 32% loss of quality of life (corresponding with a β of 1.28), as the larger bars on the left side of Figure 2 show. However, summing up the weights of the non-medical criteria (the negatively valued bars in Figure 2), shows that jointly these not-medical criteria can outweigh the need criterion – in case of lower levels. These trade-offs can be derived from the visualization of the betas in Figure 2.

Figure 2. Visualized trade-offs of the healthcare deservingness criteria



Additionally, the standard deviation of each of the beta parameters was estimated to assess heterogeneity. Standard deviations were significant for most of the attributes, indicating that different respondents hold different deservingness opinions. Subgroup analysis allows for more detailed information on this heterogeneity.

Subgroup analysis

The results of all subgroup analyses can be found in Table 4. Females, younger respondents (≤ 45 years) and respondents having a higher socioeconomic status had significantly more conditional views on healthcare allocation regarding the lifestyle (-0.36 and -0.25) and cooperation (-0.41 and -0.23) of a claimant (both $p < 0.05$). There were also differences in subgroups regarding education and income, variables used to measure self-interest. Better educated respondents thought that claimants who choose smaller insurance packages were much less deserving than did respondents with lower education ($p < 0.05$). Subgroups on income differed significantly on the weight they assigned to lifestyle: suboptimal lifestyle was blamed much more by those on high income than by those on low income ($p < 0.05$). Finally, the ideological characteristics of respondents showed to affect the weight of financial capacity and need: respondents who consider the state highly responsible for health care prefer more need-based allocation (+0.03; $p < 0.01$) and allocation to be less affected by the financial capacity of claimants (-0.56; $p < 0.05$). Respondents on the political left considered claimants practicing suboptimal lifestyle and opting smaller insurance packages less deserving for collectively financed resources, but not to the same extent as did respondents on the right side of the political spectrum. However, respondents' political stance on the left-right continuum did not significantly affect deservingness opinions.

Table 4. Betas and relative importance of healthcare deservingness criteria by subgroups.

		Difference in beta's by subgroup					
		Female (vs male)	Age ≤45 (vs >45)	Tertiary education (vs other/no)	Income ≥€1500 (vs <€1500)	Responsibility state for health- care high (vs low)	Political right (vs left)
Medical need	20% loss	-0.01	-0.00	0.01*	0.01	0.03***	0.01
	40% loss	(per % loss)	(per % loss)	(per % loss)	(per % loss)	(per % loss)	(per % loss)
	60% loss						
Financial capacity	Low	(ref)	(ref)	(ref)	(ref)	(ref)	(ref)
	Moderate	-0.11	0.04	-0.32*	0.20	-0.36**	0.13
	High	-0.34	-0.21	-0.18	0.37	-0.56**	0.37
Lifestyle	Optimal	(ref)	(ref)	(ref)	(ref)	(ref)	(ref)
	Suboptimal	-0.36**	-0.25**	-0.27*	-0.42**	-0.15	-0.29*
Cooperation	Optimal	(ref)	(ref)	(ref)	(ref)	(ref)	(ref)
	Suboptimal	-0.41**	-0.23**	-0.14	-0.15	-0.31*	0.13
Premium / package choice	High	(ref)	(ref)	(ref)	(ref)	(ref)	(ref)
	Medium	0.22	0.08	0.00	0.37**	-0.15	-0.06
	Low	0.28*	-0.01	-0.43**	-0.28	0.20	-0.36*

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Discussion

The aim of this study was to gain insight into the general public's opinions regarding the deservingness of health care. Therefore, we investigated the importance of several allocation criteria in determining who deserves collectively financed healthcare services. A discrete choice experiment elicited relative weights of five deservingness criteria among a representative sample of the Dutch population. The results show that the claimant's medical need, financial capacity, lifestyle, cooperation and insurance package/ premium choice all shape deservingness opinions, but that they are emphasized differently. Medical need is considered the most important criterion. However, lifestyle, cooperation and financial capacity of the claimant were significant criteria in deservingness choices as well, especially in cases of less severe medical needs. Moreover, the experiment showed that healthcare deservingness opinions vary among subgroups. The interaction models showed that demographic factors – such as age, gender, education and income – mainly influenced emphasis on lifestyle and cooperation, while ideological factors changed the emphasis on the criteria need and financial capacity.

Interpretation results

Allocation policies in the Netherlands are traditionally need-based (Van Delden et al. 2004). The experiment showed that deservingness opinions of the general public are in line with this practice because opinions were mostly determined by a claimant's medical need. However, the experiment shows that perceptions of deservingness are not only need-based. The weight of non-medical criteria in determining deservingness indicate that claimants with medical needs are not viewed as unreservedly deserving and are also held responsible individually.

The trend towards a greater role of individual responsibility in policies (Ter Meulen and Maarse 2008) could explain the results. After all, the experiment is about allocation of collectively financed resources, which is based on the principle of shared responsibility (solidarity). The results therefore show that medical needs of individuals are not always considered to be a shared responsibility. In other words, the respondents of the DCE also hold claimants individually responsible for their risk of healthcare use, which fits in the trend of increased individual responsibility in healthcare policies. However, these results need to be nuanced, because they refer to trade-offs: non-medical criteria become relatively more important in allocation of healthcare resources – indicating a shift to individual responsibility – when the claimant's medical need

is below a certain level of severity (approximately 32%). Therefore, the experiment shows that the financial risk of healthcare use due to more severe illnesses remains a shared responsibility. This corresponds with the widespread support for solidarity in healthcare among the Dutch population (CBS 2015, SCP 2012). However, under the surface, these studies also found restrictions on solidarity. Further research should investigate how this threshold of severity of disease – below which other criteria become relatively more important – could be interpreted in practice.

Regarding the subgroup analyses, this experiment shows that deservingness opinions regarding health care are also influenced by demographic and ideological factors, as in other social policies (Blekesaune and Quadagno 2003). However, in comparison with deservingness studies in other social policies (Jeene et al. 2013), we did not find that the political stance of respondents had a significant effect on their preferences for either unconditional or conditional allocation of healthcare. Moreover, heterogeneity of results complicates interpretation, because there is not such a thing as ‘the’ Dutch opinion, not even within subgroups that we could analyse. A latent class model would be helpful to investigate meaningful subgroups in the future.

Strengths and limitations

To our knowledge, this study is one of the first studies investigating prioritization of allocation criteria in healthcare and their trade-off. Its novelty lies in the focus on moral judgement, i.e. views on *who* qualifies for collectively financed services. Many studies have been conducted on healthcare allocation, but these focus mainly on concepts such as costs, outcome (QALY) and efficiency (Gu et al. 2015), i.e. *what* services should be financed collectively. Moreover, if these studies pay attention to moral judgement, it often involves only a single criterion, e.g. lifestyle, that is weighed against efficiency measures instead of viewing judgement as a result of a trade-off between several criteria of fairness. This is in line with the efficiency-fairness trade-off (Reidpath et al. 2012), which explains that more efficient policies may result in less fairness and vice versa. However, balancing efficiency and fairness looks only at fairness in relation to efficiency measures. We acknowledge that they are related and that, for instance, lifestyle could be seen as an aspect having influence on the efficiency of certain treatments – potentially affecting deservingness opinions indirectly – as well as on deservingness opinions directly. Nevertheless, focusing on fairness only, contributes to the aim of this study, i.e. to gain insight in pure or *a priori*

moral judgements on healthcare allocation. The experimental design and the sample, which represents the Dutch population, are strengths of this study.

Our study could have some limitations. First, the experiment was limited by the number of attributes that could be included. Although the identification and selection of criteria was done in line with DCE guidelines, we were able to only include the most important deservingness criteria, which resulted in the exclusion of other criteria that are also relevant and may even be more relevant at this time. Most notably are the criteria of age and ethnicity, which are all related to the criterion identity – whether a claimant is perceived to be ‘one of us’. Although we were not able to include these criteria, we highly recommend further research on the trade-off of these criteria with the criteria we have used in our study. A second limitation is that the selection of attribute levels could influence the measure of relative importance. For instance, formulating the lowest category of need by 5% severity would result in much lower levels of deservingness. We did not use these extreme levels in order to prevent a dominant attribute, which does not reveal much of the trade-off in which we are interested. Nevertheless, a consequence of the relationship between level-design and outcomes is that the measure of relative importance of attributes provides only an indication of the attributes importance, considering the specific range of levels used in the study. A third limitation is that this study was cross-sectional, which does not reveal information on deservingness opinions over time.

Another factor that complicates interpretation of the results is the abstract phrasing of levels. For instance, cooperation and lifestyle were operationalized by the levels optimal and suboptimal, because experts indicated that obstruction was an unrealistic level and would trigger dominant responses. However, this leaves the question for the interpretation of the results: what is suboptimal cooperation or lifestyle? Similarly, levels within the attribute need were formulated abstractly as well – i.e. high severity instead of mentioning a specific disease. The experts indicated that labels of specific diseases would trigger existing images of diseases, which are based on media and personal experience. On the other hand, not labelling alternatives leaves open the debate about the results’ implications: which are those less severe diseases that the general public considers less deserving? The abstract level formulation of the variables need, cooperation and lifestyle are therefore useful in studying deservingness opinions, but are hard to interpret in practice.

Furthermore, the data was collected in July 2015, when a new social support act had been implemented on January 1 of the same year. This act potentially affected the allocation of long-term care resources, which was expected to be restricted. Keeping this context in mind, we think that respondents may have been influenced to show preference for the unconditional allocation that they might fear losing. However, we did not observe opinions that opposed conditional allocation altogether, on the other hand.

Finally, it is unknown whether public opinion in other countries would correspond with what was found for the Netherlands in this experiment. We would like to invite our colleagues in other countries to conduct similar studies on their home ground for comparison.

Contribution

Literature has shown that the general public agrees that some form of reform has to be implemented, but that subgroups do not agree on the form of these reforms (Schlesinger and Lee 1993). Governments search for policy reforms in order to curb the healthcare expenditure trend and this study contributes to the discussion on the design of SHI reform.

The use of public opinion would respond to the trend of deliberation and public engagement in policymaking, which may be beneficial for the successful implementation of policies. The results of this study indicate that, especially in the case of less severe illnesses, the general public is in favor of conditional allocation. Although the preferences found do not suggest that the general public also wants these preferences to be translated into allocation policies, it does give an indication that using non-medical criteria in allocation policies may be supported. Such a policy change would be in line with the increased emphasis on individual responsibility, which is already being seen in public health (Carter 2015). However, the Dutch need-driven SHI system does currently not allow non-medical conditions to be used in allocation of services in the basic benefit package: the financial risk of using these services is considered to be a shared responsibility. In addition, the use of non-medical allocation criteria in healthcare contrasts with traditional need-based allocation (Van Hoyweghen et al. 2006). Nevertheless, this study feeds the debate on reforming SHI and on the balance between shared responsibility (solidarity) and individual responsibility for health in general.

Conclusion

The aim of this study was to gain insight into the opinions of the general public regarding the deservingness of health care and in particular insight into the role of level variation of allocation criteria on deservingness. We conclude that the general public finds medical need to be the most important criterion of a claimant to be considered deserving for collectively financed healthcare. However, people trade-off between all attributes, and different respondents – based on demography and ideology – do so differently. Thus, claimants with a medical condition are not considered unreservedly deserving; they are also held individually responsible to some extent, by means of their financial capacity, lifestyle, cooperation and/or insurance choices. These results feed the debate on reforming healthcare allocation, in particular with regard to the balance between shared responsibility (solidarity) and individual responsibility.

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CHAPTER 5

Equally ill, unequally deserving: a discrete choice experiment on deservingness perceptions in health insurance and disability insurance

*I woke up at the moment when the miracle occurred,
I get so many things I don't deserve.*

Paul David “Bono” Hewson (1960)
Irish singer-songwriter

Equally ill, unequally deserving: a discrete choice experiment on deservingness perceptions in health insurance and disability insurance

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Under review

Abstract

Restricted financial resources make governments consider restrictive allocation policies in both health insurance and disability insurance. This study aims to understand public opinion about such potential restrictions in terms of deservingness opinions. Based on literature and expert interviews, five most relevant deservingness characteristics of claimants were selected: need (i.e. severity of illness), financial capacity, lifestyle, cooperation and choice of insurance package. A discrete choice experiment with 345 respondents, representing the Dutch population, showed that the public thinks the need of claimants is most important in considering them deserving for healthcare, although financial capacity, cooperation and lifestyle also played a role. In disability insurance, a similar order was observed. However, not need, but cooperation was most important in determining deservingness, which was significantly different from healthcare deservingness opinions ($p < 0.01$). In sum, need is important aspect in perceived deservingness, but the general public may support allocation policies that include other criteria.

Introduction

In Europe, the financial risks of illness are covered by two public social arrangements: health insurance, covering costs of healthcare treatment; and disability insurance, compensating for loss of income due to illness. These arrangements are solidaristic, because they express the shared responsibility for these risks (Bayertz 1999). Solidarity in social insurance is given shape by means of a collection of financial resources among all citizens and a redistribution of these resources towards certain agreed-upon individuals in need (Stone 1993), which implies subsidization of one another's needs. Without such arrangements, healthcare services and a reasonable financial basis may not be available to all (Kornai and Eggleston 2001). Social arrangements are thus in place in order to ensure access to healthcare and income compensation based on the principle of solidarity, which is therefore at the heart of social arrangements in Europe (Stjernø 2009).

It is exactly the principle of solidarity that is currently under strain in social insurance all over Europe. This is among others caused by the increased generosity of social arrangements, and the welfare state in general, as a consequence of which social expenditures have increased as well (Clasen and Siegel 2007, OECD 2011). Governments consider this expenditure trend to be unaffordable over time. The general public also agrees that some form of reform has to be implemented, although they do not agree on the form of these reforms (Schlesinger and Lee 1993). In order to reign in expenditures, governments initiate reforms of social policies by answering the deservingness question anew: who should receive which services and why (Van Oorschot 2000)? In the 1990s, the government's effort in reforming their answer to the deservingness question seemed to respond to public opinion, which also expressed a need for social policy change (Cox 2001). However, public support for welfare reforms is currently probably lower, because this support has been associated with unemployment rates (Blekesaune and Quadagno 2003), which are still high in European countries in the aftermath of the financial crisis of 2008. At first, governments complied with lower levels of support for policy change by aiming to strengthen welfare arrangements. However, currently they are also considering policies that restrict allocation, even though solidarity is still broadly supported by the general public (Vis et al. 2011).

These potential social policy reforms do not seem to respond accurately to public opinion. Yet, such conclusions cannot be drawn because it is only known

that the general public generally supports health insurance and disability insurance, while public opinion about the criteria for allocation by these policies lacks. Besides the scientific relevance to get insight in the underlying deservingness opinions, this information is societally relevant as well because policy makers use public opinion as a 'thermostat' to which they respond (Wlezien 1995). The lack of information about public opinion thus leaves out a reference point (reference temperature) of policy makers. Consequently, they may ask themselves a similar question as we do: would the general public support specific changes in allocation policies or not? The aim of this study is therefore to gain insight in public opinion about deservingness in health insurance and disability insurance, especially in times of reform. Subsequently, the overview is used to explore potential similarities and differences in deservingness perceptions between these illness-related social policies (health insurance and disability insurance), which have not yet been combined in a single study on deservingness.

What is known about deservingness of claimants in social insurance mostly stems from social policy research. In general, ill individuals, especially when older, are viewed as more deserving compared to individual with claims that are not caused by an illness (Van Oorschot 2006). Specific characteristics of circumstances of claimants, such as a lack of motivation to prevent the need of welfare support, have shown to decrease perceived deservingness for non-illness-caused benefits, whereas the fact of being ill tags individuals to being deserving support no matter what (Jensen and Petersen 2017). Yet, several other studies identify criteria that contradict preferences for unreserved allocation of benefits to illness-related claims (Guindo et al. 2012, Hansen et al. 2005, Skedgel et al. 2015, Stegeman et al. 2014, Gu et al. 2015, Stolk et al. 2005). Nevertheless, most of these studies are about restrictions to the universal benefit package (what), for example based on cost-effectiveness, and not about restrictions in whom to allocate resources to, which is a matter of deservingness. The studies that do study deservingness in healthcare, study several allocation criteria separately (e.g. Rogge and Kittel 2016). Thus may be found that criteria, such as lifestyle and income, affect deservingness of claimants, but not how these criteria are traded-off. In contrast to healthcare research, social policy researchers have explored deservingness opinions in that level of detail. They have developed a comprehensive set of five criteria – characteristics of claimants – that are considered to determine perceived deservingness of claimants (Van Oorschot 2000). Beyond claimants' necessity for support (level of need due to severity of illness), people are considered

deserving when they are ‘one of us’ (identity) and when they have given or will give society something in return (reciprocity). Moreover, it is considered important that claimants try to control their need (control), and are docile and grateful when receiving support (attitude). These criteria serve as a start to study deservingness opinions in this paper.

Relative importance of each of the deservingness criteria – i.e. their weight in labelling someone deserving for insurance benefits or not – reflects an individual’s deservingness opinion. This paper therefore achieves its aim of gaining insight in deservingness opinion of the general public by attending the following two research questions: How does the general public trade-off different deservingness criteria in determining deservingness for illness-related social policies? What are the similarities and differences in these trade-offs between health insurance and disability insurance?

Methods

Two discrete choice experiments (DCEs) were conducted to retrieve trade-offs of deservingness criteria, one for deservingness of health insurance claimants and one for deservingness of claimants of disability benefits. A DCE is frequently used to elicit group-level preferences and to quantify trade-offs between preference criteria (Lancsar and Louviere 2008, De Bekker-Grob et al. 2012). The study was done in the Netherlands. The same population completed both experiments for comparability reasons.

Discrete choice experiments

Application of the technique of a DCE in this study is based on the premises that claimants can be described by a number of deservingness criteria (i.e. attributes) and that deservingness of claimants is influenced by the variations in the value (i.e. levels) of these attributes (based on Ryan 2004). In our study, respondents are presented two claimants, as described by a value on each of the attributes and they are requested to indicate whom they find most deserving. These choices thus require an implicit trade-off of attributes. Specific combinations of attribute levels are presented in the experiment, whereupon statistical analysis makes trade-offs explicit by retrieving the weight different attributes have in these choices. In order to do so, we followed renowned DCE guidelines (Bridges et al. 2011, Lancsar and Louviere 2008) that mainly include

four steps: identification and selection of attributes and levels, design, data collection and data analysis.

Attributes and levels

The identification of attributes and levels is an important step to guarantee the reliability of a DCE. In order to be able to compare the results of the experiment on health insurance and the experiment on disability insurance, the same set of criteria were used in both DCEs. We aim to select between 4 and 6 deservingness attributes, which is a common number of attributes to conduct a DCE and feasible given the cognitive complexity of (Clark et al. 2014). To identify attributes and levels, a two-step approach was followed.

First, we searched for relevant literature by using the term "deservingness criteria" in EBSCOhost and Google Scholar. The results showed that the concept of deservingness is generally agreed upon by social policy researchers since the last decade and a half, when Van Oorschot (2000) introduced the five criteria of deservingness: need, control, reciprocity, attitude and identity. However, many other criteria and categorizations have been discussed in social policy literature and in other fields of study (for example in healthcare: De Swaan 1988).

Second, we presented all deservingness criteria that were identified from literature to experts for critical assessment ($n = 12$). These interviews were semi-structured and aimed to apply the deservingness criteria to healthcare – because they originate from social policy research – and to select the five most relevant deservingness criteria as attributes of the DCE. For comparability reasons, the attributes had to apply to both health insurance and disability insurance. The experts therefore were selected from a range of scientific disciplines, including of sociology, health sciences, economics, law and philosophy.

The experts indicated that some of the deservingness criteria were not relevant in the case of health insurance, especially when studying potential reform measures. For instance, the criterion of identity was not considered a relevant attribute in this study, because identity-related allocation is outlawed based on discrimination legislation. Similarly, the criterion 'attitude' was seen as impracticable for use in future policies, because it can hardly be operationalized. In this first round of interviews, the experts stated that any deservingness criteria required a nuanced phrasing in the health context, resulted in concrete recommendations for attribute selection. First, they indicated that need was the

most important criterion, but suggested to disentangle it into a medical and financial component, because the medical need resulting from an illness is intrinsically different from its financial consequences. The criterion of need was therefore defined as the severity of illness, while the financial component was defined as the resources at hand to cope with healthcare costs and/or income loss due to that medical need. Second, the range of experts agreed upon the importance of including the criterion of control, which is relevant and topical. However, they also suggested to make slight adjustments to this attribute by a breakdown into lifestyle (behaviour prior to the onset of an illness) and cooperation (behaviour during treatment/reintegration), because these were considered two separate relevant issues. Finally, reciprocity was selected as an attribute relevant for deservingness. It was interpreted as a *quid pro quo* principle and specified as being the contributions of members to social insurance. In summary, the first expert interview round led to the selection of five attributes for the experiment (Table 1): medical need, financial capacity, lifestyle, cooperation (with treatment directions / reintegration into employment) and choice of package/premium.

For level selection, we organized a second round of interviews with other experts ($n=5$). In this round, we consulted scholars with experience in conducting DCEs or vignette studies. They confirmed the selected attributes and advised to look at the levels used in previous vignette studies on health insurance (Hansen et al. 2005, Van Oorschot 2000). We used these studies as a starting point for level selection and used expert input to adjust them to our study. For severity of illness (medical need), this resulted in the phrasing of abstract levels (low, average and high severity) – in terms of loss in quality adjusted life years (QALYs). This contrasts with the labels that are commonly used, e.g. cancer (for high severity) and hip replacement (for average severity). We intentionally used more abstract levels in this experiment, because the experts predicted that the names of diseases would wake perceptions of the diseases instead of actual opinions about the attribute. On their advice, the levels of lifestyle and cooperation were not phrased as opposites, optimal versus obstructing, because the latter was considered both unlikely in practice and likely to disrupt the results by the dominant view of being undeserving in case of treatment obstruction. The suboptimal level is more realistic and also phrased in a manner that it is not necessarily a result of conscious decisions. All levels can be found in Table 1 and was approved by the experts.

Table 1. Description of the deservingness criteria (attributes) and levels used in the experiment.

Attributes / deservingness criteria	Levels [†]	Variable type	Coefficient in analyses
Severity of illness (medical need): The impact that an illness has on quality of life (healthcare) or the capacity to work (disability benefits) in case of non-treatment	Low (20% loss in quality of life / capacity to work) Average (40% loss in quality of life / capacity to work) High (60% loss in quality of life / capacity to work)	Continuous	β_1
Financial capacity: Financial resources at hand to cope with healthcare expenses or loss of income	Low Moderate High	Categorical (dummy coded)	Reference level β_2 β_3
Lifestyle: The patient's behavior prior to the need for health care or disability benefits	Optimal Suboptimal	Categorical (dummy coded)	Reference level β_4
Cooperation: Behavior of recipient of benefits in terms of cooperation with treatment (healthcare)/re-integration into employment (disability benefits)	Optimal Suboptimal	Categorical (dummy coded)	Reference level β_5
Choice of package/premium: The chosen level of coverage / financial contribution by the choice of insurance policy	Broad coverage package, high premium Medium coverage package, medium premium Basic coverage package, low premium	Categorical (dummy coded)	Reference level β_6 β_7

[†] The levels are explained in the methodology section. We introduced them indepth to respondents before they started choice tasks. The questionnaire in Dutch, including these explanations, is available at the first author upon request.

Designing choice sets and questionnaire

Alternatives are presented to respondents in choice sets, which each consists of two alternatives lined-up side-by-side and between which the respondent has to identify the person who they find most deserving. Figure 1a and 1b show an example choice set for both the DCE on deservingness for health insurance and disability insurance. Based on the number of alternatives possible with the selected attributes and levels, numerous choice sets could be constructed. Statistically it is possible to construct 11664 unique alternatives ($3^2 \times 3^2 \times 3^2 \times 2^3 \times 2^3$) out of the selected attributes (5) and levels (2 or 3 per attribute). A Bayesian efficient experimental design was used to present a feasible number choice sets. Bayesian efficient design aims to maximize the precision of the estimated parameters of the attributes for a given number of choice tasks by incorporating a priori information about the sign and value of parameters. We used Ngene software (version 1.1.1) to maximize D-efficiency in a design with nine choice sets for each DCE and thus eighteen in total.

Figure 1a. Example choice set of the DCE on deservingness for health insurance

	Person A	Person B
Severity of illness	High severity: Quality of life from 10 to 4*	Average severity Quality of life from 10 to 6*
Financial capacity	High	Moderate
Lifestyle (before treatment)	Avoids health risks to a large extent	Sometimes practicing lifestyle that may involve a health risk
Cooperation (during treatment)	Optimal	Suboptimal
Choice of package/premium	Basic benefit package: low premium	Basic benefit package and additional dental care: average premium

Both person A and B seek support from a collectively financed arrangement – to which you contribute as well – to attend to their health condition.

☐
☐

In your opinion, which person deserves that support the most?
(Tick one box)

* The number 10 refers to perfect quality of life; 6 to loss of quality of life that slightly limits performing daily activities; 4 to loss of quality of life that has a high impact on a person's functioning.

Figure 1b. Example choice set of the DCE on deservingness for disability insurance

	Person A	Person B
Severity of illness	High severity: 60% disability*	Average severity: 40% disability*
Financial capacity	High	Moderate
Lifestyle (before claim on benefits)	Avoids health risks to a large extent	Sometimes practicing lifestyle that may involve a health risk
Cooperation (while receiving benefits)	Wants to start working again, even in a less paid job	Wants to start working again, but only in preferred jobs
Choice of package/premium	Low premium	Average premium

Both person A and B seek support from a collectively financed arrangement – to which you contribute as well – to compensate their loss of income due to a health condition.

☐☐

In your opinion, which person deserves that support the most?
(Tick one box)

* 60% disability refers to a situation in which a disease causes a loss of income by 60%. This percentage is calculated by determining the income that could be earned hypothetically by the individual with the remaining working capacity. In this case, this means that that person is able to perform jobs that would generate 40% of his/her previous income level.

The final questionnaire contained twenty choice sets, because two validity tasks were added. First, we included a dominance test, presenting the most deserving scenario (highest severity of illness, full cooperation, et cetera) and the opposite scenario (lowest severity of illness, suboptimal cooperation, et cetera). Second, we ensured test-retest reliability by duplicating one of the choice sets. All choice sets were presented as unlabeled choices between person A and B. Respondents could not opt-out – forcing them to make a choice – in order to make the experiment realistic: resources can be allocated only once. We included several additional questions to obtain information on respondents’ personal characteristics and their general welfare attitude. The questionnaire was developed in Dutch and preceded by a comprehensive explanation of the attributes and levels. It was designed in Qualtrics online survey software (version 7812362). The questionnaire was piloted (n=5) to improve interpretation, face validity and layout, which resulted in minor changes in phrasing and layout.

Data collection and respondents

We invited a representative sample of the Dutch population (regarding sex, age, region and educational level) to participate in the experiment. The sample was drawn from a panel by CG Selecties based on the golden standard developed by the Organization for Market Research (MOA) in collaboration with the Statistics Netherlands (CBS). Potential respondents were approached in batches, which allowed for adjusted targeting and thus improve representativeness despite participation bias. A total of 10,760 members of the panel received an invitation by email. Data were collected through online survey software of Qualtrics in July 2015.

Statistics and data analysis

Statistical analysis of the data was based on random utility theory, which assumes that respondents make rational decisions, i.e. maximizing utility (Cascetta 2009). In this experiment, utility (U) is the latent trait describing deservingness, can be decomposed into a constant, attribute levels, each having a preference coefficient (β), and an error term (η) (Lancsar and Louviere (2008). Preferences of respondents (i) are statistically represented by utility (U), which is the sum of the weights of each attribute, as determined by their preferences (j) for alternative in the choice sets. The error term η captures the individual-specific unexplained variation in weights of attributes. Betas in the utility function represent the weight given to the respective attribute. A higher beta parameter indicates that the respective attribute has a higher weight in determining which of the alternatives was considered more deserving. This leads to the following utility function:

$$\begin{aligned}
 U_{ij} = & \text{Constant} + \\
 & (\beta_1 + \eta_{1i}) \cdot \text{Severity} \cdot j + \\
 & (\beta_2 + \eta_{2i}) \cdot \text{FinancialCapacity}_{\text{Moderate}} \cdot j + (\beta_3 + \eta_{3i}) \cdot \text{FinancialCapacity}_{\text{High}} \cdot j + \\
 & (\beta_4 + \eta_{4i}) \cdot \text{Lifestyle}_{\text{Suboptimal}} \cdot j + \\
 & (\beta_5 + \eta_{5i}) \cdot \text{Cooperation}_{\text{Suboptimal}} \cdot j + \\
 & (\beta_6 + \eta_{6i}) \cdot \text{PackagePremium}_{\text{Medium}} \cdot j + (\beta_7 + \eta_{7i}) \cdot \text{PackagePremium}_{\text{Low}} \cdot j
 \end{aligned}$$

Dummy coding was used for all attributes, severity of illness exempted. The first level of each of the dummy coded attributes is the reference level, which means that they are not part of the utility function. The attribute severity of illness was operationalized as a continuous variable (percentage of loss in quality of life) as explained by Hauber et al. (2016), even though alternatives in choice sets contained only included three values (60%, 40% or 20%).

We used a mixed logit model (MLM; 1000 Halton draws) to determine the parameters of the utility function. This model assumes that parameters are randomly distributed. A mixed logit model therefore allows assessment of preference heterogeneity by estimating the standard deviation of beta's distribution, which corresponds with the η -term of the utility function. If this error term is significant, preferences for the attribute vary significantly between respondents. Separate mixed logit models were used to determine betas and heterogeneity for the dataset on health insurance and the dataset on disability insurance. The weight is relative, and should thus be interpreted in relation to weights of other attributes within the same model.

Besides the beta parameter, representing the weight of attributes in choices, we also report relative importance, which is the proportion that an attribute's variation has in explaining the variation in utility (Malhotra and Birks 2005). Relative importance is calculated by dividing the range of betas of an attribute by the ranges betas of all attributes within the model. This measure is easier to interpret and facilitates a first comparison between deservingness perceptions in health insurance and disability insurance. However, the percentages are also debated because they depend on the range between the selected levels. In order to make a statistically sound comparison between the two DCEs, we estimated a joint model – combining datasets of health insurance and disability insurance – including an interaction term for the type of insurance. The interaction parameters allow for statistical analysis of differences in betas of the same attributes between health insurance and disability insurance.

Response data was only analyzed if respondents completed all choice tasks and passed the dominance test and test-retest tasks. Statistical analysis was performed in Nlogit econometric software (version 5).

Results

The response rate was 7.2% ($n = 774$), which is common among panels. A total of 375 respondents completed all choice tasks (48.4%). However, 30 of them did not pass the validity tests, upon which data of the remaining 345 respondents was analyzed. Their characteristics are similar to those of the Dutch population in terms of age, income levels, educational levels and political stands (Table 2), although there seemed to be a slight overrepresentation of tertiary educated individuals in the data set. In general, respondents stated that

they consider the government highly responsible (on a scale from 1 to 10) for both healthcare ($\mu=7.95$; $\sigma=1.69$) and disability benefits ($\mu=7.19$; $\sigma=1.90$).

Table 2. Baseline characteristics of the respondents

	Data set	Dutch population†
N		(2016)
	345	16,979,120
Questionnaire duration (in mm:ss) (5% trimmed mean)	16:42	-
Gender		(2015)
Male	161 (46.7%)	8,372,858 (49.5%)
Female	184 (53.3%)	8,527,868 (50.5%)
Age (in years) (mean)	46.4 (± 14.9)	(2016) 41.5
Educational level		(2012)
Primary (basisschool)	5 (1.4%)	890 (8.2%)
Lower secondary or equivalent (VMBO/LBO)	49 (14.2%)	2,453 (22.5%)
Upper secondary or equivalent (MBO/HAVO/VWO)	148 (42.9%)	4,432 (40.7%)
Tertiary (HBO / WO)	143 (41.4%)	3,109 (28.6%)
Income level (net)		(2014)‡
No income or <€750 per month	31 (8.9%)	2,561,000 (19.8%)
€750-€1500 per month	102 (29.6%)	3,036,000 (23.5%)
€1500-€3000 per month	136 (39.4%)	4,241,000 (32.8%)
€3000-€5000 per month	26 (7.5%)	1,212,000 (9.4%)
>€5000 per month	2 (0.6%)	1,864,000 (14.4%)
Opt out	48 (13.9%)	-
Government's responsibility for healthcare (0 = no responsibility; 10 = full responsibility) (mean)	7.95 (± 1.69)	-
Government's responsibility for disability benefits (0 = no responsibility; 10 = full responsibility) (mean)	7.19 (± 1.90)	-
Political opinion		(Elections 2012)
No preference	69 (20.0%)	25% (blank vote)
Labor Party (PvdA)	28 (8.1%)	19%
Socialist Party (SP)	52 (15.1%)	7%
Left-wing Liberals (D66)	47 (13.7%)	6%
Right-wing Liberals (VVD)	43 (12.5%)	20%
Right-wing Populism (PVV)	33 (9.6%)	8%
Christian Democrats (CDA)	16 (4.6%)	6%
Other	38 (11.0%)	9%
Opt out	19 (5.5%)	25% (no vote)

Values represent crude numbers instead when it is stated that they represent means. In case of crude numbers, the values in brackets represent percentages. In case of means, values in brackets represent standard deviation.

† Data of Statistics Netherlands (CBS).

‡ Data was available per year and grouped by €10,000. The thresholds of the income groups in the experiment were multiplied by 12 and linked to the closest income group in the available data of the Dutch population.

Model per insurance type

Table 3 presents the results of the mixed logit models of both health insurance and disability insurance. A beta represents the effect of that level on determining deservingness. Each beta has a specific weight and direction in which it affects deservingness, compared to the reference level. The beta of severity of illness has a positive sign, meaning that higher levels of severity urge higher levels of deservingness with respondents. The other criteria are negatively associated with deservingness, meaning that for instance higher levels of financial capacity – compared to the reference level – are associated with lower levels of perceived deservingness for collectively financed support.

For health insurance, respondents stated that severity of illness was the most important criterion in deciding about deservingness ($\beta_1=0.04$ per percentage). However, a claimant's financial capacity (range 0- $\beta_3=1.26$), cooperation (0- $\beta_5=1.05$) and lifestyle (0- $\beta_4=1.04$) also influenced perceived deservingness of claimants, although to a smaller extent. Deservingness decisions were least influenced by the premium / package claimants had chosen (0- $\beta_7=0.56$). The beta value of 0.04 for severity of illness (β_1) means that respondents considered claimants to be 0.04 more deserving for each percentage point higher severity of illness. A loss of 40% in quality of life thus results in a beta value of 1.60 ($\beta_1(40\%)=40*0.04=1.60$) for severity of illness, which is above the beta values of all other attributes' levels. For instance, a claimant who cooperated fully with the treatment was perceived 1.05 more deserving (reference level) than a claimant who cooperated suboptimally ($\beta_5=-1.05$). The beta values thus show that attributes are traded-off in deservingness decisions and that severity of illness above 31% ($\beta_1(32\%)=32*0.04=1.28$) outweighs the weight of the other attributes separately, which are between 0.56 and 1.26.

For disability insurance, the most influencing criterion in deservingness decisions was a claimant's cooperation with reintegration into employment (0- $\beta_5=1.84$). This means that a claimant who cooperated fully with reintegration directions was perceived more deserving (reference level) than a claimant who cooperated suboptimal ($\beta_5=-1.84$). Also severity of the illness of claimants was very important in considering their deservingness ($\beta_1=0.04$). Furthermore, financial capacity (range 0- $\beta_3=1.37$) and lifestyle (0- $\beta_4=0.99$) had a role in a claimant's perceived deservingness. Respondents' decisions were least influenced by the choice of package/premium by claimants (0- $\beta_7=0.42$). This means

Table 3. Betas and relative importance of deservingness criteria for health insurance and disability insurance.

Attribute	Level	Mixed Logit Model (MLM) Beta levels				Relative importance [‡]		Interaction model
		Health Insurance (HI) (model I)		Disability Insurance (DI) (model II)		HI	DI	Significance (difference betas model I and II)
		Beta (\pm SD)	SD [†]	Beta (\pm SD)	SD [†]	%	%	
Severity of illness (percentage)	20% loss	0.04*** (\pm 0.00)	0.05***	0.04*** (\pm 0.00)	0.04***	30%	25%	-
	40% loss	(per %)		(per %)				
	60% loss							
Financial capacity (categorical)	Low	(ref)		(ref)		23%	22%	
	Moderate	-0.49*** (\pm 0.09)	0.01	-0.45*** (\pm 0.09)	0.02			-
	High	-1.26*** (\pm 0.11)	0.77***	-1.37*** (\pm 0.13)	0.90***			-
Lifestyle (categorical)	Optimal	(ref)		(ref)		19%	16%	
	Suboptimal	-1.04*** (\pm 0.08)	0.60***	-0.99*** (\pm 0.09)	0.77***			-
Cooperation (categorical)	Optimal	(ref)		(ref)		19%	30%	
	Suboptimal	-1.05*** (\pm 0.09)	0.90***	-1.84*** (\pm 0.14)	1.62***			***
Choice of package / premium (categorical)	Broad (high)	(ref)		(ref)		10%	7%	
	Medium	-0.27*** (\pm 0.08)	0.03	-0.12 (\pm 0.09)	0.04			-
	Basic (low)	-0.56*** (\pm 0.09)	0.54***	-0.42*** (\pm 0.09)	0.50***			-

*** $p < 0.01$

SD = Standard deviation

[†] The standard deviation values in this column (as opposed to the standard deviation of the beta) correspond with the random component of the utility function (error terms η_1 - η_7) and thus captures the individual-specific unexplained variation in betas. This is a measure to assess the parameter's distribution

[‡] Percentage total does not add up to 100 per cent due to rounding.

that claimants who chose a basic coverage were considered 0.42 (β_7) less deserving than claimants who had opted for the benefit package with highest coverage/premium. This is far below the beta values of all other attributes, which are between 0.99 and 1.84.

Heterogeneity was assessed by estimating standard deviation of each of the parameters, which corresponds with the error term η in the utility function (Table 3). Both the results of the experiment on health insurance and the experiment on disability insurance included significant error terms, which indicates heterogeneity. This means that different respondents assigned different weight to the same attribute in either experiment.

Perceived deservingness compared

The separate mixed logit models show that the most important criterion in determining deservingness is different in health insurance (severity of illness) and disability insurance (cooperation with reintegration into employment). Relative importance measures of attributes – also calculated separately for each model – seem to suggest that severity of the illness of a claimant is more important in determining deservingness in health insurance (30%) than it is in determining deservingness in disability insurance (25%); and that the opposite seems to be the case for the role of cooperation with treatment/reintegration, which has a higher relative importance in deservingness decisions for disability insurance (30%) than it has in decisions for health insurance (19%). Although these comparisons provide indications for differences, it is not possible to directly compare data of separate mixed logit models.

Deservingness opinions in health insurance and disability insurance can be compared by joining datasets of both experiments, which we did in an interaction model. The results of this model (last column of Table 3) show that only the weight of the attribute cooperation differs significantly ($p < 0.01$): cooperation with reintegration into employment is perceived more important for being viewed deserving for disability benefits than is cooperation with treatment directions for being considered deserving for healthcare.

Discussion

This paper reports upon two DCEs that were conducted to gain insight in public opinion about deservingness for health insurance and disability insurance, as well as to explore differences between opinions on either illness-related social policy. The results show that severity of illness is the most important criterion in determining deservingness of a claimant for health insurance benefits (higher severity, higher perceived deservingness). In disability insurance, severity of illness was also deemed important to be considered deserving. However, claimants' cooperation in the process of reintegration into employment had the highest weight in determining deservingness for disability benefits, which is significantly different from the weight of cooperation with treatment directions in deservingness decisions in healthcare.

Interpretation

Previous research demonstrated that the ill are considered highly deserving compared to claims on social benefits that are not caused by an illness (Van Oorschot 2006, Jensen and Petersen 2017). Moreover, higher severity of illness showed to urge higher levels of perceived deservingness (Ubel et al. 1998, Dolan et al. 2005). The experiments presented in this study provide additional insight in deservingness opinions regarding the ill. They are scientifically relevant because they add to the current knowledge base in two ways. First, they show that severity of illness of claimants is indeed important in deservingness decisions, but that it is also traded-off against other allocation criteria. Therefore, we may conclude that an illness does not make claimants perceived to be unreservedly deserving for collectively financed support, and thus opposing Jensen and Petersen (2017). Second, the overview of deservingness opinions of the general public shows differences between opinions on claimants in health insurance and disability insurance. Although equally ill, claimants were not considered equally deserving for support for healthcare use and benefits to compensate the loss of income due to their illness. This suggests that deservingness of ill individuals is not grounded in their illness (what they have), but the absence of health or income (what they do not have), which are distinctive losses. In accordance with the distinctive risks, it is also comprehensible that they are covered by different policies that are arranged along different lines or, in other words, in different spheres of justice (Walzer 1983).

The experiments have a societal relevance as well, because they present a nuanced overview of public opinion on deservingness, which is not available for policy makers currently. Information about public opinion is warranted, because policy makers are considering reforms and view and public opinion is a reference for their proposals (Wlezien 1995). The current trend in social policies reform is that allocation of disability benefits is somewhat restricted, e.g. in duration, while healthcare provision is mostly allocated unconditionally. Do these trends correspond with opinions held by the general public? Regarding disability benefits, policy makers seem responsive to public opinion in restricting allocation based on the cooperation criterion, because respondents assigned highest weight to this criterion as well. As health insurance benefits are concerned, unconditional allocation corresponds with the high weight the general public assigned to the criterion of severity illness. Nevertheless, they also assigned considerable weights to financial capacity, cooperation and lifestyle, which contrasts with the traditional need-based understanding of healthcare allocation (Van Delden et al. 2004). Although these experiments do not provide information about the form and extent to which the general public may support restrictions of allocation, they are relevant for policy makers in indicating that some allocation restrictions may be supported by the general public in both disability insurance and health insurance.

Nevertheless, given heterogeneity among public opinion and the nature of social policies – concerning contested themes such as inequality –, we concur with what Molster et al. (2013) said and suggest that public opinion is best consulted continuously or at least for each proposal anew.

Strengths and weaknesses

By our knowledge, this study is the first DCE study that investigates deservingness opinions of the ill, which distinguishes between claimants of health insurance and disability insurance. Data were collected among a representative sample of the Dutch population, as a consequence of which the results may be of interest both to scientists and policy makers (see previous section). However, our study also had some limitations. First, the results show that there is no such a thing as ‘the’ Dutch opinion, even though they were collected from a representative sample. This relates to the heterogeneity among deservingness opinions, which is indicated by the significance of the standard deviation (error term η) of most of the parameters, which captures the individual-specific unexplained variation in weights of attributes. Understanding of such individual differences and its implications require further research.

Second, the experiment was limited methodologically. The number of respondents ($n=345$) was low compared to other vignette studies. Nevertheless, a DCE is a strength at this point, because it enables analysis on even smaller samples. The number of attributes included was also limited, even though we followed a rigorous methodology to select attributes according to DCE guidelines. For example the deservingness criteria identity – being considered ‘one of us’ –, cost of support and previously received benefits were disregarded based on the expert interviews, even though they are relevant concepts in deservingness as well. Third, we set up the experiment cross-sectionally, which does not provide information on deservingness opinions over time. This makes it especially complex to draw conclusions on whether policy makers actually were responsive to public opinion, as we suggested in the previous section, or whether the general public adjusts its ‘opinion’ to existing policies. Longitudinal research is needed to determine who influences whom.

Conclusion

This study gained insight in deservingness opinions in health insurance and disability insurance, which both cover a financial risk of illness. The results showed that either risk urges different opinions from the general public. They consider severity of illness of key importance in determining deservingness of claimants in health insurance, although their financial capacity, cooperation and lifestyle are also taken into account. In contrast, cooperation of the benefit recipient with the process of reintegrating into employment was deemed most important to be perceived deserving for disability benefits. Despite the few methodological limitations discussed, the results suggest that some restrictions in allocation policies may be supported by the general public, especially in disability insurance.

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CHAPTER 6

Healthcare deservingness opinions of the general public and policymakers compared: a discrete choice experiment

*We can't expect to solve our problems if all we do is tear each other down (...)
It robs us of a rational and serious debate, the one we need to have
about the very real and very big challenges facing this nation.*

Barack Obama (1961)

Lawyer and 44th president of the United States

Healthcare deservingness opinions of the general public and policymakers compared: a discrete choice experiment

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Published in Van Oorschot W, Roosma F, Meuleman B & Reeskens T. eds. (2017). The social legitimacy of targeted welfare: attitudes to welfare deservingness (pp. 241-259). Cheltenham: Edward Elgar.

Introduction

Since the first half of the twentieth century, European states have guaranteed access to healthcare for all or a great many of their inhabitants through social healthcare arrangements. These provide (universal) access to health services that might otherwise be unaffordable for many individuals (Kornai and Eggleston 2001, pp. 17–23). Social arrangements embody a strong sense of solidarity and they all have in common the requirement that every citizen contributes, though only some will need support. Essentially, these are redistributive arrangements in which, simply stated, ‘the rich pay for the poor’ and ‘the healthy pay for the unhealthy’. Social arrangements reflect a bond of shared responsibility (Bayertz 1999), which is characteristic of nearly all countries on the European continent.

Social healthcare arrangements are currently under strain due to various factors including demographic changes and rising healthcare expenditure (Jeurissen and Sanders 2007). Healthcare financing may become unsustainable in future without reforms. Therefore, many countries are considering or have already taken policy measures to reform their public healthcare provision. These changes may lead to a redefinition of solidarity, the principle on which social arrangements are built. In this chapter, we are interested in investigating opinions about potential healthcare reforms that may affect solidarity. We do this by focusing on the problem of deservingness, which can be understood as an important dimension of solidarity, determining its boundaries. Deservingness is about who morally qualifies for collectively financed support (Van Oorschot 2000).

Healthcare is fundamentally different from other social policy domains (Jensen and Petersen 2017). Research shows that healthcare has a special sphere of justice (Walzer 1983), which is related to the moral importance of the distribution of health. Health enables individuals to function normally and thus provides equality of opportunity in society (Rawls 1999). Healthcare system reform is an important topic, the success of which largely depends on the degree of public support, or social legitimacy, it receives (Ringen 1987). In turn, policymakers' responsiveness is generally higher regarding such issues of significant public importance (Burstein 2006, Wlezien 2004).

Policymakers must face the challenge of ensuring the social legitimacy of reforms. What if healthcare reform is not supported by the general public? If the general public views healthcare reform critically, it could become a 'hot potato' for policymakers. Healthcare system reform is easily considered unfair by the general public (Bærøe and Baltussen 2014), because of its potential to adversely affect individuals and accordingly, the public perceives the consequences of reform strongly (Van Oorschot, Reeskens and Meuleman 2012). Moreover, the abstract political language of policymakers may alienate the public (Hytten and Bettez 2011). Will social legitimacy suffer because policymakers' ideas for change could conflict with the deservingness opinions of the general public? To look into this matter, our study investigates public support for potential reforms

In this chapter we present the results of a discrete choice experiment conducted in the Netherlands. The aim of the experiment is to investigate the social legitimacy of potential reforms in the healthcare sector by studying whether the deservingness opinions of the general public are congruent with those of policymakers.

Theory

Policy Responsiveness

Public policymaking is the political process that begins with various policymakers' opinions and leads to debate and concessions, resulting in policies. Public opinion is not formally taken into account in this process, as most Western countries legitimize the power of policymakers through the democratic system (De Búrca 1996). However, democracy only does not secure legitimacy. Democratic legitimacy is a prerequisite for social legitimacy, meaning

democratic legitimacy is the foundation for policymakers' commitment or response to the values of the general public (Weiler 1999).

Research shows that policymakers respond to public opinion in the case of deservingness topics (Wlezien, 2004). Because support for welfare provision remains high all over Europe (Meier Jæger 2006), the general public is unlikely to support policies that limit solidarity (Brooks and Manza 2007), and consequently, policymakers are likely to uphold solidarity. Wlezien (1995) explains this by substituting the image of a thermostat for the general public. Sharp (1999) has extensively discussed Wlezien's model and clarifies that the thermostat evaluates the room and makes the temperature (policies) respond to its reference temperature (public opinion). If the thermostat model works, the opinions of policymakers and the general public will be congruent.

However, other studies theorize that there is less congruency of opinion between policymakers and the general public. First, Blekesaune and Quadagno (2003) show that the level of understanding of a policy topic influences deservingness opinions. Policymakers have more in-depth information about policy problems, which gives them a better overview of the substantive complexity of social arrangements and the consequences of decisions. This information gap between policymakers and the general public may lead to a variance in healthcare deservingness opinions between them. An information gap typically exists when political complexity is high (Warren 2009), which is the case for social arrangements. The political reality is such that social policies are not easily approved. Despite its hurdles, the policymaking process brings together different opinions to achieve consensus, which requires compromises and feasibility. An understanding of this political complexity is likely to force policymakers to temper their views. Therefore, both the substantive and political complexity contribute to the information gap that leads to variance of healthcare deservingness opinions between policymakers and the general public.

Second, the institutionalized behaviour of policymakers also predicts differences in deservingness opinions (Zucker 1977). Institutionalized behaviour means that individuals internalize behaviour that they have learned, or that has been set by the system. Healthcare resource allocation in the Netherlands is primarily based on need (Van Delden, Vrakking, Van der Heide and Van der Maas 2004), as operationalized by the effectiveness of reducing need (quality adjusted life years, or QALYs). Therefore, the mechanism of institutionalized

behaviour specifically forecasts that policymakers will emphasize need in determining deservingness, in line with the prevailing system.

To sum up, the thermostat model predicts high congruence between policymakers and the general public. If the thermostat model applies to healthcare, potential reforms can be viewed as socially legitimate because they respond to public opinion. However, other views suggest that the opinions of policymakers and those of the general public are likely to differ. This introduces the possibility of a 'broken thermostat', which Sharp (1999) also discusses as an alternative to the functioning thermostat model. A broken thermostat may have consequences for the social legitimacy of potential reforms, because these reforms do not respond to public opinion. Within the context of social legitimacy, it is therefore relevant to investigate whether there is congruence between the healthcare deservingness opinions of policymakers and those of the general public, or in other words, whether the thermostat model actually applies to healthcare policymaking. Hence, our first research question is: What are the similarities and differences in healthcare deservingness opinions between policymakers and the general public?

Self-interest

Based on self-interest, differences in deservingness opinions may be expected. Groups with higher income and higher education – factors or variables commonly used to determine self-interest – are expected to benefit less from welfare arrangements: a negative or inverse relationship. Policymakers generally have higher income than the general public, therefore they are hypothesized to be less interested in a strong welfare state. Moreover, the general public is generally at a higher risk of using services or benefits compared with policymakers, and thus benefit more from the welfare state. Therefore, based on self-interest, the general public is more likely to support welfare arrangements (Meier Jæger 2006).

However, the opposite has also been suggested. Individuals with higher levels of income and education have a massive interest in the welfare state, because it aided them in reaching their position (Svallfors 1991): a positive relationship. Moreover, they continue to benefit from social healthcare arrangements – more than from other social policies – because everyone is prone to healthcare use due to the randomness of disease (Jensen and Petersen 2017). This line of thought suggests that policymakers will also be supportive of the welfare state out of self-interest.

Existing literature therefore connects self-interest to deservingness opinions both positively and negatively. Hence, our second research question is: How does self-interest relate to potential differences in deservingness opinions between policymakers and the general public?

Deservingness Opinions applied to Healthcare

Before addressing the research questions, we first elaborate on the operationalization of the main object of study: deservingness opinions. Although deservingness opinions vary from person to person (De Swaan 1988), opinions do not refer to ad-hoc or case-by-case judgements. They reflect an individual's understanding of justice (Rawls 1999), because individuals seek to be consistent in their decisions – which are in accordance with particular values or criteria – whether or not explicitly referred to (Swift 2014). We operationalize deservingness opinions by the relative importance of the criteria used in these deservingness judgements, which results in a specific 'profile'.

Table 1. Application of CARIN criteria to healthcare

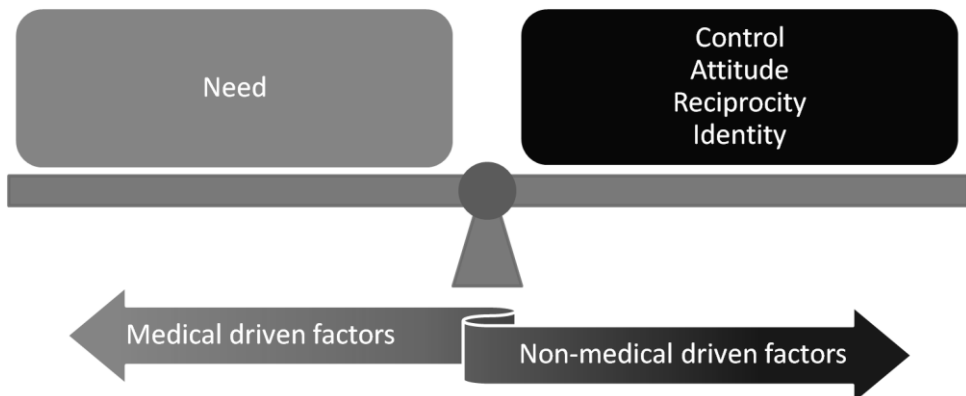
CARIN criteria	Healthcare deservingness criteria
Need	<i>Medical need (severity of illness)</i> The impact that an illness has on quality of life in case of non-treatment
	<i>Financial capacity</i> Financial resources at hand to cope with unexpected healthcare expenses
Control/Attitude	<i>Lifestyle</i> The patient's behaviour prior to onset of illness
Control/Attitude	<i>Cooperation</i> The patient's behaviour during treatment
Reciprocity	<i>Choice of package/premium</i> The chosen level of coverage (and accordingly premium) of their health insurance policy
Identity	Excluded in the study

Existing literature describes criteria for deservingness, which individuals apply to the rationing of welfare benefits (see for example Van Oorschot 2000). Five characteristics, termed CARIN criteria, influence the deservingness of need-seeking individuals: control, attitude, reciprocity, identity and need (Van Oorschot and Roosma 2017). As we will explain, when applying the CARIN deservingness criteria to healthcare, a slight modification is required¹. The healthcare deservingness criteria that we consider are presented in Table 1, including their link with the CARIN criteria.

Need is a complex criterion in healthcare arrangements. By definition, healthcare is a need-driven system (Van Delden et al. 2004), which gives the need criterion a special position in healthcare compared with its role in social security. The provision of social security compensates for loss of income, which is primarily a financial need. Healthcare arrangements, however, primarily address medical need. Illness, more than loss of income, is considered to be a random event (Jensen and Petersen 2017) that can affect opportunities in life (Rawls 1999). Understandably, there is hesitancy to label healthcare as a 'financial need', because that would trivialize the seriousness of an illness. For its use in the healthcare domain, the CARIN criterion of need is therefore separated into medical need and financial need. The special position of medical need in the healthcare system helps determine the extent to which deservingness opinions are medically driven. This is visualized in Figure 1 as a balance, with the criterion of medical need on one side and the criteria of non-medical deservingness on the other.

The need for healthcare is determined by a loss of good health, and can be expressed as an effect on the quality of life. Loss of health results primarily in the need for specific medical services. Sensitive to considering medical need in strictly monetary terms, the financial component is instead related to affordability or the financial resources available to an individual. We therefore address the financial component of need by considering financial capacity.

Figure 1. Operationalization of deservingness opinions by the weights of criteria



Weights of CARIN criteria determine to what extent deservingness opinions are driven by medical and non-medical factors

The criteria of control and attitude are also topics of longstanding debate in healthcare. A central question in this regard is whether someone can be held responsible for their health status and service use. Biological, psychological and social factors can all play a role in disease causation and holding someone responsible for using healthcare services requires a nuanced approach. Therefore, we make a distinction between behaviour before the onset of disease (lifestyle) and behaviour during treatment (co-operation), and remain cautious in operationalizing the criteria (see the data and methods section).

The criterion of reciprocity refers to someone's previous and future contributions to a social arrangement. This may play a role in deservingness according to the quid-pro-quo principle. In social health insurance – the system in place in the Netherlands – reciprocity is determined by the premium. In turn, the premium is related to the choice of insurance package; the broader the coverage, the higher the premiums. Package choice is not an isolated decision in order to procure deservingness, because choice is also influenced by financial capacity and attitude towards risk. Other deservingness criteria are also slightly interrelated.

Lastly, although the criterion of identity influences deservingness, it is not included in this study. Identity is beyond the scope of potential reforms, that is, identity-based criteria cannot actually be implemented because targeting by ethnicity, legal status and gender is unconstitutional (non-discrimination law).

Data and methods

The criteria explained above are used to profile deservingness opinions based on the relative importance given to each. This operationalization constitutes the basis for investigating whether the deservingness opinions of policymakers and the general public are congruent.

Discrete Choice Experiments

We conducted a discrete choice experiment (DCE) in order to measure the relative importance of the deservingness criteria. DCEs are an increasingly used, stated-preference method that reveal group-level preferences from a given set of criteria (De Bekker-Grob, Ryan and Gerard 2012). This methodology assumes that preferences for criteria (attributes) vary depending on the specific values of these attributes (levels) (Ryan and Gerard 2003). In our DCE,

healthcare deservingness criteria are used as the attributes (Table 1). In order to state their preferred choice between two hypothetical scenarios, respondents made trade-offs among these attributes. Hypothetical choice sets implicitly assign weightings to different criteria.

Similar to vignette studies, DCEs reveal implicit preferences for attributes through choice analysis. However, DCEs are considered unique because their methodology was developed in a different area of research. Vignette studies stem from social sciences, whereas DCEs are found in economic theory (Green, Krieger and Wind 2001), so their methodologies differ. This is illustrated in the differences between this DCE and the vignette study conducted by Reeskens and Van der Meer (Reeskens and Van der Meer 2017). A DCE is able to provide precise weights for small datasets (Lancsar and Louviere 2008). This approach uses random utility theory and only provides data on an aggregated level. Vignette studies also allow analysis at the individual level. DCEs need fewer choice tasks than vignette studies, because DCEs make use of efficient designs. Vignette studies generally make use of randomization. We preferred to use a DCE because of the known difficulty in obtaining responses from policymakers, and the fact that aggregate data is sufficient to achieve our aim.

Published DCE guidelines (Bridges et al., 2011, Lancsar and Louviere 2008) were used to structure the experiment. First, the different choice sets and the questionnaire were designed, second, data was collected and third, the data was statistically analysed.

Experimental Design

Our DCE on deservingness preferences presents respondents with several choice sets for two care-seeking individuals in a given scenario. Respondents are asked to determine which of the two most deserves the allocation of collectively financed healthcare resources. Scenarios are built from a unique combination of five levels, one for each attribute. In line with DCE guidelines, we consulted experts – senior researchers with experience of similar experimental studies – to select plausible and relevant levels ($n = 5$). Illness severity, financial capacity and premium choice were each operationalized for three levels (high, medium and low). The attributes of lifestyle and co-operation were assigned ‘optimal’ and ‘suboptimal’ levels to correspond with their sensible nature and ‘greyness’ in practice. A fully unhealthy lifestyle and non-cooperation is an unrealistic scenario, although it would greatly influence

deservingness. In total, our DCE could present 11 664 unique scenarios ($32 \times 32 \times 23 \times 23$). A Bayesian efficient experimental design was used to present a feasible number of scenarios while optimizing informativeness (D-efficiency). The renowned ISPOR task force has published detailed information on the use of D-efficiency in designing experimental studies (Reed Johnson et al. 2013). We used Ngene software (version 1.1.1) to maximize D-efficiency in a design with nine choice sets.

The final questionnaire contains ten choice sets, including one additional dominance test choice set for assessing validity. This dominance choice set presents the most deserving scenario (highest need, full co-operation, and so on) and the opposite scenario. This choice set was used to test whether respondents understood the design. All the choice sets were presented as unlabelled choices between person A and person B. Respondents could not opt-out, forcing them to make a choice. This adds to the experiment's realism, because in a policy setting, resources can be allocated only once. Additionally, the questionnaire contains items to collect information on respondents' personal characteristics, healthcare use and welfare attitude.

Data Collection

The questionnaire was developed in Dutch and includes a comprehensive explanation of the attributes and levels at the beginning. Qualtrics online survey software (version 7812362) was used to design the questionnaire and to collect the data. The questionnaire was piloted ($n = 5$) to check interpretation, face validity and layout. Minor changes were then made to the phrasing and layout.

For data collection among the general public, invitations to participate in the experiment were distributed among a representative sample of the Dutch adult population by gender, age, region and educational level. The sample was drawn from a panel by CG Selecties, based on the golden standard developed by the Organization for Market Research (MOA), in collaboration with Statistics Netherlands (CBS). The invitation was sent to a total of 10 760 members of the panel, of whom nearly 60 per cent were inactive. They were invited in batches, which allowed for adjusted targeting. In this way, participation bias was overcome with regard to the characteristics representative of the Dutch population. The response rate was affected by the number of inactive members, and the fact that emails included invitations for several questionnaires. Data was collected in July 2015. In total, 774 participated in the survey, of whom 375

completed all the choice tasks, resulting in a response rate of 7.2 per cent, which is not uncommon for online panels.

For data collection among policymakers, we used two invitation strategies. First, using address databases, we contacted hundreds of decision makers and policy officers working in the social domain at national, regional and local levels, as well as in organizations. Individuals were considered eligible for participation if they indicated that they had been involved in decisions on resource allocation. Potential respondents were sent invitation emails. Reminders were sent after two and three weeks. Second, we actively searched for the contact details of local policymakers, who were underrepresented in the first strategy. Subsequently, we invited over 200 council members responsible for local health-care and welfare. These strategies resulted in a total of 81 policymakers starting the questionnaire, of whom 74 completed all the items. Data was collected in September and October 2015.

We collected 375 full responses among the general public and 74 among policymakers. The sample of the general public contained 40 respondents who failed the dominance test (11 per cent), compared with only four (5 per cent) of the respondents from the policymakers' dataset. These respondents were excluded from the statistical analysis. The datasets therefore consist of data from 70 policymakers and 345 respondents among the general public.

Statistical Analysis

The data collected in the DCE was analysed using random utility theory, which assumes that respondents make rational decisions: that is, they maximize utility (Cascetta 2009). Utility can be separated into a constant, attribute levels (having a preference coefficient) and an error term. We refer to Lancsar and Louviere (2008) for the theoretical basis of random utility in DCEs. For the purposes of this chapter, it is sufficient to understand that each choice has a certain utility. Statistical analysis of choice data – which expresses the different utilities in choice scenarios – can derive coefficients for the systematic components of the utility formula: the weight respondents give to an attribute. Only complete responses are included in these statistical analyses, which were performed in Nlogit econometric software (version 5).

We use a mixed logit model (1000 Halton draws) to determine a level's coefficient (beta), which indicates the weight respondents assign when determining which of the choice set scenarios deserve care the most. Data

from the general public and policymakers is modelled separately. The relative importance of each attribute – a measurement that is easier to interpret – is determined by the proportion that an attribute's variation has in explaining the variation in utility (Malhotra and Birks 2005). This means that we derive the relative importance of each attribute by dividing the range of its level coefficients by the sum of the ranges of all attribute levels. A joint interaction model is used to estimate the significance of differences between groups.

Results

The self-reported baseline characteristics of the respondents are presented in Table 2. Policymakers and the general public differ in their level of income and their level of education, with on average, policymakers having a higher level of income and education than the general public. Moreover, policymakers took an average of 27 minutes to complete the questionnaire; much longer than the sample of the general public, who averaged 17 minutes. Otherwise, the groups are comparable with regard to other baseline characteristics, such as gender, age and their opinion about governmental responsibility for healthcare.

Table 2. Baseline characteristics of respondents

	Policymakers N = 70		General public N = 345	
Educational level				
Primary	–	–	5	1%
Secondary	3	4%	197	57%
Tertiary	67	96%	143	41%
Income level				
No income or < €750 per month	-	-	31	9%
€750–€1500 per month	-	-	102	30%
€1500–€3000 per month	17	24%	136	39%
€3000–€5000 per month	34	49%	26	8%
> €5000 per month	10	14%	2	1%
Opt out	9	13%	48	14%
Healthcare use (last year)				
None	32	46%	115	33%
Yes, paid for privately	3	4%	40	11%
Yes, through health insurance	35	50%	190	55%
Male	41	59%	161	47%
Mean age in years (standard deviation)	51.1 (±10.7)		46.4 (±14.9)	
Opinion about government's responsibility for healthcare (0 = no ...; 10 = full ...) (sd)	7.83 (±1.30)		7.95 (±1.69)	
Questionnaire duration in mm:ss (5% trimmed) (mean)	26:32		16:42	

Deservingness Opinions Compared

We show the results of our DCE analyses in Table 3. All the attributes are statistically significant for policymakers and the general public, which means that attributes were important in their choices. Policymakers and the general public both assigned the highest weight to the deservingness criterion of medical need. They also agreed on the order of importance of non-medical criteria: financial capacity was most important, followed by lifestyle, cooperation and choice of premium/package. However, the joint interaction model shows that policymakers and the general public assigned different weights to criteria.

Medical need was assigned significantly more weight by policymakers than by the general public: 50 versus 30 per cent ($p < 0.01$; p values are based on the joint model, whereas percentages are based on the separate models for the policymakers and the general public). As a consequence of this, policymakers assigned equal weight to medical and non-medical criteria, whereas the general public prioritized non-medical criteria in allocating healthcare.

Table 3. *Betas and relative importance of healthcare deservingness criteria according to policymakers and the general public*

Attribute	Level	Policymakers N = 70		General public N = 345		Inter- action models§
		Beta†	RI‡	Beta†	RI‡	
Medical need (percentage)	20% loss	0.13***		0.04***		***
	40% loss	(per %)	50%	(per %)	30%	
	60% loss					
Financial capacity (categorical)	Low	(ref)		(ref)		
	Moderate	-0.49*	16%	-0.49***	23%	-
	High	-1.68***		-1.26***		**
Lifestyle (categorical)	Optimal	(ref)	15%	(ref)	19%	
	Suboptimal	-1.53***		-1.04***		**
Cooperation (categorical)	Optimal	(ref)	13%	(ref)	19%	
	Suboptimal	-1.37***		-1.05***		*
Premium / Package (categorical)	High	(ref)		(ref)		
	Medium	<0.01	5%	-0.27***	10%	-
	Low	-0.53**		-0.56***		-

***, **, *, - Respectively significant at 1%, 5% and 10% level and not significant.

† Beta coefficients of levels (first level is reference) are based on the mixed logit model per dataset

‡ Relative Importance. Percentage total does not add up to 100 per cent due to rounding.

§ Significance of the differences between policymakers and the general public is based on the interaction model.

The general public gave higher importance to financial capacity compared with policymakers (23 versus 16 per cent; $p < 0.05$), lifestyle (19 versus 15 per cent; $p < 0.05$) and co-operation (19 versus 13 per cent; $p < 0.10$). However, both groups assigned the least weight to premium/package choice (5 versus 10 per cent, or no significant difference). In sum, policymakers and the general public show the same rank order of deservingness criteria, but assign significantly different weight to each.

Subgroup Analysis

The results show that the deservingness opinions of policymakers and the general public differ (Table 3), but their baseline characteristics also differ. Policymakers are better off compared with the general public in terms of educational level and income (Table 2). We conducted subgroup analyses to examine whether these differences in baseline characteristics could explain the differences in deservingness opinions. We did this by comparing policymakers' responses with a subset of the general public, whose level of income (above € 3000 per month net; $N = 28$) and education (tertiary education; $N = 143$) are comparable.

The subgroup analyses compare like with like, and show that deservingness opinions remain significantly different between policymakers and the general public, even when similar subgroups are compared (Table 4). In deciding who deserves care, the higher income subset of the general public takes into account need to the extent of 27 per cent; the higher educated subset, 31 per cent. Both percentages are much lower ($p < 0.01$ for both) than the relative importance of 50 per cent that policymakers assign to need. Whereas policymakers prioritize medical need, comparable subsets of the general public assign greater weight to non-medical criteria. The subsets of the general public that have higher levels of income or education do not show more similarities with the deservingness opinions of policymakers than the opinions of all respondents from the general public.

Table 4. Betas and relative importance of healthcare deservingness criteria according to policymakers and comparable subsets of the general public.

Attribute	Level	I Policymakers (n=70)		II General public: high income subset (n=28)		III General public: high educated subset (n=143)		Interaction models [§]	
		Beta [†]	RI [‡]	Beta [†]	RI [‡]	Beta [†]	RI [‡]	I vs II	I vs III
Medical need (percentage)	20% loss	0.13***		0.74		0.05***		***	***
	40% loss	(per %)	50%	(per %)	27%	(per %)	31%		
	60% loss								
Financial capacity (categorical)	Low	(ref)		(ref)		(ref)			
	Moderate	-0.49*	16%	-7.33	17%	-0.63***	21%	*	-
	High	-1.68***		-18.51		-1.26***		-	**
Lifestyle (categorical)	Optimal	(ref)		(ref)		(ref)			
	Suboptimal	-1.53***	15%	-22.72	21%	-1.14***	19%	-	**
Co-operation (categorical)	Optimal	(ref)		(ref)		(ref)			
	Suboptimal	-1.37***	13%	-13.37	12%	-1.03***	17%	*	**
Premium / Package choice (categorical)	High	(ref)		(ref)		(ref)			
	Medium	0.00	5%	-7.20	23%	-0.26**	12%	-	-
	Low	-0.53**		-24.97		-0.75***		***	-

***, **, *, - Respectively significant at 1%, 5%, 10% level and not significant.

RI = Relative importance

[†]Beta coefficients of levels (first level is reference) are based on the mixed logit model per dataset.

[‡]Percentage total does not add up to 100 per cent due to rounding.

[§]Significance of the differences between policymakers and the general public is based on the interaction model.

Conclusion and Discussion

Interpretation of Findings

The results of the experiment show similarities and differences in deservingness opinions between policymakers and the general public. Both place the criteria in the same order, but policymakers assign significantly more weight to medical need compared with the general public.

In the theory section of this chapter, we discuss these differences in relation to an information gap (Blekesaune and Quadagno 2003, Warren 2009) and the institutionalized behaviour of policymakers (Zucker 1977). First, the information gap arises because policymakers have more in-depth information than the general public and therefore have a better understanding of the substantive and political complexity of healthcare policymaking. This is supported by the average time spent on the experiment (27 minutes for policymakers compared with 17 minutes for the general public), which may indicate that policymakers needed time to take into account more complex information when making their decisions. Second, we predicted that policymakers might have more need-driven opinions, reflecting the current need-driven system with which they are aligned. The general public is not directly involved in such policies and therefore would not have internalized the need-based system. This argument of institutionalized behaviour is supported by our data, because compared with the general public, policymakers are found to focus more on the basic criterion of medical need.

We also investigate the role of self-interest in deservingness opinions and examine two opposing theories. Our data confirms that on average, the general public have lower levels of income and education than policymakers (Table 2). However, higher educated and higher earning subgroups of the general public have the same deservingness opinions as the general public as a whole. The opinions of these subgroups – whose income and education are comparable to those of policymakers – do not resemble the need-based opinions of policymakers to a greater extent. Therefore, income and education are not proven to be associated inversely with welfare state support, as suggested by Meier Jæger (2006). On the contrary, our data indicates a positive relationship between self-interest and deservingness opinions: policymakers, who have higher income and education, assign less weight to non-medical criteria than the general public, which indicates that policymakers support a stronger need-based welfare state. This is in line with Svallfors (1991), who states that these groups

have an obvious interest in the welfare state because it helps them reach and maintain their ultimate position.

The theoretical notions discussed above elaborate on differing deservingness opinions between policymakers and the general public. However, other variables may also explain this divergence. For example, the baseline characteristics (Table 2) show a slight difference in healthcare use. Our data is insufficient to investigate this further, but previous studies indicate that other factors, such as ideation, may influence deservingness perceptions (Van Oorschot et al. 2012). Therefore, we recommend studying other factors as independent variables of deservingness opinions.

Implications for Social Legitimacy

Healthcare is considered a topic of high importance to the general public. Burstein (2006) found that public opinion and the opinions of policymakers are mostly congruent on such salient topics. Our data shows this congruence with regard to the order of importance of criteria. However, the results of this study also point to some limitations concerning policymakers' responsiveness, because they stated more medical-driven opinions than the general public.

On the one hand, these slight differences do not necessarily point to a 'broken thermostat'. Congruence of opinion may be obtained by other means: a feedback mechanism may cause the public to adjust their preferences in response to policies (Sharp 1999). Sharp argues that this was the case with building the welfare state. The future will show whether the general public adapts to reforms, as social arrangements undergo strain.

On the other hand, if policymakers do not respond to public opinion, it would seem that the thermostat model does not apply to healthcare policymaking. An explanation for this may be that policymakers cannot fully respond to the general public's demands (Sharp 1999). Policymakers may consider public opinion to be too demanding to respond to, even though their non-responsiveness puts social legitimacy at stake. This is even more the case if incongruence of opinion is not addressed.

Public involvement in healthcare policymaking is a response to either of the above implications: the general public may adjust preferences after reforms, or they may legitimize policies if they understand the nonresponsiveness of policymakers. Moreover, public involvement may also lead to increased under-

standing and a decreased information gap, which we consider the most important potential explanation for incongruence in deservingness opinions between policymakers and the general public. Therefore, public involvement and understanding of healthcare deservingness is important in establishing social legitimacy for future reforms in healthcare.

Overall Conclusion

This chapter adds value to research in the healthcare domain, in which deservingness is still a largely uncharted field. To our knowledge, this is the first time a DCE has been used to study the social legitimacy of healthcare policies. Previously, DCEs in healthcare have mostly focused on particular treatments, not on organizational and social arrangements (Ryan and Gerard 2003). We have shown that a DCE is a useful method to measure trade-offs in preferences, especially because it delivers statistically strong results in smaller sample sizes, as in the case of policymakers. A limitation of our study is that we do not distinguish between other stakeholders, for example professionals. This study adds to deservingness research by focusing on social arrangements in healthcare, which are fundamentally different from other social arrangements (Jensen and Petersen 2017).

Notes

1. The deservingness criteria are most commonly applied to the allocation of social security benefits. Healthcare differs from other social arrangements, because it provides services rather than monetary benefits.

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CHAPTER 7

General Discussion

Welnu, een goed boek wekt vragen op. Door minstens drie andere boeken te lezen laat ik de vragen, opgewekt door het eerste boek, rustigjes aan verschrallen en verpieteren. Maar drie goeie boeken geven negen vragen. (...). Al die dingen bij elkaar, heet dat dan 'passie'?

Joost Zwagerman (1963-2015)
Nederlands schrijver

In this chapter, we first present an overview of the main findings of this dissertation. Subsequently, we reflect upon the theory, methodology and results. The chapter concludes with recommendations for research and policy.

I. Main findings

This dissertation had three aims, namely to understand how reforms since the 1980s have affected formal solidarity in health insurance and disability insurance (first aim); to analyse opinions about deservingness in these arrangements (second aim); and to compare health insurance and disability insurance regarding (i) the impact of reforms on solidarity and (ii) deservingness opinions (third and overarching aim). This section presents an overview of the results.

I.1. Solidarity

In the first part, we presented comparative policy analyses from the perspective of solidarity. A framework of six solidarity dimensions formed the basis for these analyses. The framework included dimensions that covered both roles of a member of an insurance arrangement, namely the role of recipient and the role of contributor. On the recipient side, four dimensions of solidarity were included – population coverage, material coverage, cost coverage and conditioning – while the financing side included two dimensions – the risk-relatedness and income-relatedness of contributions.

Analyses of these six dimensions showed that post-1980 reforms in the Netherlands had different effects on health insurance and on disability insurance. We found that health insurance has been immune to solidarity-restricting reforms, except for the increase in co-payments. The 2006-reform even strengthened solidarity by expanding population coverage. However, these results regard specifically the insurance of medical care; we observed different effects in the insurance arrangement for long-term care, in which solidarity was restricted on several dimensions. This concerned mainly co-payments and the conditioning of benefit allocation. Regarding the effect of reforms on solidarity in disability insurance, we found restrictions on several dimensions, of which the effects on conditioning (stricter) and risk-relatedness of contributions (increased) were most significant.

1.2. Deservingness opinions

In the second part, we presented several discrete choice experiments that were conducted to reveal deservingness opinions in health insurance and disability insurance. These experiments involved a questionnaire in which respondents had to indicate repeatedly who – out of two hypothetical claimants of social insurance benefits – they considered to be most deserving for collectively financed support. In the questionnaire, claimants were (re)presented their status on five characteristics, also called deservingness criteria: severity of illness (i.e. need), financial capacity, lifestyle, cooperation with treatment/reintegration into employment and choice of package (and thus premium). In twenty choice sets, respondents indicated which of two claimants they find most deserving, after which we could reveal the extent to which each of the deservingness criteria influenced their deservingness decisions.

The discrete choice experiments showed that the general public considered severity of illness the most important criterion in determining deservingness of claimants. However, financial capacity, cooperation and lifestyle also played a role. Moreover, in disability insurance, the most influential criterion was a claimant's cooperation (with reintegration directions), whereas cooperation (with treatment directions) did not have an equally important role in deservingness decisions in health insurance.

The experiment also showed variation in deservingness opinions among respondents, which was associated with demographic factors and ideological factors. This raised the question whether policy makers hold different opinions than the people they represent, because the former are often more highly educated and have a higher income than the general population on average. To answer this question, we collected the healthcare deservingness opinions of Dutch policy makers and compared them to public opinion. We found that the deservingness opinions of policy makers and the general public are similar regarding the order of criteria, but that the relative weights of criteria differed. Policy makers assigned significantly more weight to severity of illness in determining the deservingness of claimants than did the general public.

1.3. Health insurance versus disability insurance

Comparing the effect of post-1980 reforms on solidarity in different illness-related social insurance arrangements, we found differences between disability insurance and health insurance. However, we demonstrated that effects also vary within health insurance, i.e. between medical care and long-term care.

Health insurance covering medical care has been largely immune to solidarity-restricting reforms. In contrast, reforms on long-term care and disability insurance restricted solidarity regarding allocation. In addition, cost coverage in long-term care decreased, as well as risk solidarity in disability insurance. The comparison thus demonstrates that health insurance and disability insurance have developed along different paths, but that the effects of post-1980 reforms in the coverage of long-term care deviate because they resemble the somewhat solidarity-restricting trend in disability insurance rather than the more solidarity-strengthening trend observed in health insurance.

Comparing deservingness opinions in health insurance and disability insurance, we found similarities and differences between the two illness-related social insurance arrangements. In health insurance and disability insurance, a similar order of criteria preferences was observed. However, the most decisive criterion differed. Deservingness off health care is primarily determined by the medical need of the claimant, while his/her cooperation with directions for reintegration into employment was considered most important in considering him/her deserving off disability benefits. Nevertheless, need was a decisive criterion in deservingness opinions in disability insurance as well, in cases where need was high. Deservingness for benefits of both kinds of illness-related social insurance arrangements is thus determined by need (primary targeting), as well as by conditioning criteria such as cooperation (secondary targeting), but need is more dominant in determining deservingness for health services, whereas conditioning criteria are sooner taken into account in determining deservingness for disability benefits.

2. Reflection

The main findings show that health insurance has largely maintained its solidaristic bond regarding coverage of medical care, whereas some dimensions of solidarity in the insurance of long-term care have been restricted. Regarding disability insurance, we observed a decrease of solidarity in several dimensions as well. The experiments demonstrate that the general public prefers not to condition allocation in health insurance as much as they see room for conditioning benefit allocation in disability insurance, especially regarding the criterion of cooperation with reintegration into employment. This section discusses the strengths and limitations of the theory and methodology that formed the basis for the findings. Furthermore, we discuss the meaning of the results found.

2.1. Reflections on the theory

Solidarity is politically and scientifically an ambiguous concept. We chose to focus on its formal form as arranged by the welfare state through social insurance arrangements. Such a demarcation is necessary, as solidarity is a conceptually contested concept (Gallie 1955). Moreover, it is predominantly discussed normatively (Bayertz 1999). These characteristics hamper (comparative) research on social insurance from the perspective of solidarity because of the endless debate about what solidarity is. Adopting a formal approach within the scientific discourse is therefore functional for research purposes. Nevertheless, this approach has some limitations as well.

First, due to the focus on formal solidarity and public insurance arrangements we were not able to map all of the relevant effects of reforms on solidarity. This relates to the general trend of the declining welfare state since the 1980s, which has involved a shift towards more private financial responsibility and increased individualization (Houtepen and Ter Meulen 2000, Ter Meulen and Maarse 2008). Although a shift from state responsibility towards private responsibility decreases formal solidarity – which our theory thus indicated as a restriction in solidarity – this trend does not necessarily imply that responsibility for the financial risks of illness is no longer shared. Collective responsibility may also be organized by private actors or informally, but our scope did not cover these forms of solidarity. Developments in long-term care and disability insurance, which reflect a changing understanding of who is responsible for the risks of illness, illustrate this limitation. In the insurance of long-term care, the state has formally increased the role of informal solidarity from 2007 onwards, and regarding illness-related loss of income, some responsibilities for income compensation were shifted to private actors in the 1990s. The private sector formally tied itself to income compensation in collective agreements, which was within the scope of our formal understanding of solidarity. However, the emerging informal forms of solidarity in long-term care showed that our focus on formal solidarity did not suit to the context of shifting responsibilities away from the state, which is a general trend in the development of the welfare state nowadays that we could not analyse well.

Second, the neutral conceptualization of solidarity – within a scientific discourse – could pose problems on the way the results are received, because the concept is predominantly understood normatively (Bayertz 1999). Policy-makers on either side of the political spectrum may not recognize themselves in the neutral definition, which would then turn out to be platonic in practice.

On the other hand, politicians are not likely to agree with any conceptualization beyond their own because – within the political discourse – each individual may value dimensions differently and even demarcate solidarity to a single dimension. In this context, our scientific approach countervails the sole normative understanding of solidarity by addressing multiple dimensions and makes our multidimensional framework an antidote to the political reductionism of solidarity.

Third, our scope in measuring opinions about solidarity was restricted to a single dimension for feasibility reasons. We focused on the dimension of conditionality, which has a large body of evidence on its measurement and has been the focus of substantial political and societal interest during the last decades. Nevertheless, a consequence of our restricted focus is that the opinions found may not be representative of opinions about solidarity as a whole.

2.2. Reflection on the methodology

This section presents the methodological considerations of this dissertation. First, we discuss the pros and cons of the comparative policy analysis that we used to analyse the effect of reforms on solidarity. Second, we reflect upon the discrete choice experiments that we conducted to measure deservingness opinions.

2.2.1. Analysing solidarity as a dependent variable

We assessed the effect of reforms on solidarity by qualitatively describing their impact on six dimensions separately. The framework of dimensions enabled a structured comparison between health insurance and disability insurance. Moreover, the multidimensional approach helped to obtain a nuanced view on the impact of reforms on solidarity, which is needed because *“it is very possible that in one respect social action has regressed whilst in others it has been enlarged, so that in the end we mistake transformation for disappearance”* (Durkheim 1997). This nuance is for instance not achieved by the decommodification index, which is unidimensional (Esping-Andersen 1990). However, our assessment of the effects of reforms also lacks some nuance because the richness of the data and descriptions per dimension are not reflected in the eventual “+”, “-” or “±” assigned. The sign is a summary of the versatile data on the reforms’ effects and thus involves some interpretation. To improve neutrality of the analysis, we operationalized solidarity on a continuum (personal responsibility – shared responsibility) and discussed the assignment of a “+”, “-” or “±” in a multidisciplinary team.

Reflecting upon the dimension of income solidarity specifically, we acknowledge that this particular dimension may lend itself to a quantitative approach because it is overtly about financial redistribution, which can be expressed in monetary terms. However, the reality of increasingly complex financing mechanisms in social insurance is problematic for a quantitative approach. The lack of studies on the redistributive effects of social insurance arrangements is testimony to the fact that calculating these effects has become a complex exercise. Van Doorslaer et al. (1999) identified – under specific assumptions – a relatively regressive structure in health insurance in the Netherlands before the 2006-reform, but there are no follow-up studies that report upon the redistributive effects after the reform. As a result, we adopted a qualitative approach in analysing income solidarity, which also contributed to a more nuanced view on the reforms' impact on solidarity.

2.2.2. *Measuring deservingness opinions*

In measuring deservingness opinions, we chose to conduct a discrete choice experiment because this method reveals preferences implicitly. Revealing discrete preferences has an advantage over explicitly stated trade-offs of criteria because the preferences provide more in-depth information, including underlying factors, and they better simulate actual decision making (Phillips et al. 2002). Explicitly stated preferences could for instance be influenced by socially desirability or viewpoints of a preferred political party rather than being the result of individual moral deliberation. E.g. need-based allocation may be preferred explicitly, but concrete examples of claimants practicing irresponsible lifestyles may persuade respondents to trade off these criteria in some cases. A discrete choice experiment reveals opinions implicitly, which reduces the influence of such influencing factors. However, our choice of method also has a disadvantage because it is an experiment with hypothetical situations rather than observations of an implicit trade-off in real-life deservingness decisions.

In our discrete choice experiment, we offered respondents a constrained choice, i.e. they could not opt out, as this best resembles actual decision making about scarce resources (Hasman 2003). Collected resources, after all, can be spent only once. The flipside of this choice is that respondents are not able to indicate that they found two hypothetical respondents equally deserving and may have wanted to split resources. Another consideration about the execution of our study on deservingness opinions is its sample size, which is rather small ($n=415$). Notwithstanding this limitation, we were able to retrieve significant results from these smaller datasets by conducting a discrete choice

experiment, which is a particular strength of the technique (Lancsar and Louviere 2008). With a sample size formula for this type of experiment (Orme 2006) we calculated that we needed approximately 80 respondents, which we nearly accomplished among the policymakers ($n=70$) and amply achieved among the general population ($n=345$). We collected a larger sample among the population to be able to analyse subgroups. Still, extrapolation of the data to the whole population requires caution due to the relatively small sample size, even though we approached a group that was representative of the Dutch population regarding gender, age, region and educational level.

Finally, we assessed deservingness opinions of the general public and of policymakers because these groups are the two main stakeholders from the perspective of democracy. It is of course true that more stakeholders are involved in the policymaking process. For instance, the opinions of medical professionals also play a role in the allocation process. Their opinions may therefore be a valuable subject for further research.

2.3. Reflection on the results

In this last section of the reflection, we place the results in the broader field of studies on solidarity and deservingness. We discuss how this dissertation compares with other studies and consider the meaning of our results in this wider context.

2.3.1. Effects of reforms on solidarity

The results of the comparative policy analysis in this thesis (first part) show that health insurance underwent several reforms that affected solidarity dimensions, but they mainly had a strengthening effect. The only reduction in solidarity was found in the dimension of cost coverage. These results are coherent with those of previous studies on solidarity in health insurance, which found that different dimensions develop over time (Saltman 2015) and that their effects are often mixed (Maarse and Paulus 2003). However, these studies did not address long-term care arrangements, which are particularly challenged by the ageing society and consequently in need of policy response (Morel 2006). In long-term care, we found several restricting effects of reforms on formal solidarity for the Dutch case. These effects mainly regard a shift of responsibilities from the state to individuals and their social network. This is in line with the general trend in this period, which is described as a period of continuous retrenchment (Morel 2006, Pierson 2001). Regarding disability insurance, our results also match the European trend, which restricted solidarity regarding allocation according to

the principle ‘from welfare to work’ (Van Oorschot 2006, Gould and Laitinen-Kuikka 2003). Considering the effects of reforms on solidarity in different illness-related social insurance arrangements, we found that effects in long-term care in the Netherlands do not resemble the effects in medical care – which in the main had no effect or slightly strengthened solidarity – but are similar to the mainly solidarity-restricting trend found in disability insurance.

Considering the first part of this dissertation, we conclude that solidarity remains a core value in health insurance and disability insurance, but also demonstrate that solidarity is not incontestable. Solidarity in the social insurance arrangements covering medical care has been shown to be rather immune to restrictions – barring co-payments – but we found several solidarity-restricting measures, especially in long-term care and disability insurance. In the context of the changing welfare state, these solidarity-restricting effects of reforms fit in the general trend of declining state responsibility and increased individualism (Houtepen and Ter Meulen 2000). At the same time, the solidarity-restricting effects of reforms are not simply a “mirror image of welfare state expansion”, but rather as independent retrenchment measures (Pierson 1996). This is illustrated in the forms of solidarity we observed along-side the restriction of formal state-led solidarity.

2.3.2. *Dutch deservingness opinions*

Deservingness opinions, which we studied in our discrete choice experiments (second part), demonstrate that the general public considers a claimant’s need the most important criterion for the allocation of health services, which is in accordance with the need-based allocation mechanism in place in the Netherlands (Van Delden et al. 2004). However, other criteria – especially financial capacity and lifestyle – also had considerable weight in determining deservingness, which means that the general public may support conditioning of allocation. In disability insurance, deservingness opinions may even point at stronger support for restricting allocation – in particular for claimants who do not cooperate with the directions for reintegrating into employment. Although increased selective allocation would fit in the European trend of increased selective allocation (Van Oorschot 2000), there are at least two reasons why the general public in the Netherlands may not support such measures. First, variation in the deservingness opinions among respondents with different demographic and ideological characteristics shows that deservingness opinions reflect the “average citizen”, who does not exist in practice. Second, our results are based on hypothetical situations, in which respondents may act differently

than in real life. Further research is needed to obtain insight into deservingness opinions in practice as well as into variation in opinions among respondents.

2.3.3. *Solidarity development and deservingness opinions in line*

Considering both parts of this thesis, we conclude that the impact of reforms on the allocation dimension of solidarity is consistent with the deservingness opinions found. On the one hand, public opinion shows that deservingness of disability benefits primarily depends on claimants' cooperation, which was exactly an aspect that – according to our policy analysis – has been introduced in practice as a criterion for restricting allocation of disability benefits. On the other hand, opinions about allocation in health insurance were primarily need-based. This corresponds with the results of the impact of reforms on the conditioning dimension in medical care, in which we did not find significant changes. However, we did find solidarity-restricting reforms in long-term care and these were not reflected in the deservingness opinions. This is related to the set-up of the latter study, which for practical reasons retrieved deservingness opinions only on health insurance in general. Based on the effects of reforms on solidarity in long-term care we would expect some preferences for conditional allocation. However, Van den Broek et al. (2015) found that the general public valued state-led solidarity in long-term care in the Netherlands, even though the state steered towards more individual responsibility. Regardless of this shortcoming in distinguishing between medical care and long-term care, the results demonstrate that health insurance and disability insurance are surrounded by distinct deservingness opinions, which match the differential impact of reforms on solidarity.

The differences found between health insurance and disability insurance point at a 'status aparte' of health care and in particular medical care. Although existing evidence shows that illness prompts high levels of deservingness in comparison with other groups of claimants (Van Oorschot 2000, Jensen and Petersen 2017), this neither confirms nor disproves the differences between health insurance and disability insurance because both cover risks of illness. We suggested (Chapter 2) that these differences may for instance be related to the power structure; resistance to restrictions to solidarity in health insurance has always been more united than resistance to restrictions to solidarity in disability insurance, where clashes between employer and employee organizations have been common. An underlying explanation is the idea that health insurance is in a class of its own and thus different from all other social insurance arrangements (Schlesinger and Lee 1993). This proposition is supported by several



Figure 2. "Works Incentive-poster" published by Charles Mather (Chicago, 1927)

social insurance of different financial risk of illness – cost of treatment versus loss of income – are thus in line with a traditional importance associated with health.

philosophers, who point out the special importance of health care based on its influence on an individual's life opportunities (Daniels 1985, Walzer 1983). The idea that health care is different dates back to much older moral reflections. The proverb "there is no wealth like health", for instance, is attributed to Ben Sira, who lived in the 2nd century BC (Baron 2004). Although old, the idea is not considered out of date. For example, the same proverb has been used in the United States in the early 20th century to promote health (Figure 1). In general, the distinction between health and income seems fully applicable nowadays; the perception of health care as "different" remains. The results of this dissertation on the

3. Implications for science and practice

This thesis aimed to understand the similarities and differences between health insurance and disability insurance regarding solidarity and deservingness. In this section, we draw the lessons learned from this comparison, which may be valuable for both scientists and policymakers with regard to further research and future reform.

3.1. Scientific recommendations

To our knowledge, health insurance and disability insurance have not been compared structurally from the perspective of solidarity as well as opinions on claimant's deservingness of their resources. Therefore, the results of this study filled a research gap. At the same time, the findings raised new research ques-

tions, for which we recommend further research. We address those topics in the next section. Thereafter – based on our theoretical and methodological reflection – we provide recommendations on how to conduct such potential future studies on solidarity and deservingness.

3.1.1. From answers to questions

The findings in this thesis lead to three recommendations for further research. First, we recommend in-depth analysis to better understand *why* different illness-related social insurance arrangements were found to be different. For instance, which factors explain the stricter reforms in long-term care and disability insurance in comparison with medical care? Although we have slightly touched upon potential explanations in previous chapters, further research is required to understand the differences in policy effects as well as varying opinions between different illness-related social insurance arrangements. In particular, we recommend studying public opinions on deservingness as a potential explanation for the reforms and vice versa – the influence of policy on deservingness opinions – as there seems to be an association between both parts of the thesis, which urges questions about causality.

Second, we recommend research on the effects of reforms on solidarity and deservingness opinions in other countries and time periods. Are the results of our case study generalizable or are they merely a Dutch experience? For instance, is the immunity of medical care to solidarity-restricting reforms a European phenomenon? Similarities may be expected because of the common challenge of adapting to a changing context in terms of demography, demand for support and the financial situation (Gevers et al. 2000) and the related period of “permanent austerity” (Pierson 2001). However, differences are likely to be observed as well, due to variations in political context and institutions between countries (Marmor et al. 2012). For instance, France centralised social assistance benefits for long-term care in 2002, creating universal coverage – although benefits are income-adjusted – and expanding allocation to people of the fourth level of dependency (out of six), whereas allocation was previously restricted to level three (Morel 2006, Doty et al. 2015). The French reform seems to imply strengthening of several dimensions of solidarity, while we identified restrictions in Dutch long-term care insurance in that period. However, the starting points of these countries varied as well (Mosca et al. 2017). While most long-term care services were covered informally in France in the early 1990s (Morel 2006), a public arrangement had been in place in the Netherlands since the late 1960s. The differential impact of reforms may

therefore also point to a converging set-up of solidarity rather than a diverging one. Research is needed to understand similarities and differences in the development of solidarity and the reasons behind these. International comparison may improve our general understanding of the nature and variation of reforms on solidarity. In the same way, comparison of opinions on deservingness in different countries could improve insights into deservingness in general and thus place the results of the Dutch case in a wider context.

Third, the restricted scope of our discrete choice experiments leads to recommendations to obtain a more complete view of opinions about solidarity in social insurance. This regards research on opinions about other dimensions of solidarity than just allocation – which was the only dimension we have included. We also recommend extending the research population beyond the general public and policymakers because there are other relevant stakeholders as well, such as medical professionals. Moreover, we recommend conducting research on larger samples to enable studying variation in deservingness opinions on which current knowledge falls short.

3.1.2. *Future research: theory and methods*

The policy analysis and discrete choice experiments presented in this dissertation not only pose new research questions, but also bring forth several insights on *how* to conduct further research on solidarity and deservingness opinions in illness-related social insurance. First, the theory has been shown to support structured yet nuanced analysis within a scientific discourse by means of the multidimensional frameworks of solidarity dimensions and deservingness criteria. The frameworks are applicable to health insurance and disability insurance and thus allow for comparative research. Considering the international comparative studies recommended, we note that the dimensions and criteria of our framework apply to both public types of illness-related social insurance – i.e. the Bismarckian model and the Beveridgean model. The frameworks therefore provide a basis for analysis of reforms' effects on solidarity and deservingness opinions in other countries and in other periods and enables international comparison and longitudinal research.

Second, but related, we recommend development of the solidarity framework to better match the changing conceptual understanding on solidarity we found in the Netherlands. Our policy analysis showed a decrease of formal forms of solidarity. However, we also observed an increase in informal forms of solidarity, which are not incorporated in our study. We therefore recommend

researchers to take a multidimensional approach, as part of the scientific discourse. At the same time, we call for an interdisciplinary debate to adjust the framework results of the persisting period of retrenchment of the welfare state (Pierson 2001), which includes forms of solidarity beyond public social insurance arrangements. Moreover, we emphasise the importance of awareness of the ambiguous, dynamic and contested nature of the concept of solidarity, which may colour the understanding of solidarity and consequently the debate about its conceptualization.

Third, we recommend further debate about the criteria for deservingness. The ageing and multicultural society has for instance raised discussion about age or identity as a conditioning factor in allocation. Although anti-discrimination legislation currently prevents using these factors to condition benefit allocation in the Netherlands, they might be used in the future or in other countries. We would therefore encourage other researchers to measure opinions about these and other potential relevant deservingness criteria in future research.

Finally, we have recommendations regarding the application of the frameworks of solidarity dimensions and deservingness opinions. Regarding assessment of the effects of reforms on solidarity dimensions, we experienced that the advantage of a nuanced description of the developments on each dimension also had a disadvantage, namely that the nuanced data and descriptions eventually had to be summarized by a “+”, “-” or “±”. In this respect, we recommend discussion assignment by a multidisciplinary team to constrain subjectivity. Regarding the application of the deservingness criteria, we are aware of the limitations of using hypothetical scenarios, which may elicit opinions that deviate from respondents’ actual preferences. Therefore, we advise researchers to explore the possibilities of observing deservingness opinions or making use of simulation techniques to retrieve opinions that are closer to respondents’ real-life preferences.

3.2. Policy recommendations

Increasing demand on social insurance, rising expenses, a changing demography and sociological developments (Gevers et al. 2000) pose a challenge to social insurance arrangements all over Europe. Policy makers search for sustainable solutions in insuring the risks of illness in this changing context (Morel 2006). Altogether, this thesis does not lead to recommending a certain direction for reforms – that is a political decision – but it does provide input for the policymaking process.

First, we recommend that policymakers go beyond unidimensional views on solidarity. Within the political discourse, individuals may value each dimension differently and even demarcate solidarity to a single dimension. However, we recommend using a multidimensional framework to at least consider the various effects of reform proposals on solidarity, which may be beyond the intended impact on a single dimension. For instance, increasing the income-relatedness of co-payments could incentivise high income groups to use care services outside the public arrangement, which thus has a restrictive effect on the membership dimensions of solidarity. Considering a wider interpretation is an antidote to political reductionism and reveals the ways in which each politician demarcates solidarity differently. This creates understanding about the dimension of solidarity that is actually under debate and may thus improve the effectiveness of the political debate about social insurance. We recommend that policymakers use a multidimensional framework to deal with the ambiguous and contested nature of solidarity, to consider the broad impact of policy proposals and to enable a more evidence-informed debate about the future of social insurance.

Second, we recommend consideration of deservingness opinions in the policymaking process because we observed variation in deservingness opinions between policymakers and their electorate, but also within the general public. Public deliberation may contribute to the social legitimacy of policies. For example, public opinion polls or focus groups could inform the balancing of values in the policymaking process. There are different stances on whether, to what extent and how public opinion should be used in policy. However, we recommend policymakers to at least consider public opinion and the potential variation in the opinions of different stakeholders in the policymaking process.

The set-up of solidarity and resource allocation may be a political normative affair, but evidence-informed decisions of policymakers could contribute to the sustainable solutions they are looking for.

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Addenda

Summary

Samenvatting

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Acknowledgements

About the author

Summary

In all summaries, the problems seem simpler than they actually are.

Rollo Reese May (1909-1994)
American psychologist

Europe has a longstanding history of solidarity with the ill. In most countries, this has resulted in a rather stable system of public social insurance arrangements which protect citizens against the financial risks of illness. This protection encompasses two kinds of insurance: health insurance (HI), which covers the use of health services, and disability insurance (DI), which covers the potential loss of income due to a reduced capacity to work. This dissertation aims to understand the effects of reforms on the solidarity of these arrangements (first aim), opinions about the deservingness of claimants (second aim), and the similarities and differences between HI and DI in this respect.

Introduction (Chapter I)

Chapter I provides a background on illness-related social insurance and the aims of the dissertation. Public arrangements for health insurance and disability insurance go back to the end of the 19th century and were gradually extended over the years. This extension process went relatively smoothly until the 1970s. After that, demographic, technological, economic and broader sociological developments jointly challenged the continuation of illness-related social insurance as it was. These developments created a momentum for change. The reforms that were implemented since the 1980s were often aimed at reducing expenditures. Consequently, the economic effects of reforms have been subject to evaluation. However, the reforms may also have influenced solidarity, one of the cornerstones of social insurance, and knowledge about these effects of the reforms on solidarity is lacking. It is important to increase our insights into this matter, especially in light of new reforms which are on the horizon. Knowledge about past reforms' impact on solidarity could inform policymakers. Therefore, this dissertation looks back on the reforms that have been implemented in health insurance and disability insurance since the 1980s and aims to understand how they have affected solidarity (first aim).

Despite the policy reforms undertaken in the last three decades, policymakers remain concerned about the sustainability of public social insurance arrangements for at least two reasons. First, because the expenditure curve has not always bent downwards as was hoped. Second, because past policy reforms may have had a negative impact on social values – such as solidarity – and given rise to new concerns. The status quo in health insurance and disability insurance is understood to require new reforms, and these are expected in the near future. Restricting allocation is a recurring idea in the political and societal debate on public social insurance. Allocation policies

stipulate what requirements must be met to be entitled to collectively financed resources. Those requirements are based on deservingness perceptions, i.e. answers to the question “who deserves what benefits and under which circumstances”? Deservingness opinions in illness-related social insurance arrangements have scarcely been studied, even though they may provide valuable insights for policy makers, especially with new reforms on the horizon. Therefore, this dissertation also aims to analyse opinions about deservingness in health insurance and disability insurance (second aim).

The attempt to understand solidarity (first aim) and deservingness opinions (second aim) in both health insurance and disability insurance raises questions about the comparability of these social arrangements. Health insurance and disability insurance both cover a financial risk of illness, but are nevertheless separately approached in policy (ministries) and science (disciplines). Comparing their solidarity-development and deservingness opinions may show that certain aspects of one arrangement are relevant for the other. In the light of reform, the third and overarching aim of this dissertation is to understand the similarities and differences between health insurance and disability insurance regarding (i) the impact of past reforms on solidarity, and (ii) deservingness opinions.

Impact of reform on solidarity (Chapters 2 and 3)

Solidarity is an ambiguous and dynamic concept that is predominantly understood normatively. Accordingly, its analysis is not an uncontested exercise. In **Chapters 2 and 3**, we present a framework for tackling this problem and to enable scientific analysis of solidarity. The framework distinguishes six dimensions, which represent the recipient side (membership, benefits, cost coverage and conditioning) and the contribution side (risk-relatedness and income-relatedness) of the bond of solidarity instituted in public social insurance arrangements. Our scientific approach implies that we study solidarity by describing the impact of reforms on each of its six dimensions separately and in isolation from other (competing) values.

Our analysis focuses on the Netherlands, which is a country with a long history of public social insurance arrangements for covering the financial risks of illness. Since the 1980s, the Dutch state has implemented significant reforms in health insurance and disability insurance. Disability insurance underwent most changes in the 1990s, while reforms in health insurance were still being

debated. Eventually these debates reached a momentum for change as well, resulting in reforms in the insurance of both medical care (2006) and long term care (2007 and 2015). To understand the impact of post-1980 reforms on solidarity in health insurance and disability insurance (first aim) and how the impact between both arrangements compares (third aim), we conducted policy analysis on said reforms in the Netherlands by using the multidimensional analytical framework.

Past reforms in health insurance and disability insurance

Chapter 2 presents a comparative analysis of the impact on solidarity of reforms undertaken in health insurance (medical care) and disability insurance in the Netherlands by analysing their effect on each dimension of solidarity. In medical care, a long lead-up to reform eventually resulted in a new Health Insurance Act (*Zorgverzekeringswet*, Zvw) in 2006, introducing a single mandatory insurance scheme. In disability insurance, reforms from 1994 to 2004 obliged employers to continue wage payment during the first period of illness (up to two years in 2004). Moreover, a new Disability Insurance Act (*Wet werk en inkomen naar arbeidsvermogen*, Wet VIA) was implemented in 2005; this significantly adjusted both the dimensions of benefits and access to them.

The analysis showed that reforms in health insurance and disability insurance affected different dimensions of solidarity and did so differently. On the coverage side of arrangements, we observed that solidarity in health insurance had increased in the membership dimension as a result of the introduction of a single mandatory insurance scheme for all citizens, whereas before the 2006 reform, the public scheme covered only two thirds of the population. On the other hand, reforms in disability insurance did not affect membership because all employees already were members of a disability insurance arrangement at the beginning of the period analysed. Regarding material coverage, both health insurance and disability insurance met extensions and restrictions, but these did not result in significant effects on solidarity. Cost coverage – a dimension that does not apply to disability insurance – was the sole dimension in which we found a decrease in solidarity in health insurance, and this decrease was mainly related to increasing co-payments. Regarding conditioning of coverage, not much had changed in health insurance, whereas we observed a decrease in solidarity in disability insurance due to a stricter need assessment process and adjustment of allocation criteria. On the financing side of the arrangements, we observed that contributions became increasingly risk-related in disability insurance, which means a decrease in risk solidarity.

This is in contrast with the effect of reforms on health insurance, which strengthened risk solidarity, for example, by banning risk rating. Regarding the income-relatedness of contributions, the reforms did not significantly affect solidarity in either health insurance or disability insurance.

Considering the effects of post-1980 reforms on solidarity in health insurance and disability insurance, we conclude that the reforms had effects on most of the dimensions of solidarity. However, in terms of their set-up of solidarity, health insurance and disability insurance have developed along different paths; health insurance has been more ‘immune’ to solidarity-restricting reforms than has disability insurance.

Past reforms in medical care and long-term care

Health insurance is broader than merely the insurance of medical care. Therefore, **Chapter 3** analyses and compares the impact of major reforms on solidarity in medical care and long-term care. The analysis concentrates on developments in the Netherlands, where a new Health Insurance Act was introduced in 2006 for medical care, while several significant reform measures were implemented in long-term care in 2007 and 2015. The Social Support Act (*Wet Maatschappelijke Ondersteuning*, Wmo) came into effect in 2007; this act covered services that were previously covered by the then existing Long-term Care Act, for which the central government was responsible. In 2015, the old Long-term Care Act was abolished. Its services were mostly shifted to a new Long-term Care Act (*Wet Langdurige Zorg*, Wlz), although some services were incorporated into the Health Insurance Act and the renewed Social Support Act (renamed as Wmo2015); fewer financial resources were allocated to deliver this support.

The reforms in medical care and long-term care had different effects on solidarity. In most dimensions, solidarity in medical care was maintained following the 2006-reform and there was even a strengthening effect in the membership dimension and in risk solidarity. Cost coverage was the sole dimension in which we observed some decrease in solidarity in medical care. In long-term care, we found that the dimensions of conditioning and cost-coverage had been weakened in long-term care following the reforms, while other dimensions of solidarity were not significantly affected by the reforms. This effect stems mainly from a normative reorientation on responsibilities for the risks of long-term care in combination with budget cuts. Nevertheless, these measures reducing solidarity did not affect all areas of long-term care.

In conclusion, Chapter 3 shows that the effects of past reforms on solidarity in long-term care were more restrictive than in medical care. These findings may be related to the different services that each arrangement covers as well as to the diverging power of health professionals in medical care and long-term care.

Deservingness opinions (Chapters 4, 5 and 6)

In order to analyse (second aim) and compare opinions about deservingness in health insurance and disability insurance (third aim), we conducted discrete choice experiments in which we asked respondents which hypothetical claimant – out of two alternatives – they found most deserving of collectively financed support. A claimant/choice alternative was represented by five deservingness criteria: *severity of illness*, *financial capacity*, *lifestyle*, *cooperation with treatment or reintegration into employment* and *choice of package/premium*. For instance, claimant A was severely ill and had high financial capacity, while claimant B was moderately ill and had low financial capacity. Respondents had to trade-off the criteria in choosing which of two respondents they find most deserving. By repeatedly stating which of the two hypothetical claimants is most deserving, we could reveal each of the respondent's implicit preferences for deservingness criteria in general, i.e. to what extent respondents value each criterion in deservingness decisions.

We invited a representative sample of the Dutch population (regarding sex, age, region and educational level) to participate in the discrete choice experiments. A total of 774 invitees responded, of which 375 completed the online questionnaire. Statistical analysis of their data was based on random utility theory, which assumes that respondents make rational decisions, i.e. maximizing utility based on variation in the criteria of the alternative choices.

Variation in healthcare deservingness opinions

Chapter 4 presents the results of the discrete choice experiment on health insurance, which shows that the general public considers severity of illness to be the most important criterion in determining claimants' deservingness ($\beta=0.04$ per percentage). Respondents considered claimants to be 0.04 more deserving for each percentage point of loss of quality of life. A loss of 40% in quality of life thus equals a beta value of 1.60, which gives a good indication of the importance of this criterion in deservingness opinions. Financial capacity

(range $0-\beta_{\max}=1.26$), cooperation (1.05) and lifestyle (1.04) also influence deservingness opinions in health insurance, but not as much as severity of illness.

The experiment also showed considerable variation in deservingness opinions between respondents. These were related to the demographic and ideology characteristics of the respondents. Demographic characteristics – such as age, gender, education and income – mainly influenced the importance of lifestyle and cooperation. Being female and younger related to having a significantly more conditional view on healthcare allocation regarding the lifestyle and cooperation of a claimant (both $p<0.05$). For instance, the deservingness of a claimant with a suboptimal lifestyle was considered 0.36 less deserving by females than by males. The ideological factors of respondents had different effects on deservingness opinions. For instance, opinions between respondents on the political left and right did not differ, while respondents' understanding of the level of state responsibility for health care did; respondents who consider the state highly responsible for health care find claimants 0.03 more deserving for each percentage of increase in need, in comparison with respondents who consider the state less responsible for health care ($p<0.01$). Those who consider the state highly responsible for health care also assigned significantly less weight to financial capacity of claimants (-0.56) in determining who they find most deserving ($p<0.05$). In conclusion, subgroup analysis showed that the respondents' demographic factors mainly influenced their emphasis on lifestyle and cooperation, while respondents' ideological characteristics changed their weight on the criteria need and financial capacity.

Health insurance and disability insurance

Chapter 5 provides the opinions of the respondents regarding deservingness of disability insurance benefits and compares these opinions to their healthcare deservingness opinions. We found a similar order of criteria preferences in health insurance and disability insurance. However, the role of a claimant's cooperation (with reintegration directions) was significantly more important for being considered deserving in disability insurance than was the role of cooperation (with treatment directions) in health insurance. The cooperation of claimants influenced deservingness decisions in disability insurance by 30%, whereas in health insurance this was 19%. Deservingness decisions in health insurance were mostly determined by severity of illness (30%), which had less influence on deservingness opinions in disability benefits, although it was considered relevant as well (25%). Accordingly, the main difference between deser-

vingness opinions in health insurance and disability insurance is that the deservingness of claimants for health services is first and foremost determined by severity of illness, while the perceived deservingness of claimants of disability benefits is highly influenced by their cooperation with reintegration directions.

Social legitimacy

Variation in deservingness opinions between groups with different demographic characteristics and ideology – observed in Chapter 4 – raises the question of whether policy makers hold different opinions than the people they represent, because policy makers are on average more highly educated and have a higher income than the general population. In the context of social legitimacy, we studied congruency between the deservingness opinions of the general public and those of policymakers in **Chapter 6**. We gathered deservingness opinions of Dutch policy makers and compared them with public opinion as presented in Chapters 4 and 5. We contacted hundreds of policy makers and policy officers working in the social domain at the national, regional and local levels, as well as in organizations. This resulted in a sample of 81 respondents, of whom 74 completed all the items.

Analysis shows that the deservingness opinions of policy makers and the general public are similar regarding the order of importance of criteria; the claimants' severity of illness was the most decisive criterion in the deservingness opinions of both groups, followed by the claimants' financial capacity, lifestyle, cooperation and choice of premium/package. However, the relative weights assigned to each of these criteria differed between policy makers and the general public. The decisions of policy makers regarding which alternative was considered most deserving were influenced 50% by the severity of illness, while this was 30% for the general public. Policy makers found claimants 0.13 more deserving for each percentage of loss in quality in life, whereas this was 0.04 for the general public ($p < 0.01$). On the other hand, financial capacity and the lifestyle of claimants had significantly more influence on the deservingness opinions of the general public than in the opinions of policymakers ($p < 0.05$). Therefore, we conclude that the general public holds different deservingness opinions compared to policy makers. Chapter 6 suggests that institutionalized behaviour of policymakers and self-interest may explain the difference in their opinions. However, we also discuss that insight into the substantive and political complexity of welfare state redistribution could play a role in the differing deservingness opinions between policy makers and the general public. An information gap is likely to underlie this incongru-

ence in insights, as a consequence of which we suggest that public involvement in the policymaking process could improve the social legitimacy of social insurance policies.

Reflection (Chapter 7)

Considering all studies, **Chapter 7** reflects upon the theory, methodology and results in light of the three aims of the dissertation, resulting in recommendations for research and policy. In doing so, we concluded that the impact of reforms on solidarity (first aim) and deservingness opinions (second aim) are consistent with each other within health insurance and disability insurance. This means that restrictions in solidarity were accompanied by more conditional deservingness opinions and vice versa. However, solidarity was impacted differently in health insurance and in disability insurance, and deservingness opinions differed in each arrangement as well (third aim). On the one hand, opinions about allocation in health insurance were found to be primarily need-based, which corresponds with the limited impact of reforms on the conditioning dimension of solidarity in medical care. On the other hand, opinions about allocation in disability insurance were more conditional, which is congruent with the increased conditioning observed in disability insurance in the policy analysis. The policy analysis and discrete choice experiments both point at a ‘status aparte’ of medical care.

Recommendations

From an academic perspective, the most important reflection in the discussion chapter relates to the concept of solidarity, which is both politically and scientifically contested. Our choice for a qualitative approach and a particular definition and multidimensional framework enabled empirical research that could provide a nuanced overview of the effect of reforms on solidarity. We encourage researchers to develop the analytical framework to better match the changing conceptual understanding on solidarity, i.e. the decrease in formal solidarity. Our structured framework provides a starting point for international comparison, which we also call for. We also recommend more in-depth research on solidarity and deservingness opinions between health insurance and disability insurance because the nature of differences and similarities between these illness-related arrangements was beyond the scope of this thesis.

SUMMARY

Finally, the discussion chapter presents two lessons learned for policy practice. First, the thesis shows that the multidimensional framework of solidarity presents an antidote to political reductionism, i.e. to the practice of politicians to narrow a concept down to one of its dimensions. Second, variation in deservingness opinions brings us to recommend that policymakers consider the opinions of various stakeholders in the policymaking process. This may increase the social legitimacy of new reforms, which will doubtless be implemented in both the Netherlands and worldwide.

The set-up of solidarity and resource allocation in social insurance may be a politically normative affair, but this thesis enables evidence-informed decisions that may contribute to the sustainable solutions for which policymakers are looking.

Samenvatting

*Simplicity is the final achievement.
After one has played a vast quantity of notes and more notes,
it is simplicity that emerges as the crowning reward of art.*

Fryderyk Franciszek Chopin (1810-1849)
Polish composer and pianist

Europa kent een lange traditie als het gaat om solidariteit met zieke mensen. In de meeste landen heeft dit geleid tot een stabiel systeem van publieke verzekeringen dat burgers beschermt tegen de financiële risico's van ziekte. Dit betreft zowel het risico op ziektekosten als het risico op inkomensverlies dat ziekte ook met zich mee kan brengen. In Nederland worden deze risico's opgevangen in twee typen sociale verzekeringen. Het risico op ziektekosten wordt gedekt door de zorgverzekering, terwijl de arbeidsongeschiktheidsverzekering het risico op ziektegerelateerd inkomensverlies opvangt. Dit proefschrift onderzoekt beide sociale verzekeringen en beantwoordt aan drie doelstellingen. Ten eerste wordt inzicht verschaft in de effecten die hervormingen hebben gehad op de solidariteit in de zorgverzekering en arbeidsongeschiktheidsverzekering (eerste doelstelling). Ten tweede worden de meningen over wie het al dan niet verdient om gebruik te maken van de collectief gefinancierde middelen uit deze verzekeringen in kaart gebracht (tweede doelstelling). Ten slotte worden de overeenkomsten en verschillen tussen de zorgverzekering en de arbeidsongeschiktheidsverzekering met betrekking tot deze onderwerpen belicht.

Introductie (hoofdstuk I)

In **hoofdstuk I** wordt de achtergrond geschetst van ziektegerelateerde sociale verzekeringen, waarmee ook de aanleiding voor elk van de doelstellingen van dit proefschrift uiteengezet wordt.

Met betrekking tot de eerste doelstelling – het inzicht verschaffen in de effecten van hervormingen op de solidariteit in de zorgverzekering en arbeidsongeschiktheidsverzekering – wordt de historische context van de ziektegerelateerde sociale verzekeringen geschetst. Deze verzekeringen maken vanaf de 19^e eeuw onderdeel uit van het publieke beleid en de overheid heeft sindsdien steeds meer verantwoordelijkheid op zich genomen in het opvangen van de individuele financiële risico's van ziekte (publikisering). Tot de jaren '70 ging deze uitdijning van de verantwoordelijkheden van de overheid vrijwel geruisloos, maar sindsdien is er meer en meer debat gekomen over de houdbaarheid van het inmiddels zeer omvangrijke publieke systeem van sociale verzekeringen. Dit debat werd gevoed door de demografische, technologische, economische en bredere maatschappelijke ontwikkelingen. Was het systeem van sociale verzekeringen wel te behouden tegen deze achtergrond? De hervormingen vanaf de jaren '80 getuigen van een negatief antwoord op die vraag. In overeenstemming met hun beoogde kostendrukkend effect werden deze hervormingen

vooral geëvalueerd vanuit economisch perspectief. Het is echter aannemelijk dat er naast economische effecten ook impact is geweest op de solidariteit, een kernprincipe van sociale verzekeringen. Kennis over deze impact van hervormingen op solidariteit is echter gering, terwijl dit wel belangrijk is in het licht van de aanhoudende/hernieuwde debatten over de toekomst van de ziektegerelateerde sociale verzekeringen. Een inzicht in de effecten van hervormingen op solidariteit kunnen beleidsmakers informeren in het huidige hervormingsproces. Daarom wordt in hoofdstuk 2 en 3 onderzocht wat de impact op solidariteit is geweest van de hervormingen in de zorgverzekering en arbeidsongeschiktheidsverzekering in Nederland sinds 1980 (eerste doelstelling).

Met betrekking tot de tweede doelstelling – het in kaart brengen van de meningen over wie het al dan niet verdient om gebruik te maken van collectief gefinancierde middelen uit ziektegerelateerde sociale verzekeringen – schetst hoofdstuk 1 (inleiding) de context van dit vraagstuk. Daaruit blijkt dat de potentiële inperking van de toekenning van collectief gefinancierde middelen een terugkerend thema is in het politieke en maatschappelijke debat. Dit hangt samen met de zorgen over de toekomstbestendigheid van publieke sociale verzekeringen, welke dus niet (geheel) weggenomen zijn door de beleids-hervormingen van de afgelopen drie decennia. Hiervoor zijn tenminste twee oorzaken te noemen. Ten eerste hebben eerdere hervormingen niet altijd de beoogde economische effecten gehad. Ten tweede hebben de voorbije hervormingen mogelijk (ook) een negatieve impact hebben gehad op andere waarden – zoals solidariteit – waardoor nieuwe zorgen zijn ontstaan. Ongeacht de reden van de zorgen is het resultaat ervan dat er meer hervormingen verwacht kunnen worden in zowel de zorgverzekering als de arbeidsongeschiktheidsverzekering. Daarbij is het aanscherpen van het toekenningsbeleid een veelbesproken onderwerp. Dit beleid beschrijft de voorwaarden om aanspraak te kunnen maken op de collectief gefinancierde middelen en is gebaseerd op een achterliggende visie over wie steun verdient en waarom. Naar het Engelse woord voor verdienen (*to deserve*), noemen we die verdienstelijkheid ook wel *deservingness*. Voor verschillende typen uitkeringen wordt onderzocht wat de gepercipieerde *deservingness* van verschillende hulpvragers is, bijvoorbeeld voor de bijstandsuitkering. Voor ziektegerelateerde verzekeringen is dit echter nog vrij onontgonnen terrein. Deze kennis kan wel waardevolle inzichten opleveren voor beleidsmakers bij het overwegen van hervormingsmaatregelen. Daarom wordt in hoofdstuk 4, 5 en 6 onderzocht wat de *deservingness* is van mensen die een beroep doen op de zorgverzekering en arbeidsongeschiktheidsverzekering (tweede doelstelling).

De kernconcepten van dit proefschrift zijn daarmee solidariteit en *deservingness* in ziektegerelateerde sociale verzekeringen. Dit betreft echter zowel de zorgverzekering als de arbeidsongeschiktheidsverzekering, en dat roept vragen op over hun vergelijkbaarheid. Hoewel beide een financieel risico van ziekte dekken, worden ze heel anders benaderd. Ze vallen onder verschillende ministeries en worden ze ook in de academie door verschillende vakgebieden onderzocht. Desalniettemin kan kennis over de ene ziektegerelateerde sociale verzekering ook relevant zijn voor de andere. Daarom is de derde en overkoepelende doelstelling van dit proefschrift – terugkomend in alle hoofdstukken – het verkrijgen van inzicht in de overeenkomsten en verschillen tussen de zorgverzekering en de arbeidsongeschiktheidsverzekering met betrekking tot solidariteit en *deservingness*.

Impact hervorming op solidariteit (hoofdstuk 2 en 3)

In **hoofdstuk 2 en 3** wordt onderzocht wat de hervormingseffecten op solidariteit zijn geweest in de zorgverzekering en arbeidsongeschiktheidsverzekering in Nederland (eerste doelstelling) en in hoeverre dit overeenstemt en verschilt tussen beide typen verzekeringen (derde doelstelling). De vraagstelling roept echter direct vragen op, want wat is solidariteit en hoe wordt het onderzocht? Solidariteit is immers een ambigu concept dat vaak normatief benaderd wordt, waardoor de analyse ervan betwistbaar is. In de hoofdstukken 2 en 3 wordt daarom een *framework* gepresenteerd dat wetenschappelijke analyse mogelijk maakt. In dit *framework* worden zes solidariteitsdimensies onderscheiden, die zowel betrekking hebben op de rol van ontvanger (verzekerdenkring, pakketinhoud, kostendekking en toekenning) als bijdrager (risico- en inkomensgerelateerdheid van premies). Er bestaat een relatie tussen de twee rollen, waarbij de ene verzekerde bijdraagt aan de kosten van de ander. Omdat onzeker is wie ziek zal worden is vooraf echter niet te zeggen wie netto ontvanger of betaler zal zijn. Verzekerden staan dus in voor elkaars risico, wat duidt op een relatie van positieve lotsverbondenheid, i.e. solidariteit. Onze wetenschappelijke benadering van solidariteit houdt in dat we elk van de zes dimensies van deze relatie van lotsverbondenheid afzonderlijk beschrijven, daarbij andere (strijdige) waarden buiten beschouwing latend.

Onze studie richt zich op Nederland, een land met een rijke historie als het gaat om ziektegerelateerde publieke verzekeringen. Sinds 1980 zijn er verschillende majeure hervormingen doorgevoerd in de Nederlandse zorgverzekering en arbeidsongeschiktheidsverzekering. Laatstgenoemde heeft de

grootste veranderingen doorgemaakt in de jaren '90. De hervorming in de zorgverzekering was toen nog onderwerp van debat en kreeg pas een decennium later gestalte. Eerst werd de 'cure' aangepakt met de invoering van de zorgverzekeringswet (2006), waarna in 2007 en 2015 de langdurige zorg ('care') volgde. Om de impact van deze hervormingen op solidariteit (eerste doelstelling) en de overeenkomsten en verschillen hierin tussen de zorgverzekering en de arbeidsongeschiktheidsverzekering (derde doelstelling) te begrijpen hebben wij een beleidsanalyse uitgevoerd op basis van het multidimensionale *framework* van solidariteit.

Zorgverzekering en arbeidsongeschiktheidsverzekering

Hoofdstuk 2 presenteert een vergelijkende beleidsanalyse van de impact van hervormingen op solidariteit in de zorgverzekering en de arbeidsongeschiktheidsverzekering. In de zorgverzekering heeft een lange aanloop in 2006 uiteindelijk geleid tot het instellen van een verzekeringsplicht voor alle ingezetenen middels de Zorgverzekeringswet (Zvw). In de arbeidsongeschiktheidsverzekering is er tussen 1994 en 2004 een loondoorbetalingsplicht voor werkgevers ingesteld en uitgebreid (tot een periode van twee jaar) om de inkomensderving van werknemers op te vangen in de eerste periode van ziekte. Daarnaast is in 2005 de Wet werk en inkomen naar arbeidsvermogen (Wet WIA) ingesteld, welke de daaropvolgende periode dekt en waarvoor significante aanpassingen zijn gemaakt in de hoogte, duur en voorwaarden voor uitkering ten opzichte van de arrangementen die er voor die tijd waren.

De vergelijkende analyse tussen de zorgverzekering en arbeidsongeschiktheidsverzekering laat zien dat hervormingen in beide verzekeringen verschillende solidariteitsdimensies in verschillende mate beïnvloedden. Aan de kant van de ontvanger (*coverage*) zien we dat de Zorgverzekeringswet de verzekerdenkring heeft uitgebreid tot alle ingezetenen, terwijl de oude ziekenfondswet ongeveer twee derde dekte. In de arbeidsongeschiktheidsverzekering waren voor de hervorming alle ingezetenen van rechtswege al verzekerd en hierin is niets veranderd. Kijkend naar de pakketontwikkeling hebben zowel in de zorgverzekering als in de arbeidsongeschiktheidsverzekering uitbreidingen en inperkingen plaatsgevonden. Voor beide geldt echter ook dat dit netto geen significant effect heeft gehad op het pakket. Dit is anders als het gaat om de kostendekking (een dimensie die niet van toepassing is op de arbeidsongeschiktheidsverzekering). Door de invoering van bijbetalingen wordt er in de zorgverzekering een kleiner deel van de kosten voor zorg collectief gedeeld, wat een inperking van de die solidariteitsdimensie inhoudt. Het is overigens de

enige dimensie in de zorgverzekering waarin een beperking in de solidariteit is waargenomen. Op het gebied van toekenning is er namelijk ook niet veel veranderd. Dit is wel anders in de arbeidsongeschiktheidsverzekering, waar de toekenning bureaucratischer en strikter is geworden. Als we kijken naar de financieringsdimensies zien we dat de inkomenssolidariteit in geen van beide verzekeringen significant veranderd is. In de arbeidsongeschiktheidsverzekerd zijn de premies echter wel in toenemende mate gerelateerd aan risico, wat betekent dat de risicosolidariteit is afgenomen. Dit contrasteert met de ontwikkeling in de zorgverzekering, waar juist maatregelen zijn genomen – bijvoorbeeld met het verbod op risicogerelateerde premies in de basisverzekering – om de risicosolidariteit in de basisverzekering te versterken.

Het vergelijken van de effecten van hervormingen in zorgverzekering en arbeidsongeschiktheidsverzekering brengt ons tot de conclusie dat de meeste solidariteitsdimensies in beide verzekeringen beïnvloed zijn. Er zijn echter verschillen, waarbij het opvalt dat de zorgverzekering meer immuun is geweest voor beperkingen in de solidariteit dan de arbeidsongeschiktheidsverzekering.

Curatieve en langdurige zorg

In hoofdstuk 2 wordt bij de analyse van de zorgverzekeringen enkel ingegaan op de verzekering van medische zorg (ook wel aangeduid met ‘*cure*’), terwijl er ook sociale arrangementen zijn die de financiële risico’s voor langdurige zorg afdekken (‘*care*’). In **hoofdstuk 3** wordt daarom de sociale verzekering van zowel *cure* als *care* onderzocht en vergeleken met betrekking tot de impact van de recente grote hervormingen in Nederland. Dit betreft de invoering van de Zorgverzekeringswet in *cure* (2006) en de wetswijzigingen in de langdurige zorg in 2007 en 2015. In 2007 werd de Wet Maatschappelijke Ondersteuning ingevoerd, waarmee de gemeente verantwoordelijkheid kreeg voor verschillende voorzieningen die voorheen landelijk waren geregeld in de Algemene Wet Bijzondere Ziektekosten (AWBZ). In 2015 werd de AWBZ zelfs helemaal opgeheven. De meeste aanspraken uit die wet werden ondergebracht in een nieuwe Wet Langdurige zorg. Een ander deel werd echter overgeheveld naar de Zorgverzekeringswet en de vernieuwde Wet Maatschappelijke Ondersteuning (Wmo2015), waarbij wel minder financiële middelen werden meegegeven dan er in de AWBZ beschikbaar voor was.

Uit analyse blijkt dat bovengenoemde hervormingen verschillende effecten hebben gehad op de solidariteit in *cure* en *care*. In de *cure* is de solidariteit op de meeste dimensies behouden en is er zelfs sprake van een uitbreiding van de

verzekerdenkring en versterking van de risicosolidariteit. De kostendekking is echter wel ingeperkt. In de langdurige zorg werd deze dimensie ook aangetast, maar er waren meer effecten. Er werden namelijk ook solidariteitsrestricties waargenomen in het toekenningsbeleid. De effecten van de hervormingen op de solidariteit in de langdurige zorg zijn vooral het gevolg van de normatieve heroriëntatie in deze sector, welke gekenmerkt wordt door een verschuiving van de verantwoordelijkheid van centrale collectieve naar lokale en individuele *stakeholders*. Deze zijn vormgegeven in een institutionele hervorming en bezuiniging, die enerzijds resulteren in een behouden vorm van solidariteit met betrekking tot kostendekking en toekenning, maar anderzijds de solidariteit in de langdurige zorg op andere dimensies evengoed behoud.

Samenvattend stelt hoofdstuk 3 dat de voorbije hervormingen in de langdurige zorg een restrictiever effect hebben gehad op de solidariteit dan in de curatieve zorg. Mogelijke verklaringen voor dit verschil zijn de zogenaamde 'zachtere' aard van de langdurige zorg ten opzichte van de 'hardere' aard van de curatieve zorg en de verschillende invloed van de medische professie in beide sectoren.

Verdienstelijkheid van steun (hoofdstuk 4, 5 en 6)

In **hoofdstuk 4, 5 en 6** wordt onderzocht hoe er wordt gedacht over de verdienstelijkheid/*deservingness* van mensen die een beroep doen op de zorgverzekering en arbeidsongeschiktheidsverzekering (tweede doelstelling) en in hoeverre dit overeenkomt en verschilt tussen beide ziektegerelateerde verzekeringen (derde doelstelling). Hiertoe zijn via een *online* vragenlijstonderzoek verschillende experimenten uitgevoerd (*discrete choice experiments*, afgekort met DCE). In deze experimenten hebben we respondenten gevraagd aan te geven welke van twee hulpvragers volgens hen het meest verdient om middelen toegewezen te krijgen uit de collectief gefinancierde ziektegerelateerde verzekering. Deze twee hypothetische alternatieven worden beschreven aan de hand van vijf *deservingness*criteria: ziektelast, financiële draagkracht, leefstijl, medewerking met de behandeling/re-integratie en de keuze van het verzekeringspakket. Hulpvrager A wordt in het dagelijks leven bijvoorbeeld sterk beperkt door ziekte en heeft een hoge financiële draagkracht, terwijl hulpvrager B minder beperkt wordt, maar ook een lagere financiële draagkracht kent. Respondenten kiezen steeds welk van twee alternatieven zij meer *deserving* vinden op basis van het afwegen van de vijf criteria. Door meerdere

keuzen een respondent te analyseren is te achterhalen aan welke criteria hij/zij minder en meer gewicht geeft in het *deservingness*-vraagstuk in het algemeen.

Voor de experimenten is een groep respondenten uitgenodigd die representatief is voor de Nederlandse bevolking met betrekking tot geslacht, leeftijd, regio en opleiding. Van die groep hebben 774 respondenten deelgenomen en hebben 375 mensen de *online* vragenlijst geheel ingevuld. De *deservingness*-opinions van deze mensen zijn achterhaald met behulp van statistische analyses op basis van *random utility theory*. Hierin wordt aangenomen dat mensen rationele beslissingen nemen, wat in dit onderzoek betekent dat respondenten de latente variabele *deservingness* maximaliseren op basis van het belang dat ze hechten aan de variërende criteria van de alternatieven.

Meningen verschillen

Hoofdstuk 4 presenteert de in kaart gebrachte meningen over *deservingness* voor steun uit de zorgverzekering. Uit het experiment blijkt dat men ziektelast de zwaarstwegende factor vindt in het bepalen of iemand al dan niet collectief gefinancierde zorg verdient ($\beta=0.04$ per procent). De bètawaarde van 0.04 betekent dat een ziek individu als 0.04 meer *deserving* wordt gezien voor elk procent verlies in kwaliteit van leven dat een ziekte met zich meebrengt. Een ziekte die de kwaliteit van leven met 40% verlaagt staat dus gelijk aan een bètawaarde van 1.60. Dit cijfer geeft een goede indicatie van de waarde die respondenten hechtten aan het criterium ziektelast, want de criteria financiële draagkracht ($\beta_{\max} = 1.26$), medewerking met de behandeling ($\beta_{\max} = 1.05$) en leefstijl ($\beta_{\max} = 1.04$) wogen allemaal minder zwaar in hun beslissingen.

Het experiment liet echter ook zien dat er verschillende respondenten andere meningen zijn toegedaan over *deservingness*. De variatie bleek gerelateerd aan de demografische kenmerken en de ideologie van de respondenten. Demografische kenmerken van respondenten – zoals leeftijd, geslacht, opleiding en inkomen – hadden met name invloed op het gewicht van de criteria leefstijl en medewerking. Vrouwen en jongeren kenden significant meer gewicht toe aan deze criteria (beide $p<0.05$), wat betekent dat zij deze criteria zwaarder meewegen dan mannen en ouderen. De bètawaarde voor suboptimale leefstijl was bijvoorbeeld 0.36 lager bij vrouwelijke respondenten dan bij mannelijke. Ideologische factoren van respondenten hadden verschillende effecten op *deservingness*opinions. Een linkse of rechtse politieke oriëntering van respondenten bleek bijvoorbeeld geen significante effecten te hebben, maar hun opvatting over de mate waarin de overheid verantwoordelijk is voor de zorg

wel; zij die de staat meer verantwoordelijk achten vinden dat de ziekte-last nog bepalender is voor *deservingness* ($\beta=+0.03$ per procent) dan dat diegenen dit vinden die de overheid minder verantwoordelijk houden voor zorg ($p<0.01$). De eerstgenoemde groep hecht ook meer waarde aan financiële draagkracht, want zij zien hulpvragers met een grotere draagkracht nog minder *deserving* ($\beta=-0.56$) dan de laatstgenoemde groep hen al vond ($p<0.05$). We kunnen daarmee stellen dat demografische kenmerken van respondenten vooral invloed hebben op het gewicht van leefstijl en medewerking van zorgvragers in *deservingness*-vraagstukken in de zorg, terwijl hun ideologie meer effect heeft op het gewicht van de criteria ziektelast en financiële draagkracht in die beslissingen.

Zorgkosten versus inkomensverlies

In **hoofdstuk 5** worden de opinies over *deservingness* voor steun uit de zorgverzekering vergeleken met opinies over *deservingness* voor steun uit de arbeidsongeschiktheidsuitkering. De volgorde van belangrijkheid van *deservingness*-criteria blijkt voor de respondenten deels hetzelfde bij het beantwoorden van de vraagstukken over beide typen verzekeringen, maar er zijn ook verschillen. Om als *deserving* aangewezen te worden, is de medewerking van een uitkeringsaanvrager met het re-integratieproces significant belangrijker dan de medewerking van een zorgvrager met de behandeling. Het al dan niet meewerken van zieken (met de re-integratie/behandeling) bepaalt de beslissingen van respondenten over hun *deservingness* voor een arbeidsongeschiktheidsuitkering namelijk voor 30%, terwijl dit 19% is voor zorg. Daarnaast is er ook een verschil – hoewel niet significant – in het belang van de ziektelast; dit criterium beïnvloedt het *deservingness*-vraagstuk voor een ziekte-uitkering voor 25%, terwijl dit in het vraagstuk in de zorg 30% is. Het belangrijkste verschil tussen de *deservingness*-opinionies over ziektegerelateerde zorg- en uitkerings-aanvragers is dus dat de *deservingness* voor een arbeidsongeschiktheidsuitkering primair wordt bepaald door de medewerking van de aanvrager met re-integratie, terwijl de ziektelast het meest bepalend is voor het bepalen van *deservingness* voor collectief gefinancierde zorg.

Sociale legitimiteit

De in hoofdstuk 4 geobserveerde variatie in *deservingness*-opinionies tussen respondenten (op basis van demografische kenmerken en ideologische factoren) roept vragen op over de mogelijke verschillen tussen de visie de algemene bevolking en beleidsmakers in het vraagstuk van zorgtoekenning. Beleidsmakers zijn immers gemiddeld hoger opgeleid en zij hebben ook een

hoger inkomen. Als hun visie op *deservingness* ook verschilt, kan dit invloed hebben op de sociale legitimiteit van het beleid dat door hen wordt gemaakt. Tegen deze achtergrond wordt in **hoofdstuk 6** onderzocht in hoeverre de *deservingness*opinies tussen beleidsmakers en de algemene bevolking overeenstemmen. Daarvoor hebben we, in aanvulling op de reeds verzamelde data voor de hoofdstukken 4 en 5, een experiment uitgezet onder beleidsmakers die werk(t)en in het sociaal domein op nationaal, regionaal of lokaal niveau of binnen een organisatie. In totaal waren er 81 deelnemers in dit experiment, waarvan 74 de *online* vragenlijst volledig hebben ingevuld.

Uit de analyse van de data blijkt dat beleidsmakers en de algemene bevolking dezelfde volgorde van belangrijkheid toekennen aan de criteria in het bepalen van *deservingness* voor collectief gefinancierde zorg. De ziektelast is het belangrijkste criterium in het bepalen of een zorgvrager *deserving* is, gevolgd door de financiële draagkracht, leefstijl, medewerking (met de behandeling) en pakketkeuze van de zorgvrager. Het gewicht van specifieke criteria verschilt echter tussen beide groepen. Met name het relatieve gewicht van het criterium 'ziektelast' verschilt aanzienlijk tussen beleidsmakers en de algemene bevolking; beleidsmakers vinden dat voor elk procent van kwaliteit van leven dat door ziekte wordt aangetast iemand 0.13 (β) meer *deserving* maakt, terwijl dit voor de algemene bevolking met een bètawarde van 0.04 significant minder zwaar weegt ($p < 0.01$). De data geven aan dat de zorgvragers' ziektelast 50% van de keuze bepaald van beleidsmakers om hem/haar als *deserving* te zien, terwijl dit bij de algemene bevolking 30% is. Daar tegenover staat dat de keuze van de algemene bevolking – in vergelijking met beleidsmakers – relatief meer wordt beïnvloed door de financiële draagkracht en leefstijl van zorgvragers ($p < 0.05$). De data laten dus zien dat beleidsmakers en de algemene bevolking er iets andere meningen op nahouden als het gaat om het *deservingness*vraagstuk in de toekenning van collectief gefinancierde zorg. We suggereren dat deze meningsverschillen te maken kunnen hebben met geïnstitutionaliseerd gedrag van beleidsmakers en met eigenbelang. Daarnaast bespreken we dat ook de inhoudelijke en politieke complexiteit van herverdelingsvraagstukken een rol kan spelen aangezien beleidsmakers en de algemene bevolking verschillende informatie tot hun beschikking hebben. Dit verschil in kennis kan de verschillen in *deservingness*opinies verklaren. Op basis hiervan stellen wij dat het betrekken van het algemene publiek in het beleidsproces een positief effect kan hebben op de sociale legitimiteit van het beleid.

Reflectie (hoofdstuk 7)

Hoofdstuk 7 reflecteert op de theorie, methoden en resultaten van alle voorgaande hoofdstukken in het licht van de drie doelstellingen die in het eerste hoofdstuk geïntroduceerd zijn. Hieruit blijkt dat de resultaten van de beleidsanalyse over het effect van hervormingen op de solidariteit (eerste doelstelling) in lijn zijn met de resultaten van de experimenten over *deservingness*opinions (tweede doelstelling), zowel voor de zorgverzekering als de arbeidsongeschiktheidsverzekering. Immers, waar de toekenningsdimensie van solidariteit de afgelopen decennia ingeperkt werd, bleken *deservingness*opinions ook meer voorwaardelijk te zijn, en vice versa.

De vergelijking tussen zorgverzekering en arbeidsongeschiktheidsverzekering (derde doelstelling) laat zien dat de resultaten met betrekking tot zowel de hervormingseffecten op de solidariteit als de *deservingness*opinions verschillen tussen beide verzekeringen. In de zorgverzekering is de solidariteit op een enkele dimensie ingeperkt, terwijl de hervorming van de arbeidsongeschiktheidsverzekering meer impact heeft gehad. Met betrekking tot *deservingness* blijkt dat deze onvoorwaardelijker is voor een zorgvrager, i.e. primair gebaseerd op de ziektelast, dan voor een aanvrager van een arbeidsongeschiktheidsuitkering, bij wie meer rekening gehouden wordt met andere criteria zoals medewerking met re-integratie. Zowel de beleidsanalyses als de experimenten wijzen daarmee op een status aparte van de sociale zorgverzekering.

Aanbevelingen

De discussie in hoofdstuk 7 leidt tot aanbevelingen voor wetenschap en beleid. Vanuit academisch perspectief is het belangrijk te beseffen dat solidariteit een betwistbaar concept is, niet alleen in de politiek, maar ook binnen de wetenschap. Onze definitie en kwalitatieve aanpak met een multidimensionaal *framework* zijn een manier om empirisch onderzoek te kunnen doen naar solidariteit en helpen om een genuanceerd beeld te krijgen van effecten van hervormingen op de solidariteit. Deze aanpak beperkt zich echter tot publiek gearrangeerde formele solidariteit, waarmee informele solidariteit – wat in huidige beleidsontwikkelingen een belangrijker rol lijkt te krijgen – niet goed te analyseren is. We moedigen andere onderzoekers dan ook aan om het analytisch *framework* verder te ontwikkelen opdat het beter aansluit bij de ontwikkeling van de opvattingen over solidariteit. Desalniettemin bieden het huidige *framework* en de resultaten van de Nederlandse casus een uitgangspunt voor internationale vergelijking, waartoe wij dan ook oproepen. Daarnaast bevelen wij aan om diepgaander onderzoek te doen naar de achtergrond van de gevonden solidari-

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teits- en *deservingness*verschillen tussen de zorgverzekering en de arbeidsongeschiktheidsverzekering om beter inzicht te verkrijgen in de overeenkomsten en verschillen tussen beide ziektegerelateerde sociale verzekeringen.

In hoofdstuk 7 worden ook twee inzichten gepresenteerd die betrekking hebben op de beleidspraktijk. Ten eerste vormt het multidimensionale *framework* een tegengif voor de politieke unidimensionale kijk op het concept solidariteit, i.e. de praktijk van politici om solidariteit te bespreken aan de hand van een van de dimensies. Ten tweede vormt de gevonden variatie in *deservingness*-opinions tussen respondenten een aanleiding om beleidsmakers aan te bevelen verschillende *stakeholders* te betrekken bij het beleidsproces. Dit kan een positieve uitwerking hebben op de sociale legitimiteit van nieuwe hervormingen, die zonder twijfel nog geïmplementeerd zullen worden in Nederland en wereldwijd.

Hoewel het beleid rondom ziektegerelateerde sociale verzekeringen een politieke normatieve aangelegenheid is, biedt deze thesis inzichten voor beleidsmakers om beter geïnformeerde besluiten te kunnen nemen, welke kunnen bijdragen aan het duurzame beleid dat hen voor ogen staat.

Valorisation

The difference between inclusion or exclusion of injured on the side of the road defines all economic, political, social and religious projects; we all face the choice every day to be good Samaritans or indifferent commuters who pass by.

Jorge Mario Bergoglio (1936)
Argentinian Jesuit and Pope of the Roman Catholic Church

According to the Board of Deans of Maastricht University “knowledge valorisation refers to the process of creating value from knowledge by making knowledge suitable and/or available for economic and/or social use (Nederland Ondernemend Innovatieland 2009). The regulations of Maastricht University obliges doctoral candidates to append an addendum to the dissertation that deals with this ‘value-isation’ of the dissertation’s knowledge (Maastricht University 2013). However, research has shown that scientists are puzzled by the ways that they are supposed to create value from knowledge (De Jong et al. 2016) and so am I. Therefore, before turning to valorisation, I will first consider its understanding and discuss what valorisation entails, in particular in policy science.

First, the term valorisation is translated to the impact of research from a societal perspective. Accordingly, researchers are confronted with different indicators for measuring the societal impact of their work. The practice of measuring valorisation is the result of an institutionalisation of the idea that scientific knowledge should also be available for use beyond science. Researchers support this idea, but its institutionalisation has also brought some confusion to the academic community, as such measures have artificially drawn apart knowledge and its societal value (De Jong et al. 2016). The implicit assumption of this statement is that scientific knowledge and its societal value are inseparable and thus that scientific knowledge is in itself societally valuable. To me, that assumption is important, because it implies that valorisation is not about the creation of value, but rather about a process that makes the intrinsic value of scientific knowledge visible.

Second, the definition of valorisation given above presupposes that researchers are (partly) responsible for making knowledge suitable and/or available for its use beyond science. It seems that this confers an additional task upon researchers. However, the valorisation task in these policies is rather an operationalisation of a traditional role of researchers, who have always aimed to advance science and serve the public good (De Jonge and Louwaars 2009). In doing so, scientists traditionally place – above all – a high value on the independence of their work, which therefore sets boundaries on their task of spreading knowledge. In recent valorisation policies, however, these boundaries have scarcely been addressed, as the main focus has been on the use of scientific knowledge by society rather than on how this use can be achieved. In my opinion, the renewed focus on valorisation is important, but so are the boundaries of this task. For instance, the debate about the role of science in

and for society and potential conflicts of interest (Penders et al. 2009) point at a need for the clarification of boundaries. In policy sciences, this requires addressing the relationship between independent scientists and the value- laden policymaking process. Hereafter, I will address this complex relationship and thus set the boundaries for the valorisation of this dissertation's knowledge described thereafter.

There are different stances on the role that science has in the policymaking process of which I will discuss the two extremes. On the one hand, proponents of evidence-based policies view the policymaking process as a rational problem-solving activity. According to this stance, problems are best approached scientifically, to achieve solutions that objectively maximise all relevant outcomes. The increasing focus on valorisation is part of the trend of 'scientification of politics'. On the other hand, antagonists of the trend mention that science is not able to fulfil this role as problem solver, because public policymaking also involves – besides rational problem-solving ("puzzling") – the dimensions of who is included or excluded from the formal and informal policymaking process ("participation") and interaction of these stakeholders ("power") (Hoppe 2011). A policy problem has to be phrased clearly to enable research that results in evidence-based solutions, but exact phrasing can be difficult because of the different perspectives that stakeholders may have. For instance, they may hold different views on the variables that should be included in studies. The role and power of stakeholders – and their prioritisation of

"WHILE DOING THE RESEARCH, KEEP IN MIND THERE ARE ONLY TWO KINDS OF FACTS... THOSE THAT SUPPORT MY POSITION... AND INCONCLUSIVE."



values – thus influence the way problems are modelled and these problems serve as input for research. Nevertheless, values that govern scientific inquiry are not necessarily in line with the values that govern policy-making (Institute of Medicine 2009). A prominent role of science in the policymaking process may therefore lead to a certain interest of politics in science as well (De Jonge and Louwaars 2009).

Political interest in science is not a problem in itself, in my opinion. However, this dissertation devoted a considerable number of paragraphs in Chapters 1, 2 and 3 on explaining the different nature of interests of politicians and scientists, which show that the interlacing of science and politics has potential problematic consequences; scientists focus on a descriptive, neutral and multidimensional overview, whereas politicians have an evaluative and normative understanding of only those aspects that they value. Political interest in scientific evidence may therefore lead to influencing the evidence-making process, which may be called the ‘politicisation of science’ (Van der Aa and Maarse 2015); this would be a threat to the independence of scientists (Rosenstock and Lee 2002, Van der Aa 2017). This potential threat does not imply that scientists cannot serve the public good. However, in collaborating, scientists and policymakers need to be aware of the distinctive discourses they operate in, and the potential downside of blending them. Therefore, I argue that policy scientists are obligated to operate independently and present knowledge that may be of use for policymakers, whose task is to value the knowledge and eventually decide whether or not to use it in the policymaking process.

Following these considerations, I conclude that this dissertation’s knowledge is valuable in itself and that its use in policy practice depends on the interpretation of policymakers. Therefore, this valorisation addendum follows a narrow understanding of the task of “making knowledge suitable and/or available for economic and/or social use” by discussing for which stakeholders the dissertation may be of interest (relevance) and what is being done and can be done to make it available to those potential users (dissemination).

Relevance

This dissertation had three aims, namely to understand how reforms since the 1980s have affected formal solidarity in health insurance and in disability insurance (first aim); to analyse opinions about deservingness in these arrangements (second aim); and to compare health insurance and disability insurance regarding (i) the impact of reforms on solidarity and (ii) on deservingness opinions (third aim). Comparative policy analyses and discrete choice experiments were used to answer these questions.

The comparative policy analyses demonstrated that post-1980 reforms in the Netherlands had different effects on health insurance and on disability

insurance; whereas solidarity in disability insurance was restricted, health insurance had been rather immune to solidarity-restricting reforms. However, long-term care is an exception to this observation because it has been confronted with several restrictions to solidarity. In this respect, long-term care is more similar to disability insurance than to medical care. In analysing the effects of reform on solidarity, we also learned that solidarity is a multidimensional concept and developed a framework of its dimensions.

The discrete choice experiments showed considerable variation in deservingness opinions among respondents. However, on average, the claimants' severity of illness (need) was considered the most important criterion in determining deservingness for health services. In deservingness for disability benefits, claimants' cooperation (with reintegration directions) was considered the most important criterion, whereas cooperative attitude and behaviour regarding treatment directions did not affect perceived deservingness for health services equally. Moreover, within health insurance, policymakers gave more weight to the need criterion decisions than did the general public.

Academic community

The knowledge presented in this dissertation is first and foremost relevant for the academic community because its contribution to the base of knowledge on solidarity and deservingness points to its intrinsic value. Besides this relevance by content – which has been discussed in several chapters already – I would like to use this valorisation addendum to emphasise two aspects that may be relevant in the methodological debate: the multidimensional conceptualisation of solidarity and the challenge of including multiple disciplines in a single study.

The multidimensional conceptualisation of solidarity suggests that researchers keep in mind the many understandings of solidarity in different scientific disciplines and beyond. The dissertation provides a framework that could help to structurally assess and compare solidarity within this multitude of views.

This dissertation may be relevant for researchers as well in being an example of taking up the challenge of including multiple disciplines in a single study. We adopted a multidisciplinary approach to be able to compare health insurance and disability insurance structurally, which are each surrounded by their own theories and methods. This multidisciplinary approach consisted of a framework of solidarity dimensions that was built upon theories from different disciplines (Chapters 2 and 3), adjusting the social science-based deservingness

criteria for use in health sciences (Chapters 4, 5 and 6) and involving experts from different disciplines in these processes. Although, time is needed to further bridge theoretical and methodological gaps between disciplines, the results may already play a role in analysing the major challenges facing society, as multidisciplinary approach offers more than relying on single discipline research (De Jonge Akademie 2015). Based on this potential relevance, the combination of two or more scientific disciplines is being increasingly promoted and this dissertation may provide an example for the academic community, showing that the hurdles of this challenge can be overcome.

Policymakers and society

As a researcher, it is difficult – not to say impossible – to name the relevance of this dissertation for politicians and their advisors, because in the political discourse, each individual has his/her own interests. Moreover, the knowledge of this dissertation does not result in evidence that supports one political stance on social insurance or another. For instance, an observed decrease in solidarity does not indicate whether new policies should focus on reinforcing solidarity, aim to maintain solidarity or even aim at further decreases. Recommending any of these options requires an assumption about the desirable degree of formalisation of solidarity, which involves a normative standpoint on the matter. This scientific dissertation does not take such a normative stance. Although it is unknown what value different policymakers may give to the knowledge of this dissertation, it is likely to be of interest to policymakers in the field of social insurance. I will shortly discuss how the studies on solidarity and deservingness may be relevant for policymakers.

The multidimensional approach to solidarity may serve as an antidote to the reductionist view in the political discourse. Even though it is legitimate for politicians to focus on specific dimensions, this practice may result in a dialogue without end because each participant holds his/her own focus. A multidimensional framework could contribute to a debate about solidarity with broader understanding and therefore enable better informed decisions. For instance, the most recent coalition agreement in the Netherlands (October 2017) mentions that the current health insurance arrangements for medical care are to be maintained, although potential negative effects on solidarity are acknowledged. In response, the coalition agreement speaks of adjusting risk equalisation, whereas this dissertation would recommend also exploring the role of other aspects of the system on solidarity, which is not run by financial mechanisms alone.

Regarding the studies on deservingness in this dissertation, the results may be relevant because they show the variation in opinions in the Netherlands. Policymakers' consideration of these variations could improve the social legitimacy of policies. However, I will not venture to guess whether and how this should be done, because that is a task reserved to stakeholders within the political discourse. Scientists provide information, but eventually it is up to policymakers to decide to which evidence they attach value.

Citizens are also stakeholders in the policies that are the topic of this dissertation. What is the relevance of this dissertation for them? In my opinion, the scientific perspective brings nuance to public opinion and is a countervailing power to the tendency of (social) media to focus on specific cases – which do not provide a full picture of social insurance. The relevance of this dissertation for society also lies in the possibility that policymakers use its knowledge to improve the social legitimacy of allocation policies (previous paragraph).

Dissemination

The efforts to make the knowledge of this dissertation available have been focused mainly within the academic community. The authors of the studies presented in this dissertation have made an effort to disseminate their work as soon as possible by submitting it for review in international scientific journals that were mostly open access. However, publication of the articles of this dissertation has been shown to be a challenge because of their interdisciplinary content. Several times, our articles were desk-rejected based on their scope; social policy journals referred us to health policy journals or journals with a focus on health sciences, while these in turn advised to targeting sociological or even economical journals, or sent us back to our initially targeted journals. This experience taught us that many journals are focused on a single discipline and therefore are not keyed to multidisciplinary research. This is one of the reasons that not all of the articles have been accepted at the time of publication of this dissertation. Another reason is that the review process in these journals can be very lengthy. To ensure that the results of our multidisciplinary studies (health insurance and disability insurance; using both policy analysis and discrete choice experiments) are disseminated, we decided to present our results at international scientific conferences (the European Health Management Association and the European Sociological Association), involve ourselves in a book project of the renowned publisher Edward Elgar (Globalization and Welfare series) and to rewrite selected parts of the dissertation for publication in the Dutch Journal

of Medicine (Nederlands Tijdschrift voor Geneeskunde; NTVG) and the journal of the Dutch-Flemish Health Economics Association (Vereniging voor Gezondheidseconomie; VGE). We also involved several experts in our research, which resulted in an exchange of knowledge. Finally, the dissertation will be made available via the website of Maastricht University, which will also issue a press statement. In sum, we used different methods to disseminate the results of this dissertation among scientists working in the different disciplines that are touched upon in the dissertation.

We also made an effort to disseminate the results of this dissertation among policymakers and citizens. First, the results were disseminated through the Academic Collaborative Center for Sustainable Care, which is a joint initiative of the academic hospital in Maastricht (MUMC+) and Maastricht University, and which provided funds for the studies presented in this dissertation. The Academic Collaborative Center for Sustainable Care aims to connect science, policy and practice, and utilises several dissemination methods to do this. These include the sharing of publications online, creating audio-visual material to make the results available to a wider public and organizing meetings to stimulate knowledge circulation. For instance, an animated video was developed in the initial stages of the studies included in this dissertation (2014). This video presented the background and aims of the project and is available on YouTube to inform a broad range of recipients. In 2017, after finishing the manuscript, the search terms and description of the video have been adjusted in accordance with the vocabulary of the dissertation to improve findability of the video. The Academic Collaborative Center for Sustainable Care also mentions dissertations of all its projects, including underlying dissertation, in their newsletter and in posts via its LinkedIn and Twitter profiles, reaching various stakeholders in the field. Second, the dissertation is disseminated by making it available among the professional and personal network of the author. Finally, we are preparing an infographic, which will provide a visual representation of the knowledge obtained in this dissertation. An infographic is comprehensible to the general public because it condenses large amounts of detailed data into graphics that are easy to read. Our infographic will be sent (digitally) to the participants of the discrete choice experiments who submitted their email address for that purpose. In addition, we plan to add a paper version of the infographic to the dissertation and to distribute these to various stakeholders of social insurance arrangements, e.g. advisory bodies of the government.

In conclusion, we utilize several methods to make the results of this dissertation available among scientists, policymakers and society. However, I would like to emphasise once more that it is up to readers whether or not to value this knowledge. As scientists, we have to accept that it is beyond our power to dictate the policymaking process. Nevertheless, I think it is legitimate for researchers to be protagonists of well-informed decisions, which is also the case if policymakers deliberately choose not to use evidence. Well-informed decisions require that evidence be available. Hence, I hope that the above-mentioned dissemination strategy makes the results of this dissertation available for different stakeholders and consequently enables an evidence-informed academic, political and societal debate.

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List of publications

Sapientia melior auro

Motto Universidad de Deusto

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- ✎ **Van der Aa, M.J.**, Paulus, A., Evers, S., Klosse, S., Maarse, H. & Hiligsmann, M. *Equally ill, unequally deserving: a discrete choice experiment on deservingness perceptions in health insurance and disability insurance.* Under review.

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Athens, Greece.

Acknowledgements

Dankwoord

*There is no such thing as a self-made man,
you will reach your goals only with the help of others.*

George Shinn (1941)
Former owner of the New Orleans Hornets

Lectori salutem! In 'echte' boeken gebruikt een schrijver doorgaans het voorwoord om de mensen te bedanken zonder wie het boek er niet geweest zou zijn. Ik vermoed dat die boeken er anders ook wel gekomen zouden zijn, maar in mijn geval zou het zeker langer op zich hebben laten wachten en ook minder mooi geworden zijn. Met jullie steun is het schrijven van dit proefschrift echter niet alleen makkelijker, maar vooral ook leuker geworden! Ik vind het dan ook een goede gewoonte om daar vooraleerst dankbaarheid voor te uiten. Een prominente plaats van het dankwoord zou daarnaast ook aansluiten bij de leesvolgorde van velen. Het zou echter ook verwarring kunnen veroorzaken omdat het meest gelezen hoofdstuk vaak juist direct achterin gezocht wordt. Ik zal me daarom (eens te meer) conformeren aan de wetenschappelijke gewoonte. Weet echter dat ik bij het afronden van dit proefschrift vooraleer dankbaar ben voor alle momenten dat we mochten samenwerken, discussiëren, lachen en soms zelfs huilen. Ik heb ontzettend veel geleerd en genoten. Het is vanuit die oprechte dankbaarheid hiervoor dat ik dit hoofdstuk schrijf.

Ten eerste gaat mijn dank uit naar mijn (co)promotoren, em. prof. dr. Maarse, prof. dr. mr. Evers, prof. mr. dr. Klosse en dr. Paulus. Samen dragen jullie een indrukwekkende reeks titels, waar ik direct zeer van onder de indruk was. Dat die uit verschillende disciplines afkomstig zijn, heb ik geweten! Dit zorgde voor discussie en dynamiek, die geen enkele stap in het project vanzelfsprekend maakte. Ik zie het dan ook als een prestatie van formaat dat wij uit onze uiteenlopende achtergronden één geheel hebben weten te smeden. Hans, bedankt dat je me met vele verhalen hebt laten delen in een klein stukje van jouw enorme kennis. Saskia, jij wist met je scherpe doch vriendelijke vragen en aanwijzingen altijd weer de motivatie in mij naar boven te halen. Silvia, netwerker pur sang. Zonder jou was ik misschien nog steeds op zoek naar experts en ik dank je dat dit niet het geval is. Een van die zeer behulpzame contacten was 'gewoon' een collega van een paar deuren verder. Mickaël, hoewel je officieel geen deel uitmaakt van het team heb je me bij een groot deel van het project begeleid. De duidelijke afspraken en altijd snelle en verhelderende feedback (waar nodig meermaals) waren erg fijn. Beste Aggie, *last but not least!* Jij maakte het team compleet. Ik bewonder je toewijding en inzet in de academische vorming van de vele studenten die je onder je hoede hebt. Je weet ieder het zijne te geven. In mijn geval was je pragmatische aanpak meer dan welkom. Ik zou je echter tekort doen als ik het hierbij liet: de extra kennis en het perspectief dat je inbracht waren een aanvulling op het team. Nu dit boekje afgerond is, kan ik niet anders dan erkennen en uitspreken dat dit zonder jou niet gelukt was. Mijn dank is groot!

Het lezen en beoordelen van een heel proefschrift vraagt kennis, inzet en tijd. Ik ben dan ook dank verschuldigd aan prof. dr. Ruwaard, voorzitter van de beoordelingscommissie, prof. dr. Dirksen, prof. dr. Jeurissen, dr. Schröder en em. prof. dr. ter Meulen, voor de geleverde inspanning om dit werk van de nodige commentaren te voorzien.

Vincent Giedraitis, you were the first to encourage my academic curiosity. You always confirmed my efforts, but guided me at the same time politely towards all the theories that I missed. I genuinely enjoyed the discussions we had about medical sociology, the economy of good and bad, the Baltics and, above all, about books. Thank you for reassuring that our work is worthwhile.

Karien, Thomas en Jennifer, jullie gaven mij de kans om onderzoekservaring op te doen bij 'WELP'. Ik denk nog regelmatig terug aan die tijd en het wordt me steeds duidelijker waarom. Jullie gaven mij de vrijheid het onderzoek op te pakken op mijn manier, waarbij ik de ruimte kreeg eigen ideeën uit te werken. Het ontbrak daarbij echter geenszins aan sturing! Jennifer, vooral met jou heb ik met plezier veel mogen *sparren* over het onderzoek (en over zoveel meer). Ik dank jullie voor al de ervaringen die jullie mij hebben meegegeven, zij vormen de basis van mijn wetenschappelijke carrière.

Collega's van HSR, jullie creëerden voor mij een thuis in Maastricht. De dagelijkse wandelingen, wekelijkse soep, spelletjesavonden en vele andere activiteiten maken van een doodgewone groep werknemers een buitengewoon gezellige afdeling. Dirk, ik waardeer jouw inzet voor de eenheid binnen vakgroep enorm. Brigitte, volgens mij zie ik nog niet de helft van de bergen die jij verzet, maar daar alleen al ben ik je dankbaar voor. Jelena, thank you for inspiring the tenth (delicious) proposition. Promovendi van Duurzame Zorg (ja Dorijn, jij ook ☺), ik heb het ontzettend leuk gevonden om de verbanden tussen onze projecten te onderzoeken, van elkaars projecten te leren, onze successen en zorgen te delen en, bovenal, om gezellig te debatteren onder het genot van een speciaalbiertje... kan het beter?

Martine en Inge, jullie wil ik toch wel even apart noemen! Helemaal aan de andere kant van het gebouw, zag ik jullie in het begin niet vaak. Gelukkig is daar verandering in gekomen! Jullie interesse in mijn promotieperikelen, de gezellige lunches en extra lange pauzes hielpen mij enorm om alles in perspectief te zien. Ik ben benieuwd waar we uiteindelijk terechtkomen, maar wat maakt het ook uit... als er maar een koffiehuis of stamkroeg is om af en toe bij te kletsen!

Irma en Eveline, roomies! Als een bij elkaar geraapt zootje in één van de kleinste uithoeken van DUB30 hebben wij toch maar mooi het gezelligste kantoor van allemaal :). De mix van hard werken en regelmatige koffiepauzes waren blijkbaar perfect: in deze situatie konden jullie allebei binnen vier jaar je proefschrift afronden (trots!), tussendoor het mijne van feedback voorzien én voor veel gezelligheid zorgen. Passanten denken misschien dat ons geheim ons serieuze werken is, maar voor mij zit ons succes in de gekkigheid om bijvoorbeeld de waterbekeractie van Waldemar Cierpinski in 1980 te bespreken. Maar nu serieus: enorm bedankt dat jullie naar me luisterden, mee dachten, voor afleiding zorgden en vooral gewoon...dat jullie er waren!

Alyn, Katariina, Ganesh, Kim, Vytaute, Tadesse, Netsanet, Maria, Sophia and Sonya, thank you for being in EMSRHS, which has given me so much. A great deal of that I owe to you. Your experiences made me grow up from the 'baby' of the group to a more sophisticated kind of view. One day, I hope I will pass on some of your wisdom to equip a new generation gooders.

Mercè, over ten years have passed since you came to Amsterdam. You and your family inspire me to dedicate myself to others as well, in order to find Happiness. I may not always succeed but you taught me that the efforts count. Memories of my stays in Sabadell, Matadepera and Barcelona always make me smile. Thank you for giving me a second home!

Asta, you are an extraordinary friend to me! Our paths crossed in a period that has been both very difficult and enriching for me at the same time. I know I reminded you of specific experiences of your childhood in the Soviet Union, which I may never be able to understand. It made you determined to support me unconditionally and I am very grateful for that. Those hours of chats gave shape to my ambitions in life. I had to go all the way to Lithuania to understand. I hope and pray you will also find what you are looking for. Pasitikiu Tavimi!

Gabija, the Pollyana of my life. Thank you for the infinite positive thoughts! Keep asking JPII all you wish for in your career, it was him who brought me to your beloved Lithuania.

Réka and Zsófi, my Budapest flatmates who I shared so many stories with. You created many happy moments in Hungary, even though all of us – paradoxically – went through hard times in the Fenyvesliget residence as well. I am happy to see how we grew up and that our friendship remains, including the

endless questions and chats. The reunion in October proofs that time did not create distance, quite the contrary, which is something I am truly grateful for.

Met het lustrumweekend in zicht, besef ik eens te meer dat SR08/09 een begrip is geworden! Als vierde in de rij, weet ik me gezegend in een gezelschap van *doctors* (en dan heb ik het nog niet eens over de MDs). Andrea, Ilse, Krystien, Marieke, Max, Jacqueline, Jort en Tosca, jullie ambities en levensinstelling – hoe verschillend ook – inspireren mij. Hoewel de afstand het niet altijd toelaat om erbij te zijn, geniet ik ontzettend van onze gelegenheidsetentjes. Bedankt voor jullie wijze adviezen en vriendschap.

Alex, Bas, Eefke, Myrthe, Rosalie en Suraja, wij kennen elkaar inmiddels al meer dan 10 jaar...! Nu we als MIKkers zijn omgedoopt tot MIK *business* en er al een klein MIKkertje in spé is bijgekomen, kan ik toch wel concluderen dat het bijzonder is dat we nog altijd *business meetings* hebben. Zonder OV zullen we alle Starbucks wel niet meer af kunnen gaan...maar een koffie na de Ajax run, een taartje bij mijn 'tante' of soep bij Soepp! is een meer dan gezellig alternatief.

Jozefina, wat heb ik veel gehad aan die momenten langs de Amsterdamse grachten met een fles wijn! Maar ook in Amstelveen, Wenen, Budapest, Roermond, Keulen en Lissabon kon het natuurlijk... gewoon genieten en een goed gesprek. Met Pedro erbij is dat niet anders geworden. Ik vind het heerlijk dat we onder elkaar zo onszelf kunnen zijn. Dank voor die houding! Ik hoop dat we – ondanks de afstand – nog veel nieuwe herinnering mogen creëren.

Charlotte, tijdens mijn studie heb ik vol bewondering gekeken naar jouw academische ontwikkelingen. Ik moet eerlijk bekennen dat dat eigenlijk nog steeds zo is, zeker nu je de uitdaging van een promotie combineert met het moederschap. Ik dank je voor de steun die je uitsprak in de vele gesprekken en adviezen, maar ook de inhoudelijke discussies. Ik hoop dat we beide steeds weer tijd maken om te lezen, te ontdekken en ideeën uit te denken, zodat we die zo nu en dan met elkaar kunnen delen.

Marlies, Petra en Paula, wat ben ik blij tot dit legendarische clubje behoord te hebben. Het lezen van 'Paulus' was niet alleen leerzaam, maar ook gewoon heel gezellig. Vooral als we dat in Wildschut deden! Marlies, jij hebt me zoveel bijgebracht in mijn studietijd. Je kijkt vol verwondering naar de wereld. Bedankt dat je mij er steeds op wijst hoe mooi alles is (en voor je taalinput)! Petra, je bent de verpersoonlijking van hartelijkheid, doorzettingsvermogen en eerlijk-

heid tegelijk. Indrukwekkend! Het is een voorrecht jou te mogen kennen. Paula, het blijft vreemd dat we nooit tegelijk in Aenstal hebben gewoond. Ik heb toch regelmatig het gevoel dat we samen zijn opgegroeid, zó gelijkvormig zijn onze visies. Ik vind het heerlijk om met je te *sparren* over ons werk, ambities, geloof, recht, en noem het maar op. Ik hoop dat dit nog heel lang zo mag blijven!

Sietske, Sanne en Suzan, wat is er veel gebeurd sinds onze Menciatijs! Helaas kom ik niet al te vaak meer in Zundert, Rijsbergen en Breda, waardoor we ons beperken tot bezoekjes rondom *life events*. Die zijn desalniettemin altijd als vanouds en dat brengt me ertoe jullie te bedanken voor het mij steeds weer in herinnering brengen dat Brabant zóóó gezellig is.

Agnes, Bernadette, Elizete en Teresa, de enige echte meidenavondvriendinnen. Eigenlijk is het best bijzonder dat wij na 'Malaga' een groepje zijn gaan vormen, überhaupt iets om dankbaar voor te zijn! Maar buiten dat: bedankt voor alle gezelligheid! Onze uitjes zorgden voor de nodige ontspanning en zijn daarom belangrijk geweest voor het slagen van dit project.

Susanne, wij kennen elkaar pas sinds mijn promotietraject in Maastricht is begonnen. De *ups* en *downs* van het promoveren hebben soms zeker een weerslag gehad op onze vriendschap. Toch hebben we in relatief korte tijd een sterke band opgebouwd, misschien eerder dankzij dan ondanks de grilligheid van de periode. Als ervaringsdeskundige heb ik veel gehad aan je tips, maar nog meer wil ik je bedanken voor je aanstekelijke spontaniteit en lach. Dankjewel!

De jongerengroep Sint Pancratius mag ik niet vergeten te bedanken. Het heeft misschien even geduurd voordat ik jullie gevonden had, maar sindsdien kom ik met veel plezier naar Molenberg. Dat reizen staat voor mij symbool voor onze gezamenlijke weg, ook al is de geografische afstand voor jullie wat kleiner. De bijeenkomsten zorgen ervoor dat we elkaar steeds beter leren begrijpen en daarmee ook anderen en de wereld om ons heen. Immers, *luisteren en lezen heißt mit einem fremden Kopfe, statt des eigenen, denken* (Arthur Schopenhauer). Bedankt dat jullie open staan en tegelijkertijd standvastig!

Papa, jij hebt op een bijzondere en onverwachte manier bijgedragen aan dit project. Mijn kennis van sociale verzekeringen heeft jou misschien niet echt geholpen, maar omgekeerd heb jij mij vaak genoeg doen inzien hoe (te) ingewikkeld het is voor wie er middenin zit. Jouw perspectief en ervaringen doen mij beseffen dat de cijfers in dit boekje interessant zijn, maar ook een mense-

lijke component missen! Het herinnert me aan je veel gebezigde reactie op onze mededelingen over verworven kennis, die jij van weinig praktijkervaring vond getuigen: "leer je dat nu op de universiteit?" Hoewel ik die visie nog altijd niet helemaal omarm, houd je er op jouw manier (wellicht onbewust) wel mijn beide voeten mee aan de grond!

Lieve Lieke en Jan, ik voel me zo ontzettend sterk verbonden met jullie! Als kleinste van het stel, zijn jullie een voorbeeld in alles. Dat mijn grote zus en broer het altijd zo enorm goed deden, schiep echter ook verwachtingen. Soms waren die zo hoog dat ik dacht daar niet aan te kunnen voldoen. Gelukkig lieten jullie me in de loop der jaren zien dat het belangrijker is om je eigen weg te gaan. Toch hebben onze verschillende keuzes geen afstand tussen ons gecreëerd, integendeel! Dat komt volgens mij omdat onze wegen – met vallen en opstaan – eigenlijk toch wel veel op elkaar lijken. Jullie gedachtes voelen zo eigen en juist daarom heb ik zoveel steun aan jullie. Bedankt dat jullie er samen met Gerard, Linde en Lieneke altijd voor me zijn. *Amicorum esse communia omnia*.

Lieve mama, ik ben zo blij dat jij er bent! Jij hebt me altijd bezocht, waar in de wereld ik ook woonde. Steeds was jij daar om mijn verrichtingen gade te slaan, trots toe te zien op vreugde en succes, maar ook om de teleurstellingen te relativeren en troost te bieden. Als je er fysiek niet kon zijn, was je er in gedachte altijd bij. *Maybe you can't stop the downpour, but you will always, always join me for a walk in the rain* (naar Albert Camus). Samen met Jac staan jullie altijd voor ons klaar (en binnenkort ook nog in Zundert ☺). Die onbaatzuchtige steun vinden jullie misschien normaal, maar ik vind het bewonderenswaardig! Ik weet het zeker: zonder jullie was dit boekje er niet geweest. Dankjewel!

Allerliefste Michiel, zonder dit promotietraject was er geen "wij". Dat groot en onverwacht cadeau heeft de hoge verwachtingen die ik al van promoveren had, ruimschoots overtroffen. Jij weet echter als geen ander dat het werkinhoudelijk verder niet altijd heeft opgeleverd wat ik ervan hoopte. Maar hoe groot mijn teleurstelling ook was, jij liet de balans altijd weer naar het positieve doen uitslaan. Je hebt me altijd aangemoedigd om door te zetten en me gemotiveerd om me door de laatste loodjes te slaan. Jouw ultieme rust geeft mij ontspanning, jouw lach mijn vreugde en jouw liefde mijn zijn. *I can hide in your arms, when I'm cold or alone... which I hardly am, cause we built us a home* (Jacqueline Govaert). Michiel, waar dit boek zo ophoudt, zullen in ons verhaal nog vele hoofdstukken volgen. Ik kijk enorm uit naar alles wat wij samen gaan ondernemen. Ik hou van jou!

About the author

*Thanks to new means of research, every day we are discovering new marvels.
If I continually renew my outlook and adopt Divine Revelation – which is forever –
then I will never cease to discover the marvels hidden in the most ordinary things.*

François-Xavier Nguyễn Văn Thuận (1928-2002)
Vietnamese cardinal of the Roman Catholic Church, venerable

ABOUT THE AUTHOR

Maartje van der Aa was born on December 5th, 1987 in Zundert, the Netherlands. In 2006, she received her gymnasium diploma from Mencia Mendoza Lyceum in Breda. Having started her academic journey with Kinesiology and Rehabilitation Sciences in Belgium, at the University of Leuven, she switched to Medical Information Sciences at the University of Amsterdam, in the Netherlands, a year later. During her studies, Maartje was elected to the Faculty's Student Council and served on the Program Committee of Medical Information Sciences. After her graduation in Amsterdam in 2010 (BSc, cum laude), Maartje set her sights on an international Masters program and applied for an Erasmus Mundus grant from the European Commission and the Huygens Talent Scholarship from the Dutch Ministry of Education, Culture and Science, to finance her dream. She had the great privilege of receiving both grants, which enabled her to obtain a Joint Master's degree in Sustainable Regional Health Systems from the University of Deusto in Bilbao, Spain, Corvinus University in Budapest, Hungary, and the University of Vilnius, Lithuania, in 2012. The 2-year international programme covered various disciplines (sociology, business and medicine) and introduced Maartje to researchers and professionals from all over the world. With this foundation, Maartje has aimed to contribute to society professionally through multidisciplinary projects, which – in her opinion – “fit in best with the complex reality of the policymaking process”.



In this spirit, Maartje commenced her professional career as junior researcher in 2012 in the Department of Social Medicine at the University of Amsterdam, working on a project evaluating the integration of primary care and public health. In November 2013, she joined the Department of Health Services Research at Maastricht University to start a Ph.D. trajectory studying solidarity and deservingness in social insurance arrangements. In line with her ideas, Maartje adopted a multidisciplinary approach for this project, making use of qualitative and quantitative research methods. During the trajectory, Maartje obtained the University Teaching Qualification (UTQ/BKO) and was involved in health policy courses at University College Maastricht and in Bachelor and Master programs at the Faculty of Health, Medicine and Life Sciences of Maastricht University. Having obtained the doctoral degree, Maartje has reached a crossroad in her career. Regardless of whether she pursues an academic career or works in practice, Maartje is committed – not only as a professional – to playing her part in building a better world.