Reducing paper and sugar for fiscally sustainable healthcare systems

Studies on administrative costs and junk food tax policies

Luc L. Hagenaars

Colofon

Reducing paper and sugar for fiscally sustainable healthcare systems

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CHAPTER 1

General introduction and outline of the thesis

The health of a population is affected by numerous factors. A widely used model that describes the most important *determinants of health* is the conceptual framework that Marc Lalonde presented in 1974. Lalonde, who was the Canadian Minister of Health at the time, emphasized that several environmental and behavioral forces affect health, in addition to biological risk factors as well as access to high-quality healthcare. This broad societal perspective towards health was innovative in a time when health was still seen primarily as a biomedical construct.

Numerous other reports, studies and policy documents have repeated the importance of environmental and behavioral risk factors since 1974, including the WHO Alma-Ata declaration in 1978, the Ottawa Charter in 1986, and the Helsinki statement in 2013. These reports also stressed how avoidable morbidity pushes fiscal pressure onto the healthcare system, which is already facing challenges in its fiscal sustainability as a result of successful population ageing and medical-technological innovations. During the last decades, healthcare expenditure has continuously outpaced economic growth in most OECD countries (OECD, 2019a). At the beginning of a pandemic induced global recession, the pressure on the healthcare budget is expected to increase further still. This not only poses a risk to population health as it can jeopardize access to care, but it can also crowd out investment in other determinants of health such as education and social protection (Thomson et al., 2009).

At a continuing base, policymakers seek for new 'approaches' to maintain the fiscal sustainability of healthcare. These policies must, by definition, reduce costs, increase efficiency or improve (population) health but they also need to generate sufficient public and political support (Jeurissen et al., 2018). After all, policies that improve our ability to pay but that are not supported by the general public, will not work since chances are high that political decision makers prefer not to enact them. Scholars that wish to inform policymakers on the fiscal sustainability of healthcare thus need to generate both knowledge on the *design* of policies that may improve the fiscal sustainability of healthcare, as well as knowledge on how to get policies *implemented*.

Implementing policy is far from easy, however, because policymaking is a political struggle over values, interests and ideas. Political scientists stress that paradoxes underlie even seemingly straightforward policy decisions. Everyone is in favor of policy goals such as equity, efficiency and liberty. Stone (2012) coined these as 'motherhood issues', but Stone also expands that the fight begins when people explain what they precisely mean with these broad issues.

Disputes will be even larger when the attainment of motherhood issues is operationalized into concrete policies.

Removing excess administrative costs and improving the food environment may be seen as motherhood issues. Few will disagree with these ambitions. But healthcare regulators and financers may have a different view on excess administrative costs than healthcare professionals. Most people support a healthy food environment, but disputes may arise when food policies affect the interests of food producers or retailers.

Policy analysis is needed to operationalize 'reducing paper and sugar' into concrete policies. This requires a thorough analysis of the problems these policies ought to address. Hoppe (2010) argues that contemporary democracies need to develop a better governance of problems, because policy all too often is a sophisticated answer to the wrong problem. Puzzling and powering are required for policy answers that are more responsive to the problems perceived by citizens and stakeholders. Puzzling refers to the process of developing ideas and collecting information to define and resolve public policy problems in a context of uncertainty and bounded rationality, enveloping in instruments for addressing a public problem. Powering concerns the process of decision-making, mobilizing political support and bargaining in the context of stakeholders whose interests and power are diverse. Scholars that wish to generate knowledge on implementing policies for fiscally sustainable healthcare therefore need to take into account the views of many different stakeholders, such as the general public and all kind of interest groups.

Aim of this dissertation

The aim of this dissertation is to analyze how reducing administrative costs and improving population health with junk food taxes, can contribute to fiscally sustainable healthcare. This dissertation thus focuses on the puzzling and powering of policies rather than their design. Since administrative costs are intertwined with almost all functions of the healthcare system, cost reductions of such expenses can be hard to track down. This makes it hard to itemize the potential cost savings of policies with the potential to reduce administrative costs. This dissertation therefore aims to describe the total size of administrative costs and explores its components and determinants. The analyses of junk food taxes provide insight in their related policy processes, the interaction with the broader policy context and the influence of stakeholder behavior. This to

provide general lessons for policy entrepreneurs with the ambition to successfully put prevention policies on the policy agenda. In summary, our studies on administrative costs focus more on puzzling whereas our studies on junk food taxes focus on powering as well.

These two specific policy strategies are more relevant since 'reducing administrative costs' and 'investing in prevention' are often mentioned in contemporary policy debates on the fiscal sustainability of healthcare systems in high-income countries. The general public and especially healthcare providers often emphasize reducing administrative costs when it comes to fiscally sustainable healthcare. The general public and especially public health professionals often highlight prevention. Under the wide umbrella of prevention policies, junk food taxes (which include popular terms such as 'sugar taxes', 'soda taxes' or 'fat taxes') have received a recent rapid increase of attention. Implementing prevention is therefore operationalized by investigating this specific policy innovation.

As with all motherhood issues (Stone, 2012), the fight begins when people are asked what they mean with 'reducing administrative costs' and 'investing in prevention', and what specific policies should be adopted to attain these general goals. Policies that aim to reduce administrative costs are hampered by the fact that the whole construct of administrative costs is not well understood (Larjow, 2018). Prevention policies are hampered by governance and political issues. A compelling approach requires health in all policies, which is notoriously difficult from a governance point of view (Storm, 2016). The position of the food industry may hamper policies that aim to reduce junk food consumption (Marion Nestlé, 2013). As a result, the general public, health care professionals and public health experts are often disappointed with suboptimal implementation of policies around administration and prevention. On the contrary, the policies proposed by health care managers and policymakers to safeguard fiscal sustainability, are generally unpopular. Their focus is on containing public health budgets within a government term. This compartmentalized and short-term focus is not well suited for the operationalization of more popular, but also more complex measures around administrative costs and prevention. This deadlock may be the main reason why policymakers often have the feeling that they lack instruments to control healthcare costs (Jeurissen, 2016; SCP, 2019).

In the following sections this reasoning is substantiated for administrative costs first, and for junk food taxes subsequently. The resulting research questions that will be addressed are provided immediately after each of these two sections

for readability purposes. In both sections the settings and context of the studies in which the questions are addressed are described.

Part I. Administrative costs in healthcare

Policymakers have traditionally seen healthcare demand-reducing policies like co-payments and benefit reductions as go-to options for fiscally sustainable healthcare (Stadhouders et al., 2016). These policies can be easily implemented from a technical point of view and also seem effective in terms of cost control, but they are generally unpopular. For instance, in the Netherlands, the mandatory deductible – where people pay the first 385 euros per year for secondary and tertiary care out-of-pocket – can simply be increased. This would, within the prevailing accounting rules, decrease total health expenditure considerably (Jeurissen et al., 2018). Leading up to the 2017 parliamentary elections in the Netherlands, however, not a single major Dutch political party pleaded to increase the mandatory deductible. Several parties proposed to decrease it or remove it altogether (Stemwijzer, 2017). At the point of writing, a similar situation was apparent for the 2021 parliamentary elections.

Scholars have therefore shifted their attention towards wasteful spending in the delivery of healthcare itself. This is a better alternative because co-payments and other traditional cost-containment policies cut both value-added and low-value healthcare spending and they can in some cases even increase costs further down the line (Ravesteijn et al., 2017). Wasteful spending in healthcare can appear in many ways, but a well-known taxonomy was published by Berwick & Hackbarth (2012), who identified six categories of waste: over-treatment, failures in care delivery and care coordination, administrative complexity, pricing failures, fraud and abuse. The OECD (2017) translated this framework to the healthcare system level, and differentiated between wasteful clinical care, operational waste and governance-related waste. The total size of wasteful spending should not be underestimated. In the United States, for instance, they equate to at least 20% of total healthcare spending (Berwick & Hackbarth, 2012).

Five of the six categories of waste as identified by Berwick & Hackbarth (2012) as well as the OECD (2017) classification of clinical and operational waste are grounded in the primary process of healthcare delivery. However, the general public is not that aware of inefficiencies in the primary process of healthcare delivery. According to the Netherlands Institute for Social Research (SCP, 2019),

people are generally positive about the quality of care instead. Dutch people do think that healthcare spending is (too) high, but generally blame other (f)actors than failures in the primary process of healthcare delivery. Often mentioned are competition forces in healthcare, and the power of insurance companies and pharmaceutical companies. Bureaucracy, the category of waste that is not rooted in the primary process, is another 'popular' factor to blame. People link bureaucracy to competition and the role of insurance companies, and the extensive administrative burden associated with accountability mechanisms and documentation and justification of health care delivery. Paradoxically enough, however, the introduction of managed competition in the Netherlands in 2006 was framed as an attempt to reduce the perceived bureaucracy of the former Sickness Fund system (Maarse, 2011).

Not only does the general public think that bureaucracy is an important cost driver, healthcare professionals consistently highlight it as one of the greatest inefficiencies in their daily practice. An international survey among primary care physicians (Osborn et al., 2015) for instance found that 'frustration with administrative burden and insurance hassle' resonated across many Western countries. Primary care physicians reported most often that the amount of time their practice spends on administrative issues is a major problem, in Switzerland (50%), Germany (52%), the US (54%) and the Netherlands (60%). Another study among Dutch primary care physicians in which a time-sampling technique was used instead of a survey, found that almost half of their time is not or indirectly spent on patient care (Van Hassel, 2020). It is therefore no surprise that reducing the administrative burden concerns the main focus of the Dutch *Het Roer Moet Om* (2020) (we must change course) bottom-up movement of dissatisfied healthcare professionals. In a recent manifesto that was signed by several opinion-leading healthcare practitioners, a legal norm is proposed that stipulates healthcare professionals cannot spend more than 20% of their time on administrative tasks (Dappere Dokters, 2020). Similar pleas for an 'overhead norm' were made before, for instance in the influential manifesto of Borst & Gaemers (2016) that plead for investment in better quality care in Dutch nursing homes. The 2015 decentralization of long-term care in the Netherlands also was based on the assumption that organizing care 'closer to home' would reduce bureaucracy (Tweede Kamer, 2013). Meaning that the two major healthcare reforms in the Netherlands of 2006 and 2015 both had the reduction of bureaucracy as one of their stated policy goals. In other OECD countries similar efforts are taken to tackle inefficiencies in healthcare administration by simplifying procedures, optimizing the size of administrative bodies and with regulatory changes (OECD, 2017).

In summary, reducing bureaucracy appears to be a popular policy strategy for cost containment in healthcare. In this light it is remarkable that it is an under researched topic. Th available literature is heavily skewed towards the USA. Scholars such as Woolhandler & Himmelstein (1991, 1997) and Cutler et al. (2012) have investigated the costs and inefficiency of US healthcare administration extensively. Several comparisons of administration in the US and Canadian healthcare system exist, too (Pozen & Cutler, 2010; Woolhandler et al., 2003). Literature is also skewed towards administrative costs in hospitals, followed by the physicians' perspective. Studies that investigate the multifaceted concept of administration in healthcare often lack structured and harmonized reporting schemes, and they often loosely use the term 'administrative costs' (Larjow, 2018). This lack of construct validity forms a major problem because administrative costs are baked into the healthcare system, meaning that savings any actor realizes by simplifying the administrative burden will only be counted as a small gain to society, but more often the saving cannot be tracked down at all (Cutler, 2020). This opacity explains why there are few evaluations on whether policy goals to reduce administrative costs have been met. It also explains why few readily available policies exist that are proven to decrease administrative costs.

The opacity around administrative costs in healthcare needs to be tackled first, before policies can meaningfully and measurably reduce administrative costs. Given this rather fundamental lack of knowledge, in this dissertation the total size, important components and determinants of administrative costs are investigated. Administrative costs are differentiated on the macro, meso and micro levels. The macro level includes the costs of organizations that finance and govern healthcare. The meso level includes the overhead costs of healthcare service delivery organizations. The micro level includes the time that healthcare professionals spend on administrative tasks. Many interrelations exist between these different levels of administrative expenses so only by investigating all levels can a total systems perspective be drawn.

Readily available data on administrative costs in OECD countries are analyzed first, leading to the first of the four questions beneath. Cross-country differences are subsequently analyzed in an effort to identify determinants in health system characteristics (question two). These two questions omit the meso and micro levels, because no periodically collected internationally comparable data exists on these levels. Questions three and four therefore provide a more in-depth analysis of available data on the macro, meso and micro levels, using the 2015 reform of long-term care in the Netherlands as a case study. In this reform the

responsibility for financing social and medical home care was decentralized to municipalities and insurance companies, respectively (Maarse & Jeurissen, 2016). We opted to investigate this specific reform because reducing bureaucracy was a stated reform objective.

The following questions are addressed in part I:

1. How do OECD countries differ in their governance and financing-related administrative expenditure in healthcare?
2. How and why do governance and financing-related administrative expenditure differ between countries with different types of healthcare systems?
3. Can the share of administrative costs in total long-term care spending be assessed in the Netherlands?
4. Did the 2015 reform of long-term care in the Netherlands affect the total share of administrative costs in long-term care?

Two studies address these questions. The first study addresses questions 1 and 2 by deploying an international comparison of macro level administrative costs, and by comparing clusters of countries with similar types of healthcare systems. In addition to this descriptive part, reasons for differences found between types of healthcare systems are explored. This includes an analysis of whether more competition-oriented financing systems know higher administrative costs on the macro level.

The second study addresses questions 3 and 4. An attempt is made to longitudinally assess the share (macro, meso and micro levels) of administrative costs in total long-term care spending in the Netherlands, to analyze the effects of the 2015 reform. Assessing whether this is possible could give oxygen to the often-mentioned policy option of 'capping' overheads in healthcare. Possible reasons for fluctuations over time in the administrative costs of Dutch long-term care are explored, too. Further exploration on the determinants of administrative costs is provided in a commentary.

Part II. Improving population health with junk food taxes

Prevention is widely recognized for dramatically improving population health since the 19th century. This all started with the introduction of sewages and other types of health protection in the 19th century (Ferriman, 2007), before vaccinations and other types of disease prevention extended the legacy of prevention since the second half of the 20th century (Mackenbach et al., 2011; Mackenbach, 2020). Currently, health promotion is in the spotlight as lifestyle-related risk factors nowadays make up the largest share of the avoidable burden of disease. Policies that can effectively promote a healthy lifestyle, such as junk food taxes, therefore hold great potential to improve public health (Van der Vliet et al., 2020). Moreover, the outbreak of the COVID-19 pandemic has shown that the re-emergence of infectious diseases as a result of globalization proposes a greater danger to people with lifestyle-related diseases such as obesity (Kassir, 2020).

Tackling behavioral risk factors is also important for the fiscal sustainability of healthcare, because a healthier population is a more productive population that consumes less healthcare (RIVM, 2020). The productivity costs associated to lifestyle-related risk factors are likely greater than the associated healthcare costs, as was for instance shown in a systematic review on the lifetime costs of childhood obesity (Hamilton et al., 2018). The OECD has examined the overall economic impact and found that obesity reduces GDP by 3.3% in OECD countries (OECD, 2019b).

Unhealthy lifestyle also impacts the willingness to pay collectively for healthcare. Already for many years there is a large majority (92% in 2019) in the Netherlands who think that people with a good health should pay as much for basic benefit coverage as people with not such a good health. But opinions are mixed when it comes to financing use of healthcare services that are the result of unhealthy lifestyles. 38% of the population thinks that people with an unhealthy lifestyle should pay more for basic benefits coverage (Nivel, 2019). Continuing with the example of how healthy lifestyle relates to solidarity in the Netherlands, the public sees increasing health expenditure in the context of an increasing divide between the 'haves and the have nots' (SCP, 2019). The current and expected widening of socioeconomic inequalities in health and health behavior (CBS, 2019; RIVM, 2018a), therefore forms a threat for the necessary solidarity for collectively financing healthcare (RVS, 2020).

Healthy lifestyle and prevention have become more prominent in the public and political debate in the Netherlands recently. In 2018, the then Secretary of State of the Dutch government Paul Blokhuis reached a 'Prevention Agreement' with more than 70 organizations: a package of societal goals and policies targeting smoking, overweight and obesity, and harmful alcohol use. Ex-ante analyses of the National Institute for Public Health and the Environment (RIVM, 2018b) indicate that the goals of this agreement may be met for smoking, but the policies targeting overweight and alcohol usage appear to carry too little weight.

After the launch of the prevention agreement and in the wake of the COVID-19 pandemic, health behavior has arguably remained higher on the Dutch political agenda than ever before. Many opinion pieces[1] were published in which opinion leaders in health policy and practice plead for stronger obesity prevention policies in particular. The Social and Economic Council published a report on the fiscal sustainability of the Dutch healthcare system, in which this collaboration of employers, employees and individual experts advocated for a long-term and consistent commitment to prevention (SER, 2020). In these pieces and reports the silent epidemic of obesity is often singled out, and the argument is often made that creeping obesity figures push an unsustainable pressure on the healthcare system.

With public pressure for stronger obesity prevention policies mounting, taxes on unhealthy foods and beverages may be an interesting instrument for policymakers to consider. Junk food taxes came out first in a recent study of Van der Vliet et al. (2020), who ranked public health measures that are not yet deployed on a large scale in the Netherlands according to their cost-effectiveness. Not only are these taxes supported by expert health economists, stakeholders also propose them as the first and foremost policies that should be added to the prevention agreement[2]. The aforementioned manifesto of dissatisfied healthcare practitioners for instance singles out this specific policy (Dappere Dokters, 2020), but there are many more examples of opinion leaders, politicians and healthcare practitioners who plead for junk food taxes. At the point of writing, five political parties that are currently in parliament propose pricing measures in their party programs for the 2021 elections for the Dutch parliament. Two more parties are less explicit by proposing to 'stimulate the food industry'.

1 See for instance the manifesto 'leefstijlgeneeskunde: nodig voor fundamentele omslag in de gezondheidzorg(kosten)' https://lifestyle4health.nl/wp-content/uploads/2018/06/Manifest-Leefstijl-geneeskunde.pdf which was published by several leading Dutch newspapers

2 See for instance the opinion piece 'laten we de duurste ziekte aanpakken – dementie' https://www.nrc.nl/nieuws/2019/10/21/laten-we-de-duurste-ziekte-aanpakken-dementie-a3977408

Experts, politicians and healthcare practitioners may support junk food taxes, but this does not automatically mean that the general public will support them nor that a political majority will be in favor. Introducing a junk food tax poses a prime example of how operationalizing a motherhood issues into a concrete policy discloses all kinds of value and interest disputes, not in the least place because it singles out a specific industry with vast commercial interests (Marion Nestlé, 2013).

Analysis of the policy process is needed to investigate how junk food taxes can be introduced in reality. Such research does not investigate the ideal design of a tax from a health economist perspective, but it investigates how to effectively get a tax on the policy agenda in a given context. Details in the content of a policy, the way in which it is presented and introduced in the policymaking process can make a real difference whether a policy will be enacted or not and should therefore be investigated (Buse et al., 2012).

Recent research by Eykelenboom et al. (2020) points out that this also true for sugar-sweetened beverage (SSB) taxes. In a poll among a representative sample of the Dutch population, Eykelenboom et al. found that a small majority opposes an SSB tax in general. But when tax revenue is earmarked for health initiatives, more than half of the population is supportive. It should also not be forgotten that any junk food tax, is a tax. This means that budget officials are in the position to construct this policy. An important priority of budget officials is to deploy a simple and effective tax collection system. A tax that specifically targets unhealthy foods complicates the tax system, however. Junk food taxes thus suffer from the problem where the health goal of intersectoral health policy conflicts with other policy agendas (WHO, 1986).

In summary, prevention in the form of health promotion has reached the stadium of being a 'motherhood issue', in the Netherlands at least. 'Investing in prevention' is therefore a popular policy strategy, as is reducing administrative costs. But whereas the total size, components and determinants of administrative costs are relatively unknown, much more knowledge is available about the types of prevention that can improve public health. The interaction between better population health through prevention and fiscally sustainable healthcare systems is rather complex, however. Question 5 therefore expands on the various factors that play a role. The main constraints for effectively adopting prevention appear more related to governance issues and the related policy processes. Therefore, in this dissertation these elements are addressed by investigating junk food taxes. These analyses were guided by questions 6-9

which focus on the policy content of junk food taxes (question 6), their policy context (question 7) and differences observed in the global spread of SSB taxes (question 8), as well as their related policy process (question 9).

The following questions are addressed in part II:

5. How are prevention and fiscally sustainable healthcare related?
6. What specific types of junk food taxes are governments implementing?
7. What patterns can be observed in the policy contexts of junk food taxes?
8. How can differences, observed in the spread of sweetened beverage tax policies in the European Union compared with the United States, be explained?
9. What patterns can be observed in the agenda-setting and decision-making phases of sweetened beverage tax policies implemented in three US cities, and how do these relate to policy context and policy content?

Question 5 is addressed in a narrative review of the literature. It describes an economical, governance and political perspective about the multifaceted relationship between better population health through prevention and the fiscal sustainability of healthcare systems. In a study that focuses on the policy content and context of junk food taxes (questions 6 and 7), case studies of tax policies introduced by 13 governments are deployed. Taxes in Denmark, Finland, Hungary, France, the United Kingdom, Mexico, South Africa, four pacific island countries and two cities in the United States (Berkeley and Philadelphia) are investigated. A commentary addresses question 8. It describes patterns observed in the spread of SSB taxes -the most often used specification of these taxes- in the EU compared to the USA. Answering question 9 delivered a study that provides an in-depth analysis and comparison of the policy process and actors involved in the agenda-setting and decision-making phases of sweetened beverage taxes by three local US governments: Berkeley, Philadelphia and Cook County.

Methods and data

Table 1 gives an overview of the data sources, methods and design of each study. In part I, chapter 2, statistical analyses were deployed using OECD health expenditure data to describe international differences in administrative costs on the macro level. OECD health system characteristics data were used to explore whether the observed differences can be explained by the healthcare financing systems of countries. In chapter 3, Statistics Netherlands health

Table 1 Overview of settings, study designs, data sources and outcomes of studies included in this dissertation.

Chapter	Title	Setting	
Part I. Administrative costs in healthcare.			
2	How and why do countries differ in their governance and financing-related administrative expenditure in health care? An analysis of OECD countries by health care system typology.	OECD countries, organizations governing and financing healthcare	
3	Track and trace of administrative costs in the Dutch long-term care system.	The Netherlands, long-term care	
Intermezzo 1	Complex governance does increase both the real and perceived registration burden. The case of the Netherlands.	The Netherlands, hospital care.	
Part II. Improving population health with junk food taxes.			
4	Prevention as a strategy for fiscally sustainable healthcare.	N/A	
5	The taxation of unhealthy energy-dense foods (EDFs) and sugar-sweetened beverages (SSBs): An overview of patterns observed in the policy content and policy context of 13 case studies.	Berkeley (USA), Denmark, Finland, Fiji, France, French Polynesia, Hungary, Mexico, Nauru, Philadelphia (USA), Samoa, South Africa, UK,	
Intermezzo 2	Sugar-sweetened beverage taxation in 2017: a commentary on the reasons behind their quick spread in the EU compared with the USA.	EU and USA	
6	Six lessons from introducing sweetened beverage taxes in Berkeley, Cook County, and Philadelphia: a case study comparison in agenda setting and decision making.	2 US cities (Berkeley & Philadelphia) and 1 county (Cook County)	

expenditure data and annual reports of several organizations involved in governing and financing long-term care, were used to describe the availability of longitudinal data on administrative costs in long-term care. A survey and a focus group discussion among experts were used to validate findings from this data scoping effort, and to explore the determinants of administrative costs in long-term care. Further exploration is provided with a commentary on a study that investigated registration activities conducted by health professionals working in hospital settings (intermezzo 1).

	Study design	Data source	Outcomes
	Descriptive statistical analysis.	OECD health expenditure and health system characteristics data.	Comparison of administrative costs by country and healthcare financing typology.
	Data scoping study.	Survey and focus group discussion among experts, CBS health expenditure data, annual reports, survey and focus group discussion among experts.	Overview of paucities in the data on administrative costs in long-term care.
	Commentary on a mixed methods observational study		Essay highlighting that reducing administrative costs requires a holistic approach.
	Narrative review.	(Grey) literature.	Relation between prevention and fiscal sustainability from an economical, governance and political perspective.
	Case study comparison.	(Grey) literature and expert validation.	Patterns in the context and content of the policies.
	Narrative review.	(Grey) literature, OECD data on fiscal decentralization.	Patterns in the spread of the policy in the EU compared to the USA.
	Case study comparison.	Semi-structured interviews and survey responses of stakeholders, online newspaper archives.	Patterns in the agenda-setting and decision-making phases of the policies.

In part II, chapter 4 summarizes the interaction between better population health through prevention and the fiscal sustainability of healthcare, with a narrative review of the broader literature. Intermezzo 2 presents a commentary on a study that described the global spread of SSB taxes in 2017. It used the OECD fiscal decentralization database and the broader literature to explore reasons for variation found in the spread of SSB taxes in the EU compared with the USA. Chapters 5 and 6 present studies that deployed comparative case studies with purposely selected cases. Data were collected with an expert-

validated (grey) literature review in chapter 5, while chapter 6 described findings from semi-structured interviews with stakeholders, a survey held among stakeholders, and a media analysis using the online archives of newspapers that heavily reported on the selected cases. These case studies were structured with the Health Policy Triangle of Walt & Gilson (1994). This framework identifies policy content, context and process, and the role of actors involved. It concerns a highly simplified representation of policy reality where these elements constantly interact. Policy content refers to a policy's general and technical characteristics, such as in the case of food taxes how the tax is levied, the tax rate and the range of included products. Policy context constitutes important situational, structural, contextual and exogenous factors (Leichter, 1979). For instance, In the case of food taxes, these factors concern the fiscal need of a government, the prevalence of obesity, the prevailing level of public support for health promotion, and the influence of trade agreements. The policy process concerns the theoretical circle of agenda setting, policy formulation, policy adoption, implementation and evaluation. 'Actors', finally, concern stakeholders with varying levels of interest in an issue and influence in the policymaking process (Varvasovszky & Brugha, 2000).

Outline

This dissertation is divided in eight chapters in total. Chapter 1 (this chapter) provides a general introduction. It describes the general aim, research questions, and introduces the methods used. After the introduction, this dissertation is divided into two parts.

The first part consists of chapters 2 and 3 as well as intermezzo 1. It focuses on reducing administrative costs in healthcare. In chapter 2, administrative costs on the macro level (spending by organizations governing and financing healthcare) are compared across OECD countries and healthcare financing system typologies. Reasons for variations found are explored. This includes an analysis of whether more competition-oriented financing systems have higher administrative costs on the macro level. The study in chapter 3 examines the feasibility of calculating the impact of the 2015 long-term care reform in the Netherlands on administrative costs on all levels of long-term care. Thus the macro level, but also the meso (overhead costs of long-term care delivery organizations) and micro levels (administrative tasks deployed by long-term care professionals). Intermezzo 1 follows. This intermezzo depicts a commentary on a study that investigated the registration burden in Dutch hospitals. It discusses

the issue of administrative costs in healthcare in a more fundamental way and therefore wraps up part I.

Part II consists of chapters 4, 5 and 6, and intermezzo 2. It focuses on the question whether junk food taxes can contribute to fiscally sustainable healthcare. Specifically, in chapter 4 the interaction between better population health through prevention and the fiscal sustainability of healthcare is described from a macroeconomic, governance and political perspective. Chapters 5 and 6 and the intermezzo cover the governance and politics of junk food taxes. Chapter 5 describes patterns observed in the policy content and context of taxes adopted by 13 governments across the globe. Intermezzo 2 follows and describes how SSB taxes spread in the EU compared to the USA. Chapter 6 describes an in-depth analysis of the agenda-setting and policy-formulation stages of SSB taxes adopted by three local US governments (Berkeley, Philadelphia, Cook County).

Chapter 7, finally, presents a general discussion. This chapter reflects on the general aim of this dissertation, analyzing how reducing administrative costs and improving population health with junk food taxes can contribute to fiscally sustainable healthcare.

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PART I

Administrative costs in healthcare

CHAPTER 2

How and why do countries differ in their governance and financing-related administrative expenditure in health care?

An analysis of OECD countries by health care system typology.

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Abstract

Introduction

Administration is vital for health care. Its importance may increase as health care systems become more complex, but academic attention has remained minimal. We investigated trends in administrative expenditure across OECD countries, cross-country spending differences, spending differences between health care system typologies, and differences in the scale and scope of administrative functions across typologies.

Methods

We used OECD data, which include health system governance and financing-related administrative activities by regulators, governance bodies, and insurers (macrolevel), but exclude administrative expenditure by health care providers (mesolevel and microlevel).

Results

We find that governance and financing-related administrative spending at the macrolevel has remained stable over the last decade at slightly over 3% of total health spending. Cross-country differences range from 1.3% of health spending in Iceland to 8.3% in the United States. Voluntary private health insurance bears much higher administrative costs than compulsory schemes in all countries. Among compulsory schemes, multiple payers exhibit significantly higher administrative spending than single payers. Among single-payer schemes, those where entitlements are based on residency have significantly lower administrative spending than those with single social health insurance, albeit with a small difference.

Discussion

These differences can partially be explained because multi-payer and voluntary private health insurance schemes require additional administrative functions and enjoy less economies of scale. Studies in hospitals and primary care indicate similar differences in administrative costs across health system typologies at the mesolevel and microlevel of health care delivery, which warrants more research on total administrative costs at all the levels of health systems.

Introduction

Efficient and effective administration is one of the prerequisites for efficient and effective governance, financing, and delivery of health care. Defining appropriate benefit packages for publicly financed health care for instance requires the efforts of administrative agencies, as do risk-sharing mechanisms in any social protection scheme, maintenance of medical guidelines, and the contracting and remuneration of health care facilities and professionals.

Indeed, in times of increasing health system complexity due to the introduction of new technologies and the rise of heterogeneous forms of multi morbidity, a well-run administration with low transaction costs will likely become more important. Also, pay-for-performance schemes and more active purchasing further complicate health systems, which can increase the administrative burden because they require extensive data collection and handling.[1]

Spending on administrative activities by (specific) governance and financing agencies currently takes up around 3% of health spending on average in the countries of the Organisation of Economic Co-operation and Development (OECD).[2] The remaining 97% is spent on health care delivery itself, but this encompasses administration of health care providers meaning that total administrative costs are in reality much higher than 3%.

Spending scarce resources on administrative functions is, as a rule of thumb, unpopular among politicians as it is argued that it has less direct benefit to patients compared to spending on health care delivery itself. It is a prime target for cuts when health budgets need to be reined in, as evidenced in many countries during the recent financial crisis.[3] At the same time, we do rely more and more on administrative functions such as coordination and data mining in modern health systems. Yet international academic attention to the issue seems rather limited: The available literature mostly focuses on the excessive administrative costs at the macro (governance/financing) and mesolevel and microlevel (delivery) of the US health system.[4-14] In some studies the multi-payer financing system of the United States is compared to the single-payer system of Canada, with the United States far exceeding Canada in all administrative expenses.[8, 13, 14] One study that incorporated a wider scope of industrialised countries looked into the administrative costs of hospitals and found that these are higher in nations with more market-oriented payment systems.[15] Mathauer and Nicolle[16] found that administrative costs of private health insurance (PHI) is about 3 times higher compared to social security schemes in high-income

OECD countries using 2001 to 2007 data, with considerable variations both across and within countries.

Study aims

We investigated the average longitudinal trend in administrative expenditure of OECD countries, cross-country spending differences, spending differences between health care system typologies, and differences in the scale and scope of administrative functions between typologies.

We only analyse administrative spending of health care governance and financing agencies (macrolevel), thus excluding administrative costs borne by health care providers (mesolevel and microlevel). The added value of our research is that we analysed more recent data from an international data collection based on a new accounting framework, the System of Health Accounts (SHA) 2011,[17] which has generally improved international comparability in health spending and financing data. We also explore how these outcomes relate to health care system typologies using the scheme under Table 1, which in our knowledge has not been attempted before.

Methods

Data definitions

We use OECD data on health expenditure and financing,[2] the dataset with the highest level of detail available at an international level. Submitted data are based on the methodology of the SHA 2011,[17] which demarcates and classifies health expenditure alongside three dimensions: health financing schemes, health provision, and the functions of health care. Expenditure on administration is one category of the functional dimension and captures these costs borne by voluntary PHI, compulsory insurance, and governmental schemes. Administrative costs incurred by clinical health care providers are not included in this category, but form part of the main function of providers (e.g., inpatient care in the case of hospitals) and cannot be extracted from this general category.

We extracted the data under the expenditure classification of the health care function (HC) "governance, and health system, and financing administration" (HC.7). This category covers expenditure for "governance and health system administration" (HC.7.1) and "administration of health financing" (HC.7.2) and mainly covers activities related to the formulation and administration of government policy, the setting of standards, the regulation, licensing or

supervision of providers, and management of fund collection.[17] We retrieved data on HC.7 for 3 health care financing schemes (HF) separately: "government schemes" (HF.1.1), "compulsory contributory health insurance schemes" (HF.1.2),* and "voluntary health insurance schemes" (HF.2.1). Appendix 1 provides a more detailed description what is included under HC.7.1, HC.7.2, HF.1.1, HF.1.2, and HF.2.1.

Country inclusion criteria

Table 1 displays the countries that are included in our various analyses. The upper part of the table shows which countries are included in our general cross-country comparison, and the comparison of government schemes and compulsory insurance. The lower part shows the smaller selection of countries for our voluntary PHI comparison.

For our general cross-country comparison and the comparison of government/compulsory schemes, we excluded countries without reported data (Chile and Turkey), countries where data refers to 2013 or before (Israel, New Zealand), and countries that report under 1% administrative spending, which seems to be a reasonable cut-off line to eliminate countries with apparent underestimation (which excludes Norway and Finland).

For voluntary PHI we excluded countries without reported data (Chile, Iceland, Latvia, Norway, Slovak Republic, and Turkey), countries where voluntary PHI spending takes up less than 3% of total health expenditure (Czech Republic, Denmark, Estonia, Finland, Germany, Hungary, Italy, Japan, and Sweden), and countries where data refer to 2013 or before (Israel and New Zealand). Analogous to the case of government/compulsory schemes, countries where the administrative spending of voluntary PHI is lower than 1% (Poland and Luxembourg) were also excluded.

Assigning countries into a health care system typology

Numerous frameworks can be used to categorise countries into health care system typologies.[18-27] Most of these compare which type of institutions regulate, finance, and provide health care. Because we can only compare administrative costs on the governance/financing level, we categorise countries into health care system typologies separately for government/compulsory schemes on the one hand, and voluntary PHI on the other.

We use information collected in the OECD Health System Characteristics surveys[28, 29] in 2012 and 2016 for our categorisation of countries in compulsory

Table 1. Scheme used for categorising countries into health care system typologies.

Government & compulsory schemes	Government schemes with residence-based entitlement (mostly NHS)		Australia, Canada, Denmark, Iceland, Ireland, Italy, Latvia, Portugal, Spain, Sweden, United Kingdom	Single payer	Basic healthcare coverage
	Compulsory SHI or PHI	Single insurer (only SHI)	Greece, Hungary, Korea, Luxembourg, Poland, Slovenia, Estonia		
		Multiple insurers, automatic affiliation or insurer choice (can be SHI & PHI)	Austria, Belgium, Czech Republic, France, Germany, Japan, Mexico, the Netherlands, Slovak Republic, Switzerland, USA	Multi payer	
Main type of Voluntary PHI		Primary (basic coverage)	Mexico, USA		
		Supplementary (additional services not covered by basic coverage)	Australia[a], Austria, Canada, the Netherlands, Switzerland		Additional healthcare coverage
		Complementary (cost sharing left after basic coverage)	Belgium, France, Korea[a], Slovenia[a]		
		Duplicate (faster access to or larger choice of providers of services already provided by basic coverage)	Greece, Ireland, Portugal, Spain, United Kingdom		

A PHI can be duplicate and supplementary in Australia; complementary and supplementary in Korea; and duplicate, complementary and supplementary in Slovenia.

coverage typologies. It is noteworthy that in 2 OECD countries the main financing schemes for basic benefits are private and voluntary. In Mexico, most health spending is still borne out-of-pocket while there also exists voluntary PHI for basic benefit coverage.[30] In the United States voluntary PHI is a major financing scheme for basic benefit coverage.[31] The key government/compulsory schemes in those countries refer to the Seguro Popular in Mexico and to Medicare in the United States. †

We used OECD data on the population percentage that is covered by the four forms of voluntary PHI that the OECD identifies to decide, which is the main form.[32] Table 1 provides the definitions of these four forms.

Data analysis

To analyse longitudinal trends in administrative spending, we calculated the share of spending on governance and health system administration (HC.7) in total health spending on average across included countries. We chose 2003 as a starting point because a number of countries chose that year as the first year to report health financing data under the SHA 2011 methodology.

To analyse cross-country differences, we summed up the administrative spending of HF.1.1, HF.1.2, and HF.2.1 for all included countries separately and depicted it as a share of total health spending.

To analyse how typologies of government/compulsory schemes differ, we first investigated whether administrative spending increases as the share of compulsory insurance (HF.1.2) in total spending of government/compulsory schemes (HF.1.1 and HF.1.2) increases. We then performed 2-tailed *t* test assuming equal variance to test for statistical significance between (1) residence-based entitlement schemes (HF.1.1) and compulsory insurance (HF.1.2), (2) single-payer schemes (both residence-based entitlement and single Social Health Insurance (SHI) and multi-payer compulsory insurance, and (3) government schemes with residence-based entitlement and single SHI.

We then compared administrative spending of voluntary PHI to that of government/compulsory schemes and tested for statistical significance with a 2-tailed paired *t* test. We also compared the four forms of voluntary PHI, by performing a one-way analysis of variance test. We finally investigated the correlation between voluntary PHI administrative spending and the market share of voluntary PHI (expressed as the share of HF.2.1 in total health spending).

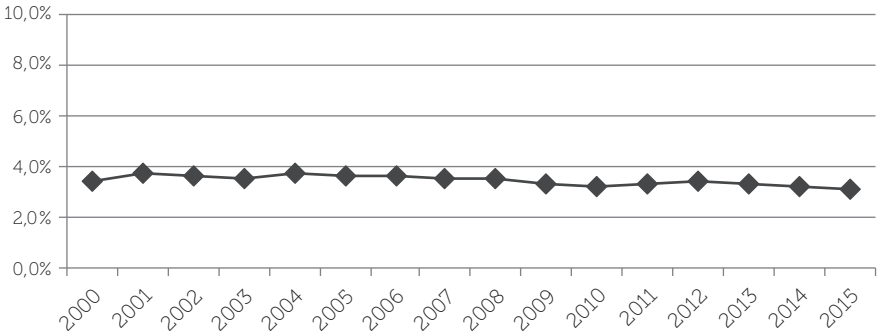
On the basis of the results we offer explanations for the observed differences in administration costs by comparing the scale and scope of administrative functions across typologies. This analysis is derived from the conceptual framework proposed by Mathauer and Nicolle,[16] plotted against the health care system typologies between which we found significant differences in administrative spending.

Results

Longitudinal trends in administrative spending

Figure 1 presents the average administrative spending of included countries since 2003, as a share of total health spending. Administrative spending has remained remarkably stable and in between the range of 3.2% and 3.9% between 2003 and 2015.

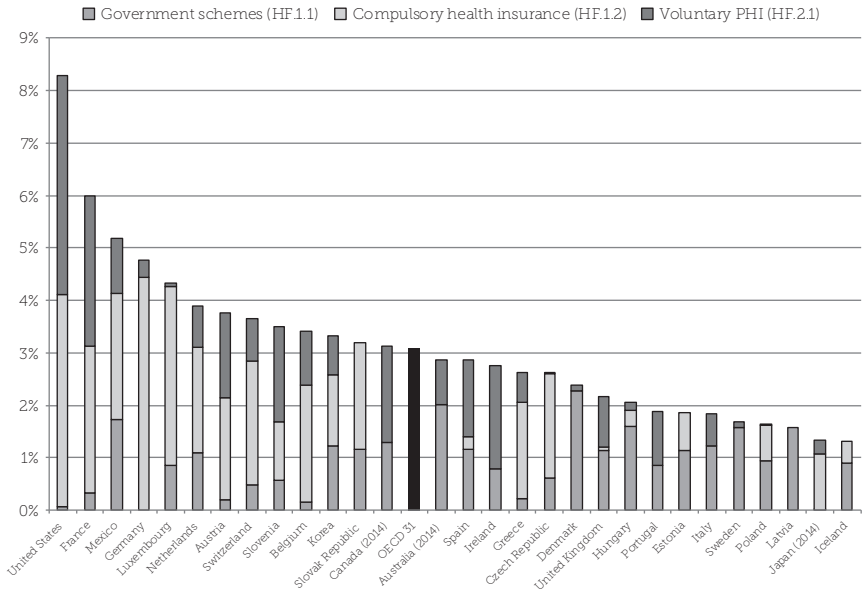
Figure 1. Administration at the macrolevel as a share of total health spending, OECD average.



Cross-country administrative spending differences

Figure 2 displays administrative spending of all included countries. It shows relatively large cross-country differences, with Iceland spending as little as 1.3% and the United States as much as 8.3% of total health spending on administration. The OECD average is 3.1%.

Figure 2. Administration at the macrolevel as a share of total health spending by financing scheme, 2015 or nearest.



The figure suggests that the share accounted for by voluntary PHI schemes in total administrative spending is relatively large, given that these schemes often cover a small share of total health spending. It also points to relatively large administrative expenditures of compulsory insurance as compared to government schemes.

Administrative spending differences between health care system typologies

Table 2 provides an overview of the average administrative spending levels of the separate health care system typologies. It shows rather large differences.

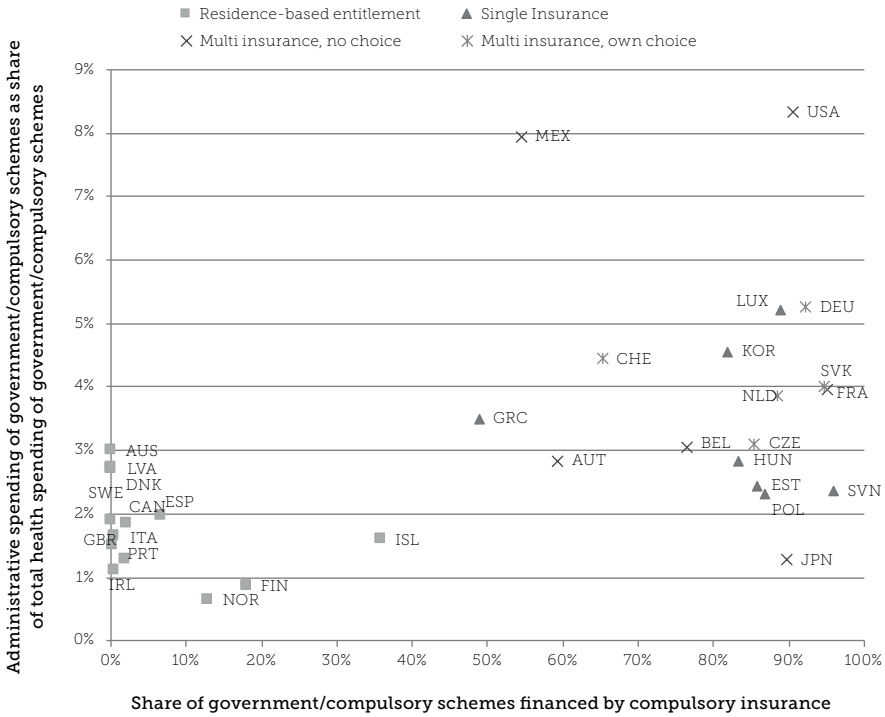
Government schemes and compulsory insurance

Figure 3 highlights the administrative expenditure of government schemes and compulsory insurance. Administrative spending is plotted against the share compulsory insurance takes up in total health spending of government and compulsory schemes, showing that government schemes in countries with residence-based entitlement spend 1.9% on average on administration. This is more than double (4%) in countries with compulsory insurance while the difference is significant ($P < .001$).

Table 2. Average administrative spending at the macrolevel of health care financing typologies.

Government and compulsory schemes (3.2%)	Government schemes with residence-based entitlement (1.9%)		Single payer (2.5%)
	Compulsory SHI or PHI (4%)	Single SHI (3.3%)	
		Multiple insurers (4.4%)	
Voluntary PHI (18.4%)	Primary coverage (16.7%)		
	Supplementary (16.2%)		
	Complementary (17%)		
	Duplicate (22.4%)		

Figure 3. Administration expenditure at the macrolevel of government/compulsory schemes related to share of total expenditure of government/compulsory schemes financed by compulsory insurance, 2015.



Interestingly, the variation is much larger among the latter group of countries and seems to indicate a difference between single-payer systems (both residence-based entitlement and single SHI) and multi-payer compulsory insurance. While single-payer systems know administrative spending of 2.5%, it is 4.4% for multi-payer compulsory insurance. This difference is significant ($P < .01$). Of multi-payer systems, the United States (8.3%), Mexico (7.9%), and Japan (1.3%) are notable outliers.

If we compare the 2 types of single payers, we find that schemes based on residence-based entitlement have 1.9% administrative spending on average. This is 3.3% for countries with a single SHI. This difference is also significant ($P < .01$). However, several countries with a single SHI (Estonia, Hungary, Poland, and Slovenia) report figures similar or only slightly higher than countries with residence-based entitlement. Korea (4.6%) and Luxembourg (5.2%) are notable outliers among single SHI systems. Countries with residence-based entitlement, on the other hand, show relatively homogeneous administrative spending levels.

Voluntary PHI

Cross-country differences in the administrative spending of voluntary PHI are the most substantial (Figure 4). These range from 8.8% in Australia to 33.1% in Spain. In all countries the administrative spending of voluntary PHI is significantly higher than that of government or compulsory insurance schemes.

Figure 4. Administration at the macrolevel as a share of total health expenditure of voluntary PHI and government/compulsory schemes, 2015 (or nearest).

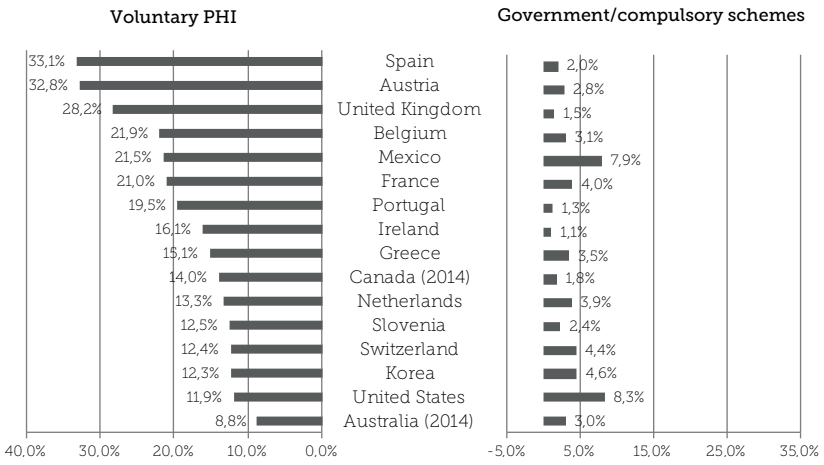
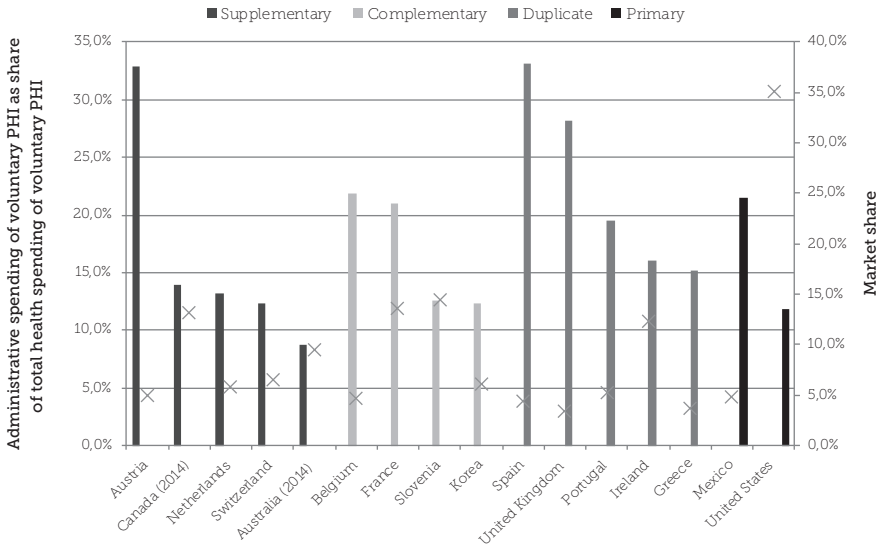


Figure 5 shows that these large differences cannot be explained by the primary function of voluntary PHI, which means whether the main purpose is providing primary, supplementary, complementary, or duplicate coverage. The differences between countries where PHI performs a similar function are equally large as they are across all included countries, and no significant differences were found between these schemes [F (3,12) = .64, P = .603]. The market share of voluntary PHI does not appear to have a strong relationship with administrative expenditure either with a correlation coefficient of −0.412.

Figure 5. Voluntary PHI administrative expenditure at the macrolevel as a share of total voluntary PHI spending, and market share of voluntary PHI (indicated by X, defined by its share in total health spending), 2015 (or nearest).



A description of the scope and scale of administrative functions across health care system typologies

One possible explanation why administrative costs differ between health care systems is that the scope and size of administrative activities that have to be performed under these schemes differ. These differences are conceptually depicted in Table 3. We elucidate this framework separately for government/compulsory schemes and voluntary PHI.

Table 3. Functions of various administrative tasks across health care system typologies.

Health Financing Function	Administrative Activities	Residence-based Entitlement	Insurance-based		
			Single-payer	Multi-payer	
			Compulsory Insurance	Compulsory Insurance, No/Own Choice	Voluntary Private Insurance
Resource mobilisation	Product communication	0	0	0 +	++
	Member enrolment	0	+	++	++
	Collecting contributions	+	+	++	++
	Managing exemptions	0	+	+	++
Pooling	Underwriting	0	0	0	+
	Pooling and resource transfers	0	0	+	0
	Managing risk-equalisation information	0	0	+	0
Purchasing	Purchasing and contracting	+	+	++	+
	Claims processing, provider payment, patient reimbursement	+	+	++	++
	Care coordination	+	+	+	0 ++
Stewardship	Executive governance	+	+	++	++
	Legislative policy making including benefit basket design	+	+	++	++
	Surveillance, enforcement and appeal	+	+	+	++

- 0, function not relevant in financing system or only marginally performed; +, function performed in financing system; ++, function performed in financing system with estimated higher costs per unit through lower economies of scale.
- Source: Authors' own assessment, based on framework of Mathauer and Nicolle.[16]

Government schemes and compulsory insurance

Residence-based entitlement and single SHI schemes perform the same services with similar resources with regards to pooling, purchasing, and stewardship. Differences exist in resource mobilisation: In countries with residence-based entitlement, residents are covered automatically, while revenues are usually collected through general taxation. Single SHI schemes on the other hand need to identify, register, and enrol members.[33] Also, collecting and managing contributions may require a bigger effort compared to resource collection through general taxation mechanisms, which is generally outside the health system.

An important reason why multi-payer schemes have higher administrative expenditure than single-payer schemes is that they enjoy less economies of scale.[34] Enrolment, the collection of contributions, managing exemptions, purchasing, claims processing, care coordination, and stewardship functions all require a single processing system in single-payer schemes, whereas payers in multi-payer schemes generally set these systems up separately. Multi-payer schemes also require a risk-equalisation instrument, which exist in Austria, Belgium, the Czech Republic, Germany, Japan, the Netherlands, the Slovak Republic, Switzerland, and the United States.[29, 35] The maintenance of such an instrument is not free of cost, especially in multi-payer schemes with freedom of insurer choice where a more sophisticated risk-equalisation approach is required to prevent cream skimming.[36] Insurers in these "managed competition" schemes also compete for customers, which requires product communication, marketing, and advertising. Insurers may to a certain extent selectively contract health care providers, although single-payer schemes with a purchaser-provider split can do so as well. This can add to administrative costs, because contract negotiations and claims management require additional data on prices and quality. On the other hand, insurers in managed competition schemes may have larger incentives to suppress their administrative spending (or shift administrative functions to the provider level) because it reflects back in premium prices.[36] This may in contrast be less the case in multi-payer schemes where affiliation is automatic.

Voluntary PHI

Generally, voluntary PHI schemes report much higher administrative spending. One reason is that organisations offering PHI are generally for-profit (FP) and hence administration costs include operational profits. In contrast, compulsory insurance is frequently not-for-profit. Related to this, higher administration costs for voluntary health insurance are also based on how administration costs are valued for private insurance companies. The SHA recommends that

private insurance administrative costs are valued as total premiums earned plus premium supplements minus adjusted claims incurred.‡ Hence, the increase of technical reserves, for example, also increases the costs. Still, administrative spending of voluntary PHI is also high in countries that do not adhere to the recommended SHA method of including profits and brokerage fees as well as capital gains treated as premium supplements, but which instead only report the sum of administrative costs. Belgium, France, Germany, and the Netherlands used the latter method according to a survey conducted by the OECD in 2013.[37] In these countries the administrative spending of voluntary PHI also turns out much higher than that for government/compulsory schemes.

This may be due to extra spending on marketing and acquisition, product innovation, and agents' commissions.[38] Voluntary health insurance markets can be characterised by high degrees of competition leaving little room for the sharing of administrative functions and thus duplication of processes for resource mobilisation, pooling, purchasing, and stewardship. However, it is debatable whether the voluntary PHI market is truly competitive in all included countries because high overheads can instead also indicate a lack of competition.

There is reason to assume that differences in accounting play a role in explaining why the administrative spending rate of voluntary PHI varies from 8.8% to as much as 33.1%, because we cannot explain this functionally. The market share of voluntary PHI and the main function that voluntary PHI enacts do not point to systemic differences, which may also indicate that country specificities differ too much to allow for typology comparison. The market structure does not explain the large variation either. Austria for instance has 8 voluntary PHI providers, which report relatively high administrative spending at 32.8%.[39] France on the other hand is reported to have 682 PHI providers that spend 21% on administration.[40] Switzerland and the Netherlands have 54 and 8 voluntary PHI providers, respectively, which spend 12.4% and 13.3% on administration.[41-43]

Discussion

We found that the longitudinal trend of administrative spending on the macro-level has remained fairly stable. Cross-country differences in administrative spending are large. We also found significant differences between health care system typologies. This can be partially explained by differences in the scope and scale of administrative functions enacted by these typologies.

Limitations

Although these findings are interesting, our analysis is not free of caveats. First of all, cross-country data comparability remain a challenge because data are not always reported according to the recommendations as part of the annual SHA-based health spending data collection. A survey conducted in 2013 among national data compilers showed it can be difficult to disentangle spending for public health from administrative spending, for example, as budget information may not be detailed enough to distinguish between the 2 functions.[37] A clear identification of health care administration is also challenging for government agencies that fulfil health and other functions (e.g., social care). This may lead to overestimation or underestimation of administrative spending. On the other hand, administrative functions are part of several governmental agencies outside SHI, Ministries of Health, and other agencies more logically related to health care (e.g., Department of Veteran Affairs in Canada manages health costs of war veterans), which may lead to underestimations. Administrative spending of PHI can be underestimated as well, when administrative output is valued as the sum of administrative costs without including profits, brokerage fees, and premium supplements, as recommended in the SHA.

Second, the administrative costs discussed in this article only refer to the direct costs related to governance and financing of the health system. One of the reasons why health systems with residence-based entitlements report lower administrative costs than single-payer SHI schemes can be that some of their resource generation takes place outside the health system (e.g., general tax collection agency). This means that unlike single SHI funds were revenue collection is an integral costs of the funds and thus the health systems, costs of revenue collection in the NHS systems are not directly associated with the health system.

Third, categorising countries into health care system typologies is always somewhat arbitrary. We mitigated this to a certain extent by separately categorising countries according to their government/compulsory schemes

on the one hand, and their voluntary PHI schemes on the other. Yet in some countries both schemes are not separated as strictly in reality because the same financing agent can implement them. For instance, in the Netherlands, the same insurance companies that provide compulsory coverage for basic benefits also provide voluntary supplementary coverage.[43] The classification of countries in types of voluntary PHI may be especially arbitrary. Voluntary PHI can be supplementary, complementary, and duplicate in Slovenia, while the PHI schemes also differ internationally with regards to their FP or not-for-profit status.
The fourth, and most important, caveat is that we have only looked into administrative spending at the macrolevel. A much complete picture requires detailed insight into the administrative efforts deployed by health care institutions (mesolevel), health care professionals (microlevel), and even patients.

Drivers and barriers to administrative costs

The observation that administrative costs on the macrolevel have remained roughly the same in between the range of 3.2% and 3.9% since 2003 is remarkable, because administration is not a popular spending category among politicians and the general public and digitalization might have incurred more efficiencies in administrative work processes. A number of drivers and barriers may influence the share of administrative spending over time. We identify one major barrier and 3 major drivers of administrative costs.

The main barrier to containing growth in administrative costs is automation. Automation through effective use of Information and Communication Technologies (ICTs) can drive efficiency in transaction costs and may therefore hold more potential for multi-payer schemes as these de facto have more transactions because of limited economies of scale and scope. The ICTs have already increased administrative efficiency in many economic sectors,[44] but it appears that the ICT revolution has not yet been forceful enough to drive down net administrative costs on the macrolevel of health systems or narrow the gap between single- and multi-payer systems.

However, a first driver of administrative costs is also directly related to automation and the use of data for efficient coordination and data mining: privacy concerns. Over the last decade health systems have been searching for a mode to combine the merits of automation through data use while simultaneously safeguarding privacy.[45] Leadership in data governance seems crucial, which can be more difficult to organise in a multi-payer system. Attitudes towards data disclosure and sharing may also be more conservative in multi-payer schemes.

A second driver may be the increasing complexity of health systems. Developments in health care demand (ie, multimorbidity) and supply (i.e., new medical technologies) increase the number of heterogeneous actors as well as the interconnectedness between these actors, which produces a more complex health care environment that likely requires more transactions. Political choices can also drive administrative complexity. Routine requirements pushed onto administrative bodies for risk sharing, compensating mechanisms, exemption mitigation, and other kind of reforms, and associated implementation problems can further increase the number of transactions.

A third and final element may be the relatively strong growth of voluntary PHI, which pushes up the average total share of administration in health spending. While spending of compulsory schemes in OECD countries grew by 0.2% between 2009 and 2011 and by 0.5% between 2011 and 2013, for PHI it grew by 1.8% and 2.9%, respectively.[46] Globally, PHI spending may even double from €1.3 trillion in 2016 to €2.6 trillion in 2025.[47] In this perspective experiences in the United States to limit administrative costs are interesting. The Affordable Care Act stipulates that insurers spend at least 80% to 85% on medical claims and quality improvement. If insurers do not meet this minimum they must issue rebates to enrolees. Since this rule was introduced in 2011 the share of nonmedical overhead costs decreased up to accumulated savings of $3.7 billion by 2013.[10] In contrast, a law-permitting Canadian PHI to convert to FP companies publicly held by shareholders has been linked to a decrease in Medical Loss Ratio (MLR).[48]

The provider level (meso and micro levels)

The stable administrative spending on the macrolevel despite seemingly strong drivers of administrative costs could stipulate spill over effects to the mesolevel and microlevel. Himmelstein et al.[15] compared hospital administrative costs across eight nations and found that these were higher in countries with multiple payers (France, Germany, the Netherlands, and United States) than in countries with an NHS (Canada, England, Scotland, and Wales). The United States had by far the highest administrative spending at 25.3%. A similar situation appears to exist for primary care. Osborn et al.[49] found that 50% to 60% of the primary care physicians in countries with multiple payers (Germany, the Netherlands, and United States) reported that the amount of time their practice spent on issues related to insurance or payment claims was a major problem. This compares to 9% to 27% in countries with a single payer (Australia, Canada, New Zealand, Norway, Sweden, and the United Kingdom).

Summing up administrative expenditure at the macrolevel, mesolevel, and microlevel highlights the importance of the issue. Our figures on the macrolevel point out an average administrative spending of 3.1%. For the mesolevel the study of Himmelstein et al.[15] finds a range of hospital administration expenditure from 11.6% to 25.3%. On the microlevel, observational studies conducted across different settings in different countries among different professionals find that time spent by physicians on documentation ranges from 8% to 27%.[50-52] On the basis of these figures it is not unrealistic to assume that 30% to 40% of all costs of the health care system in OECD countries are related to administrative activities.

Of course, this rudimentary calculation is full of methodological imperfections: Studies use various methods of demarcation for an issue intrinsically difficult to measure, while their coverage does not come near the full range of health care delivery institutions and professionals. Yet this guestimate points to the real extent of administration in the health care system, and it highlights how large the effects may be of potentially adverse mixes of administrative costs on the macrolevel, mesolevel, and microlevel and thus the need to investigate trends in administrative spending at all levels.

Outlier countries

A striking finding concerns the large cross-country variation in administrative spending, and the significant differences between typologies. These results also point to several outlier countries. The United States, France, Mexico, and Germany spend notably more on administration than other countries. Japan holds very low administrative spending for a country with multi-payer compulsory insurance. This calls into question the validity of our conceptual framework that compares administrative functions across typologies (Table 3). We therefore examine these outlier countries in more detail, as well as Korea because it has interesting history in terms of administrative costs.

The United States, France, Mexico, and Germany share a relatively fragmented health care financing system with a relatively large role of PHI. The United States are particularly renowned for the enormous level of fragmentation in health financing and the large market of FP PHI.[53] Coverage for basic health care benefits is provided by either the public Medicare (subdivided into Medicare A, B, C, and D) or Medicaid systems, which consist of multiple insurers themselves, or privately through hundreds of employer-group insurance organisations or insurers offering coverage for individuals. Voluntary PHI thus performs a relatively similar role to the public schemes but requires additional

functions such as underwriting, the use of brokers, and encapsulating a risk premium.[31] The US health care insurers also devote considerable efforts to use management and quality improvement.[9] The litigious environment and scrutiny from regulatory bodies can also play a role.

In France, the way in which health care is paid seems most important. Patients pay some medical costs upfront before filing 2 reimbursement requests, first to the SHI and then to their PHI to cover part of the copayments. Thus, several transactions are required for one episode of care.[40] The organisation of health care coverage also contributes. Because almost the entire population (95.5%) has complementary PHI (*assurance maladie complémentaire*, AMC) to cover cost sharing in the multi-payer SHI system (*assurance maladie obligatoire*, AMO),[54] there is relatively widespread duplication of administrative activities.

In Mexico distinct health financing systems exist for different sections of the population. Informal labour represents almost 58% of total employment, and large parts of the population live in rural areas where resources are scarce. Collecting premium contributions can be difficult in such circumstances. Mexico also displays a significant variation in managerial capacity across states, which can indicate certain structural inefficiencies of the public administration.[30]

Administrative expenditure of compulsory health insurance schemes as a share of total health spending is highest in Germany. Although the share of voluntary PHI is only low (Figure 2), it should be noted that FP PHI for basic health care coverage is important in Germany but it is included under compulsory insurance, because people who opt out of the SHI system have to be enrolled with a PHI since 2009.[55] Germany may suffer from limitations in economies of scale and scope compared to other multi-payer systems: There exist more than a hundred competing public insurers, which have to collectively negotiate service packages and prices with providers at the national and regional levels as part of their responsibilities within the "self-governing bodies." In most other countries with multiple payers the national ministry of health sets the basic benefit package. German insurers have also received more freedom to selectively contract with providers in 2000, which may drive up transaction costs further.[55]

Japan, on the other hand, has much lower administrative spending than other multi-payer systems. This may be explained because voluntary PHI is of marginal importance, and many administrative functions are arranged

centrally in the compulsory SHI system. More than 3000 insurers administer SHI with affiliation linked to employment status and age, but the scope of the basic benefits basket and prices of included services, reimbursement fees of providers, and rules for determining premiums are all set by the central government. People are enrolled automatically to the insurer according to their affiliation, while insurers have no or very little room for individual negotiations with providers. Japan on the other hand does need a pooling and distribution mechanism for the multitude of insurers.[56]

For countries with single SHI, Korea exhibits relatively high administration costs of its compulsory coverage scheme (Figure 3), although total administrative costs are average compared to other countries. This may be because Korea has a high proportion of self-employed citizens (23.5% in 2009). Contributions for the SHI cannot simply be deducted from the payroll of this group. Monthly billing is used instead, which requires considerable administrative efforts.[57] Interesting is that Korea switched from a multi-payer to a single-payer SHI during 1998 to 2003, which led to a decrease in administrative costs from 10% in 1994 to 3.4% in 2006. This decrease underlines our findings that single SHI tends to be cheaper, although the decrease may be partly caused by automation: Data handling through the Health Insurance Review & Assessment Service is quite sophisticated compared to other insurance organisations.[58]

The health financing systems of these countries all have peculiarities that can explain their outlier position. Fragmentation in the scope of functions that payers require and high dependence on PHI is important, while more specific elements such as the claims processing structure are also involved. These are generally in line with our conceptual framework, but context elements also influence the efforts needed to enact certain functions. Hence, we believe that these outlier countries do not falsify our conceptual framework in Table 3.

Conclusion

In summary, we found that administrative spending on the macrolevel has remained stable over the last decade. Cross-country differences in administrative spending are large, ranging from 1.3% in Iceland to 8.3% in the United States. We also found that administrative spending is significantly higher in (1) voluntary PHI compared to government/compulsory schemes, (2) multi-payer compulsory insurance compared to single-payer schemes, and (3) single SHI compared to residence-based entitlement schemes, although the difference is

small. Differences in the scope and scale of administrative functions enacted by these typologies partially explain these findings.

Then it is a legitimate question why not all countries shift to a single-payer system? While historical and political reasons are important—such a reform can face major societal unrest while the political rewards are usually not reaped on the short term—it should also be noted that voluntary PHI or multi-payer compulsory insurance can reflect other, legitimate, choices. Multi-payer compulsory schemes are for instance credited for increased patient choice and driving efficiency further down the line, while voluntary PHI caters for the risk averse population that feel underinsured in compulsory coverage. Voluntary PHI is sometimes also seen as a method to reach public goals like universal health coverage or more efficient service delivery, but our findings suggest it is in fact not an effective way to attain such goals: The much higher administrative costs can, in all likelihood, not be mitigated by efficiency gains in other areas of the health system.

Our study raises a number of methodological issues that deserve follow-up. For administrative costs at the provider level (both health care organisations and professionals) there currently exists neither a common methodology to demarcate these costs on an international level nor a comprehensive international data collection or database. Because administrative expenditure is much higher on these levels, developing this stream of work would improve the common understanding of the components and total size of health care administration.

We finally encourage scholars to apply our conceptual framework that describes the scale and scope of administrative functions across health care system typologies to individual countries. Because outlier countries did not falsify our framework, such analyses may reveal how and where individual countries stand out internationally in administrative costs.

Endnotes

* This includes Compulsory Medical Saving Accounts, which, however, play no role in any of the included OECD countries.

† Coverage under the Affordable Care Act is currently still reported under Voluntary Health Insurance (HF.2.1) in the United States in data submission under the SHA.

‡ This valuation method follow the standards used in the System of National Accounts measuring economic activity for the whole economy to measure GDP.

Appendix. Supplementary data

Appendix 1 can be found on https://doi.org/10.1002/hpm.2458 (Hagenaars et al., Int J Health Plann Mgmt, 2018; 33: e263– e278.

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CHAPTER 3

Track and trace of administrative costs in the Dutch long-term care system

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Abstract

Context
Practitioners and politicians alike emphasise the wish to reduce administrative costs (AC) in Dutch LTC, but a robust empirical body of evidence on the components, determinants and value of AC in LTC is absent. Neither has the expert consensus of ways to track and trace AC in LTC been sought.

Objectives
We investigated whether it is possible to reach consensus on operationalising AC in Dutch LTC. Successively we also exploredwhether the Dutch LTC reform in 2015 had the intended effect of reducing AC.

Methods
We differentiated between AC for governing and financing LTC (macro), overhead costs of LTC delivery organisations (meso) and AC on the level of professional care delivery activities (micro). We identified possible data sources in grey literature and national accounts. The quality and completeness of identified data and potential determinants of AC were validated by experts via a survey and focus group discussions.

Findings
We were able to reach agreement on how to track AC in Dutch LTC, but current research instruments and data systems are not robust and consistent enough to trace differences before and after the 2015 reform.

Limitations
We did not investigate AC experienced by patients and self-selected participating experts.

Implications
AC concern a considerable share of total LTC spending, but AC are hidden in regular health expenditure statistics. Our study highlights three approaches for a more sophisticated and fact-based policy debate on reducing low-value AC; definition of AC on macro, meso and micro level of the health care system, determining the underlying value/use of activities and focus on interactions of AC between system levels.

Introduction

Politicians and LTC practitioners often emphasise dissatisfaction with the 'bureaucracy', 'red tape' or 'administrative burden' that they perceive to be associated with the organisation and delivery of long-term care. Bureaucracy is a serious source of work dissatisfaction among LTC professionals that can ultimately even culminate in patient maltreatment (Ulsperger & Knottnerus, 2007). In the Netherlands, many recent pamphlets from dissatisfied healthcare professionals and interest groups advocate reducing the administrative burden by 'capping' either direct overhead costs or the administrative burden of healthcare professionals (Borst & Gamers, 2016; Dappere Dokter, 2020). Members of parliament tend to periodically recommend an overhead norm too (House of Representatives, 2014, 2016, 2019). Reducing bureaucracy is also framed as a policy priority by the current Dutch minister of health. The programme *(ont) regel de zorg* - (de)regulate care – ought to reduce the administrative burden by removing unnecessary administrative requirements in multi-stakeholder settings (Ministry of Health, 2019a).

This latest programme was set up in the wake of a large reform that aimed to improve the fiscal sustainability of Dutch LTC. In this reform, the Exceptional Medical Expenses Act (AWBZ) –an in international comparison relatively extensive benefits package of LTC services– was split up in non-residential social care and domestic care and support (financed by municipalities), 24/7 care (financed by regional care offices) and personal care and community nursing (financed by medical health insurance companies). The idea behind these changes was that the appropriate types of LTC would become more integrated with health care delivery. Reducing bureaucracy was another core aim of this reform (Text box 1).

Text box 1. Long-term care reform in the Netherlands in 2015.

The 2015 long-term care reform in the Netherlands focused on de-institutionalisation and encompassed a normative reorientation that made non-residential social care a provision instead of a right. Municipalities were to finance social care, under the assumption that this would reduce bureaucracy as municipalities know the local situation better and could therefore make the wants and needs of clients central, rather than the rules and customs of LTC delivery organisations and regional care offices (Maarse & Jeurissen, 2016; Ministry of Health, 2013).

The Exceptional Medical Expenses Act (AWBZ) was replaced by the Long-Term Care Act (WLZ), covering 24/7 care for older persons and persons with a disability and long-term mental healthcare. The WLZ remained a responsibility of regional care offices. Health insurance companies became responsible for body-related personal care and community nursing under the Health Insurance Act (Zvw). All other non-residential (social) care, in addition to domestic care and support, became part of the Social Support Act 2015 (WMO) to be executed by municipalities (Maarse & Jeurissen, 2016; Kroneman et al., 2016).

Despite all of this attention, there is no academic consensus on a broad set of definitions on administrative costs (AC) in healthcare. AC concern an opaque construct that can be interpreted in a narrow definition when it solely refers to, typically, filling obsolete forms. However, a much wider definition can also be adopted which defines AC as all indirect costs associated to healthcare or LTC, with many shades of grey in between this narrow and wide definition. The literature that is available on AC in healthcare and LTC is heavily skewed towards health care, with hardly any study investigating administration in LTC. The studies on AC in health care indicate that AC take up a considerable share of total spending. Costs borne by organisations that finance and govern healthcare alone constitute around 3% of total health expenditure on average in OECD countries (Hagenaars et al., 2018). These macro level AC omit the AC of healthcare delivery organisations and the administrative activities of healthcare professionals (meso and micro levels), and therefore represent an underestimation of the total share of AC in healthcare spending. No internationally comparable periodical data collections exist on the meso and micro levels but studies show that AC may be much higher here. Himmelstein et al. (2014), for instance, found that overhead costs of hospitals were approximately 20% and 25% in the Netherlands and the USA, respectively. Observational studies conducted in different settings find that physicians spend 8% to 27% of their time on documentation activities (OECD, 2017a).

Proper data systems and intelligence on the total size, components and determinants of AC in LTC are a precondition to formulate and evaluate policies aiming to reduce AC. However AC are not easy to demarcate. Furthermore, even if a standard set of AC components were available on the macro, meso and micro levels, it should be taken into account that not all AC represent waste. In fact, many administrative activities are vital for the functioning of the LTC system. For instance, pooling information on SARS-CoV-2 infections in

nursing homes can be seen as an administrative function but it is vital for evidence-informed decision making during the SARS-CoV-2 pandemic. Also, continuity of LTC delivery requires administration of a patient's status to ensure a proper transfer from one caregiver to another. Still, terms like 'bureaucracy', 'red tape' or 'administration' are generally perceived negatively. This asks for a more thorough empirical exploration and operationalization which is the objective of this study.

Objective

We have contributed to the gaps in the scholarly literature on AC in LTC by investigating whether it is possible to reach consensus on operationalising AC in Dutch LTC. We have analysed the completeness and quality of available data and validated our operationalisation of AC in Dutch LTC with a group of experts. With these analyses we assessed whether it is possible to track the total size, components of, drivers of, and barriers for AC in LTC, in addition to tracing whether the Dutch LTC reform in 2015 had its intended effect of reducing AC.

Methods

Study scope

To our knowledge, this is the first systematic attempt by a group of experts to reach consensus of ways to trace and track AC in LTC in the Netherlands and to assess the completeness and quality of available data. This required us first to deploy an initial demarcation of AC and LTC. We initiated our study with a wide definition that essentially entailed all indirect costs associated with LTC. We then analysed more specific definitions used in existing studies and data sources.

We demarcated LTC by including those sectors that were part of the 2015 LTC reform in the Netherlands. This means that we investigated the AC of providers of 24/7 care for older persons and home care (VVT), residential care for people with a disability (GHZ) and domestic care and support (RIBW), in addition to the costs of organisations that finance and govern these sectors. We excluded AC borne by patients, including those who buy and organise their own care with a publicly financed personal budget, in addition to AC borne by providers who were only indirectly affected by the reform. This led to the taxonomy shown in Table 1.

Table 1. Taxonomy of administrative costs in long-term care used in this study.

Macro	Total operational costs of organisations that govern and/or finance LTC, such as the ministry of health, social care departments of municipalities, regional care offices, relevant autonomous governmental bodies (*Zelfstandige Bestuursorganen*). The total costs of these organisations are seen as AC, as none of these organisations directly delivers care.
Meso	Overhead costs of providers of 24/7 care for older persons and home care (VVT), residential care for people with a disability (GHZ) and domestic care and support (RIBW). Encompasses functions such as governance, management, communication, secretarial work, policy advice, legal advice, financing & administration, ICT, and HR.
Micro	Time spend by LTC professionals on tasks other than direct patient care, such as clinical and administrative documentation and meetings about topics other than patient care.

Data collection

For the macro level explorations, we were able to use the health expenditure database of Statistics Netherlands. We analysed what Statistics Netherlands currently reports under the internationally recognised function of 'governance, and health system and financing administration'. We then attempted to identify governing and financing-related expenditures that could potentially be added to this function by investigating two residual categories in the health expenditure database of Statistics Netherlands, in addition to the annual budget of the ministry of health.

We deployed a snowballing technique in the grey literature for the meso and micro levels. Official recent documents in which the ministry of health reports to the Dutch parliament about AC in LTC were used (Ministry of Health, 2019a; Ministry of Health, 2019b). This identified several reports of consultancy firms, research institutes, and interest groups (Berenschot, 2019a & 2019b; De Veer et al., 2017; KPMG, 2019; Verest et al., 2019; VvAA, 2019).

Based on the aforementioned data collection we operationalised a construct for AC in LTC. This draft construct was validated through a survey and follow-up focus group discussions with Dutch experts who collectively covered the different areas of expertise on AC at the macro, meso, and micro levels. With these steps we aimed to reach consensus on operationalising AC in Dutch LTC.

Expert validation – survey

A detailed web-based survey was distributed to purposively selected Dutch experts in the field of administration in healthcare. See appendix A for the complete survey (in Dutch). The objective was to validate and reach consensus on our suggested operationalisation of AC in LTC, to weigh the completeness and quality of data, and to have experts suggest potential determinants. The sample included members of a health statistics expert group that Statistics Netherlands consults periodically, along with additional experts from universities, research institutes, policymaking institutions, and consultancy firms involved in LTC. Non-responders were sent reminder e-mails every two weeks, up to two in total. We reached out to 61 experts, 14 of whom 14 completed the survey. See Table 2 for respondent characteristics.

Table 2. Characteristics of consulted experts.

	Survey respondents	Survey respondents who also participated in the focus group	Survey respondents who completed the macro level section	Survey respondents who completed the meso level section	Survey respondents who completed the micro level section
Policymaking institutions	2	2	7	7	13
University	1	1			
Research institutions	3	1			
Interest group	2	0			
Consultancy firm	0	2			

The survey was structured in macro, meso, and micro sections and contained quantitative and qualitative items. The macro section contained a separate module on municipalities because these items required detailed knowledge. Respondents could omit sections if they deemed their knowledge to be insufficient. In all three sections we first described the results of and definitions used by identified data sources, in addition to potential strengths and weaknesses. Respondents were then asked to weigh the quality of these data and to identify additional data sources. Respondents were finally asked to mention determinants of AC. The responses to the survey items delivered descriptive statistics and some qualitative information which are presented in appendix B.

Expert validation – focus group discussions

After completing the survey, respondents were asked to participate in a focus group discussion. We held two web-based meetings of 1.5 hours: one with two survey respondents and two research team members, and one with four respondents and four research team members. The objective was to refine our understanding of how consensus can be reached on the operationalisation and measurement of AC in LTC and to explore its determinants. Both meetings were structured with slides of survey findings at the macro, meso, and micro levels to ensure that all levels were given appropriate attention. Extra attention was given to issues with a lack of consensus among respondents. See appendix B for the slides that were used (in Dutch).

The setup of the focus group discussions was shared with participants prior to the sessions, together with their original individual survey responses. The discussions were video recorded after participants consented that the recording would be used solely for accurate reporting. Immediately after each discussion, the first author drafted a report that highlighted central themes. These reports were distributed to participants to triangulate whether these were the central themes. The anonymised version of these reports (in Dutch) can be found in appendix C. The reports were then discussed several times with the whole research team to identify general themes. The first author then drafted the findings section on the focus group discussions, which was discussed several times by the research team to ensure it adequately represented the interpretation of the whole research team. Ample attention was paid to select appropriate quotes, to ensure these reflect the identified themes best.

Findings

We present the most important findings for the macro, meso, and micro levels separately. In these sections, we present the identified data sources and how experts weighed their completeness and validity. These passages also present determinants of AC as suggested by respondents. A complete overview of the survey findings can be found in appendix B. The findings section concludes with themes identified during the focus group discussions. We do not separately present these for the macro, meso, and micro levels because of the observed overlap in themes across all levels.

Macro level – data sources and survey responses

Under the function *beleid en beheer*, Statistics Netherlands includes organisations and activities concordant with the internationally defined SHA function of 'governance and health system and financing administration' (CBS.nl, 2020a; OECD, 2017b). Two components make up this function: (1) activities necessary for the design, operation, management, and control of healthcare policy; and (2) activities necessary for managing the process of healthcare financing. Statistics Netherlands operationalises this by including the costs of the organisations shown in Text box 2.

Text box 2. Organisations included under macro level administrative costs in the health expenditure database of Statistics Netherlands.

- Ministry of Health, Welfare and Sport (solely personnel costs)
- Statistics Netherlands (CBS), health statistics department
- Health and Youth Care Inspectorate (IGJ)
- National Health Care Institute (ZiNL)
- Dutch Healthcare Authority (NZa)
- Body for the Settlement of Healthcare Organisations (College Sanering Zorg-instellingen)
- Central Administration Office (CAK)
- Care Assessment Agency (CIZ)
- Regional Care Offices
- Healthcare insurance companies (costs for mandatory insurance is reported separately from costs for supplemental coverage)
- Municipalities (estimates for youth care, social care-WMO and public health)

With the Statistics Netherlands definition, 2,426 million euros was spent on macro level AC in 2018 (excluding costs for supplemental insurance). From 2011 to 2018, these costs have increased by 185 million euros. These figures cover the whole healthcare system. All the included organisations also enact tasks unrelated to LTC, except for regional care offices and the CIZ that solely cater for LTC. We investigated whether costs of these organisations can be apportioned to LTC using their annual reports, but the level of detail is not sufficient for such a bottom-up approach. An alternative top-down approach is possible, by estimating the share that LTC takes up in the total work of these organisations.[1] In all, 34–36% of the costs of the Ministry of Health were apportioned to LTC, for instance, because LTC takes up a bit more than a third of total LTC spending. This led to LTC-related macro level AC of 772 million in 2011 and 834 million in 2018, equating to almost 3% of the total LTC budget in both years.

A weak point in this analysis is that the AC of municipalities have to be estimated, because municipalities do not report LTC-specific AC. For this estimate, Statistics Netherlands assumes that the AC of municipalities increased by 4% from 2014 to 2015. However, in reality, the increase may have been larger, because the 2015 reform increased the number of financers from 25 healthcare offices to almost 400 municipalities. This may have caused a loss in economies of scale. Yet, without valid and reliable data on these costs, no conclusion can be drawn on the effect of the 2015 reform among municipalities.

A more general disadvantage of this approach is that it does not allow us to see specific effects of the 2015 reform, because costs are apportioned generically. This is not the case for the AWBZ/WLZ, which mostly concerns the spending of regional care offices and the CIZ. Figure 1 shows how this spending category increased in relative terms just before 2015, the year of the reform. Although it also increased in 2017, during our analysis we discovered two omissions that explain this specific hike. First, costs for distributing personal budgets were incorrectly not reported under the AWBZ/WLZ financing scheme before 2017. Second, the costs of CAK were reported under this scheme, but this should have happened, as CAK took over several tasks of the ZiNL that were unrelated to LTC in 2017. If we correct for these omissions, costs are still 0.3–0.4 percentage points higher after 2015 than they were beforehand. Respondents related this to decreasing economies of scope when regional care offices became responsible for fewer tasks after the reform.

Figure 1. Costs related to governing and financing AWBZ/WLZ, % of total AWBZ/WLZ spending (CBS.nl, 2020b). The vertical line represents the 2015 reform.

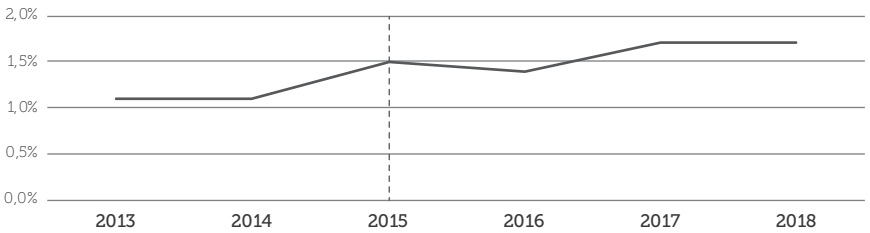


Figure 2 lists activities that could potentially be seen as macro level AC but are currently not reported as such by Statistics Netherlands. There was a lack of consensus among respondents as to whether these activities should be included. Figure 2 shows that this was especially the case for consulting

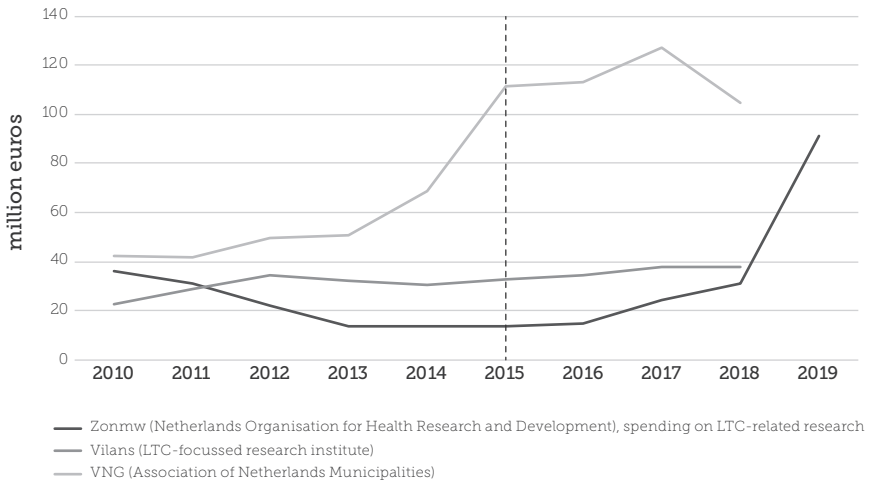
services, waiting list mediation, funds related to social care or debt mediation, and representation of informal carers. No respondent disagreed that care improvement programmes subsidised by the Ministry of Health could be seen as AC, but many did not know what to do with this category. Respondents did agree that representation activities and research and advice for policy and practice were the most important missing activities.

Figure 2. Survey respondents' views on including activities as administrative costs, that are currently not reported as such in Dutch national accounts. See appendix A for a more detailed description of these activities (in Dutch).

However, adding representation and research activities can cause double counts, however, because interest groups and research institutes are to a large extent financed by providers, financers and governance institutes (which are already part of health expenditure statistics). Longitudinal data of these organisation's spending patterns can nevertheless indicate an effect of the 2015 reform. Therefore, we investigated the annual reports of the Association of Netherlands Municipalities (VNG), Vilans (a research institute focusing on LTC), and LTC-related research programmes funded by the Netherlands Organisation

for Health Research and Development (ZonMw). Figure 3 shows that the budget of the VNG increased prior to the 2015 reform. According to respondents, this was caused by the shift of responsibilities towards municipalities in 2015. The budgets of Vilans and ZonMw did not show a significant change around 2015. The budget of Vilans did increase considerably from 2010 to 2018, and ZonMw spending increased considerably in 2019. Respondents indicated that these findings were not so much related to the reform. Rather, they should be seen in the light of increasing attention towards quality of LTC, as this led to investment in health services' research.

Figure 3. Organisational costs of a selection of relevant interest groups and research institutes in Dutch long-term care. Source: annual reports of included organizations. The vertical line represents the 2015 reform.

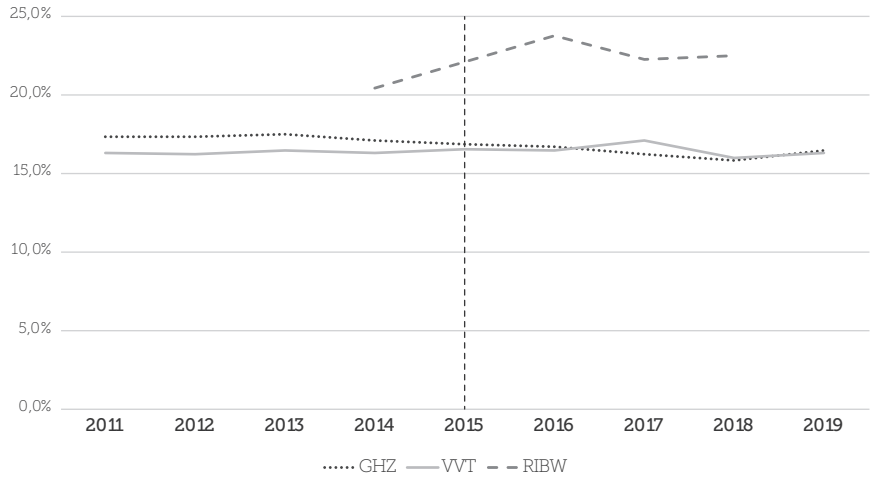


Meso level – data sources and survey responses

We identified two potential data sources. First, large LTC delivery organisations are required to report the share of personnel working with patients and in support functions in their annual reports (Ministry of Health, 2019b). Statistics Netherlands used to report these figures but stopped after identifying several inconsistencies (e.g., organisations reported more years of employment than the number of employees would allow). Six respondents agreed that these data are currently unusable, and one respondent partially agreed. However, most respondents indicated that it is, in principle, possible to come up with a valid figure.

A second stream of data has been collected with the Berenschot benchmark care (2019b) since 2011. LTC delivery organisations complete a voluntary survey that defines AC as general administrative functions (e.g., board of directors, secretarial support), care management (e.g., LTC managers who spend at least half of their time on management), and facility-related functions. Appendix A describes this definition scheme in more detail. Figure 4 shows that overhead costs in the VVT have remained similar. A slight decrease in costs can be observed in the GHZ. The overhead costs of RIBW organisations are more volatile.

Figure 4. Overhead costs of providers of 24/7 care for older persons and home care (VVT), residential care for people with a disability (GHZ), and domestic care and support (RIBW). Source: Berenschot (2019b). The vertical line represents the 2015 reform.



The face validity of these figures appeared high to us because the definition scheme is well thought out. We were less positive about the generalisability. Berenschot includes 11% of all GHZ delivery organisations, 6% of VVT, and 29% of RIBW organisations. As a share of total expenditure, this equates to 44% of total spending on GHZ and 30% of total VVT spending, meaning that larger organisations are overrepresented. This is probably especially the case in the home care sector, which encompasses many smaller organisations and self-employed providers (Kroneman et al., 2016). Also, participation is voluntary and costs organisations 4,000–6,000 euros. Though this makes the figures reliable, it might introduce a selection bias. Respondents were not explicit about

the validity of the Berenschot benchmark care. Four respondents indicated that they did not know, one partially agreed, and two agreed with our conclusion that validity seems high. Respondents did confirm that smaller LTC delivery organisations seem underrepresented.

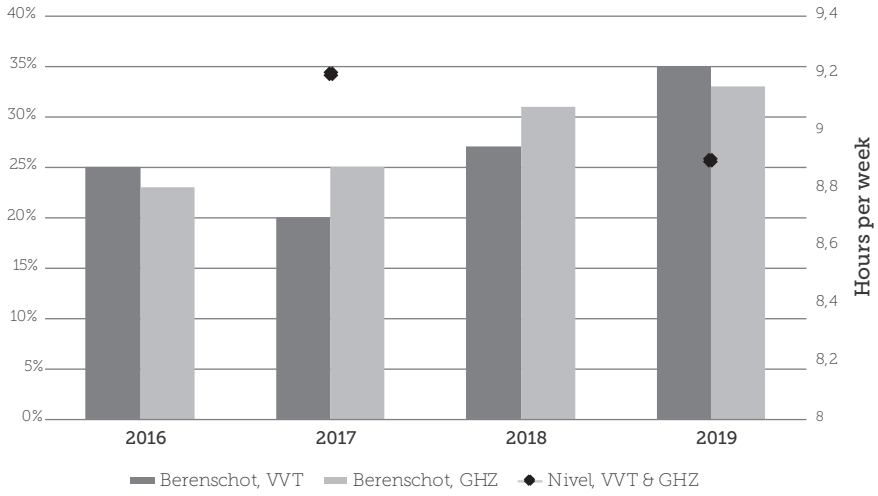
Potential drivers of meso level AC included the 2015 reform that caused a loss in economies of scale because auditing requirements by financers were not streamlined. Automation and self-management of LTC professionals were mentioned as barriers. Respondents mentioned not only that generic austerity led to a more critical view of overhead costs, but also that investment in primary personnel could decrease the share of overhead costs through a denominator effect.

Micro level – data sources and survey responses

For the period around 2015 – when the LTC reform took place in the Netherlands – we identified survey-based reports of large consultancy firms (KPMG, 2019; and Berenschot, 2019a), representatives of healthcare professionals (VvAA, 2019), and the Netherlands Institute for Health Services Research - Nivel (De Veer et al., 2017; Verest et al., 2019). There are large differences in number of participants, definitions used, and sectors covered, but a common theme is that the self-reported time spent on administration is 8–20 percentage points higher than the amount of time LTC professionals find acceptable for administrative tasks. The studies that provided the most useful and reliable longitudinal data are shown in Figure 5. Interestingly, the Berenschot figures show an increase from 2016 to 2019, but this is not the case for the Nivel figures. Respondents had no explanation for these opposing results. See appendix A, page 4–6, for more detailed results.

The respondents addressed three mean weaknesses in the available data. First, apart from one Nivel study (Verest et al., 2019), all surveys solely investigated the administrative burden. This could introduce a selection bias when opiniated professionals are overrepresented. Most experts agreed with this observation (Table 3, column 2). Second, a valid trend series dating back before 2016 is absent, making it impossible to see whether the 2015 reform had any effect, as there is no baseline measurement. We suggested that a more valid time series could be realised by including items on administration in broader periodical surveys. Experts reached no consensus on this idea (Table 3, column 3), because it would not eradicate other methodological problems, such as the fact that surveys measure the perceived rather than the real time spent on administration. Third, few studies differentiated between administrative tasks

Figure 5. Self-reported time spent on administrative tasks by professionals working in 24/7 care for older persons and home care (VVT) and residential care for people with a disability (GHZ). Sources: Berenschot (2019a) & Nivel (De Veer et al., 2017; Verest et al., 2019).



(a heterogeneous set of activities). Experts agreed that administrative tasks should be differentiated more to identify tasks that are wither obsolete or less related to care delivery itself (Table 3, column 4). The survey listed an approach to differentiate administrative tasks that was published in an OECD report (2017a, page 244). Respondents liked how it differentiates financial, organisational and clinical documentation but suggested adding communication (e.g., calling around for an LTC bed), contract negotiations, and certain types of education.

Respondents highlighted numerous determinants of AC at the micro level. An important driver related to the reform was that there was an unclear delegation of responsibilities shortly after the reform. Other determinants were either unrelated or only indirectly related to the reform, and these included problems related to obtaining patients' medical information, registrations for quality monitoring, ineffective ways of organising care delivery, and stricter privacy regulations. Often noted too was the repeated negative attention towards the topic, which is likely to increase the *experienced* burden. Potential barriers included automation (i.e., electronic patient records), sessions where stakeholders together identify obsolete registrations, alternative ways for quality monitoring of (e.g., a minimal set of quality indicators) and classifying

Table 3. Survey responses to statements as regards the quality of studies on self-reported time spent by long-term care professionals on administration in the Netherlands.

	Agree, this causes an overestimation	Agree, this causes an underestimation	Agree	Partially agree	Disagree	Don't know/no opinion
Most existing survey studies investigating the time spent by long-term care professionals on administration know a selection bias, because they are about administration exclusively.	5	0	-	6	0	2
A valid time series of administration by long-term care professionals can be constructed if items are added to broader periodical surveys among healthcare professionals, thereby omitting selection bias.	-	-	1	6	3	2
Surveys among long-term care professionals should differentiate components of administrative tasks.	-	-	9	3	0	1

healthcare services, flexible care delivery organisations, uniformity in auditing by financers, and multi-year contracts.

Themes identified during focus group discussions

We identified three main themes. First, there was consensus that there is a lack of consensus over what AC actually are. For the macro level, participants highlighted that interest groups and research institutes should be added, but participants found it difficult to draw the line where AC at this level should stop. Participants mentioned that meso-level AC may be the easiest to demarcate and measure of all three levels. This is evidenced by the fact that a considerable number of LTC organisations already participate voluntarily in the Berenschot benchmark. The most substantial lack of construct validity was apparent at the micro level. Participants indicated that terms like 'administration' and

'quality reporting' can have a different connotation for regulators, financers and managers, as compared to professionals.

Participants offered guidance on methods to improve construct validity. They thought that Statistics Netherlands should continue to assign costs in a pragmatic way for the macro level, but its decisions should be based more on the type of activities instead of the types of organisations, as is the care currently. Participants thought it was vital to invest in innovative research methods for the micro level, not least because there has been prolonged negative attention towards administration among professionals, which makes surveys less reliable. Observational studies, in which healthcare professionals report what they are doing at random points in time, were suggested. As one participant highlighted: *'I recognise the shaky construct of administration. People define and interpret it differently. From my practice-based point of view, I think it would be useful to measure it in a different way [than with surveys], because professionals have created some sort of fatigue towards surveys'*.

A second theme was that administration is a key element of any health system and should therefore not be seen as wasteful by definition. One participant concluded with the following point: *'to what extent are the benefits of administration investigated and netted? For instance, proper administration of medication usage can prevent errors, which can consequently prevent costs. This is important when analysing the issue with a total system perspective'*. Participants stressed that the efficiency of administrative processes should receive greater scrutiny and that a lack of feedback on the purpose of registration frustrates healthcare professionals. Experts also thought it was important to better differentiate administrative tasks that are either useful or inevitable from those that are either useless or redundant. Observational studies could generate such intelligence in a more reliable way compared to lengthy surveys.

A third and final theme was that AC act like communicating vessels across the macro, meso, and micro levels. Examples of how macro level issues impact the meso level were mentioned. Regionalisation of healthcare governance can for instance require managerial staff to participate in additional networks. On the interaction between the meso and micro levels, automation and management and leadership styles are important. Participants mentioned that a focus on 'lean' management may decrease meso level AC, but this can have repercussions at the micro level if managers still require professionals to keep record of an extensive set of indicators. When LTC professionals schedule their own work in self-steering teams, the opposite can occur.

Because of this interaction, participants mentioned that there is no 'blueprint' or ideal level of AC on one level if the effects on other levels are not recognised. One participant stressed that *'some administrative output may fall into a black hole, but in other cases it is crucial for the enactment of the task of external organisations. So, not to complicate matters further, but even if we would be able to optimise administration amongst professionals, it does not mean the system as a whole is perfect'*. In line with this comment, participants universally agreed that an 'overhead norm', as suggested by interest groups and politicians, is a bad idea because this can lead to blunt austerity and negative spill-over effects at the micro level. Benchmarking overhead costs was seen as useful when it helps to reach a better balance between trust and accountability in LTC delivery organisations, but not when it leads to a 'race to the bottom'.

Determinants of AC, including the effects of the 2015 reform, should also be seen in the light of this interaction. Participants reported that it took a few years to resolve implementation hiccups, which impeded automation and economies of scale. Municipalities for instance had different auditing requirements, meaning that LTC providers had to comply with multiple auditing systems. However, participants emphasised though that a causal explanation of the net effects of the reform would be hard even with perfect data, both because of the multitude of interacting drivers and barriers and because participants identified most determinants through speculation. Participants suggested using experimental and qualitative studies for investigating the determinants of administration to test their causality.

Discussion

Our objective was twofold: (1) is it possible to reach consensus on operationalising AC in Dutch LTC, and (2) can we evaluate whether the 2015 reform of Dutch LTC had the intended effect of reducing AC? We believe that it may be possible to reach such consensus. At the macro level, we discovered omissions that can help demarcation efforts. Experts agreed that it should be possible to gather valid data at the meso level. Micro level AC lack construct validity, but valuable ideas to improve data collection exist.

However, the current research instruments and data systems are not robust and consistent enough to trace the overall effects of the 2015 reform. A major limitation concerns the lack of knowledge of micro-level AC before 2015 and the contradictory results in different surveys. Another important missing piece

of the puzzle concerns the AC of municipalities. Therefore, we can make no clear quantitative statements on the impact of the reform on total AC. However, it seems to us that the reform has placed some (temporary) burden at the macro level, as we observe a relative increase in the AC of regional care offices. At the meso level, available data suggest that AC have remained more or less equal. Much more important, but also much more insecure, are the developments at the micro level, with studies pointing both to an increase and to a decrease.

Three resulting reflections on reducing AC in LTC

Our study highlights three lessons. First, the magnitude of total AC becomes apparent with a total system perspective. However, meso- and micro-level AC are 'hidden' in regular expenditure statistics, which complicates our understanding of the topic in its entirety and our evaluation of political promises of reducing AC. More research should be conducted to achieve a more refined understanding of AC and, as a result, construct a more sophisticated policy debate. A more refined understanding of AC and better data are specifically needed at the micro level. We purposively adopted a wide definition to be able to analyse definitions used in a wide selection of studies and data sources. We discovered that the definitions used are often too generic to enable a sophisticated conceptual debate on essential characteristics and how AC can be assessed in an empirical way. As an effect, we did not yet reach consensus whether care management or clinical documentation should be considered as AC, for instance. More refined survey studies and observational studies could help this discussion. Van Hassel (2020) investigated the working hours of Dutch general practitioners with a real-time measurement tool and found that almost half of all activities were not directly related to patient care. It delivered sophisticated evidence on a wide variety of administrative tasks conducted by general practitioners, of which many related to clinical documentation. A similar technique could be deployed among LTC professionals. Specific for the Dutch situation, LTC-related AC of municipalities requires attention. It is expected that economies of scale were lost, but the current monitoring systems do not allow us to test this hypothesis. In-depth investigation of annual budgets of a selection of municipalities could be considered.

Second, we need to better differentiate administrative tasks that are either useful or inevitable from those that are either less useful or redundant. This is realistic because professionals understand that some administration is necessary. For instance, a study in Dutch hospitals found that only 36% of quality registrations were perceived as useful for everyday practice (Zegers et al., 2020). However, we also need to prevent useful administrative tasks from

being lost in blunt eradication exercises. Our study did not focus on identifying the value of specific administrative functions as we aimed to investigate what can be considered AC in the first place. Therefore, our attempt can function as a guide where to locate AC, which can be used by researchers interested in identifying low-value AC. This might benefit the value for money of future research on AC in LTC.

Third, we need to acknowledge and better understand the interaction of AC across all levels. Potential determinants of macro-level AC, such as reforms, seem to cause many trickle-down effects at the meso and micro levels, and vice versa; however, the causality of such determinants is tested rarely. Therefore, benchmarking information on, for instance, the meso level should be interpreted with caution if the relationship with effects at the macro and micro levels is unclear. Qualitative and experimental studies may be appointed to better understand the determinants of AC from a total system perspective.

Limitations and strengths

To our knowledge, this is the first systematic attempt by a group of experts to reach consensus of ways to trace and track AC in LTC in the Netherlands and to assess the completeness and quality of available data. A strength is our deployment of two validation rounds (the survey and the focus group discussions). This was pivotal because we had to rely on grey literature and structured group interaction is an important element of consensus development (Murphy et al., 1998). Another strength lies in our attempt to explore the entire eco-system of AC in LTC, as opposed to only the macro, meso, or micro level, as is the case in most other studies on AC (Larjow, 2018). In our study, we self-selected a non-representative sample of 14 participating experts. Not all experts considered themselves knowledgeable on all three domains (macro, meso, micro); hence 7 out of 14 respondents completed the macro and meso sections of the survey. Therefore, the consensus reached as a whole as depicted in Figure 2 should be interpreted with caution. A limitation of this study is that we did not operationalise AC on the level of patients, given that patients also conduct administrative tasks.

Conclusions

We can reach agreement on how to track AC in Dutch LTC but current research instruments and data systems are neither robust enough nor consistent enough to trace differences before and after the 2015 LTC reform in a valid and reliable manner. Through our study, we identified practical and more fundamental insights to improve the reporting on AC. An important practical idea is to conduct more observational research, to generate objective longitudinal data on a heterogenous set of administrative tasks conducted by professionals. A more fundamental insight is that AC in all cases need to be viewed from a total system perspective, because AC interact heavily across the macro, meso, and micro levels. These ideas can help to refine our understanding of the large, but hidden, cost category of AC and the interaction of AC across levels of the LTC system. A better understanding of the construct of AC can, as a result, lead to a more sophisticated and fact-based policy debate on AC. This is important because practitioners and politicians are generally negative about AC, which carries the risk that important administrative functions are lost in blunt efforts to generically reduce AC. The goal should be to reduce low-value AC. This study has provided some groundwork to trace low-value AC by attempting to track all elements of administration in the LTC system

Endnotes

* We allocated costs as follows. According to the definitions for health care and long term care in the system of health accounts, (CBS, 2020b), total costs of long term care (HC3+HCR1) is 34–36% (depending on the year) of the total costs of health care plus HCR1 (long term social care), plus the part of 'other goods and services' (M1(HC)) that is financed by municipalities, minus the costs of voluntary health insurance schemes (HF21). This percentage is then applied to the total costs of 'governance and health system and financing administration' (HC7) minus the part of HC7 that is related to voluntary health insurance schemes.

Appendix. Supplementary data

Appendix A, B and C can be found on https://journal.ilpnetwork.org (Hagenaars et al., Journal of Long-term Care, 2021, Epub ahead of print)

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INTERMEZZO 1

How complex governance does increase both the real and perceived registration burden. The case of the Netherlands.

Comment on "Perceived burden due to registrations for quality monitoring and improvement in hospitals: a mixed methods study".

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Abstract

The burden of registrations for professionals should be more firmly on the policy agenda. In a rigorous study Marieke Zegers and colleagues make a compelling argument why that should be the case. In Dutch hospitals, the average professional spends 52.3 minutes a day on quality registries and monitoring instruments. Many more administrative duties exist. Together these represent substantial resources and ultimately could become a drag on the intrinsic motivation of the care professions. We agree with Zegers et al. that we are in need for more operational efficiency. However, the issue at hand is very complex and is also intensely connected to the entire healthcare system and its different levels. More operational efficiency alone will not solve the problem. We are also in need for better governance of such data-issues at the system level.

Introduction

Marieke Zegers and colleagues (2020) made an excellent contribution to the expanding literature of the (rising) administrative burden in healthcare. They present an empirical study on the burden of quality monitoring by healthcare professionals. Results are sobering. They find a substantial time burden of data handling for nurses and physicians (52.3 minutes a day); only 25% of such quality measures are primarily registered for quality improvement; 36% of the measures were perceived as useful for improving quality of care in everyday practice; 57% of quality registrations are primarily used for accountability purposes. They find that perceived unreasonable registrations are negatively associated with joy in work and also with more distraction from actual time for treating patients, although less intrinsically motivated professionals might also hold more negative feelings on quality registrations[1]. Nevertheless, the net performative forces of these registrations might actually be negative and not positive[2]. Indeed, the methods of the authors do present few reasons to doubt the accuracy of their measurements.

As policy implications, Zegers et al. (2020) do plea for 1) less quality registrations, 2) a more limited set of core indicators, and 3) a better use of information and communication technologies to reduce these workloads. Taken together, they propose for a higher level of operational efficiency in quality data collections, to be achieved by investments in administrative support for the registration process. However, in recent decades the number of quality and safety registrations has only increased. We think that the wickedness of this problem asks for more to be done. Besides more operational efficiency in quality registries and monitors, we argue that adequate governance of data and information is of the utmost importance to tackle the root causes of this problem. The complex interactions between the different levels within the healthcare system and the lack of routine statistics on the total costs of registration on all levels, might enhance the administrative burdens to unreasonable levels or the other way around. The more so because this administrative burden lacks an explicit price and is buried within the official cost statistics. The importance of this governance issue also comes to the fore as a result of large diversity in numbers of data custodians, purchasers and oversight agencies and their responsibilities. In other words, we feel that administrative burdens may not only reflect operational inefficiencies, but also failures in governance.

Adequate information might improve the public good

Over the past decades, the amount of data has increased tremendously. Due to the rapid expansion of ICT technologies, the costs of processing and analyzing data has been reduced tremendously. Partly as a result, data requests have gone up and spread from administrative departments to the healthcare workforce. However, although it has become more convenient to process and analyze data, this was not (necessarily) the case for those that had to deliver and fill for the increasing number of requests. The more so since the number of data-hungry stakeholders also increased due to reforms that articulated the purchasing functions and due to the coming of new stakeholders such as oversight bodies, patient associations, accreditation organizations, and data companies.

In principle adequate information might contribute to solve for important agency problems, including those that relate to the quality and safety of our healthcare. Adequate information also holds potential to help increase the allocative efficiency of scarce resources, for example through active purchasing of high-value care[3,4]. However, and as stated before, information is not free and comes with a price.

Total indirect and administrative costs are often very high

At the macro-level, multiple purchaser models typically bear higher administrative expenses than single purchaser systems because of economies of scale and scope. Reasons lay in higher billing and claims expenses that are often absent or limited in single purchaser systems, and in confidentiality practices when purchasers and providers compete with each other. Among the group of multiple-purchaser healthcare systems, the administrative burden bared on the level of financers and regulators is around 4% in the Netherlands. This is much lower compared to Germany, France and especially the United States, according to routinely collected OECD data[5].

However, such statistics do only partly resemble the total administrative burden. Providers do also contain many staff without responsibilities for patient treatments. In the US - where administrative expenses have proven to be an important determinant for the excessive costs of the total healthcare system - hospital administrative costs add up to twenty-five percent of hospital turnover. The Netherlands does not come out that well, with almost twenty percent they are second in line[6]. Although this is not the case for the US, in theory such comparatively high administrative costs at the provider level might partly be compensated by lower administrative costs at the macro-level. Note that, however, provider level administrative costs are not measured routinely in established accounting frameworks such as the OECD System of Health

Accounts. We thus are not able to make such comparison for a substantial number of countries.

So far we have not said anything on the burden of indirect costs that professionals themselves have to bear, the focus of the study by Zegers and colleagues. The burden of registrations and administrative tasks for professionals is not captured in routine cost accounting data either, and often omitted by scholars off administrative costs in healthcare[7]. In the Netherlands, general surveys continuously show high administrative burdens that circle around two days a week for professionals in hospitals and other providers[8]. These surveys may measure perceived burdens more than actual time spent on administrative tasks. However, a new innovative measurement of actual time spend by Dutch GP's also finds that their administrative burden almost equals 40% and has increased over the past five years[9]. To conclude, the total sum of all macro-, meso-, and micro-level related indirect costs might actually be around half of all healthcare spending. Precise information is lacking and often not registered.

That is why the fact that Zegers et al. study a substantial amount of the total indirect and administrative costs - the burden of quality registries for professionals - into more depth is timely. However, such quality registries form also part of a broader ecosystem where many interdependencies and connections do apply. This holds for all the typical characteristics of a complex system. We argue that a 'solution' to unnecessary high burdens of professional time for quality registries cannot be solved without adequate governance of all data and information systems, used within the wider healthcare system. For one thing, the Dutch clinical registry landscape is quite scattered and un-coordinated as compared with the clinal registry landscape in countries like Sweden and Denmark.

Thoughts about a broader governance of data and information for healthcare

Data governance in the Netherlands is complex. Dutch healthcare is governed through three systems with different steering mechanisms - curative care (competition), long-term care (single purchasing), and social care (devolved to municipalities) - that need to co-produce and co-operate among the needs of complex patients with co-morbidities. The number of data custodians is among the highest in OECD countries[10]. Some data custodians hold complex and even antagonistic relationships, for example insurance companies and hospitals each rely on their own data companies. Save prohibitions by privacy legislations, the oversight agencies can ask more or less all quality information from the providers they deem necessary for fulfilling their tasks, as can insurance

companies (purchasers). However, data principals often do not share data with each other which adds to the burden of providers and professionals that need to provide the same data over and over. To sum up. This complex combination of competition that stipulates data as confidential, private provision of care and insurance without a public clearinghouse, the necessary compliance to privacy regulations which create lots of confusion and hampers sharing of data all contributes to a lack of transparency and thus more request for data by individual stakeholders. On top, providers create own private databases and registries for specific purposes or they may choose to comply to registries of professional societies or accreditation bodies. A governance structure that focuses on easy access to and sharing of reliable is currently lacking.

OECD has over the past years produced a series of international reports that demonstrate the heterogeneity between countries in the active use of data-linkage and optimizing the use of Electronic Health Records, whilst assuring data-privacy and data-security. In 2017, OECD provided an official council recommendation on health data governance[11]. Further implementation of these health data-governance recommendations and related optimization of data linkage practices and secondary data use of Electronic Health Records might help pave the way to lowering the presently experience administrative burden on macro, meso and micro level of the Dutch health care system.

Changing any system with an extensive legacy is difficult, but we do think a holistic approach that addresses the issues of lack of adequate governance and operational efficiency in Dutch healthcare is necessary. The rigorous study by Marieke Zegers et al. provides a strong factual basis for Dutch stakeholders to acknowledge the issues at hand. And with the COVID crisis opening up many windows of opportunity for positive reforms [12], now may be the time to address this important concern in a fundamental way.

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PART II

Improving population health with junk food taxes

CHAPTER 4

Prevention as a strategy for fiscally sustainable healthcare

Published (in Dutch) in 'Betaalbare zorg' (Jeurissen et al., 2018)

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Central messages

- Prevention contributes towards fiscally sustainable healthcare, because reducing the lifestyle-related burden of diseases can strengthen the solidarity for healthcare financing.
- Prevention can reduce healthcare costs in the short to medium term, however long-term effects are uncertain. The cost-effectiveness of prevention in terms of health outcomes is generally high.
- Implementing more prevention is complex because problem ownership, financial incentives and political windows of opportunities are often absent.
- Occupational health deserves more attention. Populations are ageing and chronic disease incidence is increasing, which poses a challenge for the labour force with pension ages on the rise. Population health management is a promising approach to integrate preventive and curative care in a better way.

Introduction

Who has been responsible for the largest medical breakthrough since 1840? According to readers of the British Medical Journal (BMJ) this was not a doctor or biomedical scientist, but a lawyer: Edwin Chadwick. Chadwick successfully advocated for sewage and sanitation in 19th century Great Britain. His legacy received most votes in a BMJ reader poll in 2008 on medical breakthroughs. Second was the discovery of antibiotics and vaccinations (Ferriman, 2007).

Chadwick was not solely altruistically motivated, but as one of the authors of the 1834 Poor Act, he wanted to ease the tax burden that the developing welfare state was generating. He noticed that open sewage caused breadwinners to die from infectious diseases, who left families that had to rely on social security arrangements subsequently (Mackenbach, 2007).

Public health challenges have changed dramatically since the 19th century. Sanitation, sewage and other forms of health protection are seen as essential public services nowadays, and disease prevention has improved population health substantially since the second part of the 20th century. The 21st century frontier in public health lies in health promotion, focusing more on individuals' behaviour and the design of healthy living environments (CDC, 2011). This chapter will therefore mostly discuss this type of prevention.

What has not changed is the economic potential of prevention. This chapter describes how prevention can contribute to fiscally sustainable healthcare. The first part analyses how improved health through prevention influences the sustainability of healthcare funding. The second part analyses barriers and opportunities for prevention from a governance and political perspective. We use the terminology set out in text box 1, which is based on the textbook *Volksgezondheid en gezondheidszorg* [Public health and healthcare] (Mackenbach & Stronks, 2016), and the taxonomy of the (former) Dutch Health Care Insurance Board regarding the types of prevention that can be covered by Dutch health insurance (CVZ, 2007).

Text box 1. Prevention terminology.

Preventive measures can be defined according to: 1) the type of measure; 2) the stage of disease; and 3) the target group. Several actors can implement prevention: public institutes (such as local health services); private organizations (such as employers); and individuals.

1) The typology, according to a *type* of measure, distinguishes between:
   - Health protection: protecting a whole population or risk group against exposure to health risks of which an individual has no influence;
   - Disease prevention: early diagnoses and treatment of a specific disease;
   - Health promotion: promotion of healthy lifestyles.

2) The *disease-stage* typology distinguishes between:
   - Primary prevention: preventing disease among healthy individuals;
   - Secondary prevention: early diagnosis of diseases among individuals with risk factors;
   - Tertiary prevention: preventing deterioration of disease among individuals with a disease.

3) The typology of the former Dutch Health Insurance Board is used to assess when prevention is applicable to the Dutch basic health insurance package. This is not the case for universal prevention (whole population) and selective prevention (risk groups), for which the central government and municipalities are responsible. Insurers are responsible for indicated prevention (individuals with risk factors) and care-related prevention (disease deterioration among individuals).

Does extra longevity help contain healthcare costs?

Healthcare has improved dramatically over the past few decades but has also led to higher costs. An important explanation for this is that contemporary medical progress has mainly led to a decrease in mortality among the chronically ill. Because of this, the prevalence of chronic illness has increased, in turn increasing total healthcare costs. This 'expansion of morbidity' was described by Gruenberg (1977) as the failure of success of modern medicine. Postponement of death due to prevention can have a similar effect. This at first sight does not make prevention a useful strategy for assuring fiscally sustainable healthcare. However, it is uncertain whether morbidity will continue to expand. Fries (1980) predicted that several developments, including healthier behaviour,

would ultimately lead to a faster increase in healthy life years as compared to the increase in absolute life expectancy, which would mean a 'compression of morbidity'. If prevention has this effect, healthcare expenditure over the life course may decrease.

A third theory of the health of the population was proposed by Manton (1982), who predicted that mortality reductions would lead to a redistribution of disease and disability. Compression of severe morbidity is compensated by expansion of less severe morbidity in this scenario which Manton termed 'dynamic equilibrium'. Healthcare expenditure over the life course may remain more or less the same in this scenario. It must be noted, however, that changes in health and longevity and thus healthcare expenditure are mostly man-made. As Mackenbach (2020) put it, 'human agency' accounts for both the rise and fall of diseases.

As a final point here, fiscally sustainable healthcare is not solely about containing a certain level of costs, but also about *being able* and *willing* to afford healthcare costs. This chapter highlights the influence of prevention on all these aspects.

Macroeconomic effects of ill health and prevention

Short-term effects on healthcare consumption

Unhealthy behaviour causes a considerable part of total health expenditure. For instance, the healthcare costs due to smoking, unhealthy food, sedentary behaviour, and excessive alcohol consumption in the Dutch context accounts for €8.6 billion, which equates to around 10% of total health spending (RIVM, 2018a). If we add healthcare costs caused by other unhealthy behaviours (drug abuse, unhealthy food, unsafe sex) and risk factors such as air pollution, it becomes clear that quite a large proportion of health spending could be prevented.

Long-term effects on healthcare consumption

A more balanced picture appears when analysing the effects of unhealthy behaviour from a *lifetime perspective*. There appears to be consensus about the fact that smokers have lower lifetime healthcare costs compared to non-smokers (Polder et al., 2012). Such consensus does not exist for obesity. American studies suggest that obese people have higher lifetime costs than non-obese people, despite their lower life expectancy (Lakdawalla, Goldman & Shang, 2005). This is not the case for the Netherlands (Van Baal et al., 2008). Regardless of this, it has been calculated that the elimination of obesity would save net costs for a longer time period compared to the elimination of smoking, because smok-

ing-related diseases are often 'cheaper' to treat. This is due to relatively shorter illness periods (with lung cancer, for example). Eliminating smoking saves costs related to such diseases, but people that do not smoke develop 'replacing' diseases such as dementia with the effect that lifetime healthcare costs end up higher among non-smokers. This effect is less strong for obesity as it often causes more expensive chronic illness, such as diabetes and cardiovascular diseases (Polder et al., 2012).

From this perspective, prevention does not seem like a useful strategy for fiscally sustainable healthcare. Yet there are two points regarding methodology that accentuate the *uncertainty* of long-term effects. Firstly, there have been very few studies reviewing the long-term effects of risk factors other than smoking and obesity on healthcare consumption. It is, for instance, not unrealistic to assume that mental health prevention would lead to lower lifetime healthcare costs, seeing as mental health disorders cause little mortality but high morbidity. Secondly, the calculations applied to evaluations assume *ceteris paribus* conditions, however, policy, technology and medicines are always changing. Costs of smoking could increase, for instance, when new expensive lung cancer medicines hit the market (Polder et al., 2017).

Long-term effects on healthcare consumption and risk solidarity

People who live longer pay healthcare premiums and taxes for a longer period of time. This is not often considered in studies that assess lifetime healthcare costs in relation to risk factors. By taking healthcare contributions into account, the magnitude of risk solidarity is revealed, as demonstrated in table 1.

Dutch people with the highest level of education spent on average €1,900 more a year on healthcare than they consumed in 2012, whereas those with the lowest level of education consumed €1,400 more than they contributed. This can be explained by three things. Firstly, the main bulk of health spending occurs at the end of life. However, since people with a lower level of education generally live for a shorter time period, their average yearly healthcare consumption is higher. Secondly, people with a higher level of education live longer and therefore pay premiums and taxes for longer too. Thirdly, the healthcare contributions of the higher educated were higher in the Netherlands because of income-related healthcare allowances and social insurance premiums.

Table 1. Healthcare consumption and contributions (curative and long-term care) in the Netherlands in 2012, lifetime perspective as an average of € per year, per level of education expressed according to the International Standard Classification of Education, ISCED (CPB, 2013).

	Basisschool (ISCED1)	Vmbo (ISCED2)	Mbo/havo/vwo (ISCED3-4)	Hbo/wo (ISCED6+)
Healthcare consumption	3,200	3,200	2,200	2,000
Healthcare contribution (Health Insurance Act, Exceptional Medical Expenses Act)	1,800	2,200	2,900	4,000
Net use	1,400	1,000	-700	-1,900

Macroeconomic effects outside the healthcare sector

Table 1 is, however, incomplete because extra longevity due to prevention also has economic effects outside of the healthcare sector. For instance, if extra healthcare contributions are paid out of pension premiums, these are additional costs.

Cost of illness studies aim to investigate these total economic costs and benefits for specific illnesses or risk factors. *Societal cost-benefit analyses* assess total economic effects of policy measures. These studies differentiate between material and immaterial costs and benefits. Material costs and benefits refer to things that impact people's finances directly, such as pensions and labour productivity. Immaterial costs and benefits provide a monetary expression for factors like healthy life years or enjoyment. We first examine material costs and benefits.

Cost of illness studies have recently been conducted in the Dutch setting for smoking and alcohol. The material costs and benefits of smoking are more or less similar, at net costs of €2.3 billion a year. Smoking causes absenteeism (€1.4 billion), reduced productivity (€2.2 billion) and disability (€1 billion). It also causes fire damage (€0.2 billion) and the production of tobacco products costs €1.7 billion. The reduced longevity due to smoking generates fewer healthcare contributions (€1.5 billion) and pension premiums (€1.7 billion), as well as losses in productivity (€5 billion). Benefits of smoking include the lower health expenditure (€5.1 billion) and lower consumption (€6 billion). Excise and value taxes cost smokers €3.4 billion, but these are also counted as benefits for the

government and thus pose a zero-sum game from a societal perspective (Polder et al., 2017). Regarding alcohol, net costs were €2.3 to €4.2 billion in 2013. Alcohol causes material costs such as labour productivity losses, police deployment and traffic accidents (De Wit et al., 2018).

In the United States, many cost-benefit analyses have been conducted for obesity measures (McKinnon et al., 2016). Most of these studies do not have a perspective as wide as those on smoking and alcohol in the Netherlands, and selection bias may influence results. However, the general conclusion points to a relatively large effect on productivity. People with obesity are in employment less, earn 18% less (than people without obesity in similar functions), report sick leave more often, and show 12% reduced productivity due to presenteeism - going to work while being ill (Devaux & Sassi, 2015).

The effect of mental health disorders is also very large. People with severe mental health issues are three to four times more likely to be unemployed than people with mild issues, who in turn are almost twice more likely to be unemployed than people without mental health issues (Devaux & Sassi, 2015). Among people in employment, illnesses like depression can lead to absenteeism, but a larger share of the impact is hidden because many of these people continue to work whilst ill, causing lower productivity. American research found that 81.1% of total lost productive time among workers in the United States with depression is attributed to presenteeism (Stewart et al., 2003).

Productivity

Cost-benefit analyses thus suggest a relationship between health and productivity. Robert Fogel (1994) won the Nobel Prize for this conclusion, by finding that about 30% of economic growth in the United Kingdom since the industrial revolution could be attributed to better food and health. This is important for fiscally sustainable healthcare because a more prosperous economy is more able to bear collective expenses such as healthcare.

Due to populations ageing it has become more important for working people to remain healthy for as long as possible. This is because the share of the workforce decreases, placing a heavier demand on workers to maintain public sectors. Also, the rise of chronicity combined with the increase in pension ages (occurring in many countries) requires more elderly people with chronic illnesses to keep working for longer (RIVM, 2018a). Yet certain occupations with heavy physical strain and limited self-autonomy impact health in a negative way, especially at older ages (Karasek, 1979; Ravesteijn, Van Kippersluis & Van

Doorslaer, 2017). This makes occupational health promotion important for sustainable employability. As a final point here, we want to stress the importance of health on informal economic activities like informal care and babysitting, as the value of these activities is not often quantified.

The value of health

The analyses above have not mentioned perhaps the most important aspect of prevention: people value health and are therefore willing to *invest* in it. Former French president Nicolas Sarkozy thought this too when he asked a commission chaired by Joseph Stiglitz to come up with a way to better measure economic performance. Contrary to traditional methods that focus mostly on economic growth, this commission pointed to quality of life as a central pillar, of which health is an important aspect. The measurement of (ill) health and its impact on quality of life is lagging behind, however, which hinders policy investment (Stiglitz, Sen & Fitoussi, 2009).

Despite this, some studies do take *immaterial* aspects of health into account, which brings us to the costs and benefits of the studies on smoking and alcohol in the Dutch context mentioned above. For smoking, it seems clear. Whereas material costs and benefits are more or less equal, the net yearly costs of smoking are around €33 billion when immaterial costs and benefits are also part of calculations. €24.3 billion can be attributed to life years lost to smoking and €11 billion to losses in quality of life, which is much more than the €4.6 billion smoking delivers in terms of enjoyment (Polder et al., 2017). The net costs of alcohol are much smaller at in between €4.2 and €6.1 billion in 2013. These estimates do not include the enjoyment alcohol consumers may experience, as it appeared impossible to quantify such benefits (De Wit et al., 2018). This proves how difficult it is to measure all the costs and benefits of unhealthy behaviour.

Cost-effectiveness of prevention

People value their health and are thus willing to pay for it. Prevention is a very cost-effective way to achieve better health outcomes, especially compared to curative care. The Dutch National Institute for Public Health and the Environment keeps track of cost-effectiveness studies regarding prevention (RIVM, 2018b). 80% of these studies remained below €50 000 per QALY, and 60% find less than €20 000 per QALY (Van Gils et al., 2010). Noteworthy differences also exist between preventative and curative measures for specific illnesses. Measures to prevent smoking, for instance, are about a hundred times more cost-effective than lung cancer treatment (RIVM, 2018b).

These studies do have methodological shortcomings though, because the time horizon regarding studies looking into prevention are relatively long compared to curative care. They also require larger research populations, but the reach of preventative measures is not always easy to predict, which results in a bigger error margin (Polder et al., 2012).

Limited solidarity for unhealthy lifestyle

The relationship between health and fiscally sustainable healthcare is complex and depends on the perspective of 'fiscally sustainable' and the type of prevention/risk factor. For lay people it is more straightforward: people don't like to pay healthcare costs for someone else when these have been caused by unhealthy lifestyle. About half of Dutch people think smokers and heavy drinkers should pay a higher premium. This compares to only 3% for people with a lower income, and 5% for people in ill health (NIVEL, 2017). It appears that there is much less solidarity when it comes to unhealthy lifestyle as compared to income and risk. Although this lay perspective highly reduces the complexity of the issue, this perspective is important for fiscally sustainable healthcare as it negatively affects *willingness* to pay.

More prevention as a result of shared responsibilities and population health management

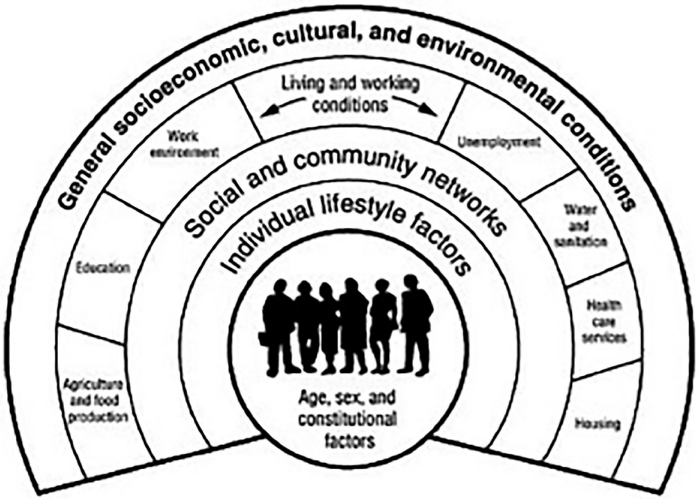
Prevention is important for fiscally sustainable healthcare, primarily because it can improve population health, which is good for the economy and thus the capacity to pay for healthcare. Yet prevention policy is not easy, because many stakeholders share responsibilities and in many cases there is no clear 'owner of the problem'. We describe this governance issue regarding 'Health in All Policies' (HiAP) and the integration of preventative and curative care.

Health in All Policies

HiAP is an approach on health-related rights and obligations, emphasizing the consequences of all public policies on health systems and health outcomes. HiAP aims to improve the awareness among policymakers that policy on social protection, education, environment and housing affect the health system and health outcomes, as the Dahlgren-Whitehead model portrays in figure 1.

Healthcare is the only sector in which health is actually the primary objective. Health is, at most, a sub-target in other sectors with an influence on public health. The financial sector, for instance, does not appear to be important for

Figure 1. Dahlgren-Whitehead (1991) model of health determinants.



health, however the recent financial crisis had quite a substantial impact as it increased suicide rates, infectious disease outbreaks and traffic casualties in several countries. This effect was relatively big in southern Europe where governments implemented large austerity measures, but was much smaller in countries like Iceland, where social protection schemes were largely maintained (Karanikolos et al., 2013).

The large scope of health determinants can be seen as a challenge for good public health governance, because the logical 'problem owner' of health policy—a minister of health—is not responsible in the case of, for example, a financial crisis. Furthermore, policymakers in domains like education, social protection and housing, are assessed by their performance in these areas specifically, and less on their impact on public health or healthcare cost containment (Storm, 2016).

There is no quick fix for all these governance issues. The societal cost-benefit analyses described above can help to raise awareness among policymakers outside of the healthcare realm, as these studies point out the financial impact of risk factors separately for each policy domain. What is important in general is that different government agencies cooperate on the basis of shared interests. From the perspective of fiscally sustainable healthcare, we highlight the importance of *occupational health*. Population ageing and the rise of chronicity

reduce the share of the workforce in the total population, which increases the importance of a healthy workforce for the economy and the public sector. Also, being and staying employed is generally good for health. However, relatively little evidence is available on how to promote health in the work place. This calls for more research on occupation health promotion.

Population health management

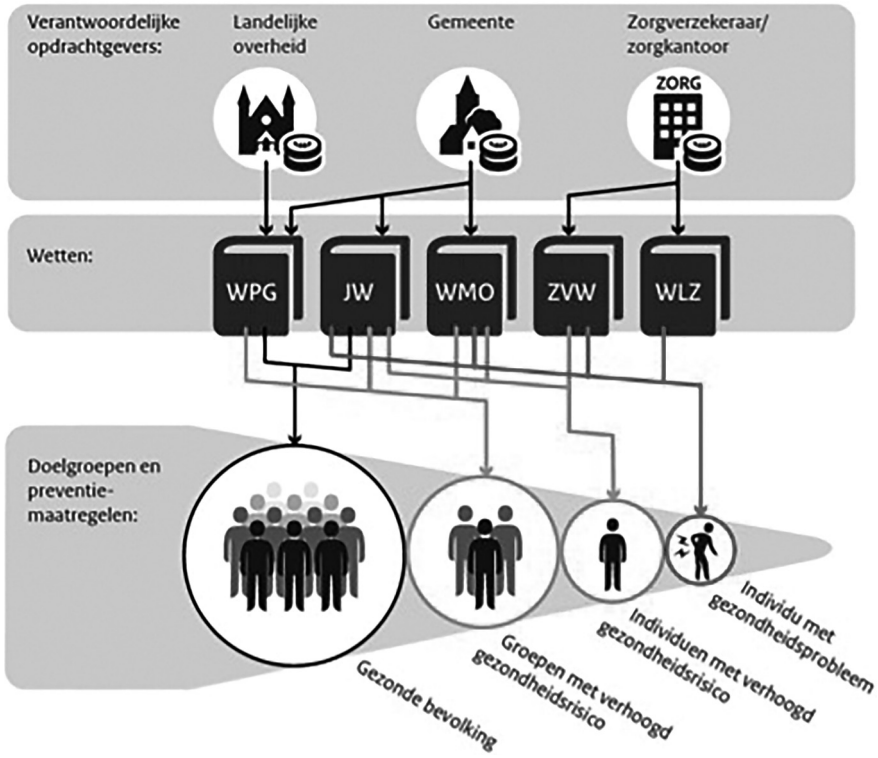
Figure 1 may suggest healthcare's contribution to health outcomes is marginal. This is, in fact, not true: healthcare has actually had the biggest contribution to the increase in longevity in life in the last few decades (OECD, 2017). At the same time, however, experts find integration of curative and preventative care too limited. The recent discussion about *positive health*, a definition of health that 'emphasizes the ability to adapt and self manage in the face of social, physical en emotional challenges' has fuelled this debate (Huber et al., 2011). As the integration of preventative and curative care does have a clear problem owner, we highlight barriers and opportunities about this issue in the Dutch context.

Problem analysis

The organization and financing of healthcare form important explanatory factors for the limited integration of preventative and curative care. Financing in most countries is mostly based on healthcare output (volumes), instead of health outcomes. Moreover, those that invest in preventative care often do not directly reap the benefits due to the fragmented nature in which healthcare, including prevention, is financed. This 'wrong pocket' problem is also apparent in the Netherlands. Figure 2 shows the allocation of responsibilities and financing of the different prevention types among Dutch healthcare financers. Insurers are responsible for indicated and care-related prevention among individuals, municipalities for groups and individuals with increased risks, and the central government and municipalities for the general population.

The 'wrong-pocket' problem should not necessarily be an issue, as long as responsibilities are clear and investing parties compensated for according to cost-benefit ratios. But this information is often absent, and responsibilities can also be vague because it is not always clear beforehand what type of prevention is required for a specific risk group. Finally, not all healthcare providers are willing to make preventative care part of their work due to normative preferences and high workload (Heijink & Struijs, 2015).

Figure 2. Allocation of responsibilities and financing of prevention in the Dutch healthcare systems. Designed by the RIVM and the Ministry of Health, Welfare and Sport (Heijink & Struijs, 2015).



Less parties involved=more prevention?

The problem analysis above suggests that healthcare systems are less inclined towards prevention as more parties get involved, because more 'pockets' would also mean more 'wrong pockets'. To test this hypothesis we can compare the administrative costs of different healthcare system typologies, because the amount of administrative expenditures reflects the number of transactions. We conducted this comparative analysis and found significantly higher administrative costs among voluntary private health insurance (an important source of payment in the United States), compared to compulsory social/private health insurance (important sources of payment in Germany and the Netherlands). Subsequently, countries with a national or regional health service (for example, the United Kingdom and Sweden) have significantly lower

administrative expenditure on the financing level than countries with compulsory insurance (Hagenaars et al., 2018). This would mean that single payer systems are more inclined towards prevention.

Population health management and shared savings

The integration of preventative and curative care nevertheless seems to run into similar problems as described for the Netherlands in countries with a single payer, because healthcare is mainly financed on the basis of volume instead of health outcomes in these countries as well (Heijink & Struijs, 2015). The financing of healthcare providers therefore seems more important than the organization of healthcare financers. Population-based funding poses the strongest incentive for providers to engage in preventative care. It involves financers and providers agreeing on a set budget for a set population, mostly regionally defined. These agreements can involve 'shared savings', which means that providers can keep a share of this budget should they provide less care than reserved, on the condition that a measurable level of quality of care and health outcomes is maintained or improved. This provides an incentive for prevention, because a healthier population would have lower healthcare demand.

Since 2010, the Netherlands has carried out experiments with disease-specific bundled payments. These have had some success primarily in quality of care: coordination of care among diabetic patients has improved, and there are some indications that they led to better health outcomes (Struijs et al., 2017). However, disease-specific bundled payments do not provide an incentive for primary prevention, but they do provide an incentive for more diagnoses. The introduction of bundled payments for children with asthma in South Carolina, for instance, led to 29.9% more diagnoses, with no effect on health outcomes (Chorniy, Currie & Sonchak, 2017).

Bundled payments that cover a wider scope of patients do provide an incentive for primary prevention. Such forms of population health management including shared savings contracts are very complex, and require long-term commitment among financers and providers. Shared savings can also lead to under-provision of healthcare services, if there is no adequate monitoring of agreements related to quality and accessibility of care. Finally, risk stratification is necessary for proper allocation of preventative/curative care services.

Internationally well-known good practices of shared savings all have strong governance. Well-known applications of this model include the 'Accountable Care Organizations' in the United States, and the 'Integrierte Versorgung

Gesundes Kinzigtal' [Healthy Kinzigtal Integrated Care] project in Germany. Below, we describe three interlinked conditions of success witnessed in these good practices: intrinsic motivation, clear agreements, and an effective data infrastructure (Berwick, Nolan & Whittington, 2008).

Intrinsic motivation

Organizing and financing healthcare for a population requires close and often new collaborations, sometimes between otherwise competing organizations. This can be difficult when parties are unfamiliar with incentives and legislation (in the case of managed competition, for example). It requires strong intrinsic motivation among financers and providers in any context. A government can stimulate this, by explicitly pointing out population health management as a way to improve the integration of preventative and curative care. Good practices should be promoted and providing goals can also help, by formulating policies that work towards reaching regional population health management targets across the whole country within a certain time period. Active monitoring of these goals can create awareness among stakeholders, and widely spreading the business cases of front-runners can also help.

Clear agreements

Because population health management requires an institutionalized mode of collaboration among providers and financers, both parties (or a government) can decide to introduce an organization to facilitate this. This is the case in Gesundes Kinzigtal, but does not always work. Some decades ago, all Dutch provinces had provincial councils for public health, which had the responsibility to coordinate all health and care related activities in the region. Due to the introduction of managed competition these councils were abolished, but they were also not functioning well. However, the call for more integrated care provision calls for a renewed governance balance between regional cooperation, legislation as well as disincentives for market concentration.

In the Dutch context, it seems necessary that insurers and municipalities come to common regional agreements. Regions without a clear health insurance market leader may be problematic. Insurers should assign responsibilities for these regions, which requires sufficient administrative capacity among insurers. This may be an issue, as insurance companies seem to compete between each other by reducing their own overhead costs, which have been reduced from 4.6% in 2006 to 2.9% in 2016 (CBS, 2018). We therefore argue for more functional overheads among insurers and municipalities, to ensure that there is sufficient budget for the development of population health management models.

Data infrastructure
Financing population health management with a shared savings structure carries the risk of underproduction and can thus reduce access to care, when governance is not backed by clear agreements about quality of care and health outcomes. In order to prevent this, a thorough and user-friendly data infrastructure is required for risk stratification and performance monitoring of financers. Experimenting with shared savings can help because the need for adequate data will grow as providers and financers share more financial responsibility.

The politics of prevention

This chapter first described the relationship between better health outcomes due to prevention and sustainability of health financing. Following this, we then described the governance issues. This next section highlights the political context of prevention.

Political beliefs

Often heard arguments against prevention in the form of health promotion are that it impairs freedom of choice, and that it is not up to a government to involve itself in the health behaviour of individuals. Political organizations or parties with a liberal ideology therefore seem especially reluctant towards prevention.

Mackenbach & McKee (2015) have investigated this quantitatively, and found that measures of quality of democracy and government had many positive associations with process and outcome indicators of health policy, while measures of distribution of power and political representation had few. This suggests that prevention policy is not solely a left-wing issue, but related more to good governance.

Framing

Political ideologies do of course play a role. Research that we conducted on the policy enablers and disablers of sugar-sweetened beverages (SSBs) and unhealthy foods suggests that the role of political ideologies is dynamic (Hagenaars, Jeurissen & Klazinga, 2017). A remarkable amount of conservative/liberal governments adopted taxes on these, but voiced different policy rationales. Some defended the tax by focussing on health (for example, the United Kingdom), while others pointed to the purpose of revenue (for example, wages for healthcare professionals in Hungary). However, in some instances it was simply announced as a regular tax (for example, in France in 2012).

Prevention requires policy framing in a way that matches the social norm regarding the problem at hand. This social norm is influenced by many factors: the burden of disease being just one of them. The case of the United Kingdom SSB tax is revealing. The UK has among the highest obesity rates in Europe, but until 2016 the conservative-liberal government did not consider a tax regarding this because it was believed that this would deteriorate living standards and freedom of choice. However, celebrity chef Jamie Oliver advocated for the tax as "a matter of parental responsibility for children's health". Partly because of this policy entrepreneur, popular support for the tax increased, which eventually led to its adoption by the same government that was reluctant to implement it before (Hagenaars, Jeurissen & Klazinga, 2017).

Social norms regarding healthy behaviour

Health behaviour trends show a mixed picture. Smoking prevalence rates are declining in western countries, but trends in alcohol consumption are unclear. Obesity seems to be on the rise, and public health experts are increasingly identifying 'new' risk factors such as stress and sleep disorders. The health literacy of most people on the other hand is improving. At the same time, however, health inequalities persist. These differences may increase regarding smoking and obesity when looking at the Dutch context (RIVM, 2018a), which may pose a threat to the solidarity for collective health expenditure, given the fact that there is little solidarity for health expenses caused by unhealthy lifestyles.

Prevention has also received more political attention in western countries. The Netherlands National Health Care Institute, for instance, advocated that healthcare professionals should become more competent in delivering 'pre-care' (ZiNL, 2015), and the concept of 'positive health' also emphasizes the importance of prevention. It is therefore no surprise that the Dutch government at the point of writing drafted and adopted a 'prevention agreement' after negotiations with stakeholders in 2018 (Ministry of Health, Welfare and Sport, 2018).

We consider this a positive development, but in the light of fiscal sustainability we would like to point out a *hidden threat* of prevention. As described in this chapter, many determinants of health are not related to healthcare. If these social and environmental factors are not taken into account properly, a medical focus on prevention could drive unwanted medicalization of problems that are fundamentally *not* medical. This could lead to more supply-driven demand for secondary and tertiary prevention and possibly more unnecessary care, instead of better health through primary prevention.

Conclusion

Prevention can be a useful strategy for fiscally sustainable healthcare. It can potentially reduce healthcare costs in the short to medium term, but long-term effects, however, remain uncertain. Perhaps more important is the fact that health is good for wealth. Also, an increase in the burden of diseases caused by unhealthy lifestyles could lead to reduced solidarity regarding the collective financing of healthcare. But prevention policy is not that easy. There are many types of prevention, and for an integrated approach many parties have to be involved. Problem ownership is often unclear when it comes to addressing the health impact of policies outside of the healthcare realm. This is also the case regarding efforts to improve the integration of preventive and curative care, where financial incentives are often absent. On the basis of this chapter's analyses, we come to the following policy recommendations:

- Health policy makers should use the increased public and political attention on prevention, to raise awareness of the health impact of policies related to taxation, social protection, work, housing, education, environment and agriculture. Societal cost-benefit analyses can help to convince policymakers outside the realm of healthcare.
- Occupational health, in particular, deserves more attention. This is due to the fact that more people with chronic illnesses will form part of the labour force, as an effect of population ageing, rising pension ages and the increase in chronicity. A better knowledge infrastructure regarding this is essential.
- Population health management is a possible solution, to integrate preventative and curative care in a better way. Monitoring explicit policy aims may help raise common awareness among payers and providers alike.
- An adequate data infrastructure to share benchmarking data on different levels is a prerequisite for population health management. Experimenting with shared savings can help, because the need for useful data will grow as providers and financers share more financial responsibility.

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CHAPTER 5

The taxation of unhealthy energy-dense foods (EDFs) and sugar-sweetened beverages (SSBs): An overview of patterns observed in the policy content and policy context of 13 case studies

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Abstract

Taxation of energy-dense foods (EDFs) and sugar-sweetened beverages (SSBs) is increasingly of interest as a novel public health and fiscal policy instrument. However academic interest in policy determinants has remained limited. We address this paucity by comparing the policy content and policy context of EDF/SSB taxes witnessed in 13 case studies, of which we assume the tax is sufficiently high to induce behavioural change.

The observational and non-randomized studies published on our case studies seem to indicate that the EDF/SSB taxes under investigation generally had the desired effects on prices and consumption of targeted products. The revenue collection of EDF/SSB taxes is minimal yet significant. Administrative practicalities in tax levying are important, possibly explaining why a drift towards solely taxing SSBs can be noted, as these can be demarcated more easily, with levies seemingly increasing in more recent case studies.

Despite the growing body of evidence suggesting that EDF/SSB taxes have the potential to improve health, fiscal needs more often seem to lay their policy foundation rather than public health advocacy. A remarkable amount of conservative/liberal governments have adopted these taxes, although in many cases revenues are earmarked for benefits compensating regressive income effects. Governments voice diverse policy rationales, ranging from explicitly describing the tax as a public health instrument, to solely explicating revenue raising.

Introduction

Over the past few years there has been significant growth in political, public and academic interest in the taxation of energy-dense foods (EDF) and sugar-sweetened beverages (SSB). A growing body of evidence suggests that such fiscal measures have the potential to improve population health [1], [2], [3], [4]. Taxation has already been proven effective convincingly for tobacco and alcohol [5]. The additional revenues of these taxes may further increase their attractiveness for policymakers. Not only can this be useful in times of budgetary deficiencies, it can also broaden the financing model of health systems. Currently most countries are highly reliant on income taxes, which is a barrier for employability because increasing the marginal tax rate means increasing personnel costs. The reuse of taxes on unhealthy commodities in the fiscal domain of health can contribute to decreasing income tax dependency [6].

More important is that a tax on EDFs and SSBs can correct for the negative externalities associated to excess consumption of these products, by increasing their prices to their true social costs. It is probable that a case for such a Pigovian tax can be made given the relatively low prices of most EDFs and SSBs and their impact on health and associated medical costs, but it should be noted that quantification of all externalities is still in its infancy. The case for SSBs may be stronger since their inflation-adjusted price has gone down over the past decades whereas prices of fruits and vegetables have gone up [7], [8].

Profound policy barriers exist for the uptake of EDF and SSB taxation. Apart from the fact that consumption taxation is regressive [5], which can cause political debate on its own, food taxes also lend themselves to considerable ethical scrutiny, as they touch the base of the debate where protection of the public becomes restriction of personal freedom [9]. Public support for EDF/SSB taxes therefore depends on the normative discussion whether a government should only use arguments of health promotion(promoting healthy behaviour) or also of health protection (protecting the population against health dangers) to legitimize the prevention of obesity and diseases related to excess consumption of EDFs/SSBs. In addition, normative preferences also influence whether people find the nature of the intervention appropriate. Since EDF/SSB taxes are a form of collective prevention, they may be found inappropriate as they also affect people who are not at risk for developing obesity or related diseases. Furthermore, these taxes interfere with the interests of the food and soda industry, who exert strong lobby efforts for policies in favour of their interests and are accused to 'puzzle' lay people's nutritional literacy [10]. The

food industry contributes to framing obesity as merely a matter of personal responsibility in addition to portraying a lack of physical activity as the primary cause; hence framing strategies that aim to decrease public acceptance for policy measures such as EDF/SSB taxes by stating they infringe on personal freedom and choice [10], [11]. Another complication concerns the difficulty to robustly identify the health effects of EDF/SSB taxes. There exist many confounding factors such as substitution to other foods, and external reasons for price fluctuation and dietary behaviour.

Furthermore, health effects may only be visible after several years or even decades. Available evidence comes mainly from modelling studies which do take substitution effects into account, or observational studies of separate episodes of the causal chain linking an EDF/SSB tax to health outcomes [12]. Put simple, a case for such taxes can be made as the available evidence does point to effectiveness, but this evidence is less clear-cut as compared to tobacco and alcohol where addiction components are publicly accepted. A final complexity is that demand for most foods is not very elastic, which means that industry and retailers can shift relatively large parts of price increases onto consumers without enduring large consumption decreases. A meta-analyses conducted by Green, Cornelsen [13] for instance ranges the elasticity of foods in high-income countries from –0,36 to –0,61, with low- and middle income countries having higher price elasticity. Consumers seem more responsive to SSBs, with price elasticity estimates of soft drinks in the USA for instance ranging between –0,79 [14] and –0,86 [15]. Because of relatively inelastic demand experts argue that price increases should be tangible in order to generate meaningful behavioural effects. A sales tax of 20% or an excise of 1 cent per ounce for SSBs are mentioned [16]. However, in the world of policy, compromises must be made. Such high levies and price increases may prove unrealistic in many policy settings, as policymaking not only develops on the basis of puzzling (that is using evidence-based strategies) but also on powering (that is influencing people, in particular to control resources) [17].

Study objectives

Taxation of unhealthy EDFs and SSBs has potential both as a public health tool but also in the light of health systems' financial sustainability. Yet profound barriers disable its uptake. In the academic literature, attention has mostly been focussed on whether EDF/SSB taxes work, with little or no attention being paid to the policy determinants. We address this paucity of research by providing an overview of patterns observed in the policy content and policy context of 13 case studies. To our knowledge, this is the first study that investigates the policy comparatively from such a wide perspective.

Methods

In order to present an overview of patterns observed in the policy content and policy context of EDF/SSB taxes on the basis of systematically collected data, we first identified case studies of which we assume the tax has potential to meaningfully impact dietary behaviour using a purposeful sampling strategy. We therefore only included cases where the level of taxation is relatively high. We then identified a number of possible policy determinants on the basis of the policy analysis models of Walt and Gilson [18] and Leichter [19], key publications related to EDF/SSB taxation, and research group discussions. Subsequently these variables were filled for all cases using scientific literature, government publications where applicable, and grey literature where necessary. We finally consulted experts on individual case studies to validate our information.

Inclusion rationale

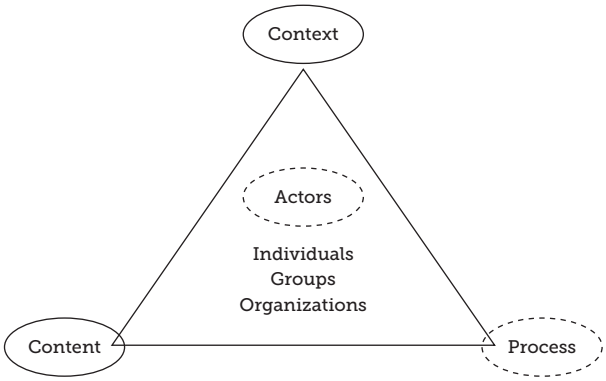
In many countries value added taxes or fiscal import duties apply to standard foods and drinks, but only in few countries unhealthy foods encounter additional taxation. Where unhealthy foods are targeted specifically, levies are often too low to expect meaningful dietary effects since EDFs are relatively price inelastic [1]. In this study we include a number of cases of which we assume that the fiscal policy under investigation has sufficient potential to improve diets, by only including cases that are widely recognized internationally for having tax levies that may according to economic theory be high enough to meaningfully impact dietary behaviour. A World Health Organisation (WHO) European Region paper [20] on the use of price policies to promote healthy diets served as a starting point for our purposeful sampling. It identifies four European cases where the WHO assumes the tax has the specific objective to influence diet, and where the tax is high enough to acknowledge the potential for dietary effects even though the primary purpose is raising revenue. These are the tax on saturated fats in Denmark, the tax on sweets, ice cream and soft drinks in Finland, the public health product tax in Hungary, and the tax on sugar- and artificially sweetened beverages in France. Other widely recognized cases concern the soft drink taxes levied in four Pacific countries (Fiji, Samoa, Nauru, French Polynesia) [21], the SSB tax of Berkeley, California [22], and the tax on sodas and snacks in Mexico [23]. In addition, the recently announced SSB tax in the UK (due for implementation in 2018) is included as the proposed levy is relatively high and the policy is subject to intense public and political scrutiny [24]. The same goes for the tax on sugar- and artificially sweetened beverages of Philadelphia (implemented in 2017) [25]. We finally included the South African SSB tax (due for implementation in 2017) because it was

announced explicitly as an instrument to tackle South Africa's obesity crisis while the proposed levy is relatively high [26], [27]. In total 13 case studies were included.

Conceptual framework: exploring the policy determinants of EDF/SSB taxes

We use elements of Walt and Gilson's [18] health policy analysis triangle as a framework to categorize policy elements. The health policy triangle is a highly simplified representation of policy reality, where a policy's content, context and process interact with each other as well as actors involved. We primarily focus on content and context variables. A systematic, comprehensive description of policy processes and the role of actors involved requires thorough investigation of individual cases and empirical data collection, which is outside the scope of this comparative analysis. Fig. 1 emphasizes how we use this model.

Figure 1. Health Policy Analysis Triangle, adapted from original of Walt and Gilson [18]. Full circles refer to elements of the policy cases that we analysed systematically; dashed circles refer to elements of the policy cases of which we only describe highlights readily available in the literature.



We classify context and content elements of EDF/SSB taxes according to the categorization presented in Table 1. Our choice of variables was guided on the basis of key publications including references [5], [8], [9], [10], [11], [16], [20], [21], [22], [23], [28], [29], [30], as well as research group discussions. To our knowledge no such framework for comparison hitherto exists. Our approach should therefore be seen as a first attempt to systematically explore the policy determinants of EDF/SSB taxes.

Table 1. Choice of variables.

Policy Content	General characteristics	What commodity/nutrient
		When first levied
		Current status and history of major adaptations
		Stated government rationale
	Technical characteristics	Tax mechanism
		Tax rate
		Are revenues earmarked?
	Impact	(Expected) revenue, absolute & as a share of total tax revenue
		Price pass-through to consumers
		Consumption change of targeted commodity
		Substitution to other commodities
		Health outcomes
Policy context	Situational	Relevance to governmental fiscal priorities
		Prevailing way of framing the problem
		Composition of executive government implementing the policy
	Structural	Obesity among adults & overweight among children
		Level of socioeconomic inequality (GINI-coefficient)
		Share of goods and services taxation, as part of total tax revenue
	Cultural	Room for lobbyists to influence policy (using the corruption perception index of Transparency International [31])
		Public support for healthy lifestyle promotion policy (using the Tobacco and Alcohol control scales [32], [33])
	International/ exogenous	Possibility of precedent effects
		Possibility of avoiding tax by cross-border shopping
		Influence of trade agreements

Elements describing the policy content (defined here as the substance of a policy which details its constituent parts) constitute the policies' general and technical characteristics, and the policy impact. Under general characteristics we describe 1) targeted commodities, 2) current status, and 3) the government's stated rationale at the point of introduction. Under technical characteristics we 1) describe tax rates and mechanisms, and 2) whether revenues are earmarked. Under impact we describe 1) the (expected) revenue collected by the tax and

how this compares to total tax revenue, 2) price pass-through to consumers and 3) consumption change of the targeted commodities, 4) substitution effects and 5) effects on health outcomes.

We used the categorization method of Leichter [19] for context variables (defined here as systemic factors that may have an effect on the eventual policy content), which identifies situational, structural, cultural and exogenous factors. Situational factors encompass the relevance of the tax in the light of the broader fiscal situation. This is important because taxation policy is mostly dealt with in Ministries of Finance, where fiscal effects are central on the agenda, not necessarily public health [6], [21]. The prevailing way of framing the issue is another vital situational element, because framing strategies can influence popular support in lifestyle-related policies [28]. Under this variable we describe elements of the policy process, however we do not assume this makes our process analysis complete. The final situational factor concerns the composition of the government adopting the policy.

Under structural factors we include obesity rates, to analyse the severity of the problem. We do so by comparing obesity rates for adults and children internationally and, where applicable, nationally. (Inter)national comparison is also used to investigate levels of socio-economic inequality. This is important because consumption taxes have regressive income effects, which receives considerable political attention. The share of goods and services taxation as part of total tax revenues is also included, as it indicates taxation traditions. Cultural factors constitute the room for lobbyists to influence policy, and general public support for health promotion policies. With these variables we address population perception. Under exogenous or international variables we explore the chance whether cases may have set a precedent. We assume that a case is most likely to do so if it receives considerable political, public and media attention nationally and globally, while in such cases industry will likely deploy strong efforts to block the policy [11]. The ease of buying the taxed product across the border is explored as well, because this influences the effectiveness of an EDF/SSB tax. Finally, the role of international trade agreements promoting free trade is analysed as this can influence policy content [21], [31], [32].

Data collection methodology

The identified variables are presented in Table 1. For policy content, government documents (using mostly budget announcements) form the primary sources of information for both general and technical characteristics as well as the revenue collection variable of policy impact. OECD revenue statistics [33]

(excluding the Pacific cases, Berkeley and Philadelphia) describe the share of the tax in total government revenues. When a language barrier did not allow us to look into government documents, scientific and sometimes grey literature was used.

For policy impact, excluding revenue collection, peer-reviewed studies evaluating real world effects on price change, consumer behaviour and health outcomes formed primary sources of information. If peer-reviewed studies were not available, we used grey literature: a report of the Banque de France [34], WHO [20], and casual monitoring in the Pacific countries [21].

For policy context, a number of variables allowed us to use (inter)nationally comparable quantitative indicators. We use WHO data [35] to compare obesity rates among adults for all nations included, and Centres for Disease Control and Prevention data for the US cities of Berkeley and Philadelphia [36], [37]. For children's obesity rates, we used OECD data [38] to compare nations. Levels of income inequality, expressed by GINI-coefficient, were compared internationally using World Bank data [39], with Bloomberg data for Berkeley and Philadelphia [40]. OECD data allowed us to compare the actual share of goods and services taxation in total tax revenue [33].

We used the corruption perceptions index of Transparency International [41] as an indicator of the influence of lobbyists in politics, and the tobacco [42] and alcohol [43] control scales as indicators how far European countries' health promotion policies reach [44]. For non-European cases these scales hold no data.

Situational and exogenous/international variables did not allow for the use of quantitative indicators: short elaborations were written on the basis of publications in scientific journals [21], [29], [31], [34], [45], [46], [47], [48], [49], WHO reports [20], [50], two academic books [11], [22], government budget speeches in which the tax was announced [24], [26], [51], [52], and transcripts, videos, or government press releases of City Council/Parliament meetings during which the issue was debated [53], [54], [55]. Reports of the Banque de France [34], National Heart Forum [56], KPMG [57], and two newspaper article [58], [59] were used to fill information gaps for France, South Africa, and Philadelphia.

Data sources, indicators used, and mapping techniques are described in further detail in Appendices 1 and 2 (see under supplementary material).

Expert consultation

Given that interpretation of qualitative data can be prone to researcher interpretation bias, we consulted experts on individual case studies. This served as a factual check of the accuracy and completeness of our information. Experts were found for Denmark, Finland, France, Hungary and the United Kingdom using the OECD network of health committee delegates. The health committee implements OECD's work on health and consists of policymakers of national ministries of health. The lead author of the study of Thow, Quested [21] took up this role for the Pacific cases, and those of the studies of Falbe, Thompson [60] and Cawley and Frisvold [61] for Berkeley. For Philadelphia local policymakers were consulted, and for South Africa we used the open round of the government for receiving commentary on its SSB tax. We did not succeed in consulting an expert for Mexico. A list of consulted experts can be found in Appendix 3 in supplementary material.

Results

The complete results are presented in appendices 1 and 2 in supplementary material. We here point out common patterns observed in the policy content and policy context of EDF/SSB taxes by describing the differences and similarities witnessed in the 13 case studies.

Policy content

Of all unhealthy foods, the taxation of SSBs seems most appropriate and realistic from a policymaking perspective, as evidenced by a drift of the most recent cases towards solely taxing SSBs. All taxes now target SSBs, with the exception of Denmark's fat tax that has only been in place for one year. In Finland, Hungary, Nauru, French Polynesia, and Mexico also specific foods such as sweets, ice cream, snacks, condiments and confectionery were taxed, with Hungary having the widest scope of products. Finland has slimmed down its scope by only letting SSBs remain as from 2017. France and Philadelphia are peculiar cases; here artificially sweetened beverages are subject to the same tax as SSBs, whereas original policy proposals only included SSBs.

At the point of writing, most taxes were very recently introduced, while they were about to be introduced in the UK (2018) and South Africa (2017). Only Finland has had a very long tradition of taxing unhealthy foods, with a first 'sweets tax' in 1926. The Pacific cases also have a somewhat longer food tax history, with Samoa implementing its first soft drinks tax in 1984 while the

others were implemented after 2002. All other cases implemented their taxes after 2011; taxing EDF/SSBs can be seen as a relatively new policy instrument.

In some cases, changes were applied after implementation. Denmark's fat tax was quickly abolished, whereas in Finland additional foods were added to the scope of the tax from 1926 to 2000, before sweets and ice cream were removed, added back, and removed again in 2000, 2010 and 2017 respectively.

Official stated rationales of governments differ, with many but not all explicitly referring to it as a health promotion measure. The governments of Denmark, Hungary, Nauru, French Polynesia, Berkeley, Mexico, the UK, and South Africa officially announced the policy as a health promotion measure. On the other hand, the governments of Finland, France, Fiji, Samoa and Philadelphia more prominently or solely mention revenue raising as the central aim.

Of all tax mechanisms used, most often there is an excise duty that targets a specific product, with inclusion based on composition. Only in Denmark the nutrient itself (saturated fats) was targeted, which seems to have contributed to its abolishment due to administrative complexities. In the other cases, a specific tax rate applies to –for instance- SSBs exceeding a certain amount of sugar per litre, or regardless of how much sugar they contain. Crucial seems to be the accurate demarcation of product categories and practicability in administering tax levying.

The level of taxation is difficult to compare because currencies, the level of competition, and purchasing powers differ. Tax levels should therefore ideally be adjusted for purchasing power, but this was outside the scope of our study. The products subject to taxation themselves differ as well, as does their base line tax rate. Still, we can say that some cases exert a stronger tax pressure than others. Some of the Pacific cases, as well as Berkeley and especially Philadelphia with their SSB taxes of $0.01 and $0.015 per ounce respectively bear relatively high tax levels. France has a relatively low tax level with a rate of €0.11 per 1.5 l.

It is interesting that some recent cases (Berkeley, Philadelphia, UK, and South Africa) portray relatively high levies. A momentum may have been set for SSB taxes encouraging policymakers to use relatively high levies as they draw upon the experience of earlier attempts.

Cases also differ when it comes to the earmarking of the raised revenues. Taxes are not earmarked in Denmark, Finland, Fiji, Samoa, Nauru, Berkeley, South

Africa, and Mexico; French Polynesia, Philadelphia, and the UK do specifically earmark revenues for community, health promotion or educational programmes; Hungary and France earmark part of the revenues for healthcare. It should be noted that a fine line exists with implicitly earmarking revenues. Mexico stipulates that it plans to use SSB/EDF revenues for potable water in public schools in low income areas and South Africa plans to use revenues for health promotion, yet both countries do not explicitly earmark. The same goes for Berkeley: an SSB panel of experts which makes recommendations how the City should fund programmes to reduce SSB consumption, was announced in the same Ordinance as the SSB tax. Revenues are not explicitly linked to this panel, because the SSB tax would then have required a supermajority in the referendum deciding upon its faith according to Californian tax law [62].

The revenues raised by the taxes as a share of total tax revenue constitutes less than 1% in all cases, except for Berkeley (4%) and Philadelphia (1.17%). Of the most populated countries (excluding the Pacific countries), Mexico raises most revenues at around 0.38% of total tax revenue. Taxation of EDFs and SSBs therefore probably only forms a small part of larger taxation reforms that aim to decrease income tax rates. Compared with public health expenses, the financial flows are substantial. In the case of Mexico, expected revenues of 12 billion pesos per year make up for around 37% of total spending on preventive care [63].

We found studies investigating the extent to which the EDF/SSB taxes were passed on to consumers through higher shelf prices for the cases of France, Fiji, Nauru, Mexico and Berkeley. Close to all of the tax was passed onto consumers in France and Mexico [34], [64]. Fiji and Nauru showed lower but still significant price pass-through [21]. In Berkeley one study, conducted in low income neighbourhoods, found similarly high price pass-through effects [65]. A study looking into retail outlet data of supermarkets and gasoline stations concludes that the tax was fully passed through [66]. However, a study which collected data on a wider scope of drink sizes as well as in more neighbourhoods, came to a lower overall pass-through estimate of 43.1% [61]. Retailers may be more likely to dampen the price effects of taxes by spreading costs to other products or by reducing margins on the targeted products if nearby retailers fall under a jurisdiction without such a tax, such as in the cases of Berkeley and Philadelphia.

Consumption effects were investigated in a number of cases. Evaluations of the Danish case show mixed results on dietary effects, with one study concluding that fats consumption decreased by 10–15% [67] whereas a study based on retail

outlet data found a 0.9% decrease [68]. Both studies used a non-experimental design and econometric analyses to investigate retail outlet data, making it difficult to robustly disentangle the tax' impact from other reasons of price changes or aggregate consumption shocks. A study enduring similar limitations investigated the Hungarian public health product tax, and found that sales of included products decreased by 27%, while also observing product reformulation. This study also discovered desirable substitution effects: processed foods consumption decreased by 3.4% while it increased by 1.1% for unprocessed food, with poorer households being more responsive. Bíró [45] therefore concludes that population diet has improved as a result of the public health product tax. A recent WHO impact assessment shows that consumption of the taxed products has decreased as well in the long term, while this study also found that health literacy has improved following the introduction of the public health product tax [69]. In France, an SSB sales drop of 3.3% has been noted, but we found no methodological details of this finding [56]. In Mexico two observational studies were conducted which adjusted for macro-economic variables and pre-existing trends. These found that the monthly sales volume of taxed beverages decreased by 6.1% [70] and 5.1% [71] on average after policy introduction. Moreover, these reductions were considerably higher in lower socioeconomic groups with 9% [70] and 10.2% [71] on average. A larger effect was found in Berkeley. A study with a non-randomized design that examined pre- and posttax changes in SSB consumption in low income areas found a 21% decrease in Berkeley, compared to a 4% increase in the comparison cities of Oakland and San Francisco that did not implement an SSB tax [60]. A study with a similar observational design that did not solely investigate low-income areas concludes that the tax was passed through mostly, but not uniformly, to consumers. Sales of SSBs fell by 9.6%, compared to an increase in sales of 6.9% in comparison cities whereas sales of untaxed beverages in Berkeley rose by 3.5% [72].

Real world evidence on the effects of the policies in terms of health outcomes remains scarce and therefore was not included. This relates to the fact that many confounding factors hinder such analyses, making the bulk of these studies reliant on modelling.

Thus, the available observational and non-randomized studies that evaluated the impact of the taxes in our 13 case studies seem to indicate that consumers did seem to change their behaviour: the consumption of targeted products decreases, and this effects seems larger among lower socioeconomic groups. Also of interest is the observed change in food supply, an often overseen effect

of EDF/SSB taxation. Less is known about substitution effects, although Bíró [45] hints that these may be beneficial if taxes are well designed. It remains difficult to pinpoint precisely the effects on health outcomes due to the scarcity of real world evidence.

Policy context

An enabling situational factor seems to be the fiscal need for extra revenue. In both Denmark and South Africa the tax formed part of a larger revision of the taxation system with the specific aim of expanding the scope of revenue sources, in an effort to decrease income taxes. Budgetary deficits also create fiscal need, like the recent economic crisis (Hungary), downturns in foreign trade (due to World War II and Finnish independence) or import tariff reductions following trade liberalization (Fiji and Samoa). Also in French Polynesia, Berkeley and Mexico extra resources were required, whereas in Philadelphia extra revenue was necessary for certain community and educational programmes held as policy priorities of the Mayor. For France and the UK no direct fiscal need was found, but there may have been an indirect fiscal need given that both countries were under pressure to reduce their budget deficit in the aftermath of the financial crisis.

The way in which the policies were framed differs, although similarities also exist. Industry consistently points to a lack of evidence on the effectiveness of EDF/SSB taxes and therefore seems to pressure governments to not adopt them in the first place, but if they pursue to refer to it as a normal taxation instrument instead of a health protectionmeasure. The latter occurred in France, where Coca-Cola threatened to suspend domestic expansion (which meant a loss of potential jobs) if the policy was labelled a public health policy [56].

In other cases the government forcefully described their tax as a public health tool while specifically naming and shaming food or soda industry as the culprit of the obesity/non-communicable diseases epidemic. This happened in Berkeley, the UK, and to some extent Mexico and South Africa. In Berkeley a broad coalition of community groups expressed a consistent message in their 'Berkeley versus BigSoda' campaign that preceded the policy's referendum. Their message referred to the 'soda industry's inappropriate behaviour'; parallels were drawn with the tobacco industry. Opponents of the tax mainly focussed on 'confusing exemptions' of the tax, and accusations that City Council only aimed to raise revenue, instead of using the (more effective) argumentation that it restricts personal freedom [11], [73]. In the UK, celebrity chef Jamie Oliver was in the centre of the debate as an SSB tax advocate. Oliver consistently

accused food industry to 'damage children's health' and advocated for a tax as a matter of 'parental responsibility of the government for children's health'. UK government framing follows similar logic, as the tax is named the 'soft drinks *industry* levy' and the government mentions the tax will incentivize industry to reformulate their products by reducing sugar amounts. The earmarking of any upcoming revenues for community school programmes also follows the frame used by Oliver.

Several other cases use a mix of describing the tax as a public health tool as well as a source of revenue, with some cases specifically describing how these revenues enable popular policies. The tax is thus not universally described as a public health instrument. This may be explained because industry has strong lobbying capacity and the means to commence law suits [11]. However, research shows that exposure to strategies used by the food industry to manipulate food choices can generate criticism towards the food and soda industry, and hence support for public policy measures. Ortiz et al. [28] have for instance proven this by exposing people to strategies how the industry develops foods that exploit the biological need for energy (e.g. inclusion of salt and sugar in bread or milk), and uses advertisement and cognitive biases (e.g. increased portion sizes) to stimulate overconsumption. In the cases where the government described the tax specifically as a public health tool, it may have only been able to do so because prominent voices in the public debate emphasized these strategies of the food/soda industry. In cases where the government did not describe the tax as a public health tool, such voices were probably much less present.

The increasing trend of public-private partnerships may also explain why some governments did not describe the tax as a health protection measure. It remains unclear whether (the threat of) these taxes work constructively, or destructively for such partnerships.

A striking finding is that the government implementing the tax in most cases consists of liberal or conservative parties. In more comparable cases such as Denmark, Finland, France and the UK, parties with a centre/right position in the national political spectrum held executive power. Only Fiji, South Africa, Berkeley and Philadelphia had a left-wing party in power. This finding is notable, because the common view is that health policies in general, and lifestyle policies in specific, are more often urged by left-wing parties [44], [74]. A logical rationale from a left-wing perspective could be that an EDF/SSB tax urges industry to 'behave better'. However, EDF/SSB taxes can also be explained with a more right-wing rationale: the individual is 'to blame' for societal costs

associated to unhealthy food choices, which supports Pigovian taxation as well. In addition, regressive income effects are of less a concern and lowering income taxes may be of transcending importance for the right.

We also observe patterns in the structural factors for our 13 cases, yet we cannot say these are decisive factors due to the small sample size. Obesity rates are higher than global average in all cases. Especially the Pacific countries, Mexico, Philadelphia, the UK, the US and South Africa stand out. Berkeley is peculiar as the obesity rate of Alameda County (in which Berkeley resides) is only 20%, compared to 28.9% USA average.

Given that EDF/SSB taxes are regressive, it is interesting to note that the GINI coefficient is relatively high in most cases (meaning that incomes are relatively unequal).

The same goes for reliance on excise taxes: its share in total revenue is only below OECD average in France and Mexico. Finance departments may have more experience with excise tax technicalities and the demarcation of product groups if governments are relatively dependent on such taxes, which can aid the implementation of an EDF/SSB tax.

Of cultural elements, room for lobbyists as measured by the corruption perceptions index does not appear to influence the policy. The tobacco and alcohol control scales show that the European countries with an EDF/SSB tax also exert relatively big health promotion efforts for tobacco and alcohol. The UK came out on top of the tobacco control scale; France and Finland are amongst the highest-ranking countries in both scales; Denmark and Hungary are in the middle range for both rankings. No data was collected for the non-European cases, but Berkeley for instance has relatively high public support for health promotion efforts as it is known for national leadership in policies such as smoking bans [11].

The precedent that may have been set by our cases differs. The Pacific countries represent very small markets where global media attention is limited, so industry opposition of large multinationals was negligible. The UK, Berkeley and Philadelphia were under bright global media headlights so the stakes for industry were much bigger. The SSB taxes have nevertheless been approved in these cases, so they may have set a policy precedent. Still, situational factors remain vital for the origination of an SSB tax. The Danish fat tax also carried with it the burden of a precedent since it was the first in its kind, which impeded the policy.

The influence of cross-border trade is difficult to measure, but is likely of limited concern in large countries like Mexico and South Africa, and isolated countries such as the Pacific islands and to some extent the UK. It is more of an issue in cases where border crossing requires little effort, like Berkeley and Philadelphia. Still, it remains questionable if this is really a matter of concern since EDFs and especially SSBs are cheap. Buying these products is often a matter of everyday grocery shopping routine, which may be different in products such as cigarettes. Inhabitants also have to make travel expenses to shop across the border. Nevertheless, the cross-border argument can be important in the public debate. In Denmark it was part of the opposition strategy to discourage the tax by virtue of endangering Danish jobs [31]. This claim was not substantiated by rigorous empirical evidence, however [5].

Trade agreements are also important, but they do not necessarily disable EDFs/SSBs taxes as long as products are demarcated adequately, and product inclusion is solely based on composition and not on its (geographic) origin. EU trade agreements for instance forced the Danish fat tax to also include milk and meat, which was not part of the original proposal because these are produced extensively in Denmark. In Finland EU agreements led to the abolishment of the sweets and ice cream tax, as Finland excluded certain domestic products. From these experiences and our content analysis it seems that policymakers run into less demarcation issues when designing an SSB tax compared to an EDF tax.

Discussion

Our analysis of 13 case studies on EDF/SSB tax policy content and context determinants has some limitations. First, it requires a systematic literature review to evaluate the effectiveness of EDF/SSB taxes in general. This was out of scope for our explorative study design that primarily focuses on identifying policy patterns in 13 case studies. The impact elements of our policy content analysis therefore are limited with respect to external validity. The number of observational and non-randomized studies that we included to evaluate the effectiveness of the EDF/SSB taxes under investigation also do not cover all 13 cases.

A second limitation concerns the limited depth of the analyses of policy processes and the behaviour of stakeholders involved. For policy analysis these elements are vital, we focussed on generic policy processes though to enhance

international comparability [75]. Systematic investigation and comparison of policy processes including stakeholder analysis is recommended to further understand the issue.

A third limitation concerns the lack of an overview of other obesity policies of governments. This is covered to a certain extent by the variables 'prevailing way of framing the problem' and 'healthy lifestyle promotion policy', but it remains difficult to (inter)nationally compare the multitude of obesity policies of governments.

We nevertheless believe the current study pinpoints an interesting development in public health policy, first of all because the more robust observational and non-randomized studies that were available on our 13 case studies [34], [45], [60], [61], [64], [65], [68], [69], [70], [72], [76] seem to indicate that the taxation had the desired effects on prices and consumption of targeted products. Less is known about substitution effects, but the Hungary case shows that substitution to healthier products and product reformulation can occur as well [45].

The proper design of an EDF/SSB tax remains important. Policymakers seem hesitant to include a wide scope of products, possibly because of difficulties in defining sharp boundaries and administering tax levying. This may explain the recent drift towards solely taxing SSBs. Policymakers' confidence seems to grow, since in the most recent cases (Berkeley, UK, Philadelphia) relatively high levies apply to SSBs, which in all probability makes these policies more effective than earlier attempts.

This suggests that SSB taxes are useful new instruments for the public health policy toolbox. However our context analysis shows that these policies do not principally envelop following public health advocacy. Fiscal needs quite often form their foundation instead.

The fact that fiscal needs dominate may explain one of our more striking findings: a conservative or liberal government implemented the EDF/SSB tax in most cases, contradicting the view that health taxes are a left-wing preference only. This view may have its origin in the question whether an EDF/SSB tax provides public protection or restricts personal freedom. Opponents also argue that they are ineffective, hurt small businesses, and cause job losses [11], [22]. All of these elements 'skew' the policy to the left. However, other rationales are also at play, such as closing budget loopholes. The revenues raised are often used for benefits that compensate for regressive income effects, either by explicitly

earmarking revenues for certain benefits or by doing so more implicitly. This may be important for possible left-wing support.
Left and right-wing political rationales can be used in specific framing strategies: either the industry (left) or individual (right) can be blamed for any negative externalities that follow unhealthy food consumption, although in practice governments seem hesitant to describe the behaviour of the industry and even more so the individual as the reason for their EDF/SSB tax.

It remains somewhat puzzling how EDF/SSB taxation relates to another trend in public health policy: public-private partnerships. The *threat* of a tax can work as a lever to make self-regulation work as it provides incentives for industry to engage in product reformulation [77]. In such scenario the instrument may be supportive for productive public-private partnerships. Yet in the 13 cases that we describe, the threat has turned into reality as the policy is already in place or announced, suggesting that self-regulation was considered insufficient. The question remains whether the instrument jeopardized public-private partnerships in these cases.

Conclusions

This study is in our knowledge the first attempt to investigate patterns in the policy content and policy context of taxing unhealthy foods and beverages, using a cross-country comparative methodology with a wide scope of included variables. We recommend scholars to enhance this methodology by adding the comparison of policy process and stakeholder behaviour.

Our study shows how this new policy instrument follows diverse policy rationales. This implies that it can be embraced by diverse ideologies. However, administrative practicalities remain important, which might explain why we note a drift towards solely taxing SSBs as these can be demarcated more easily compared to EDFs. Policy experiences with SSB taxes seem successful, because the observational and non-randomized studies that were available on our cases seem to indicate that the SSB tax generally had the desired effects on prices and consumption. This may also explain why we note an upward drift of SSB levies in recent cases. In SSB taxes the 'puzzling' phase seems to be clear, but there still are issues on 'powering'. In EDF taxes both 'powering' and 'puzzling' remain substantial tasks for policymakers. We therefore conclude by advising policymakers to aim for an SSB tax initially if a window of opportunity for a food or beverage tax arises.

Appendix. Supplementary data

Appendices 1, 2 and 3 can be found on: https://doi.org/10.1016/j.healthpol.2017.06.011 (Hagenaars et al., Health Policy, 2017; 121 (8): 887-894)

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INTERMEZZO 2

Sugar-sweetened beverage taxation in 2017: a commentary on the reasons behind their quick spread in the EU compared with the USA

Comment on "Sugar-sweetened beverage taxation: an update on the year that was 2017".

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Abstract

In the final issue of *Public Health Nutrition* in 2017, Kathryn Backholer and colleagues provide a clear overview of the spread of taxes on sugar-sweetened beverages (SSB) in 2017, and a useful overview of opposing arguments and their counterpoints. Backholer *et al*. argue that much of the action was concentrated in the USA, but in the present commentary we point out that the recent sweep of SSB tax policy announcements in the EU seems much more promising. Policy makers in EU countries seem to learn from neighbouring countries, while political ideologies do not appear to stand in the way. This could have international spillover effects as the default tax thresholds of 5 and 8 g sugar/100 ml, used in EU cases, provide clear incentives for the multinational soda industry to reduce sugar levels across the board, although it is not yet clear whether the tiered tax designs used in the EU are actually more effective than the flat rate tax designs used in the USA. Scholars may contribute to the policy momentum by comparing the effectiveness and feasibility of both designs in different policy contexts, including lower- and middle-income countries. The spread of SSB taxes in the USA will nevertheless most likely be limited so long as it remains a local policy and 'no-go' for the Republican Party. We explain the differences between the EU and USA by comparing the level of fiscal decentralization, the political context and the use of framing strategies.

In the final issue of *Public Health Nutrition* in 2017, Kathryn Backholer and colleagues provide a clear overview of the global spread of taxation on sugar-sweetened beverages (SSB) for health-related reasons in 2017[1], and a useful overview of opposing arguments and their counterpoints[2]. Backholer *et al*. argue that much of the SSB tax action was concentrated in the USA, because an SSB tax was implemented in six US cities in 2017. In the present commentary we point out that SSB taxes in fact spread much more quickly in the EU compared with the USA. Backholer *et al*. also argue that academics can accelerate the current policy momentum by robustly evaluating and widely disseminating the public health results of SSB taxes. It is also important to better understand the policy enablers of SSB taxes. Governance and the attributes of the political system often seem more important policy determinants for the acceptance of an SSB tax than the potential positive effects on public health. This observation helps to explain why in some settings SSB taxes are adopted more easily, as well as how they are shaped. Up to now, academic literature has been heavily skewed towards measuring the impact of SSB taxes through behavioural changes of the consumer instead of enabling issues such as the optimal tax design, the administrative and political context, and specific implementation strategies[3]. In the present commentary we use a narrative review to hypothesize how such factors can explain the quick spread of SSB taxes that currently seems underway in the EU in comparison to the USA.

EU shows multiple sugar-sweetened beverage tax thresholds

Governments in the EU all have a tiered tax mechanism, with taxation thresholds of 5 g and/or 8 g sugar per 100 ml. The UK appears to be an influential early adaptor. In 2017 Cataluña, Estonia, Ireland and Portugal followed its two-tiered 'soda industry level' of 18 pence for SSB with 5–8 g sugar/100 ml and 24 pence for SSB with more than 8 g sugar/100 ml. Estonia also has a lower tax rate for SSB with less than 5 g sugar/100 ml. Hungary taxes only SSB with more than 8 g sugar/100 ml. Finland charges €0·11 per litre on beverages with less than 5 % sugar; beverages that fall above this threshold are charged double[1,4]. France introduced a flat rate of €7.16 per 100 litres for all sugar- and artificially sweetened beverages in 2012, but announced a tiered tax in its 2018 budget. Beverages with less than 5 g sugar/100 ml are not charged, drinks with 5–8 g sugar/100 ml incur the same rate as before, beverages with 8–10 g sugar/100 ml will be charged double, and triple when sugar content exceeds 10 g/100 ml[5]. So France also changed its tax mechanism to follow the UK model.

Differentiation of tax thresholds on the basis of sugar levels does not occur in the USA. The may be because such approaches are more complex to administer, which can pose a bigger problem on the level of local government. Berkeley was the first US city that adopted a flat rate of $0·01 per ounce (i.e. US fluid ounces; 1 US fl. oz = 29·75 ml) for the distribution of SSB in 2015. Neighbouring cities San Francisco, Oakland, and Albany imitated the Berkeley experience, as did Cook County although the latter has already been abolished. Boulder charges $US 0·02 and Seattle charges $US 0·0175 per ounce. Philadelphia charges $US 0·015 per ounce also on artificially sweetened beverages.

A clear preference for tiered or flat rate tax designs does not appear to exist outside the EU or USA. For instance, a flat rate is used by governments in Barbados, Dominica, Mexico, several islands in the Pacific, the Philippines, Saudi Arabia and the United Arab Emirates, while a tiered design is used in Brunei (threshold of 6 g sugar/100 ml), Chile (threshold of 6·25 g sugar/100 ml) and Thailand (thresholds of 6 and 10 g sugar/100 ml)[1,4,6–8]. Interestingly, the governments of South Africa and Sri Lanka deploy a mechanism where the tariff increases with every gram of sugar per 100 ml. Drinks with less than 4 g sugar/100 ml are exempted in South Africa; in Sri Lanka all SSB are targeted[9,10].

The evidence base does not allow us to draw conclusions on the preferred tax design. Flat rate taxes may be easiest to administer and are therefore more realistic for governments with limited administrative capacity. They pose the incentive to completely remove sugar from beverages, but this may be less feasible for certain SSB than reducing sugar content which is stimulated by tiered designs. Recent evidence from the UK shows that over 50 % of manufacturers reduced the sugar content of beverages in the two years between tax announcement and implementation[11]. A downside is that tiered taxes project the idea that some sugar is fine, especially when drinks that fall below a certain sugar level are exempted from taxation (as in the UK). In that respect the continuous scale used in Sri Lanka poses the strongest and fairest incentive for reformulation, but this design may be most difficult to administer.

EU shows faster diffusion of sugar-sweetened beverage taxes

SSB taxes have thus far been enacted only locally in the USA. Attempts on the state and federal level all failed[12]. Democratic Party dominance is strongly associated with SSB tax uptake, all attempts in Republican jurisdictions thus far have failed[13]. In contrast, SSB taxes in the EU are adopted by parties all across the political spectrum: from the Conservative Party in the UK, to the centre-right coalition government in Finland, la Republique en Marche in France and a centre-left coalition government in Estonia, up to a Socialist Party minority cabinet in Portugal.

US regions with higher obesity prevalence rates are generally associated with higher levels of support for the Republican Party[14], thus suggesting the US spread of local SSB taxes may not reach those jurisdictions with the highest obesity rates. Furthermore, only about 5 million Americans out of a total 327·4 million lived in jurisdictions with active soda taxes as per 6 April 2018[15]. This compares with approximately 170 million people in the EU out of a total 511·5 million[16], with SSB taxes implemented also in countries with relatively high obesity rates (Finland, UK, Hungary, Ireland).

So while the USA has some early adaptors, an early majority is beginning to form in the EU. One can therefore conclude that at this point in time SSB taxes not only spread much more rapidly, but also more effectively in the EU than in the USA. This seems mainly to relate to differences in fiscal decentralization, politics and framing strategies.

Fiscal decentralization in the USA

The high level of fiscal decentralization in the USA may be a reason why SSB taxes do not spread as quickly as in the EU. Table 1 presents figures from the Organisation for Economic Co-operation and Development's tax autonomy database[17] and includes solely those countries where a share of total sub-central government (SCG) tax revenue falls under the highest category of tax autonomy. It points out the relatively high level of fiscal decentralization of the USA compared with EU countries, with the exception of Spain. Indeed, SSB taxes are adopted by SCG precisely in the USA and Spain (Cataluña).

Table 1 Taxation power of sub-central governments (SCG) in the EU and USA. Only the highest level of tax autonomy (category A1) is included; countries without SCG taxation with such an autonomy level were excluded. Adapted from the Organisation for Economic Co-operation and Development[17]

	SCG tax revenue, as % of total tax revenue	Full discretion on rates and reliefs, as % of total tax revenue of the SCG
Austria	**4.6**	
Länder	1.6	33.4
Local	3.1	9.7
Belgium	**9.9**	
States	5.3	95.4
Local	4.6	8.2
Estonia	**1.1**	
Local	1.1	8.0
France	**13.0**	
Local	13.0	45.6
Italy	**16.5**	
Regions	10.6	
Local	5.9	28.1
Luxembourg	**3.3**	
Local	3.3	6.3
Slovak Republic	**2.7**	
Local	2.7	4.0
Slovenia	**10.6**	
Local	10.6	15.0
Spain	**23.6**	
Regions	13.6	92.1
Local	10.0	30.0
USA	**33.7**	
States	19.7	100.0
Local*	14.1	

* Local government in the USA has a wide variety of taxing powers

The USA has a tradition of levying consumption taxes at the SCG level. It employs a retail sales tax instead of a value-added tax (VAT) as the principal consumption tax, which is imposed at the state and local government level. EU countries all deploy VAT nationally. Excises are levied in the USA by the federal government but many state and local governments levy excises on top of the federal tax. Excise can be levied only once in the EU, because the movement of excisable products is subject to a duty-suspension arrangement until products are released for free circulation under EU single market policy[18].

EU single market policy has previously impeded the development of other taxes on unhealthy foods. The initial exclusion of meat in the Danish fat tax was judged as illegal state aid by the EU Commission and the threat of an EU lawsuit was a deciding reason why it was repealed only one year after implementation[19]. The Finnish Government experienced something similar when its tax on sweets and ice cream was abolished on 1 January 2017, after the EU Commission judged that it discriminated between similar products. SSB tax policies did not experience such issues[4]. In fact, EU single market policy may have even set a 'soft governance' framework for how to shape SSB taxes, as evidenced by the congruent use of taxation thresholds of 5 and/or 8 g sugar/100 ml in EU cases.

The reverse may be true in the USA, where higher levels of government can restrict or eliminate the policy activity of lower levels of government through preemption. Federal preemption of local and state SSB taxation seems unlikely, because this may occur only when SCG taxes reduce federal benefits or when they interfere with interstate commerce. But SSB consumption does not affect any federal programme and SSB excise taxes are administered in the state where they are actually sold[20]. State preemption of local SSB taxes seems more likely, because local SSB taxes often affect the state budget as states mostly charge a general retail sales tax. In other public health areas state preemption has counteracted local policy action as well (e.g. food nutrition information), making it a significant threat to SSB taxes, also because industry lobbyism is more permanent at the state level[21]. State coercion is unlikely when SSB taxes are approved through referenda, as it poses a democratic calibration that higher governments likely will not overrule. Adopting local excise taxes through ballot issues is a formal requirement under state law in ten states including California, which probably makes the SSB tax policies in these states (Albany, Berkeley, Oakland, San Francisco, Boulder) more robust than policies that did not require ballot approval (Philadelphia, Cook County and Seattle)[13, 22]. The California Governor nevertheless recently adopted a measure that bans new local SSB

taxes for the next 12 years, making California the first state that coerces local governments not to implement SSB taxes. The measure does not abolish local SSB taxes that are already in place. It was apparently adopted in exchange for the soda industry to withdraw a ballot measure that would have raised the voter threshold to approve local sales tax increases for any product, from a majority to a supermajority[23].

Political environment and framing strategies

Governments with diverse ideological backgrounds adopt SSB taxes in the EU, but in the USA they have been adopted solely in cities where the Democratic Party dominates. A reasonable explanation might be that the USA knows a political system with two dominant political parties with very different ideological backgrounds, whereas governments in the EU often have a much more fragmented political system with more room for coexisting policy frames. This is exemplified by the fact that all US cities where an SSB tax was proposed knew fierce campaigns, whereas many governments within the EU simply announced the tax in their yearly budgets. Attempts in the USA without external aid for pro-tax campaigns therefore seem unviable. Local US SSB taxes appear to require one dominant policy frame. In all successful ballot issues public health effects dominated the debate, and in all successful cases with council voting there was a dominant focus on specific benefits or programmes that could be financed with the extra revenue (e.g. pre-kindergarten in Philadelphia) [13, 24]. On the contrary, proponents in the EU mostly employed all arguments in favour of SSB taxes: public health effects, extra revenue for the public health system or cost savings in health care, and incentives for the soda industry to decrease sugar levels. The latter argument is not often used in the USA, which makes sense as local taxes pose smaller incentives for multinational soda companies to decrease sugar levels.

Conclusion

The recent sweep of SSB tax policy announcements in the EU is promising and may continue, because policy makers seem to learn from neighbouring countries while political ideologies do not appear to stand in the way. On the contrary, in the USA the spread of SSB taxes will most likely be limited as long as it remains a local policy and 'no-go' for the Republican Party. This is disappointing from a public health perspective, but if SSB taxes keep spreading

as they do in the EU, this could have international spillover effects for the multinational soda industry to reduce sugar levels across the board. Scholars may contribute to the policy momentum by continuing to compare the public health effects and feasibility of tiered and flat rate tax designs in different policy contexts.

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CHAPTER 6

Six lessons from introducing sweetened beverage taxes in Berkeley, Cook County, and Philadelphia: A case study comparison in agenda setting and decision making

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Abstract

Sweetened beverage (SB) taxes have recently been introduced to prevent obesity by several governments, but limited information on related policy adoption processes hampers further diffusion. We investigated the agenda-setting and decision-making phases of SB tax reforms in Berkeley and Philadelphia (where it was successfully adopted), and Cook County (where it was repealed). A web-based survey, semi structured stakeholder interviews, and a local media coverage analysis were used to collect information. Findings were structured and analyzed using the health policy triangle of Buse, Mays and Walt. Six general lessons emerged. First, the policy was coupled to existing high-agenda items (e.g., financing pre-kindergarten in Philadelphia). Second, policy framing had to align prevailing political sentiments, as expressed in media (e.g., 'Berkeley vs. Big Soda' echoed skepticism of corporate influence in politics). Third, existing tax policies and political decision-making rules were important (e.g., confusion how the SB tax related to state and federal taxes fueled Cook County opposition). Fourth, the tax structure required technical and political considerations during policy formulation (e.g., artificially-sweetened beverages were included in Philadelphia to counteract arguments that the tax was regressive). Fifth, it was important to build an advocacy coalition upfront (e.g., the Berkeley coalition was constructed prior to announcing the attempt). Sixth, successful advocacy coalitions were locally grounded and influenced local media (e.g., the Cook County opposition engaged local retailers).

Introduction

The evidence base for sweetened beverages (SB) taxes as a cost-effective public health policy has accumulated over the last years. A recent meta-analysis of real-world effect studies concludes that a 10 % SB tax significantly reduces sales, purchases, and intake of SB taxes by about 10 % [1]. Simulation studies suggest that SB taxes may reduce the disease burden and healthcare expenditure caused by tooth decay and obesity-associated diseases [2,3].

It is therefore a promising development that several governments have adopted SB taxes in recent years. About 170 million consumers paid SB taxes in the European Union in 2018. In the US, SB tax policy diffusion accelerated on the local level in 2016 and 2017, but it has attenuated since 2018 with established policies in jurisdictions representing a total of about five million people. Along the European Union and US, an SB tax has been introduced in Brunei, Chile, Mexico, the Philippines, Saudi Arabia, South Africa, Sri Lanka, Thailand, the United Arab Emirates, and several islands in the Caribbean and Pacific [4].

That leaves many governments that still do without SB taxes. The spread of SB taxes can be accelerated if their policy enablers and disablers are better understood. These do not solely consist of elements related to tax design and evidence on public health impact, but also relate to the broader policy context and factors shaping the policy process including stakeholder behavior. This type of policy analysis may be particularly important because SB taxes target a specific industry with vast commercial interests [5].

Comparative case studies on the adoption of SB tax policies in different health system settings are among the few research designs that can inform such policy analyses [6]. Academic literature has so far primarily focused on the potential health impacts of SB taxes. Wright et al. [7] conducted a review to investigate what type of research has been published on innovative health taxes, and found that fifty-one studies, executed between 1990–2016, investigated behavior change. In contrast, we could find only two peer-reviewed studies that conducted a policy analysis of the adoption of SB taxes. One study compared the failed attempt to introduce an SB tax in New York City (NYC) to other obesity control measures [8], the other compared the policy process of SB taxes on four Pacific islands [9].

Since the review of Wright et al. [7] additional policy analyses have been published [[10], [11], [12], [13], [14], [15]]. A study on the SB tax policy process in Colorado and Kansas [13] was performed. Purtle et al. [11] and Kane and Malik 15] examined the policy process of the Philadelphia SB tax. Jou et al. [14] focused on strategic messaging in unsuccessful local US SB tax attempts. Hagenaars et al. [10] compared the policy context and content of 13 cases but did not specifically focus on the policy process of adopting SB taxes.

This paper adds to this emerging field of research by investigating the agenda-setting and decision-making phases of SB tax adoption of three local US governments: Berkeley (California), Cook County (Illinois), and Philadelphia (Pennsylvania). Collected information on these case studies is structured and analyzed using the health policy triangle of Buse, Mays and Walt [16], which focuses on policy content, context, process and actors. A detailed narrative of the agenda-setting and decision-making processes in the 3 case studies is provided. Our analyses helped us to identify general themes emerging in all 3 case studies, that are presented as "six lessons learned".

Methods

In this section we first describe how we selected our case studies. Successively our data sources are described: a web-based survey, semi-structured interviews, and a local media coverage analysis. It is explained how we drafted narratives of all three cases, and the final paragraph provides a short description of the applied analytical process for identifying themes.

Sampling justification

We opted to investigate SB taxes in US cities to make cases as comparable as possible. We purposefully selected Berkeley, Philadelphia, and Cook County. The most important reason why we selected Berkeley and Philadelphia is that these were the first US cities to pass an SB tax. We wanted to contrast these cases to a city or county that did not pass an SB tax successfully. Several US cities attempted SB taxes unsuccessfully [17] and could have been selected, but in Cook County an SB tax was passed initially before it was repealed two months later. We hypothesized this could deliver a more detailed picture of differences between successful and unsuccessful cases. In addition, these cases exhibit some important differences in their policy context. This could potentially enable us to draw some generalizable lessons [18]. In Berkeley the average level of education and income is high. Berkeley is known for adopting health policy

primers and has a high level of citizen engagement [5]. In contrast, Philadelphia is a relatively poor city with high inequities. Chicago (the biggest city in Cook County) also knows high inequities [19].

Survey

A short web-based survey was distributed to purposively selected key informants. The sample included actors who were involved in or closely followed the realization of one of the three SB taxes, with a wide range of professional backgrounds and roles. We reached out to representatives of the mayor's or county president's office, members of the city council or county board, the civil service, public health institutes/advisory boards, locally based academics, advocacy/interest groups that supported or opposed the tax, and local news reporters. An initial list with potential participants was derived based on newspaper articles, and approached by e-mail. Non-responders were sent reminder e-mails every two weeks, up to six in total. We called secretarial support of non-responders when we were unsure if our invitation was sent to the correct e-mail address. A snowballing technique was used to identify additional potential informants. In total, we reached out to 95 persons of whom 21 completed the survey. See Table 1 for respondent characteristics.

Table 1. Characteristics of survey respondents and interview participants.

	Survey respondents, not interviewed	Interview participants
Local politicians	2	3
Public administration	2	0
Local public health academics	1	2
Public health advocacy group members supportive of tax	2	5
Other advocacy group members supportive of tax	0	3
Advocacy group members opposing the tax	1	0
Local news reporters	0	0
Total Berkeley	1	5
Total Cook County	0	4
Total Philadelphia	7	4

Affiliation, policy standpoint (in the case of local politicians, public administration and local academics) and case on which participants reported are not shown to ensure anonymity.

The survey listed five questions about the agenda-setting and decision-making phases of the SB tax policy, as well as on the role of stakeholders during these phases (Box 1). A native English speaker, who was not part of the research team, carefully completed an initial version of the survey to make sure questions would be interpreted adequately.

Text box 1. Web-based survey questions.

1) What was your function/role during the development of the soda tax policy?
2) When did you become involved in the debate preceding the decision making?
3) Can you identify three factors, events, publications (research/popular media/other), or other critical junctures/circumstances that have had a big impact during the development of the soda tax policy?
4) What or who do you think have been the most important stakeholders during the agenda-setting phase of the development of the soda tax policy in your city? (Respondents could refer to a maximum of ten stakeholders and had to assign their position regarding the tax (high/medium/low support or opposition, or non-mobilized), as well as their perceived level of influence (high/medium/low).
5) Do you think the following categorization of dominant policy frames is correct for your city: 'health frame' Berkeley, 'targeted budget frame' Philadelphia, 'ambiguous frame' Cook County. (An explanation of these terms preceded this question).

Interviews

After completing the survey, respondents were asked if they wanted to participate in a semi-structured interview to discuss their responses. Thirteen of the twenty-one respondents were interviewed from August 2018 to January 2019 by the lead investigator (LH), in a Skype or telephone interview that lasted between 30–60 min. Two participants were interviewed simultaneously, resulting in twelve interviews and nearly ten hours of recorded material. Interviews were transcribed, and LH drafted a summary report immediately after each interview.

Survey and interview data coding

The survey results and interview transcripts were independently coded by LH and MJ using Atlas.ti 8.3. LH and MJ used a coding scheme that was compiled after discussions with the full research team based on the summary reports, and according to the four elements of the health policy triangle (policy content, context, process and actors) [16]. See Appendix 1 for the full coding scheme. LH

and MJ subsequently generated tables with occurrences of their respective coding results and reviewed code co-occurrences using the Atlas.ti co-occurrence table, which provides a visually accessible way to see patterns across the dataset. Differences in co-occurrence were discussed by LH and MJ by going through a selection of transcripts. This method provided a systematic way to discuss interpretation differences.

Local media coverage analysis

We used newspapers for the local media coverage analysis and to triangulate findings from the surveys and interviews. Based on participants' advice and local circulation figures, we selected the East Bay Times for Berkeley, Philadelphia Inquirer for Philadelphia, and the Chicago Tribune for Cook County. Since the latter showed highly divergent results, we also collected articles published in the Chicago Sun-Times. We included articles that were published from the date when the policy was on the agenda (according to survey respondents) until four days after it was adopted (Berkeley and Philadelphia), or repealed (Cook County). The search strategy in the newspaper databases combined the following words: tax, soda, pop, sweetened beverage, ssb, sugar, and sin. Articles that did not discuss issues related to the *local* SB tax were excluded. In total, we included 239 articles (296, when the Sun-Times is included).

We assigned the stance towards the tax (positive, neutral, or negative) of all included articles. We also assigned the type of article (editorial, column, letter to the editor, report). LH and MJ first screened article headings independently, and read full texts when the stance was not immediately clear. LH and MJ then discussed articles of which their assignments conflicted. The full research team discussed and decided upon the stance in six articles on which LH and MJ remained unsure.

Drafting narratives

Based on the information collected via the 3 different sources and structured according to the four elements of the policy triangle of Buse, Mays and Walt [16], we deployed an iterative, cumulative process to identify general themes. The transcript coding results and the media coverage results were first discussed several times with the whole research team. LH then drafted three narratives. These case-specific narratives were structured with the elements of the health policy triangle (policy content, context, process and actors) and were discussed several times to ensure they adequately represent the interpretation of the whole research team. During this process, LH and MJ extensively discussed

which quotes to use, to ensure they reflect coding efforts and the media coverage analysis. Some minor editing occurred to quotes to assist the reader's understanding and to maintain confidentiality in some cases.

Identifying themes

After completing the three narratives, the research team identified general themes using the health policy triangle of Buse, Mays and Walt [16] as an analytical guide. We compared how the elements of the health policy triangle interacted in each individual case, and how case-specific interactions mirror those observed in the other cases. This analysis was split up in two parts. In the first part we related the policy content to the prevailing contextual elements. In the second part we related the characteristics and behavior of actors involved, including the role of local media, to the processes of agenda setting and policy formulation. A central element of this part concerned the role of advocacy coalitions, which we define as 'actors who share policy core beliefs and who coordinate their actions in a nontrivial manner to influence a policy subsystem' [6]. Although our study was not aimed at theory building, we did streamline the description of the advocacy coalitions present in our case studies according to the Advocacy Coalition Framework by focusing on the formation, structure and stability of coalitions, and their resources, beliefs and strategies.

Findings

The three narratives below describe our three case studies, starting with a short timeline. We then describe how the policy context interacted with the policy content. Successively, we describe how stakeholders influenced the policy process. The narratives are accompanied by quotes that accurately summarize the case-specific findings for our general themes. All quotes are presented in Table 2.

The findings of our local media coverage analysis are described throughout the narratives and summarized in Fig. 1 and Table 3. Appendix 2 provides the full list of local journal articles and their assignment as positive, negative or neutral towards the SB-tax reform. Coverage in our selection of newspapers was mostly positive in Berkeley, mixed in Philadelphia, and negative in Cook County. Coverage was intense in its volume and criticism prior to decision making, especially before the repeal in Cook County.

Figure 1. Volume and stance of included local media articles during the agenda-setting and decision-making phases of the sweetened beverage tax policies in Berkeley, Cook County and Philadelphia.

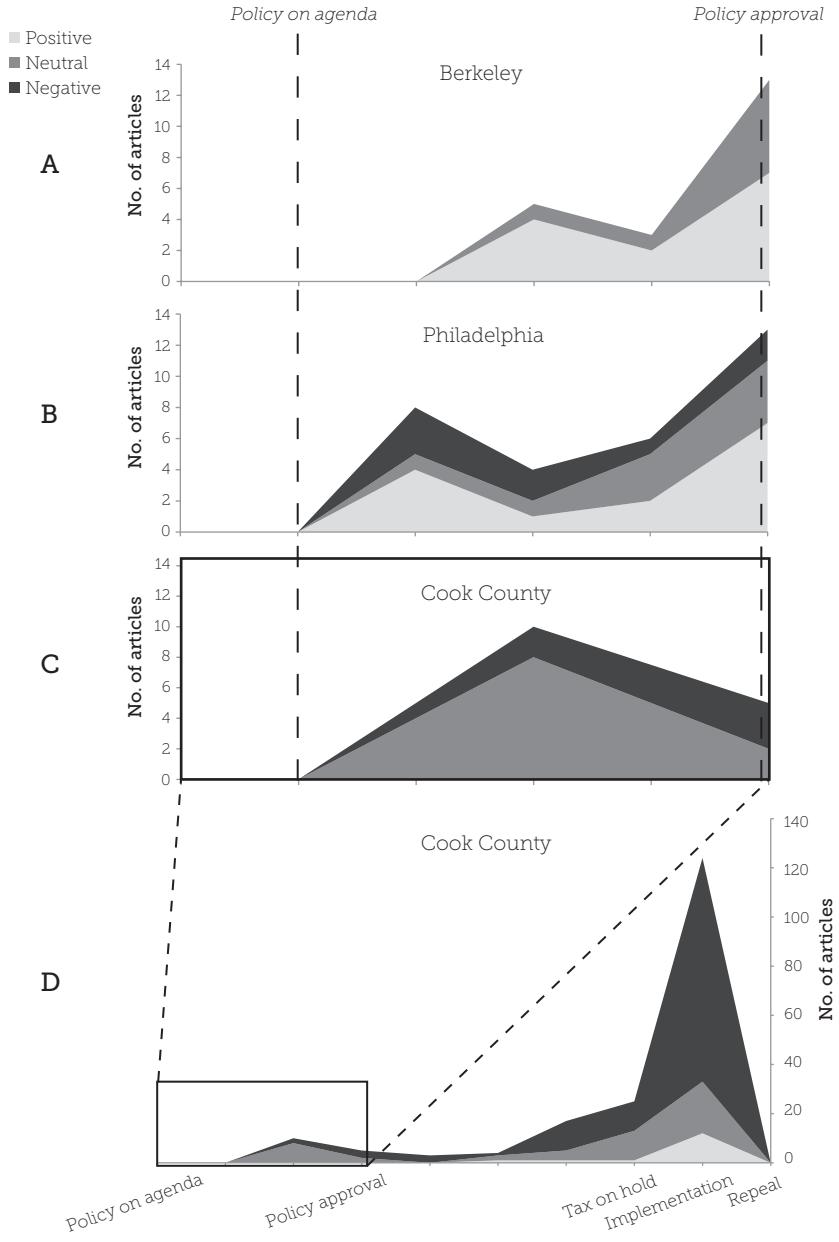

Table 2. Quotes that summarize specific general themes.

Lessons		Berkeley	
1	Coupling policy to issues already on the agenda	"The soda industry just came in [Richmond] and slaughtered them, it was not a very pleasant sight. It quickly became clear that there needed to be a broader constituency base, and we met with parent leaders from the public schools who indicated that if a portion of the money went to the public schools' program around nutrition, then they would be supportive." *Local politician*	
2	Aligning policy framing to political sentiment	"I think that diabetes is much more…I don't want to say a sexier disease but being overweight is one thing but when you start having your leg cut off or your foot cut off… I think to a certain degree we tried to demonize the soda industry. I think the demonization was well deserved by that industry but we probably got carried away a few times." *Local politician* [see under stakeholders-outsiders]	
3	Understanding the institutions of political decision-making and tax policy	"[After a member of the steering committee explicitly expressed concerns that the tax targeted minority groups explicitly]…I think what that did was put it on the table so that we could deal with it. That's when we came up with the idea of having an advisory committee that would advise the council. It wouldn't be legally binding [otherwise a two-third majority would have been needed in the referendum according to California state law] but it would be stated public policy." *Local politician*	
4	Taking technical & political decisions during policy formulation		

	Cook County	Philadelphia
	"It was to fight obesity and to make people healthy and to fight diabetes. Except here is the problem. We had a budget shortfall of 280 million dollars for our pensions…This money wasn't going to be canned to go and start programs that went into schools and taught children how to eat properly…It was strictly a source of revenue that was going to go pay down legacy debt. So, the hypocrisy was smacking right from the get-go." *Local politician*	"If it wasn't dedicated to Pre-K it would've never passed. I think people are pretty clear about that…So you have got to remember that this is all happening in the construct of a state-wide campaign on Pre-K." *Non-health advocate*
	"I think in general people aren't necessarily trustful of the county government to begin with…The 'can the tax coalition' [a coalition of citizens, businesses, and community organizations actively opposing the tax] was able to really tap into that and say, 'you know they're taxing you again.." *Health advocate*	"We very quickly adopted the framework that we would not be talking, leading at all with the concept of do this because you get healthier… [With a health frame] we would have gotten nowhere. Nobody in Philly cares about public health. This is a very unhealthy city. People smoke at higher rates than average in America. People are heavier; it is just not the place to talk about health." *Non-health advocate*
	"It was these layers and layers of, sort of arcane tax law and regulations, and what can be taxed, and taxes on taxes and things like that, that really caused a lot of confusion…and I think the ability of the beverage industry quite honestly to exploit the confusion." *Local academic*	"I think James Kenney learned the lessons of Mayor Nutters proposals in developing and keeping his on track. He was a councilmember during all that time. He understood all the previous proposals, what holes were in them, and navigated the water successfully from learning from past mistakes." *Health advocate*
		"I applaud Philadelphia Mayor Jim Kenney for introducing a plan to provide universal preschool for all of his city's 4-year olds…But I do not support Mayor Kenney's plan to pay for this program with a regressive grocery tax that would disproportionately affect low-income and>middle-class Americans." *Column by presidential candidate Bernie Sanders*[26]. This led to the inclusion of diet beverages as these are consumed more by people with higher incomes.

Table 2. Continued.

Lessons		Berkeley	
5/6	Structure of the advocacy coalition	"All that were part [of the advocacy coalition] had a really good sense of Berkeley…In any group dynamic, you get people who are nuts or whatever. But it all seemed to work out, and the most important thing is that people worked hard. People who were at the table trying to think through the policy, meaning they talked to voters…So there were no 'prima donnas' and for political campaigns to be without prima donnas is a rare thing." *Non-health advocate*	
		"The people of Berkeley are very familiar with organizing and the political process…] And I think they also feel like their influence on the process is higher than in the rest of the country". *Health advocate*	
5	Building an advocacy coalition early	"First when we got started, we had no campaign structure to speak of. So, I sponsor an academy of young people who are learning to do political community organizing. So, they made up the first folks to talk to voters…Once the volunteers started coming, one and then two and then ten and then twenty and it grew. This initial group of young people provided the structure and the discipline to get all the volunteers focused." *Non-health advocate*	
6	Locally grounded advocacy coalition	The pro-tax law signs were just everywhere, and it was so rare to see any anti-tax lawn signs… They'd make their own pro tax signs even, so there's even 'grassroots' signs on people's fences and cars…I think these homemade signs genuinely reflected people's support for the tax." *Local academic*	
	Stakeholders - outsiders	"It was obvious that they [people demonstrating against the tax] were paid by the industry. They were not part of the community. They had no notion of who we were. They [soda industry] plastered the local transit stations with big advertisements…They just threw money at this thing and people felt offended. They felt that they were coming from the outside, trying to affect our elections, and it got people angry." *Local politician*	

	Cook County	Philadelphia
	"It was her policy. She introduced it, and she fought for it for quite a long time...Her voice carries a lot of weight with the commissioners... So, when she decided to go ahead, I think she brought a lot of people on board just because of the relationships that she formed over her years in the county." *Local academic*	"Philadelphia is a blue-collar community historically, and with a really strong union presence. And that union presence permeates through city council, right?...I don't know what deals were made on a political level, of look you vote for the sugar tax, I'll repave all your streets and have trash hauled out every week. I don't know, this is Philly right. But backroom deals obviously were made." *Health advocate*
	We had about eight weeks to work on the campaign prior to the vote actually coming up in the county board. We did not have the time to properly educate the public nor really a lot of the commissioners." *Health advocate*	"I had our folks get there [Mayor's budget address] and we completely packed the one balcony, but I'm staring across the other balcony which is empty at this time and I'm just thinking, oh, the soda companies and the Teamsters are gonna fill up the other side and all of a sudden PCCY brings in another hundred people and fills in the other balcony. We hadn't really coordinated at that point yet... That's when I knew we had a great advocacy partner in PCCY." *Non-health advocate*
	"The most important part is this. The opposition came in massive force from the people of Cook County...People were all sharing [receipts with the separate payment of the product and the tax] on their social media." *Local politician*	"We were about very public testimony, very public events. Crowd building and making visits with lots of constituents, whereas that was complemented by sort of that inside political game...We weren't in direct communication with the mayor's office that way. So, we kind of had to trust that that was happening, knowing they had a good team around them that we're good at this stuff." *Non-health advocate*
	"They were able to go into their distribution centers and their actual facilities in Cook County and rally their workers, and so it was employees of Dr. Pepper, Snapple- who also live in Cook County who then would come forward and say, you know if this tax goes into place I'm going to lose my job. And that was in the several different rounds of budget hearings during the passage and the repeal." *Health advocate*	"They [people demonstrating against the tax] loaded up council meetings. Now, when I went around and checked the license plates of people, they were mostly out of state...But their guys were all white. And the women we were bringing were all Latino and black. And it really was very stark in the eyes of councilmembers. I mean the council is mostly black, very mixed...They ended up being like a giant." *Non-health advocate*

Table 3. Stance of newspapers articles towards local sweetened beverage tax.

Stance		Positive				Neutral				Negative				Total
Type of article		Editorial	Column	Letter	Report	Editorial	Column	Letter	Report	Editorial	Column	Letter	Report	
Berkeley	East Bay Times	1			12				8					21
Philadelphia	Philadelphia Inquirer	1	8		5		1	3	6		3		4	31
Cook County	Chicago Tribune		1	13	1		2		47	17	29	37	40	187
	Chicago Sun-Times		4	4			2		22	6	3	2	14	57

See Appendix 2 for the full list of 296 included articles and their assignment by the research team.

Berkeley

Timeline

Four interviewees indicated that the unsuccessful attempt of nearby Richmond in November 2012 was one of the main motivators to attempt an SB tax in Berkeley. The Richmond experience immediately highlighted the importance of a well-organized advocacy coalition to anticipate on soda industry opposition, and the time required for its coalescence. The local policy entrepreneurs (two council members) therefore did not immediately put the policy on the political agenda but took considerable time to first set up a steering committee with broad expertise and community representation (in this paper called 'advocacy coalition'). Both interviewed local politicians indicated that this coalition was established around September 2013. The measure was announced by around March 2014, leaving plenty of time for campaigning prior to the referendum that was held on November 4, 2014, with 76 % voting in favor.

Interactions between policy context and policy content

It appears that the supportive advocacy coalition was very sensitive to the issues that worried residents, and actively coupled the SB tax to these issues. One local politician mentioned that they realized early that there needed to be a broader constituency base. An opportunity arose when federal funds were cut for a popular school nutrition program in 2012–2013 [20], which formed a basis for the advocacy coalition according to all interviewees and several media reports. Other foundational elements were the substantial health inequity and social disparity between white, black, and Hispanic residents. These inequities were highlighted in a report of the Berkeley public health department. Four interviewees indicated this report had impact as it was published during the early stages of advocacy coalition development.

The SB tax was not automatically seen as a way to address these health inequities by all members of the advocacy coalition, however. Building on the experience of Richmond, where the soda industry split the minority communities on the narratives of the regressive nature of SB taxes, substantial efforts were made to address underlying skepticism of minority groups around the financially regressive nature of SB taxes. Four interviewees mentioned how this fear was tackled by the proposal of an advisory committee that would guide city council on how revenue should be spent. This committee had to include people with a background in community nutrition programs, and as councilmembers were to select these advisors, it would represent all minority groups [21]. Since the advices of this committee were non-legally binding, the SB tax required a simple majority. If the tax revenue would be earmarked to specific causes,

a two-thirds majority would have been required according to California state referenda law. Four respondents indicated that not having to achieve a supermajority gave the advocacy coalition the trust that they could win the referendum.

Timely poll results then showed that residents trusted city council to use the revenue adequately [22]. These results were articulated extensively in media. One health advocate and a local academic indicated this public trust in city council relates to the local political awareness and community engagement. The political awareness of Berkeley residents reflected in policy framing. Berkeley has a history of being skeptical of large corporations [5]. The pro-tax message 'Berkeley vs. Big Soda' therefore resonated well. Equally important was the focus on diabetes rather than obesity. Four respondents mentioned this decision was well-elaborated and based on the notion that many people believe obesity is a personal problem, whereas diabetes relates more closely to ethnic disparities and is perceived less as a personal problem.

A one-cent per ounce tax that excludes artificially-sweetened beverages (ASBs) logically followed the focus on diabetes. Some products were exempted for ease of implementation, but one health advocate indicated they were cautious to ensure it covered beverages that upper-class residents consume more often. All interviewees emphasized they opted to make distributors of SSBs responsible for paying the tax, rather than retailers, in line with the 'Berkeley vs Big Soda' messaging and local political sentiment.

Stakeholders characteristics and behavior during the policy process

Our observations suggest that the policy context was successfully considered in the Berkeley SB tax policy structure and framing efforts. Participants unanimously considered the local network of the advocacy coalition as pivotal. This coalition consisted of two council members who initiated the measure, leaders of various minority groups (African Americans, Hispanics), the school district, the Ecology Center (a non-profit community organization), churches, parents aiming for the continuation of the school nutrition program, pediatricians, dentists, service unions (public employees, nurses, teachers), local nutrition leaders, and some grocery store and restaurant owners.

All participants mentioned that these actors mobilized their precincts and recruited their networks of volunteers for the campaign. A non-health advocate explained that the campaign was disciplined from the start because of modeled behavior of community leaders and a well-elaborated first outreach action.

Young people who were learning to do political community organizing went door-to-door first, with the effect that a positive momentum spread exponentially in the local community. Participants unanimously described the rapid spread of this grassroots movement. Preachers preached about the measure from their pulpit, there were talks about excessive sugar intake on schools and during exhibitions, residents placed lawn signs, and campaign volunteers reportedly knocked on every door in Berkeley.

The high level of organization of the advocacy coalition evoked this grassroots movement, but four interviewees indicated it was an expression of the genuine feelings of residents toward the issues the measure addressed, as expressed by pro-tax lawn signs that many residents placed near their own homes. Parallel to the grassroots efforts, the advocacy coalition effectively formed a political coalition, according to both participating local politicians. The entire city council and all council candidates endorsed the tax, because the two council members that were part of the advocacy coalition were able to explain the ethnic health inequities report in an understandable manner to their peer politicians.

One health advocate and one academic reported it was not challenging to attract positive media coverage because of all the grassroots actions. Newspaper articles mainly reported how supportive Berkeley residents were of the tax and that Berkeley could be the first US city to pass an SB tax. The 'irresponsible behavior' of the soda industry was also emphasized. The soda industry did try to get local corner stores and individuals to oppose, and all interviewees mentioned they were involved in 'AstroTurf lobbying,' a term used to describe artificial grassroots campaigns created by public relations firms. These actions backfired, however, as people had the impression that outsiders were trying to affect their elections.

The industry also placed advertisements that pointed out policy loopholes. This did not resonate well according to one health advocate, because of a focus on "lame" technical issues such as the exemption of certain drinks. By contrast, the supportive advocacy coalition was very context-sensitive in the buildup of their advocacy coalition, which all interviewees who were part of this coalition explained by reference to group dynamics and characteristics of individual members. Interviewees also noted that the Bloomberg Foundation supported the advocacy coalition financially and with polling information, shortly before the referendum [23].

The potential spread of the policy in other jurisdictions was an important final point that one local politician and one non-health advocate raised. The advocacy coalition believed that an SB tax could pass first in Berkeley to trigger a snowball effect. This aim touched upon the pride and political engagement of residents and was a cornerstone of the advocacy coalition and the energy released in the campaign. This point made one local politician state that the campaign was "the most exciting thing I've ever done in my life".

Cook County

Timeline

One local academic and one health advocate mentioned, and several media articles reported that the adoption of SB taxes in other US jurisdictions initially sparked the idea in Cook County. With the extensive media coverage of the policy, a detailed timeline can be constructed. The local policy entrepreneur and Cook County board president, Toni Preckwinkle, first brought the proposal onto the political agenda around the end of August 2016. By November 10, 2016, the county board had to vote whether or not to adopt the measure, garnering very little time to build an advocacy coalition. The vote went down 8–8, and for the first time in her term, Toni Preckwinkle herself cast the vote enabling the measure to pass 9 to 8. Implementation was subsequently planned for July 2017. By February 2017, an opposition campaign began aiming to repeal the tax. The retail association felt there was too little guidance on tax implementation and filed a lawsuit in June 2017. This delayed implementation until August 2, 2017. During this delay, negative media coverage accumulated (Fig. 1). Media stories described how people on food assistance could not be charged the tax, as this was not allowed under federal sales taxes rules. Media also described that the tax had to be passed onto consumers according to state law, which meant it had to be demarcated at the register. All this confusion exacerbated an already negative public opinion, until the measure was repealed under a 15–1 vote on October 11, 2017. Of note, four months thereafter reelections took place.

Interactions between policy context and policy content

All interviewees mentioned there was an urgency to close a budget deficit, which explains the rapid course of action prior to initial adoption. However, this budget deficit was not an issue that the general public found valuable, and the original policy framing centered around childhood obesity was quickly perceived disingenuous by both opponents and the few (health) organizations that supported the tax because it also included ASBs. Combined with the tight timeframe, this made gaining support on the health narrative almost impossible.

Later in the process a principal (stated) aim was that the tax would prevent layoffs in the public sector due to the budget deficit. Although this did generate support among public sector unions, it was heavily criticized in the media. Several editorials, columns and letters were published that portrayed the tax as 'another cash grab', suggesting the county should just 'tighten its belt'. These articles articulated an existing public distrust in the county government. One health advocate mentioned this distrust stems back to the fact that Cook County historically knows high county taxes.

Stakeholders characteristics and behavior during the policy process

Our observations suggest that the structure and policy framing of the Cook County SB tax did not sufficiently account for the policy context. This oversight is evident in the absence of an organized advocacy coalition, followed by skillful efforts of local opposition to generate locally grounded resistance.

Two health advocates and one academic indicated that supportive organizations like the American Heart Association and the Illinois Public Health Institute had already been working on SB tax proposals on the state level for years. It seems that these organizations had limited access to core policymakers, as these interviewees pointed out that these organizations were only approached by supportive commissioners after the measure had already been discussed in county board. Despite these circumstances, the policy did pass initially. All interviewees mentioned this related to Toni Preckwinkle and the weight of her voice among commissioners.

In summary, all interviewees stated that the pro-tax coalition was not able to recover from their false start because of mixed framing approaches, a general public distrust in government, and the lack of shared policy ownership. By contrast, all interviewees stressed how the opposing advocacy coalition conducted a well-orchestrated repeal campaign, by reaching out to media outlets that extensively covered the history of high county taxes, the confusing tax structure, the potential of cross-border shopping, and the effects on local retailers, local soda industry workers, distributors and restaurant owners. This negative coverage fueled opposition and was part of the reason why chapters of the Teamsters union and the local chamber of commerce decided to oppose. This local opposition among interest groups eventually lead to popular opposition too. People for instance were sharing their receipts with the separate payment of the product and the SB tax on social media, which went viral according to one local politician.

Outside actors were also involved. Two health advocates and one academic indicated that the soda industry bought advertisements with anti-tax messaging on stores, television, and other media outlets, and financially supported local opposition. Industry also mobilized their workers successfully, who worked and lived in Cook County and pointed out they would lose their job if the tax went into place.

There were also outside actors who supported the tax. According to a local politician, the Obama administration supported the measure, as were prominent philanthropists with donations for the campaign and advertisements. The Bloomberg Foundation was most notable, but in several media outlets their involvement was negatively portrayed, labeling it an outside billionaire becoming involved in local politics.

Philadelphia

Timeline

Unlike Berkeley and Cook County, Philadelphia experienced failed SB tax attempts prior to the successful attempt in 2016. Former Mayor Michael Nutter attempted in 2010 and 2011, and mainly focused on the positive health impact the tax ought to have [15]. The idea of an SB tax reappeared around the summer of 2015 when mayoral candidate James Kenney conceptualized the tax as a revenue source for investment in pre-kindergarten and public recreation sites. All interviewees and five survey respondents highlighted these issues were high on the agenda, due to an ongoing statewide pre-kindergarten campaign, and the persistent lack of funding for public recreation sites. Two non-health advocates mentioned that interest groups assured Kenney they would support any revenue source if it was earmarked for these issues. However, from our media analysis we learned that the idea of an SB tax was not articulated publicly until several months later. During this period, James Kenney won the mayoral elections and was installed in office on January 4, 2016. He appointed the former NYC health commissioner, Thomas Farley, who experienced the failed SB tax when Michael Bloomberg was mayor of NYC in 2009. The tax proposal leaked to the press on February 28, 2016, one week prior to its official announcement in the budget address of Mayor Kenney. After three months of campaigning with increased positive publicity towards the voting day, the measure was approved 13–4 on June 16, 2016.

Interactions between policy context and policy content

Participants unanimously considered the use of revenue for popular issues a key enabler. This was both genuine as well as strategic messaging. The structure

of the tax logically followed policy framing with the inclusion of ASBs to make it less health-focused and less regressive, as people with higher incomes drink more diet sodas. The well-thought-out policy content was aided by previous experiences. One health advocate and one non-health advocate highlighted that the Berkeley case (by then in place for a year) gave them credibility in the revenue estimates of the tax. This was important given the focus on the investments that the tax would enable.

The failed attempts of Mayor Nutter and NYC Mayor Bloomberg also provided the insight that a health frame would be ineffective, according to one non-health advocate. Health arguments were used, however, but the supportive advocacy coalition carefully orchestrated it did not come across as the leading imperative. For this reason, the role of the health commissioner was downplayed, and nonpolitical health professionals only occasionally articulated health arguments to counteract industry arguments.

Stakeholders characteristics and behavior during the policy process

Our observations suggest that the policy context was successfully considered in the Philadelphia SB tax structure and policy framing. A remarkable finding that we draw from the four interviews was that the 'inside game' of political coalition building between the mayor's office, unions, and lobbyists, was quite separate from the buildup of grassroots support. Communication between the mayor's office and advocacy groups for pre-kindergarten and public recreation was limited. Yet, this did not indicate a lack of mutual trust. One non-health advocate described how they did public testimony and public advocacy events, while they simply trusted that the mayor's office was doing a good job at the 'inside political game'.

This level of trust may have to do with the leadership style of Mayor Kenney and his associates. One non-health advocate mentioned that Kenney was a popular councilmember prior to becoming mayor, with good relationships in both the council and among the unions. All interviewees and two survey respondents indicated that the mayor, the health commissioner, and the policymakers from the revenue and communications departments effectively formed a political coalition.

The 'outside game' of building grassroots support brought about many atypical actors, organized in the Bloomberg-funded 'Philadelphians for a Fair Future' coalition. One health advocate, two non-health advocates, and two civil servants mentioned Public Citizens for Children and Youth (PCCY) and the

Parks Alliance were most instrumental, because these groups mobilized most constituents to public testimonies. Also involved were Friends of the Free Library, the Food Trust, schools, civil service, teachers, and building trades unions, and more typical groups like the American Heart Association. However, the coordination among these actors was clumsy at first. One non-health advocate described that this coalition had not communicated they would demonstrate in support of the tax at its first public hearing in city council. When this advocate arrived though with 'his people', he was positively surprised to find far more supportive demonstrators.

Opposing advocacy efforts were stark too according to all interviewees. The opposition included the soda industry, distributors, some restaurants, bars and grocery stores, and unions, most notably the Teamsters. Opponents packed council meetings and public testimonies, but with participants that did not represent the constituency. One non-health advocate mentioned that this made opposition come over as "a giant". This image was exaggerated by some actions of the soda industry. One non-health advocate mentioned that the American Beverage Association called random people to convince them the tax was a bad idea, to then put these people through to the office of councilmembers. The effect was that councilmembers became annoyed with a barrage of phone calls of confused residents. This advocate also stressed that industry lobbyists entered the private chambers of councilmembers, while others were waiting their turn. These actions backfired because councilmembers don't want to have the perception that industry interests are more important than constituents.

Other outside actors included the then Democratic presidential candidate Bernie Sanders, who wrote a critical piece on the SB tax for its regressive nature [24]. The inclusion of ASBs mitigated this, according to a civil servant who responded to our survey. Two health advocates and one non-health advocate stressed that the Bloomberg Foundation was also involved, with advertisements to counteract the soda industry campaign, funding of the Philadelphians for a Fair Future coalition, and experience from the NYC SB tax failure.

Six general lessons

The three narratives above point out similar interactions between policy context, content, process, and actors. From these interactions in the 3 case studies, we draw six general themes that are framed as "six general lessons" to enhance actionability of the findings. The first three relate mostly to the interaction between policy context and content. The other three relate to the

characteristics and behavior of actors involved during agenda setting and policy formulation. Quotes that accurately summarize these lessons are provided in Table 2.

First, it was important to couple the SB tax policy content to existing issues that were already high on the agenda. These issues were context-specific and not necessarily related to public health. In Berkeley, the SB tax policy was successfully coupled to the loss of revenue for a popular school nutrition program, and ethnic health disparities (highlighted by an impactful report). In Philadelphia, the tax was successfully coupled to the need for revenue for pre-kindergarten and public recreation centers, issues that were already on the agenda for years. In Cook County, the SB tax was adopted initially to fix a pressing budget shortfall.

Second, policy framing must be in accordance with the prevailing local political sentiment, as expressed in media. Berkeley has a history of skepticism of corporate influence in local politics, which was echoed in the 'Berkeley vs. Big Soda' campaign message and media coverage. The perceived disingenuousness of obesity framing fueled an already present public distrust in the Cook County government, which was heavily articulated in media coverage. By contrast, a health frame was carefully avoided in Philadelphia, as this would have been perceived as nanny-state policy.

Third, existing structures of tax policies and political decision-making rules formed important policy constraints. Confusion how the SB tax related to state and federal taxes fueled opposition among local retailers and media in Cook County, whereas state legislation on local tax referenda were carefully taken into account in Berkeley.

Fourth, the tax structure required not just technical but also political decisions and flexibility during policy formulation, to ensure the tax structure remained consistent with policy framing and to act upon events. For instance, ASBs were added to the original proposal in Philadelphia, to counteract arguments that solely targeting SSBs is regressive, as people with higher incomes drink more diet sodas. In Berkeley, the tax excluded ASBs and was levied at the level of distributors, in line with the focus on diabetes and 'bad behavior' of the soda industry. The supportive advocacy coalition emphasized these elements of their proposal when the soda industry plastered the local transit stations with big advertisements, which offended residents. By contrast, policy framing initially focused on childhood obesity in Cook County, but this was perceived

disingenuous because ASBs remained part of the proposal to raise sufficient revenue for the budget shortfall.

Fifth, building an advocacy coalition had to occur upfront in the policy process. This took time. In Berkeley, considerable time was reserved to generate support among community leaders and politicians, prior to public announcement. In Philadelphia, support was generated among councilmembers, unions, and special interest groups during this stage. Philadelphia also had the experience of two failed attempts. By contrast, supportive interest groups were informed after the tax proposal was already discussed in the Cook County board.

Sixth, the advocacy coalition had to be locally grounded and able to influence local media. This was especially pronounced in Berkeley, where the advocacy coalition consisted of community leaders who successfully activated their precincts. The Philadelphia advocacy coalition represented the constituency of city councilmembers accurately. In contrast, the Cook County opposition successfully engaged local retailers and media. The effectiveness of outside actors that normally do not participate in local policy processes was variable. When their role was overt, a negative image emerged that hindered the attainment of their desired outcome, as was exemplified by the soda industry involvement in Berkeley and Philadelphia, and the Bloomberg Foundation experience in Cook County.

Discussion

The six lessons present the overall findings of our analysis. We first mirror these lessons to findings of other SB tax policy analyses. We then reflect on how our lessons relate to an established theory of the policy process (Multiple Streams Framework). We conclude by discussing the strengths and limitations of our study.

Reflection on other SB tax policy analyses

Our case study of the Cook Country SB tax is, to our knowledge, the first empirical policy analysis of this case. Policy analyses of the Berkeley and Philadelphia cases do exist. Analyses of the Philadelphia case also highlight the importance of policy coupling to nonpublic health agenda items, political entrepreneurism, and applying political decisions to the technical tax design [11,15]. Our finding that the focus on 'bad behavior' of the soda industry appealed in Berkeley echoes a previous analysis of social media, campaign materials,

and local news coverage [25]. The comparative design of our study, and our in depth description of the characteristics and behavior of actors involved can be seen as our main addition to the literature on the Berkeley and Philadelphia cases.

Mosier [13] compared the passage of a soft drinks and sweets tax in 2010 in Colorado, to the rejection of an SSB tax proposal in Kansas in the same year. Both bills were proposed primarily for revenue purposes, but budget purposes were more strongly emphasized in Colorado than in Kansas. According to Mosier, this opened the potential for linkage of health and revenue in Kansas, subsequently leading to more elevated conflict in this case. Our findings also suggest that a clear and explicit way of policy framing is required. Mosier's also found it was important to carefully take into account existing tax policies in the design of the SB tax. The latter was also noted in a comparative analysis of the SB tax policy process in four Pacific countries [9].

Our findings are not entirely consistent with policy analyses of other local US SB taxes. Jou et al. [14] explored the use of strategic messaging in the failed attempts of El Monte and Richmond, California, and found that reinvesting tax revenue into health-related programs holds potential, as does linking SB consumption to obesity and diabetes. Our findings indicate that revenue can also be earmarked to non-health issues (Philadelphia), and that a health focus was not necessarily successful. Health was not leading in Philadelphia, the focus on obesity was perceived disingenuous in Cook County, and in Berkeley the focus was on diabetes, not on obesity. Important anti-tax messages in El Monte and Richmond centered around negative economic effects on businesses and government restriction of personal choice. These arguments were also important in our cases, but we would emphasize the importance of negative effects on local businesses, since we found that both supportive and opposed advocacy coalitions can be successful if they are locally grounded (lesson six). Jou et al. finally point out the importance of clearly structuring the measure, incorporating cultural sensitivity, and providing education on the health effects of SSBs. These factors are consistent with our findings.

Paarlberg et al. [17] conclude that Democratic Party dominance, external financial support for pro-tax advocates, and a political message appropriate to the process are necessary conditions for local US SB taxes. The Democratic Party indeed dominates in our three cases. External financial support was important: the Bloomberg Foundation was involved in all three cases. Having a message appropriate to the policy process was important indeed, but we would

extend this by highlighting the importance of coupling the policy to issues that are already high on the agenda.

Reflection based on the Multiple Streams Framework (MSF)

To explore the replicability of our findings we compare our lessons to the MSF. We do not test this theory, nor was it part of our data collection and analysis. We only use it to see whether our findings fit this empirically grounded theory of the policy process. The MSF emphasizes timing in the creation of a window of opportunity for both agenda setting and decision making. A window becomes more likely if a persistent policy entrepreneur with access to core policymakers promotes agenda change, and when the problem, policy, and political streams are ready for coupling. In the problem stream conditions emerge, which deviate from policymakers' or citizens' ideal states. In the policy stream, policy communities work out alternatives to these problems and conditions until a limited number of viable policy alternatives emerges. The political stream is located at the level of the decision system. Bargaining and powering dominate, as majorities are sought here [6].

It appears that the Berkeley advocacy coalition created an agenda window primarily in the problem stream, by coupling their policy to a focusing event (the loss of revenue for the school nutrition program) and a change of indicators (health inequities published in the public health status report). An agenda window also opened in the problem stream in Cook County (the budget deficit), but another problem (lack of trust in the county government) was coupled to the political stream (reelections were coming up) subsequently, leading to an agenda window for the repeal effort. In Philadelphia, the installation of a new mayor (politics stream) after years of campaigning for pre-kindergarten (problem stream) created a window for an SB tax. By that time there was already an established policy stream, since the former Mayor attempted to approve an SB tax twice. On the basis of this reflection we conclude that creativity was required in the process of coupling the policy and politics stream to the problem stream. The events and changes of indicators that made this coupling possible were highly context specific.

Limitations and strengths

The main strength of our analysis concerns its empirical basis of web-based survey responses, semi-structured stakeholder interviews and a local media coverage analysis. We found the health policy triangle from Buse, Mays and Walt [16] useful to structure case studies and to derive themes. We do not provide, nor strived for an in-depth analysis of our data with other established

theories of the policy process. Our six lessons are nevertheless consistent with previous policy analyses of local US SB taxes. We are unsure whether this also applies to cases outside the US, where SB taxes are mostly adopted by national governments. A study that compared how SB taxes spread across US cities to EU countries for instance found that policy framing seems less focused in the EU, whereas it is very focused in the US. Political ideologies also seemed to interfere less with the coalition governments of EU countries [4].

An important limitation to our findings is the presence of possible sample bias, since most interview participants supported the SB tax. Potentially due to the politically sensitive nature of the topic or personal dissatisfaction with policy outcome, opponents were underrepresented. The perspectives of the participants may therefore not represent the views of all stakeholders, and strategies deployed by opponents may be underrepresented. We therefore recommend further research on the interaction between local advocacy coalitions and outside actors.

Another important consideration is the small sample size of completed surveys and interviews. We nevertheless did experience thematic saturation for all three cases, possibly because of the precise scope of the topic and triangulation with our media coverage analysis.

Conclusions

Our analysis lead to six general lessons for policy entrepreneurs with the ambition to successfully put an SB tax on the agenda. These lessons were derived by analyzing the interactions between the policy context, content, process and stakeholder behavior in three case studies. Although more research is needed to explore the theoretical generalizability of our findings, the six lessons on introducing sweetened beverage taxes in Berkeley, Cook County, and Philadelphia by looking at their respective agenda-setting and decision-making processes, can inform policy makers in other settings.

Appendix. Supplementary data

Appendices 1 and 2 can be found on: https://doi.org/10.1016/j.healthpol.2020.06.002 (Hagenaars et al., Health Policy; 124(9):932-942)

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CHAPTER 7

General discussion

General Discussion

The objective of this dissertation was to provide insights into how reducing administrative costs (AC) in healthcare and improving population health with junk food taxes can contribute to fiscally sustainable healthcare. These two policy strategies may seem unrelated at first sight but reducing administration and investing in prevention with junk food tax policies are both often promoted by health care workers and the public health community in policy debates as solutions towards realizing fiscal sustainability of healthcare systems. Moreover, the support for reducing paper and sugar has also increased among the general public in recent years, as was shown in chapter 1.

The scientific literature on fiscal sustainability focuses less on "reducing paper and sugar" and more on introducing incentives such as co-payments, competition and enforcing efficient healthcare delivery (Stadhouders et al., 2019). In the literature suggested approaches towards rationing healthcare demand and reorganising healthcare financing and delivery and the associated policy measures, are generally less popular amongst health care workers, public health professionals, policy makers and the general public. Also, these proposed incentives are usually based on a short- rather than a long-term perspective. This relates to the fact that the problem of fiscally unsustainable healthcare is mostly managed and framed within the time window of a government term (on average four years). However, fiscal sustainability of healthcare systems is in fact more a longer-term problem. We assume that healthcare will not be sustainable in the coming decades, while currently it is sustainable in the sense that governments are able to pay for these outlays. Reducing sugar and reducing paper are strategies that seem more effective over the longer term.

The problem owners of fiscal sustainability are ministries of health, which are mostly occupied with quality, accessibility and affordability of healthcare services, in collaboration with ministries of finance. Most of the scientific literature on fiscal sustainability of health care is grounded in health economics and public finance and has focused mostly on the design of policies within existing institutional arrangements rather than the implementation of policies that require intersectoral collaboration (in the case of prevention) or a more holistic view towards data governance and operational efficiency (in the case of AC) (OECD, 2015; Schakel, 2020; Strom, 2016).

Consequently, health care workers and the public health community are often dissatisfied with policies aiming to improve fiscal sustainability, because their

perceived problems (excess paper and sugar) remain unsolved by policy initiatives that focus on rationing healthcare demand and reorganising healthcare financing and delivery. This contradicts the broad support for reducing paper and sugar. Stone (2012) calls abstractly formulated issues for which such broad support exists 'motherhood issues'. Stone highlights, however, that operationalising any motherhood issue into concrete policy reveals all kinds of disputes in values, interests and ideas. Successful implementation of policies that address AC and prevention, requires knowledge on their related puzzling and powering processes, according to Hoppe (2010).

This final chapter summarizes the main findings of this dissertation. Study findings for both central themes, "paper" and "sugar" are interpreted and compared by using Hoppe's theory as a guide, and the findings are discussed in the context of their validity and generalisability. Research and policy implications are discussed before a concluding reflection is presented.

Summary of main findings

Part I. Administrative costs of the healthcare system

The first and main limitation of the analysis of policies that aim to reduce AC is that no consensus has been reached among professionals, managers, policymakers and financers on the definition of AC. An aim of this dissertation was to clarify this construct by exploring the total size, components and determinants of AC in the healthcare system. Part of the analysis were (1) an international comparison and (2) an investigation of a recent reform in Dutch long-term care (LTC). AC was differentiated between (1) costs of organisations governing and financing healthcare (macro level), (2) AC of healthcare delivery organisations (meso level) and (3) administrative tasks deployed by healthcare professionals (micro level).

1. How do OECD countries differ in their governance and financing-related administrative expenditure in healthcare?

Data on the macro level on AC in Organisation for Economic Co-operation and Development (OECD) countries (chapter 2) show that these costs have remained stable at slightly over 3% of total health spending over the last decade. Large differences exist across countries, with Iceland reporting spending as little as 1.3% in 2015. The Netherlands ranks above the OECD average at approximately 4%, and the Unites States reports spending as much as 8.3% of its healthcare budget on regulating and financing healthcare alone. These cross-country

differences should be interpreted with caution, because data are not always reported according to the recommendations that are part of the internationally harmonised System of Health Accounts.

2. How and why do governance and financing-related administrative expenditure differ between countries with different types of healthcare systems?

To explain the large international differences in macro level AC, the influence of countries' healthcare financing system was explored (chapter 2). This analysis shows that voluntary private health insurance schemes bear much higher AC than compulsory schemes. Among the compulsory schemes, multiple-payer schemes exhibit significantly higher administrative spending than single-payer schemes. Among single payers, those schemes where entitlement is based on residency have significantly lower administrative spending than for those with social health insurance, although the difference is small. These differences can be explained because multi-payer and voluntary health insurance schemes require additional administrative functions and have lower economies of scale. Product communication is, for instance, required, but this is not the case when entitlement is based on residency. A loss in economies of scale is apparent, for instance, in purchasing and contracting care.

The aforementioned two questions provided insights into macro level AC but omit the level of providers, where AC are much higher but hidden in general healthcare spending statistics. Therefore, the construct was analysed with a whole-system perspective by assessing a case study of the 2015 Dutch LTC reform.

3. Can the share of administrative costs in total long-term care spending be assessed in the Netherlands?

The current research instruments and data systems are not robust and consistent enough to trace these costs longitudinally across the entire system of LTC (chapter 3). On the macro level, many more activities may be considered as AC than are currently reported in the national accounts. Experts agreed that the costs of research on LTC service delivery and costs related to representation activities should be included. Experts did not reach a consensus on other potential additional categories of macro level AC. A major limitation concerns the lack of data on LTC-related AC incurred by municipalities. The most major limitation concerns the micro level. Several studies have asked LTC professionals to report how much time they spend on administrative tasks, but these studies are generally not peer-reviewed, a valid time series is absent, and experts expressed doubts regarding data validity.

Despite the conclusion that current research instruments and data are insufficient, operationalising AC in the whole LTC sector may be possible nonetheless. This assessment stems from the finding that many ideas exist to improve research practice and that experts generally agreed with the differentiation of costs on the macro, meso and micro levels (chapter 3). Some limitations were discovered in the data Statistics Netherlands collects on the macro level in the national accounts, showing that construct validity and data collection can improve on this level. A valid means of measuring meso level costs in Dutch LTC is already in place, but smaller LTC delivery organisations are currently underrepresented in the available data. Experts have suggested using observational techniques to measure micro level AC. Qualitative and experimental designs may be necessary to better understand the determinants of micro and meso level AC.

4. Did the 2015 reform of long-term care in the Netherlands affect the total share of administrative costs in long-term care?

Despite the lack of consistent and robust data, the available data does not, however, hint at a significant decrease in AC. This observation is remarkable because reducing AC was a stated aim of the 2015 LTC reform. Yet, even with perfect and timely data, assessing the specific impact of the 2015 LTC reform is difficult. Many more potential determinants of AC were identified but there is also a lack of detailed empirical knowledge on their specific impact. Heavy interaction of AC occurs among the macro, meso and micro levels. The variety and lack of empirical evidence of potential spillover effects across these levels mean that tracking the overall effect of a single reform is currently impossible.

The heavy interaction of AC on the different levels of the healthcare system also means that AC concern a complex issue. It is therefore argued that the common strategy of increasing operational efficiency in AC will be insufficient, if it is not part of a more holistic approach towards improving the governance of data and information for healthcare (intermezzo 1).

Part II: Introducing junk food taxes as a case study on implementing public health policy

Better health leads to lower healthcare costs. This phenomenon may seem obvious, but in reality, the relation between population health and fiscally sustainable healthcare is multifaceted. These aspects are described in response to research question 5 and then the practice of implementing prevention policies is investigated with case studies on junk food taxes (questions 6–9).

5. How are prevention and fiscally sustainable healthcare related?
In a narrative review of the literature (chapter 4), the many types of prevention are described. Not all types of prevention reduce healthcare costs, because the cost-effectiveness can be unclear. The financing of prevention can be troublesome when potential savings occur in other actors than those investing (the *wrong pocket problem*) or when savings are realised years later, making it unattractive for investors and politicians if responsibilities are not assigned clearly. Prevention of certain risk factors can even increase net lifetime healthcare costs; the latter may be the case for smoking, but it is, for example, less plausible for mental health. Additionally, cost of illness projection studies are always uncertain because of rapid medical-technological development.

In addition to the impact of prevention on healthcare expenditure, health as a key driver of productivity should be considered. This increases the ability to pay for healthcare. Prevention can also increase the willingness to pay. Individuals dislike paying for others' lifestyle-related healthcare costs; thus, the solidarity for healthcare financing improves if the lifestyle-related burden of disease is reduced. Additionally, individuals value their health, meaning that cost-effective prevention measures are fiscally sustainable by definition.

Thus, the question then is why policymakers do not adopt more prevention policies. This multifaceted topic is investigated in-depth with case studies on junk food tax policies.

6. What specific types of junk food taxes are governments implementing?
Junk food taxes are often suggested for curtailing the global increase in obesity. Cost-effectiveness studies have proved that such taxes are worthwhile and may even be amongst the most cost-effective and impactful prevention policies not yet deployed in the Netherlands (Van der Vliet et al., 2020). However, for any policy to be considered by governments, its implementation should be technically feasible. In the case of junk food taxes, this means tax offices should be able to levy 'junk foods' among producers, distributors, retailers or consumers in an effective way. This may appear simple, but the investigation of 13 case studies (chapter 5) shows that most governments are unable to demarcate a broader scope of products than sweetened beverages. At the point of writing chapter 5, only in Hungary, Mexico, Nauru and French Polynesia were products other than sweetened beverages included. In Denmark, a 'fat tax' was implemented in 2012, but was abolished 1 year later because of implementation problems and subsequently diminishing political support. The taxes under investigation generally had the desired effects of reducing consumption or

product reformulation, and the taxes were often earmarked officially or unofficially for investment in other issues high on the agenda at the time of the policy announcement. In France, for instance, the policy was introduced to collect revenue for healthcare wages and investment in agriculture (Le Bodo et al., 2020).

7. What patterns can be observed in the policy contexts of junk food taxes?

The 'puzzling' process may be ongoing for the taxation of most junk foods because improving the understanding of how to demarcate healthy from unhealthy is necessary. 'Powering'—the process of decision-making, mobilising political support and bargaining—is now the main challenge for sweetened beverage tax policies, because this product category can be demarcated. Intelligence on factors involved in the policy context and their related policy processes is necessary for policy entrepreneurs who wish to spread sweetened beverage taxes across jurisdictions. The investigation of 13 case studies (chapter 5) shows that fiscal needs often lay their policy foundation rather than public health-focused advocacy. A remarkable amount of conservative-liberal governments have adopted these taxes, and governments deploy diverse rationales, ranging from explicitly describing the tax as a public health instrument to solely explicating revenue raising.

8. How can differences, observed in the spread of sweetened beverage tax policies in the European Union compared with the United States, be explained?

In addition to the patterns observed in the policy context of 13 junk food tax case studies, a different spread of sweetened beverage tax policies in the EU and the United States was discovered (intermezzo 2). Policymakers in EU countries learn from neighbouring countries and EU governments that adopted sweetened beverage taxes consist of various political colors. In the United States, consumption taxes are traditionally introduced by local governments. In a commentary on intermezzo 2, Pomeranz and Pertschuk (2019) explain that state legislatures can pre-empt local taxes when they conflict with state sales taxes, which is the case in Arizona, California and Michigan. At the point of writing, no Republican-led local US government had adopted a sweetened beverage tax. As a net result, on 6 April 2018, 5 million individuals in the United States resided in a jurisdiction with an active sweetened beverage tax, and for the EU, approximately 170 million. Moreover, the local US governments have solely used flat-rate tax designs, and in the EU, to stimulate product reformulation, governments have mostly used tiered designs with multiple tax levels dependent on sugar content.

9. What patterns can be observed in the agenda-setting and decision-making phases of sweetened beverage tax policies implemented in three US cities, and how do these relate to policy context and policy content?

Research questions 6—8 provide insights into the policy content and context of junk food taxes, but findings on their related policy processes remained superficial. Therefore, in-depth case studies were conducted on the agenda-setting and decision-making phases of sweetened beverage taxes implemented in Berkeley, Philadelphia and Cook Country (chapter 6). These studies show that it was important to couple the sweetened beverage tax with issues that already had public support and that policy framing had to align with the prevailing political sentiment, such as that expressed in media. The tax structure required technical as well as political considerations, and existing tax and decision-making rules had to be considered meticulously. A supportive advocacy coalition was necessary and had to be built upfront in the policymaking process. It had to be locally grounded and able to influence local media.

Reducing paper requires still more puzzling, reducing sugar mainly requires powering

Reducing the negative consequences of paper and sugar improves the fiscal sustainability of healthcare systems. However, the problems of excess paper and sugar have not been addressed extensively by scholars and policymakers interested in fiscally sustainable healthcare, despite the apparent support for ameliorating both problems among health care workers, the public health community and the general public. This mismatch is in line with Hoppe's (2010) approach to public policymaking. Hoppe argues that contemporary democracies must improve their governance of problems, because policy is all too often a sophisticated answer to the wrong problem. Puzzling and powering are required for the implementation of policy answers that are more responsive to the problems perceived by health care workers, the public health community and the general public. Puzzling refers to developing ideas and collecting information to define and resolve public policy problems in a context of uncertainty and bounded rationality, entailing instruments for addressing a public problem. Powering concerns the process of decision-making, mobilising political support and bargaining in the context of stakeholders whose interests and power are diverse.

The construct of prevention seems to be better "understood" compared to the construct of AC in healthcare systems. Prevention is not an easy construct either, but over the last decades a thorough evidence base has been generated about the avoidable burden of disease, determinants of health and associated prevention policy levers (Rose, 1992; Mackenbach et al., 2011; Mackenbach & Stronks, 2016). Therefore, many puzzling activities have already been executed for prevention. Elements of puzzling remain important, but powering is necessary to capitalise on the strong evidence base for prevention. Prevention policy entrepreneurs must realise that successful powering requires a thorough understanding of the process of creating context-sensitive policy content. The finding that junk food tax policies can address public problems other than public health problems alone may inspire scholars and policymakers to be more creative in the coupling of their pet policies to resolve public problems. This strategy has been proven successful in public health, for instance, in the well-known case of sanitation. Policy entrepreneur Edwin Chadwick advocated for sewage and sanitation in the 19th century because it would prevent unsustainable pressure on the novice British welfare system, not merely because of arguments for public health (Mackenbach, 2007). Broadening the scope of problems that prevention policies can address enables the entrance of additional prevention advocates, which can be decisive in the powering process of prevention policy.

It is interesting to note that some elements of the populist political style can be observed in the soda tax case studies (chapters 5 and 6). Supporters of soda tax policies tend to successfully pit 'everyday' people against the 'establishment' in the form of multinational soda companies. The problems caused by excess sugar consumption are often dramatised, for instance, by alluding to the impact of diabetes, and the solution – raising the prices of sodas – is simplified. With the distinction between everyday people and the establishment, the dramatisation of the problem and the simplification of solutions, three important elements of the populist political style are present (Lasco & Curato, 2019). A similar rhetoric can be observed in AC. Populist discontent expressed by health care workers pits 'everyday health care workers' against 'managerial elites' – payers and regulators – who complicate everyday work with top-down campaigns to improve efficiency and quality metrics (Breen, 2018). The resulting administrative burden is dramatised and solutions are simplified, for instance by 'capping' AC (see chapter 1 and 3).

However, as opposed to prevention, policymakers and practitioners interested in AC cannot rely on decades of research on the components of AC, its determinants and associated policy levers. Therefore, apparently simple solutions such as overhead norms are not yet viable, for example because it is hard to put an explicit price to the stakeholders that add to administrative burden or because reducing overhead costs of a healthcare delivery organisation (meso level) may increase the administrative burden of health care professionals (micro level). This compares to soda taxes that can from a technical point of view be implemented more easily. In order to reduce AC, the emphasis should first be on the puzzling process of generating ideas and information on the construct of AC and on policies that can effectively reduce AC. This dissertation identifies some strands for this puzzling process. Building empirical knowledge on the components and determinants of AC seems important, which requires better data-driven monitoring systems on the macro, meso and especially micro level. With better monitoring, hypotheses on the determinants of AC and the interaction of AC across the macro, meso and micro levels can be tested. When such aspects are understood better, more policies can be identified that effectively reduce total AC. Only by then is it useful to take the subsequent step of generating knowledge on the powering process of decision-making, mobilizing political support and bargaining for the successful implementation of the identified evidence-based policies. If the powering process precedes the puzzling process or if the puzzling process is bypassed altogether, chances are that valuable types of AC may be lost. To put it differently: the baby may be thrown out with the bathwater if policy processes that aim to reduce paper focus too little on puzzling.

Methodological considerations

The research methods used in this dissertation were guided by the nature of the research questions. Where these were conceptual, descriptive or explorative, the appropriate mix of quantitative and qualitative methods was sought, striving to achieve the appropriate balance between depth and breadth. Therefore, a wide variety of data sources was used, including harmonised international databases on health expenditure and health system characteristics, national accounts and organisations' annual reports, surveys and focus group discussions among experts, (grey) literature, newspaper archives, and surveys and interviews among stakeholders. The interdisciplinary character of this dissertation and the mixed-methods approach can be seen as strengths.

In the remainder of this section, the conceptual frameworks and research designs used in this dissertation are critically discussed, in addition to the generalisability and validity of the findings.

Conceptual frameworks used

A strength of this dissertation is the attempt to systematically capture opaque constructs. The stream of work on AC aimed to describe the total size of AC, in addition exploring its components and determinants. Analysing the determinants of implementing sweetened beverage taxes also systematically captured the broad concept of 'implementing prevention'. Established conceptual frameworks were used for these clarification exercises. The differentiation of AC on the macro, meso and micro levels stems from how Rothgang (2010) conceptualises a healthcare system, with regulation and financing (macro level) as well as service provision (meso and micro levels) depicting the pillars of any healthcare system. The exploration into whether the type of healthcare financing system is relevant at the macro level used the established framework of healthcare systems by Wendt et al. (2009) as its basis. Wendt et al. identify three ideal types of healthcare financing: state, societal and private. These equate to government schemes, mandatory health insurance and voluntary health insurance in the scheme used in chapter 2, respectively. Investigating AC in accordance with these established frameworks identified potential determinants of AC, as well as omissions in the robustness and consistency of available data.

The studies on junk food taxes were structured with the Health Policy Triangle of Buse, Mays and Walt (2012), who refined this framework first published by Walt (1994). The Health Policy Triangle highlights patterns in the complex interaction between policy context, process, content and stakeholders, instead of identifying causal relationships between individual elements of a policy. Its strength lies in its descriptive completeness, because elements of the triangle are based on other frameworks. Leichter (1979) categorises context into situational, structural, cultural and exogenous factors, as was done in the analysis of the junk food policy context in 13 case studies. For the analysis of stakeholders, the approach of Varvasovszky & Brugha (2000) was used, which is an update of Reich's (1994) guide for the political mapping of health policy. The policy process, as conceptualised in the policy cycle, guided the in-depth analysis of the sweetened beverage taxes in Berkeley, Philadelphia and Cook County. The findings of this study were discussed using Kingdon's (2010) model, an established model for explaining why certain policies are enacted, by explicating the opening of 'windows of opportunity'. Policy content, finally,

was depicted as a set of characteristics that define the technical characteristics of a policy and how it is framed. In summary, the extensive use of established conceptualisations of health policy helped to describe a rather complete overview of the case studies that were investigated.

Generalisability

The systematic attempt to capture opaque concepts may be limited by the same limitation that it aimed to address, because the definitions used can be interpreted differently than was intended. Public finance scholars may, for instance, disagree that prevention improves the fiscal sustainability of healthcare, because some types of prevention increase healthcare spending. This impedes the generalisability of some findings. The generalisability of the stream of work on AC in Dutch LTC is also limited because LTC differs enormously across countries (OECD, 2019).

The following can be said about the generalisability of this dissertation's policy analyses on junk food taxes. Although cases were investigated worldwide, the EU—US comparison shows that the policy spreads differently across and within nations. This different spread can be explained because of differences in the policy context of the cases that were investigated in chapter 5 and 6. In other words, the policy content of junk food tax attempts is very much related to the policy context, or, to put it differently, junk food tax policy attempts require context-sensitive policy content. Therefore, the case-specific findings from the case studies on Berkeley, Philadelphia and Cook County cannot be generalised, but the more generic lessons may be generalisable. For instance, the importance of coupling the soda tax in Philadelphia to improving access to kindergarten is a case-specific finding that should not be generalised, but the generic lesson can be drawn that it is important to couple soda tax policies to other problems than public health.

There are two reasons why the generic lessons of the soda tax case studies in this dissertation may be generalisable. First, according to Yin (2014), comparing cases with contrasting findings but for anticipable reasons enables case study comparators to theoretically replicate findings (Yin, 2014). The three local US soda tax cases exhibit the following important differences. Berkeley enacted a tax successfully with policy framing focusing on 'bad behaviour' of the soda industry and equity concerns regarding diabetes in minority groups. Philadelphia enacted a tax successfully as well but did not focus on health at all. Cook County's attempt to enact a tax was unsuccessful. These findings could be traced to differences in the policy context and actors involved, including the

prevailing public sentiment and the organisation of the supportive advocacy coalition. Second, in a broader review of sugar tax policy analyses (Hagenaars et al., 2021), studies conducted in other settings confirm the importance of generating context-sensitive policy content as well as several of the generic lessons drawn in this dissertation. It was important to couple the policy to other problems than public health in many cases, as shown in chapter 5. Other soda tax policy analysts also found that it was important to take public sentiment into account, as expressed by media. For instance, this played a role in the UK, where the 'soft drinks industry levy' has been linked to consistent media coverage that charactised sugar consumption as an industry-driven problem (Buckton et al., 2019). Case studies conducted in other settings also show that a supportive advocacy coalition needs to be built upfront, and that it needs to understand the local policy context thoroughly. For instance, in the case of the Mexican soda tax, a high level of organization, cooperation, planning and effort of the supportive coalition was required (James et al. 2020), which closely resembles lessons five and six of chapter six. In summary, the generic lessons that are drawn in the soda tax case studies of this dissertation may apply to other contexts as well, but the case-specific findings should not be generalised.

Validity

The studies on AC revealed that AC remain to a large extent 'hidden' in health expenditure statistics. Exploring micro and meso level AC was a core element of the study on AC in Dutch LTC, but in this study it was discovered that some activities that can potentially be considered as macro level AC are not reported as such. Thus, the international comparison of macro level AC should be interpreted with caution because statisticians delivering national accounts data may report data differently. International differences could, however, be logically explained on the basis of differences in health financing systems, indicating reasonable face validity.

The validity of the stream of work on prevention is more robust. The analysis of the relationship between prevention and fiscally sustainable healthcare did not stem from a systematic literature review, but it does include all the base literature. A strength in the studies on junk food tax policies was that the findings were triangulated extensively with the media analysis on the Berkeley, Philadelphia and Cook County case studies and the expert consultation of the 13 case studies.

Implications for research and policy

Based on the aforementioned findings, topics for future research and policy efforts are suggested. These are not presented separately because most research implications are also relevant for policymakers, and vice versa. Implications that stem directly from the empirical findings of this dissertation are presented separately from implications for policy and research that are more generic.

Reducing administrative costs

There is a lack of a scientific community interested in AC in healthcare, but knowledge is available because administrative tasks constitute a considerable share of any health professional's work. Scholars should translate the available practice-based knowledge into a stronger evidence base for policymakers and practitioners. This task first requires that consensus be reached on the definition of AC, in the entire healthcare system. With an improved common understanding of this construct and its measurement as a common denominator, the findings suggest the following for researchers and policymakers.

- As our analysis in chapter 2 illustrates, AC may constitute 30% to 40% of total health spending. Although not all AC can be equated to waste, this mere estimate necessitates a more consistent and innovative monitoring and investigation of the components and determinants of low-value AC, in addition to the rapid growth of research on low-value care of recent years.
- There are many hypotheses on how macro, meso and micro AC interact (chapter 3). This interaction should be acknowledged broadly by policymakers and practitioners. This also means that reducing AC on one level does not mean that total AC will decrease. Thus, 'capping' AC or introducing an overhead norm on one level is not sensible when monitoring systems do not allow tracking the effects on total AC.
- The precise interactions that are at play remain mostly untested, however. Scholars should therefore investigate the interaction of AC across the macro, meso, and micro levels in experimental settings.
- Generating more empirical evidence on the interaction of AC across levels of the healthcare system will generate intelligence on how to organize the appropriate administrative tasks in the appropriate place in the healthcare system. For instance, Zegers et al. (2020) advocate for higher meso level AC in hospital settings under the assumption that this will reduce micro level AC. However, currently, it is not well understood when investing in AC on one level substitutes AC on another level, when it is complementary, and when it leads to duplication of AC, nor is the impact on quality of care of such shifts well understood.

- Other implications related to the interaction of AC on the different levels concern the effects of healthcare reforms. As shown in chapter 2, introducing competition increases macro level AC but the more important question is how this reflects on the meso and micro levels. Decentralisation of Dutch LTC may have increased macro level costs because of a loss of economies of scale on the purchaser side, and LTC providers have probably felt the repercussions of duplication of financers (chapter 3). Policymakers should consider these trickle-down effects of reforms, and scholars must improve monitoring systems such that the full effects of reforms can be evaluated.

Additional generic suggestions for reducing AC.

- Intermezzo 1 describes that policymakers and practitioners mostly focus on improving the operational efficiency of specific administrative burdens on the provider level. This alone will not solve the problem. AC form part of a broader ecosystem where many interdependencies are at play. In the Netherlands, for example, many data custodians exist, and incentives for sharing and rationing data requests are generally absent. This phenomenon has created a complex system where improving operational efficiency on the micro level alone does not eliminate the root causes of operational inefficiency. Thus, improving data governance seems to be a prerequisite.
- The many institutions that are involved in the governance and financing of Dutch healthcare need data to fulfil their tasks, but often there are no incentives for sharing data nor are these institutions bounded in the volume of data requests (intermezzo 1). Deploying pricing policies could be considered to mitigate this. Currently, AC, especially on the micro level, are hidden in general statistics. Thus, regulators, financers or managers demanding excessive registrations are not confronted directly with the associated costs of their data requests. Institutionalising true pricing schemes of AC can circumvent such practices. A similar argument is for food prices to represent their true societal costs (Mozaffarian, 2014). Such a true pricing scheme, again, requires thorough monitoring of AC on all levels.
- Many potential drivers of AC exist; of those, an overt focus on preventing failures is important. According to Peeters (2015), home care providers can enter a vicious cycle if an incident leads to increased pressure on a government to strengthen control. When home care organisations translate increased reporting demands strictly, the reporting burden increases further, increasing the risk of failures. The vicious circle continues if new incidents occur, culminating in new reporting demands and so forth. Policymakers and practitioners should consider that mitigating risks can sometimes require accepting risks, and researchers should investigate the tipping point where

administrative processes for risk control causes the same problems that they aim to address.

Strengthening prevention

Prevention has gained interest among the general public and important stakeholders in the last few years. Public pressure for stronger prevention policies may increase further because of the SARS-CoV-2 pandemic, which has shown that a more resilient population health can withstand health crises more easily but also that strong interaction exists between health and wealth and thus the fiscal sustainability of healthcare systems. Furthermore, there is a strong evidence base on avoidable risk factors, and in general terms it is quite well understood which prevention policies are effective. The question therefore is how to implement prevention policies. On the basis of the case studies on junk food taxes, the following considerations address these implementation problems.

- Despite the current momentum for prevention, operationalising any popular issue into concrete policies always mobilises opponents whose interests are jeopardised. Chapter 6 shows that soda tax supporters can effectively counteract their opponents when organised well. Thus, advocacy coalitions must be constructed early in the policymaking process. They must thoroughly understand the local policy context and agree on the specific policy content they are advocating for, before the policy is on the political agenda. Scholars can help policy entrepreneurs by studying the stakeholder dynamics of successful and unsuccessful prevention policy attempts.
- Powering is more important than puzzling in prevention, but the specific policy content of prevention measures must still be planned meticulously. Chapter 5 and 6 and intermezzo 2 show that many problems must be considered before a junk food tax policy can be implemented. Most notably, a scheme that demarcates healthier from unhealthier foods is absent (Marion Nestlé, 2013). Even when a product group can be demarcated, as is the case for sweetened beverages, policy entrepreneurs must consider the existing local tax policies and decision-making rules for the exact structure of the tax (e.g., whether it can be earmarked).
- It is important to acknowledge that these implementation challenges will be different and difficult in any prevention measure because of the intersectoral character of prevention measures (Hagenaars et al., 2020). Scholars should therefore be more precise in the specific policy content of the prevention measures that they suggest policymakers to implement.
- Considering the intersectoral character of prevention policies, it must also be realised that health rhetoric will not always be productive for the

implementation of prevention policies. The junk food tax policies that were investigated in this dissertation were often coupled to other problems than to problems of public health alone. This may be true for other prevention policies that require the participation of stakeholders not directly related to the public health and healthcare sector. Employment and social security policymakers are, for instance, not primarily occupied with public health. Chapter 4 illustrates that prevention may benefit such policy areas too, for example, by improving productivity and labour participation. Prevention policy entrepreneurs should therefore expand the scope of public problems that prevention measures can address in policy framing. Scholars can help by investigating the stated problems addressed in other case studies on the adoption of successful prevention policies.

Additional generic suggestions for prevention, obtained by examining the window of opportunity of the SARS-CoV-2 pandemic.

- The pandemic highlights the interrelation between the health and wealth of the population. Therefore, it may further increase public pressure for prevention policies such as sugar taxes. The impact on public sentiment should be considered, however, because enacting a sugar tax on the rhetoric of easing the impact of the pandemic can also be interpreted as blaming individuals with (self-induced) poor health. Such a perception and focus on individual behaviour is inaccurate in the context of the abundant evidence on the influence of the obesogenic environment. However, the volatility of public debate must be considered. Advocating for a sugar tax in the wake of the SARS-CoV-2 pandemic should therefore be accompanied by adjacent policies and should focus on correcting the food environment, not individual health behaviour.
- Another major public problem will be the public debt that governments are incurring to pay for their response to the SARS-CoV-2 outbreak and the consequent economic downturn. Fiscal need caused by the previous economic crisis was a main driver of many sugar tax cases investigated in this dissertation. The current fiscal need of governments provides a new window of opportunity for new junk food taxes.

Concluding reflection

The aim of this dissertation was to analyse how reducing paper and sugar can contribute to fiscally sustainable healthcare systems. Although it can be concluded that reducing paper and sugar will improve the fiscal sustainability, there remains much to learn about implementing policies that can achieve these goals. This dissertation contributed to this field by finding that AC constitute a much higher percentage of total health spending than general health expenditure statistics suggest and by observing that AC interact heavily across levels of the healthcare system. The current lack of construct validity and adequate monitoring should be resolved to identify policies that can overcome the root causes of low-value AC and to understand the trickle-down effects of healthcare reforms.

An important contribution to the already strong evidence that supports prevention is that prevention policies can also resolve other problems than public health alone. This benefit can strengthen new advocacy coalitions, benefiting well-thought-out prevention policy content that aligns with existing institutional arrangements. Creating context-sensitive prevention policy content is complicated, however, even in the case of the apparently simple junk food tax policy.

In summary, this dissertation has shown that it is a worthwhile but also very complex undertaking to operationalise the popular goals of reducing paper and sugar in concrete policies. Policymakers, practitioners and scholars should embrace this complexity for incremental progress towards a health system with less paper and sugar. This will ultimately advance public health and the economy at large.

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Summary

Fiscal sustainability of healthcare systems is under increasing pressure due to population ageing, medical-technological progress, the rise of chronic illnesses and the SARS-CoV-2 pandemic. This does not only pose an economic problem, but it also threatens population health by reducing (future) access to healthcare services and reduced investment opportunities in other sectors that impact health outcomes, such as education or social security.

Policies are needed for the fiscal sustainability of healthcare systems. These policies must bend the curve of healthcare expenditure, or they must improve the willingness and ability to pay. These policies must also be implementable. The latter requires political and public support. There appears to exist a lot of support for reducing 'paper and sugar'. Reducing "paper" relates to the reduction of bureaucracy in health care. Reducing "sugar" relates to tackling behavioural risk factors such as sugar use, through prevention. Policy documents and election programs of political parties highlight reduction of bureaucracy in health care and reduction of sugar use as a means of prevention both as solutions for fiscal sustainability (chapter 1). However, as soon as these generally formulated policy goals are operationalized into specific policies, all kinds of problems and conflicts of interest are likely to hinder further policy implementation.

According to scholars in the policy sciences, puzzling and powering are necessary activities to create effective policies (Hoppe, 2010). Puzzling refers to the process of developing ideas and collecting information to define and resolve public policy problems in a context of uncertainty and bounded rationality, enveloping in instruments for addressing a public problem. Powering concerns the process of decision-making, mobilizing political support and bargaining in the context of stakeholders whose interests and power are diverse. The powering and puzzling aspects of 'reducing paper and sugar' are investigated in this dissertation.

Part 1: 'Reducing bureaucracy' requires more puzzling

Part 1 focuses on the puzzling aspects of reducing bureaucracy, because the construct itself is still rather vague. A thorough monitoring system of administrative costs in the entire healthcare system is currently absent, which means that potential cost savings cannot be traced adequately. Puzzling activities are needed to better understand the components and determinants of administrative costs, which currently seems more important than investigating powering aspects.

In this dissertation, administrative costs are differentiated on the level of organizations involved in the governance and financing of healthcare (macro), overhead costs of healthcare delivery organizations (meso) and time spent by healthcare professionals on administrative tasks (micro). Internationally comparable, routinely collected statistics are only available on the macro level. The analyses of these data are presented in chapter 2, in which the following research questions are discussed:

1. How do OECD countries differ in their governance and financing-related administrative expenditure in healthcare?
2. How and why do governance and financing-related administrative expenditure differ between countries with different types of healthcare systems?

Macro level administrative costs have remained stable at slightly over 3% of total health spending over the last decade in Organisation for Economic Co-operation and Development (OECD) countries. Large differences exist across countries, with Iceland reporting spending as little as 1.3% in 2015. The Netherlands ranks above the OECD average at approximately 4%, and the Unites States reports spending as much as 8.3% of its healthcare budget on regulating and financing healthcare alone.

These cross-country differences should be interpreted with caution, because data are not always reported according to the recommendations that are part of the internationally harmonised System of Health Accounts. International differences can nevertheless be explained on the basis of the types of healthcare systems. The analysis shows that voluntary private health insurance schemes bear much higher administrative costs than compulsory schemes. Among the compulsory schemes, multiple-payer schemes exhibit significantly higher administrative spending than single-payer schemes. These differences can be explained because multi-payer and voluntary health insurance schemes require additional administrative functions, and typically face lower economies of scale.

Chapter 2 addresses administrative costs on the macro level, but these costs are actually much higher in healthcare delivery organizations (meso level) and among healthcare professionals (micro level). Therefore, in chapter 3, a study is presented in which administrative costs are investigated on all three levels in the Dutch long-term care system. A large reform took place in this sector in 2015 and reducing bureaucracy was one of the explicit aims. The following

research questions were investigated through a survey and focus group discussions with experts:

3. Can the share of administrative costs in total long-term care spending be assessed in the Netherlands?
4. Did the 2015 reform of long-term care in the Netherlands affect the total share of administrative costs in long-term care?

The current research instruments and data systems are not robust and consistent enough to trace administrative costs longitudinally across the entire system of long-term care (chapter 3). Consequently, the effects of the 2015 reform cannot be investigated properly. The available data does not, however, hint at a significant decrease in administrative costs. On the macro level, many more activities may be considered as administration than are currently reported in the national accounts. They concern for instance costs of research on LTC service delivery and costs related to representation activities. A major limitation concerns the lack of data on long-term care related administrative costs incurred by municipalities. These may have increased as a consequence of the decentralization of tasks from 25 healthcare offices to almost 400 municipalities. Data is collected on the meso level, but it appears that results may not be representative for smaller long-term care delivery organizations. On the micro level, several survey studies have been deployed among long-term care professionals, but these studies are generally not peer-reviewed, a valid time series is absent, and experts expressed doubts regarding data validity.

Despite the conclusion that current research instruments and data are insufficient, improving data collection may be possible nonetheless. Many ideas exist to improve research practice and monitoring, and consensus was reached among experts that it is important to analyse the issue from a systems perspective. This systems perspective is required because there exists heavy interaction between administrative costs on the macro, meso and micro levels. For instance, when a healthcare delivery organization cuts back on employees who generate duty rosters, nurses are likely to have to schedule their work themselves. In this example, meso level administrative costs decrease but micro costs increase. The variety and lack of empirical evidence of potential spill over effects across these levels mean that tracking the overall effect of a single reform is currently impossible.

The heavy interaction of administrative costs on the different levels of the healthcare system also means that we are dealing with a complex issue.

Therefore, in intermezzo 1 it is argued that the common strategy of increasing operational efficiency of administration in healthcare delivery will be insufficient, if it is not part of a more holistic approach towards improving the governance of data and information for healthcare. Rationing the number of data custodians and improving incentives for sharing and rationing data requests are elements of concern for better data governance.

Part 2: 'more prevention' requires knowledge about the policy context and the policy process; some puzzling but especially more powering is needed

Policymakers have rediscovered the importance of prevention in recent years. In the Netherlands, for instance, the third Rutte cabinet reached a 'prevention agreement' in 2018 with various organizations: a package of societal goals and policies targeting smoking, overweight and harmful alcohol use. Policy discourse around prevention often stresses that prevention will reduce healthcare expenditure. The relation between prevention and fiscally sustainable healthcare systems is complex, however. Therefore, chapter 4 discusses the following research question:

5. How are prevention and fiscally sustainable healthcare related?

Not all types of prevention reduce healthcare costs. Prevention of certain risk factors can even increase net lifetime healthcare costs. This may for instance be the case for smoking. Prevention is nevertheless important for fiscally sustainable healthcare systems. It is plausible for many risk factors that prevention leads to lower healthcare costs, on the short term but also over a lifetime. More importantly, health as a key driver of productivity should be considered. Most importantly, however, is the intrinsic value of good health itself.

Thus, the question then is why policymakers do not adopt more prevention policies. Aspects related to politics and practical implementation issues might explain why the implementation of prevention policies often falls short with their theoretical potential. This multifaceted topic is investigated in-depth with case studies on junk food tax policies. This specific policy measure is investigated because cost-effectiveness studies highlight that these taxes can lead to large health gains for low costs. The analyses are structured with the health policy triangle of Buse, Mays and Walt (2012). This conceptual framework identifies a policy's content, relevant contextual factors and the process of agenda-setting up to policy formulation, adoption, implementation and

evaluation. Actors with different interests and power positions influence these three aspects. Chapter 5 focuses on policy content with the following research question:

6. What specific types of junk food taxes are governments implementing?

To answer this question, 13 tax policy cases were purposely sampled. Subsequently, the (grey) literature that was published on these cases was reviewed, and findings were validated by local experts. The junk food tax cases of the governments of Denmark, Finland, France, Hungary, the UK, Fiji, Samoa, Nauru, French Polynesia, Mexico, South-Africa and Berkeley and Philadelphia in the USA were included. Most governments were unable to demarcate a broader scope of products than sweetened beverages. At the point of writing, only in Hungary, Mexico, Nauru and French Polynesia were products other than sweetened beverages included. In Denmark, a 'fat tax' was implemented in 2012, but it was abolished one year later because of implementation problems, which deteriorated public support for the tax. This illustrates how important it is to consider the practical implementation challenges of junk food taxes. When the 13 taxes under investigation were announced, governments often emphasized the purpose of tax revenue. Parallel to the announcement of the UK sugar industry level, for instance, the ministry of finance announced that part of the revenue would be used for sports in primary schools. In most cases, tax revenue was not officially earmarked for health purposes, probably because of fiscal rules.

Chapter 5 also addresses relevant contextual factors with the following research question:

7. What patterns can be observed in the policy contexts of junk food taxes?

Fiscal needs often laid the policy foundation for the 13 included junk food taxes rather than public health-focused advocacy. The specific reasons why there was fiscal need were diverse. For instance, the Nauru government lost revenue because a phosphate mine collapsed. In France, there was a need to reduce the tax burden on farmers and a sweetened beverage tax was suggested to elevate the resulting budget deficit. Relatively large differences can be observed in the stated policy aims of governments. Another finding was that a remarkable number of conservative-liberal governments have adopted these taxes.

Shortly after the publication of the article on which chapter 5 is based, several other governments adopted sweetened beverages taxes. Remarkable differences could be observed in the spread of the policies in the European Union compared with the United States, which were analysed with the following research question:

8. How can differences, observed in the spread of sweetened beverage tax policies in the European Union compared with the United States, be explained?

Whereas sweetened beverage taxes are introduced by national governments in the EU, in the United States, only some local governments have introduced such taxes. As a net result, only 5 million individuals in the United States reside in a jurisdiction with a sweetened beverage tax, and for the EU, approximately 170 million. In intermezzo 2, the argument is made that the EU single market policy may act as a soft governance framework for sweetened beverage taxes. Almost all EU countries with a beverage tax deploy a tax structure similar to the British sugar industry levy (which was announced long before the Brexit referendum). In this model, beverages with a higher sugar content are subjected to a higher tariff, to incentivize producers to reduce sugar content. On the contrary, in the United States, local governments only deploy one tariff, irrespective of sugar content. Another difference is that EU governments that adopted sweetened beverage taxes consist of various political colours, whereas no Republican-led local government had adopted a tax.

Research questions 6—8 provide insights into the policy content and policy context of junk food taxes, but findings on their related policy processes remained superficial. Therefore, in chapter 6, the following research question is addressed:

9. What patterns can be observed in the agenda-setting and decision-making phases of sweetened beverage tax policies implemented in three US cities, and how do these relate to policy context and policy content?

To investigate the policy process of sweetened beverage taxes, a comparative case study was deployed of the sweetened beverage taxes of Berkeley, Philadelphia and Cook County. Three local cases in the United States were selected because document analyses and interviews could be conducted in the English language. Berkeley and Philadelphia were selected because these two cities were the first to introduce a beverage tax, which was still in place at the point of writing. On the contrary, in Cook County, the beverage tax was

abolished two months after it was implemented. This meant successful cases could be compared to a less successful attempt. Data was collected with a survey and interviews among stakeholders involved in the policy process, and a media coverage analysis.

Six lessons were drawn. First, the policy was in all three cases coupled to issues which already had public support. These issues were not necessarily related to public health. For instance, in Philadelphia, tax revenue was used for pre-kindergarten, because the lack of funding for pre-kindergarten was already on the agenda for years. Second, policy framing had to align political sentiment, such as that expressed in media. The 'Berkeley versus Big Soda' campaign message for instance reflected an existing local scepticism towards the influence of big corporations in politics. Third, existing tax and decision-making rules had to be considered meticulously. This went wrong in Cook County, where confusion regarding tax implementation diminished public support. Fourth, the tax structure required technical as well as political considerations. In Philadelphia, artificially sweetened beverages were included after criticism that the tax targeted people with lower incomes, under the assumption that people with higher incomes consume more artificially sweetened beverages. Fifth, a supportive advocacy coalition was necessary and had to be built upfront in the policymaking process. This went well in Berkeley, but supporters in Cook County were unorganized when the tax proposal was announced. Sixth, the advocacy coalition had to be locally grounded and able to influence local media. The Cook County opposition for instance mobilized local retailers to demonstrate against the tax which diminished public support.

Conclusions and implications

The aim of this dissertation was to analyse how reducing paper and sugar can contribute to fiscally sustainable healthcare systems. The puzzling and powering aspects that are needed for this were investigated. The studies on 'reducing paper' have shown that many puzzling activities are still needed to better understand the construct of administrative costs. The issue should in any case be approached from a systems perspective because of the interactions of administrative costs between the macro, meso and micro levels. The current lack of empirical evidence on these interactions makes it difficult to analyse the effects of reforms. Healthcare system types do appear to play a role, because international differences in administrative costs on the macro level can largely be explained by differences in the type of healthcare systems.

More consistent and innovative monitoring of administrative costs is required to generate intelligence on how to organize the appropriate administrative tasks in the appropriate place. Better monitoring is required especially on the level of healthcare professionals. Improving data governance is a prerequisite for achieving this.

This dissertation shows that 'more prevention' will probably benefit the fiscal sustainability of healthcare systems, but not only by reducing healthcare expenditure. Productivity gains and the intrinsic value of health are also important. Thus, the question is why policymakers do not adopt more prevention policies. The junk food tax policies of this dissertation suggest that some puzzling is still necessary to adopt taxes targeting other foods than sweetened beverages alone. However, powering is currently the main challenge for sweetened beverage tax policies.

The junk food tax policy analyses of this dissertation suggest that prevention policy entrepreneurs must organize a supportive advocacy coalition upfront in the policymaking process. A proper organization is necessary because of the complexity of prevention policies, which are made in many different policy arenas due to their intersectoral character. This also means that the specific challenges of prevention policies can vary. Scholars should therefore be more precise in the specific policy content of the prevention measures that they suggest policymakers to implement.

Considering the intersectoral character of prevention policies, it must also be realised that only health rhetoric will not always be enough for policy adoption. This dissertation provided a clear example of this as the junk food tax policies were often coupled to other problems than public health alone. Similar strategies can be deployed for other prevention policies, that require the participation of stakeholders outside the scope of the public health and healthcare sector.

Some parallels can be drawn between administrative costs and prevention as policy issues. A lack of consensus exists as to what administrative costs are. Prevention is not an easy construct either, but over the last decades the scientific community has generated a thorough evidence base about the determinants of health and associated prevention policy levers. On the other hand, there exists a lack of a scientific community interested in administrative costs in healthcare. The total size of administrative costs necessitates more research on low-value administration, in addition to the rapid recent growth of research on low-value care. Institutionalizing true pricing schemes on administrative costs appears

to be an important point on the horizon. Currently, organizations demanding excessive registrations are not confronted with the associated costs of their data requests. A similar argument is for food prices to represent their true societal costs on the basis of the 'polluter pays' principle.

The scientific literature on fiscal sustainability focuses less on "reducing paper and sugar" and more on rationing healthcare and reorganising healthcare financing and delivery. This makes sense because the associated policy measures are more directly linked to fiscal sustainability and can generally also reduce costs in the shorter term. However, these policy measures are unpopular. 'Reducing paper and sugar' are popular but this dissertation has shown that it is a complex undertaking to operationalise these goals in concrete policies. Policymakers, practitioners and scholars should embrace this complexity for incremental progress towards a health system with less paper and sugar.

Samenvatting

De betaalbaarheid van gezondheidszorgsystemen is de voorbije decennia onder toenemende druk komen te staan door vergrijzing, medisch-technologische ontwikkelingen en de toename van chronische aandoeningen. De door de coronapandemie veroorzaakte recessie zal dit probleem naar verwachting verergeren. Onbetaalbare zorg bedreigt de volksgezondheid wanneer het de toegang tot zorg vermindert en wanneer het investeringen verdringt in andere sectoren die de volksgezondheid bevorderen.

Beleid is nodig om de zorg betaalbaar te houden. Dit beleid moet de zorgkosten verlagen of bijdragen aan de bereidheid om zorg te betalen. Het beleid moet echter ook ingevoerd kunnen worden. Daarvoor is draagvlak nodig. Uit vrijwel alle verkiezingsprogramma's, manifesten, en pamfletten over gezondheid en zorg blijkt dat er veel draagvlak is voor 'minder bureaucratie en meer preventie' (hoofstuk 1). Zowel 'minder bureaucratie' als 'meer preventie' zijn algemeen geformuleerde doelen waar niemand het mee oneens lijkt te zijn, maar zodra dergelijke doelen in concreet beleid worden omgezet, komen allerlei problemen en belangentegenstellingen boven water die implementatie belemmeren.

Puzzling en *powering* zijn nodig om die problemen en belangenstegenstellingen te overwinnen in het beleidsproces (Hoppe, 2010). Onder *puzzling* wordt het proces verstaan waarin ideeën worden ontwikkeld en informatie wordt verzameld om een publiek beleidsprobleem te begrijpen en op te lossen. Gedurende dit gepuzzel is er sprake van een onzekere context en is de rationaliteit begrensd door de continue druk op beleidsprocessen. Onder *powering* wordt het proces verstaan waarin politieke besluiten worden genomen, politiek draagvlak wordt gecreëerd en waarin onderhandeld wordt met actoren met verschillende machtsposities en belangen. In dit proefschrift worden de *puzzling* en *powering* aspecten van 'minder bureaucratie en meer preventie' onderzocht.

Deel 1: 'minder bureaucratie' vergt meer gepuzzel

Deel 1 van dit proefschrift richt zich op *puzzling* aspecten omdat administratieve kosten verweven zijn in vrijwel alle functies van een gezondheidszorgsysteem en het een betrekkelijk vaag construct is. Het is nog niet goed mogelijk om de *powering* aspecten van bewezen effectief beleid te onderzoeken, omdat er nog geen helder beeld is van de componenten en determinanten van administratieve kosten en potentiële besparingen kunnen door een gebrek aan adequate monitoring nog niet goed getraceerd worden.

In dit proefschrift wordt onderscheid gemaakt tussen administratieve kosten op het niveau van organisaties die betrokken zijn bij het bestuur en de financiering van zorg (macro), overheadkosten van zorginstellingen (meso) en de tijd die zorgprofessionals kwijt zijn aan administratieve taken (micro). Enkel op het macro niveau worden openbaar beschikbare en internationaal vergelijkbare statistieken verzameld. De analyse van deze data wordt gepresenteerd in hoofdstuk 2 aan de hand van de volgende twee vragen:

1. Hoe verschillen de bestuur en financiering gerelateerde administratieve kosten van gezondheidszorgsystemen in OESO landen?
2. Hoe en waarom verschillen bestuur en financiering gerelateerde administratieve kosten tussen OESO landen met verschillende typen gezondheidszorgsystemen?

De administratieve kosten op macro niveau zijn in het laatste decennium stabiel gebleven. Gemiddelde geven OESO landen iets meer dan 3% van de totale zorguitgaven uit aan administratieve kosten op macro niveau, maar er zijn grote internationale verschillen. IJsland komt op slechts 1,3% uit terwijl de VS 8,3% van de totale zorguitgaven aan administratieve kosten op macro niveau uitgeeft. Nederland komt uit op ongeveer 4%. Dat is hoger dan het OESO gemiddelde.

Enige voorzichtigheid is geboden bij de interpretatie van deze cijfers, omdat gegevens niet altijd conform de aanbevelingen van het internationaal geharmoniseerde *System of Health Accounts* worden aangeleverd. Wel kunnen de internationale verschillen logisch verklaard worden op basis van de wijze waarop landen zorg financieren. Voor alle landen geldt dat de administratieve kosten van vrijwillige private verzekeringen (de aanvullende verzekering in Nederland) hoger liggen dan die van verplichte (volks)verzekeringen en belasting gefinancierde systemen. Binnen de verplichte financieringsarrangementen, blijkt dat landen met meerdere financiers (zoals zorgverzekeraars in het kader van de Zorgverzekeringswet in Nederland) hogere administratieve kosten hebben dan landen met één volksverzekering of een belasting gefinancierd systeem. Deze verschillen kunnen in ieder geval deels verklaard worden doordat er in vrijwillige verzekeringssystemen meer transacties plaatsvinden, en omdat een systeem met meerdere financiers minder schaalvoordelen kent en er meer functies nodig zijn dan in een systeem met maar één financier.

Hoofdstuk 2 gaat enkel over het macro niveau, terwijl de overheadkosten van zorginstellingen (meso niveau) en de administratieve taken die zorgprofessionals uitvoeren (micro niveau) hoger zijn. Daarom wordt in hoofdstuk 3 onderzoek gepresenteerd naar administratieve kosten op het macro, meso en micro niveau in de langdurige zorg in Nederland. Er is naar deze sector gekeken omdat in 2015 een grote hervorming plaats vond in de Nederlandse langdurige zorg die onder andere tot doel had om de bureaucratie te verminderen. Met een vragenlijstonderzoek en focusgroep discussies onder experts zijn de volgende vragen onderzocht:

3. Kunnen de totale administratieve kosten in de Nederlandse langdurige zorg in kaart gebracht worden?
4. Had de hervorming langdurige zorg in Nederland in 2015 een effect op de totale administratieve kosten in de langdurige zorg?

In hoofdstuk 3 wordt geconcludeerd dat de huidige onderzoeksinstrumenten en de beschikbare monitoring onvoldoende robuust en consistent zijn om de administratieve kosten op macro, meso en micro niveau longitudinaal betekenisvol en betrouwbaar te volgen. Hierdoor kunnen de effecten van de hervorming in 2015 niet goed onderzocht worden, maar tegelijkertijd zijn er geen aanwijzingen dat de administratieve kosten zijn gedaald. Op het macro niveau blijkt dat diverse activiteiten die als beheerskosten bestempeld kunnen worden, ontbreken in de officiële statistieken die het CBS verzamelt. Het gaat dan bijvoorbeeld om onderzoek naar langdurige zorg of om belangenvertegenwoordiging. Daarnaast is er geen goed zicht op de gerelateerde beheerskosten van gemeenten, terwijl deze (mogelijk) zijn gestegen door de overheveling van taken van 25 zorgkantoren naar bijna 400 gemeenten. Op het meso niveau worden valide gegevens verzameld, maar deze zijn niet representatief voor kleinere zorginstellingen. Op het micro niveau zijn diverse vragenlijstonderzoeken uitgevoerd, maar deze verschillen sterk in opzet en een tijdserie die terug gaat tot voor 2016 ontbreekt. Tevens meten deze vragenlijsten vooral de ervaren administratieve lasten en daarmee niet zozeer de feitelijke administratieve kosten.

Ondanks het huidige gebrek aan robuuste en consistente monitoring van administratieve kosten, is in de focusgroepen consensus bereikt over hoe dit verbeterd kan worden en werden veel goede ideeën gegenereerd om de beschikbare data te verbeteren. Tevens werd in de focusgroepen benadrukt dat administratieve kosten op de macro, meso en micro niveaus waarschijnlijk als communicerende vaten werken. Wanneer een zorginstelling bijvoorbeeld

bezuinigt op personeel dat roosters verzorgt, zullen verpleegkundigen deze taak zelf moeten uitvoeren. In dit voorbeeld dalen dus de meso kosten, maar stijgen de micro kosten. Door de vele interacties zal het ook met perfecte gegevens over de macro, meso en micro kosten moeilijk blijven om de effecten van hervormingen te onderzoeken, omdat er betrekkelijk weinig wetenschappelijke kennis is over hoe op welk niveau welke administratieve kosten het beste gemaakt kunnen worden.

Deel 1 wordt afgesloten met een commentaar op een studie van Zegers et al. (2020) naar administratieve lasten ervaren door zorgprofessionals werkzaam in Nederlandse ziekenhuizen. In Intermezzo 1 wordt beargumenteerd dat er meer operationele efficiëntie nodig is, maar de complexiteit van de data governance vergt ook meer aandacht. In Nederland beheren veel verschillende organisaties een deel van de benodigde gegevens en er zijn betrekkelijk weinig prikkels om gegevens uit te wisselen. Een integrale benadering is nodig die zich zowel op deze achterliggende oorzaken van administratieve lastendruk richt als op de operationele efficiëntie op de werkvloer. Een dergelijke benadering is in Nederland niet gemakkelijk door de historie van een complexe en versnipperde data governance, maar wel nodig omdat gemakkelijke oplossingen voor complexe problemen niet bestaan.

Deel 2: 'meer preventie' vergt kennis over de beleidscontext en het beleidsproces

Het belang van preventie is de laatste jaren herontdekt. Zo bereikte het Nederlandse kabinet Rutte III in 2018 met verschillende maatschappelijk betrokken partijen een preventieakkoord: een pakket maatregelen gericht op het terugdringen van roken, overgewicht en problematisch drinken. Vaak wordt aangehaald dat preventie de zorgkosten verlaagt. De relatie tussen preventie en betaalbaarheid is echter complex. Hoofdstuk 4 behandelt de volgende vraag:

5. Hoe hangen preventie en betaalbare zorg met elkaar samen?

In hoofdstuk 4 wordt beschreven dat preventie niet altijd de zorgkosten verlaagt. Uitstel van zorgkosten leidt namelijk niet altijd tot afstel van zorgkosten. Tegelijkertijd is preventie wel degelijk een kansrijke strategie voor betaalbare zorg. Los van het feit dat preventie van bijvoorbeeld mentale gezondheidsproblemen ook binnen het perspectief van de levensloop tot lagere zorgkosten leidt, speelt mee dat gezondheid de productiviteit verhoogt en het daarnaast een intrinsieke waarde in zichzelf vertegenwoordigt.

Preventie is derhalve goed voor betaalbare zorg. Tegelijkertijd blijft de implementatie van preventiebeleid achter bij de verwachtingen die velen ervan hebben. Dit hangt voor een groot deel samen met politieke aspecten en de praktische uitvoering van preventiemaatregelen. In dit proefschrift worden deze aspecten onderzocht met beleidsanalyses over belastingen op ongezonde voeding. Dit specifieke beleid is onderzocht omdat kosteneffectiviteitsstudies laten zien dat er relatief veel gezondheidswinst mee geboekt kan worden tegen lage kosten. De analyses worden gestructureerd naar de health policy triangle van Buse, Mays & Walt (2012). Deze maakt onderscheid tussen de vorm van het beleid, relevante contextfactoren en het beleidsproces waarmee het beleid tot stand komt. Actoren met verschillende belangen en machtsposities proberen deze drie aspecten te beïnvloeden. Hoofdstuk 5 richt zich op de volgende vraag:

6. Welke specifieke vorm hebben recent ingevoerde belastingen op ongezonde voeding?

Om deze vraag te kunnen beantwoorden werd een doelgerichte steekproef genomen van belastingen op ongezonde voeding welke zijn ingevoerd door 13 overheden. Vervolgens is de (grijze) literatuur over de betreffende casussen verzameld en geanalyseerd. Daarna zijn de bevindingen gevalideerd bij lokale experts. Geïncludeerd werden de belastingen van Denemarken, Finland, Frankrijk, Hongarije, Verenigd Koninkrijk, Fiji, Samoa, Nauru, Frans Polynesië, Mexico, Zuid-Afrika en Berkeley en Philadelphia in de VS. In vrijwel al deze 13 casussen worden frisdranken belast. Slechts in enkele gevallen lukt het overheden om ook andere ongezonde producten te belasten. Hieruit blijkt dat de uitvoerbaarheid van dergelijke maatregelen belangrijk is, waardoor er een duidelijke afbakening nodig is van wat wel en niet extra belast wordt. Problemen in de uitvoering waren bijvoorbeeld een belangrijke reden waarom de Deense belasting op verzadigd vet mislukte, omdat deze zich richtte op een nutriënt die in zeer veel verschillende producten zit, in plaats van een duidelijk af te bakenen productgroep zoals frisdranken. Verder werd er vaak tegelijk met de aankondiging van de belasting een investering in een specifiek doel aangekondigd, zoals sport op scholen in het VK. De belastingopbrengsten waren echter meestal niet officieel geoormerkt voor deze doelen, waarschijnlijk omdat dit indruist tegen begrotingsregels. In hoofdstuk 5 wordt hierover de volgende vraag beantwoord:

7. Welke patronen zijn zichtbaar binnen de beleidscontext van de invoering van belastingen op ongezonde voeding?

Het viel op dat de behoefte aan meer overheidsinkomsten in relatief veel van de 13 onderzochte casussen een belangrijke rol speelde. De redenen daarvoor waren divers: in Nauru was bijvoorbeeld een fosfaatmijn ingestort waardoor de overheid inkomsten misliep terwijl er in Frankrijk juist behoefte was aan verlaging van de belastingdruk bij boeren, wat een tekort in de overheidsfinanciën zou veroorzaken welke door een frisdranktaks kon worden gedicht. Gezondheid was niet het enige doel in het merendeel van de onderzochte casussen, wat zich uitte in grote verschillen in de *framing* van het beleid. Tevens viel op dat overheden die deze belasting invoerden relatief vaak een conservatief-liberale samenstelling hadden.

Kort na publicatie van het artikel waarop hoofdstuk 5 is gebaseerd, werden er door diverse andere overheden frisdrankbelastingen ingevoerd. Tussen de VS en de EU ontstonden verschillen in de verspreiding van deze maatregel, welke worden geanalyseerd met de volgende vraag:

8. Hoe kunnen verschillen in de verspreiding van invoering van frisdrankbelastingen in de VS ten opzichte van de EU worden verklaard?

Waar frisdrankbelastingen in de EU door nationale overheden worden ingevoerd, blijft het in de VS vooralsnog bij lokale overheden (intermezzo 2). Als gevolg daarvan wonen in de EU inmiddels ongeveer 170 miljoen mensen in gebieden met een frisdrankbelasting, ten opzichte van ongeveer 5 miljoen in de VS. Er kan beredeneerd worden dat het Europese interne markt beleid als een *soft governance framework* acteert, omdat vrijwel alle EU landen met een frisdrankbelasting er één hebben die lijkt op het Britse model (welke ruim voor het Brexit referendum werd aangekondigd). Daarbij worden dranken hoger belast wanneer ze meer suiker bevatten, om producenten te stimuleren tot suikerreductie. In de VS geldt één tarief voor alle frisdranken. Verder valt op dat de Europese overheden die een frisdrankbelasting invoerden uit verschillende politieke kleuren bestaan, terwijl in de VS nog door geen enkele lokale Republikeinse overheid een frisdrankbelasting is ingevoerd.

Bovenstaande belicht de vorm en de context van belastingen op ongezonde voeding, maar het beleidsproces zelf wordt hiermee nog niet verklaard. Daarom wordt in hoofdstuk 6 een diepgaande studie gepresenteerd waarin de volgende vraag aan bod komt:

9. Welke patronen zijn er in het agenderings- en besluitvormingsproces van frisdrankbelastingen die werden ingevoerd in drie Amerikaanse steden, en hoe hangen deze samen met de vorm van het beleid en de beleidscontext?

Voor een onderzoek naar het beleidsproces van de invoering van frisdrankbelastingen is een vergelijkend onderzoek uitgevoerd naar het agenderings- en besluitvormingsproces van de frisdrankbelastingen die in Berkeley, Philadelphia en Cook County zijn ingevoerd. Drie Amerikaanse casussen zijn onderzocht mede omdat document analyse en gesprekken in de Engelse taal konden worden uitgevoerd. Berkeley en Philadelphia werden geïncludeerd omdat het de eerste twee Amerikaanse steden waren die een frisdrankbelasting invoerden, welke tot op heden nog steeds allebei bestaan. Cook County werd geïncludeerd omdat de belasting daar na twee maanden werd afgeschaft. Zodoende konden succesvolle en minder succesvolle pogingen vergeleken worden. Gegevens werden verzameld met een vragenlijstonderzoek en interviews met personen die betrokken waren in het beleidsproces, en met een analyse van de verslaggeving door lokale media.

De studie leverde zes lessen op. Allereerst werd in alle drie gevallen het beleidsvoorstel gekoppeld aan problemen die al hoog op de politieke agenda stonden. Die problemen waren niet per definitie gerelateerd aan gezondheid. In Philadelphia werd de belasting bijvoorbeeld gebruikt om middelen vrij te maken voor kinderdagopvang. Een tweede les was dat de *framing* van het beleid moest aansluiten bij het politieke sentiment. De campagne 'Berkeley versus Big Soda' sloot bijvoorbeeld goed aan bij een bestaande scepsis over de invloed van grote bedrijven op de politiek. Een derde les was dat de maatregelen nauw moesten voldoen aan bestaande spelregels rond belastingen en besluitvorming. Dit ging mis in Cook County, waar verwarring over de implementatie van de belasting het draagvlak schaadde. Een vierde les was dat de belastingstructuur politieke en pragmatische besluiten vergde. In Philadelphia werd bijvoorbeeld besloten om ook calorievrije frisdranken te belasten, na kritiek dat de belasting vooral armere mensen trof aangezien rijkere mensen meer calorievrije frisdranken drinken. Een vijfde les was dat voorstanders al vroeg in het beleidsproces een coalitie moesten smeden. Dit ging goed in Berkeley, maar voorstanders waren in Cook County niet georganiseerd toen de maatregel op de agenda kwam. Een zesde en laatste les was dat voor- en tegenstanders in staat moesten zijn om lokale actoren en media te beïnvloeden. De oppositie in Cook County mobiliseerde bijvoorbeeld lokale winkels om te demonstreren tegen de belasting wat het draagvlak snel verminderde.

Conclusies en aanbevelingen

In dit proefschrift is onderzocht hoe 'minder bureaucratie en meer preventie' in beleid kan worden omgezet. Er is gekeken naar de *puzzling* en *powering* aspecten die daarvoor nodig zijn. Uit het onderzoek naar 'minder bureaucratie' blijkt dat er nog veel puzzelwerk nodig is om het construct van administratieve kosten beter te begrijpen. In elk geval moeten administratieve kosten altijd in een systeemperspectief worden bezien door de interactie tussen de macro, meso en micro niveaus. Tegelijkertijd bestaat er weinig empirisch onderzoek naar die interactie, waardoor ook onduidelijk is hoe hervormingen de totale administratieve kosten beïnvloeden. Type zorgstelsels lijken wel een belangrijke factor te zijn omdat internationale verschillen in administratieve kosten op macro niveau correleren met verschillen in de manier waarop zorg gefinancierd wordt.

Om de juiste administratievoering door het vastleggen van gegevens op de juiste plek in het gezondheidszorgsysteem te krijgen, is bovenal robuuste en consistente monitoring nodig. Dit geldt met name voor de administratieve lasten van zorgprofessionals. Daarbij is ordentelijke data governance een randvoorwaarde. Hieronder vallen een beperkt aantal gegevensbeheerders en prikkels die gegevensuitwisseling bevorderen.

Dit proefschrift laat zien dat 'meer preventie' inderdaad goed is voor betaalbare zorg, maar dat komt niet alleen doordat preventie de zorgkosten verlaagt. Productiviteitswinst en de intrinsieke waarde van gezondheidswinst zijn minstens even belangrijk. De vraag is derhalve waarom het preventiebeleid achterblijft bij de verwachtingen die velen ervan hebben. Uit de beleidsanalyses over belastingen op ongezonde voeding kan geconcludeerd worden dat er nog puzzelwerk nodig is om meer ongezonde voeding dan alleen frisdranken te belasten. Waar het gaat om frisdrankbelastingen spelen echter vooral *powering* aspecten.

Ten aanzien van die *powering* processen laat dit proefschrift zien dat het belangrijk is dat coalities van voorstanders zich al vroeg in het beleidsproces organiseren. Een goede organisatie is nodig omdat preventiebeleid complex is, aangezien het in veel verschillende beleidsarena's tot stand komt. Dit houdt ook in dat de specifieke uitdagingen per type preventie sterk verschillen. Onderzoekers kunnen beleidsmakers ondersteunen door in onderzoek naar preventiemaatregelen nauwlettend rekening te houden met de spelregels van de beleidsarena waarin besloten wordt over de betreffende preventiemaatregel.

Een andere les is dat gezondheidsretoriek niet altijd leidend moet zijn in de *framing*. Preventiebeleid wordt immers veelal gemaakt in beleidsarena's waar gezondheid niet het primaire doel is. Het feit dat frisdrankbelastingen vaak een antwoord waren op budgettekorten, is een sprekend voorbeeld, maar ook andere slimme koppelingen zijn mogelijk.

Tot slot worden enkele parallellen getrokken tussen administratieve kosten en preventie als beleidsvraagstukken. Er bestaat gebrek aan consensus over wat administratieve kosten zijn, maar preventie is zeker ook geen gemakkelijk begrip. Toch zijn definities omtrent preventie beter uitgewerkt en is er veel empirische kennis beschikbaar over risicofactoren en de (kosten)effectiviteit van maatregelen. De academische gemeenschap heeft namelijk decennialang veel aandacht gehad voor preventie, maar minder voor de administratieve kosten in de zorg. De ordegrootte van administratieve kosten vereist dat dit verandert en er meer academische aandacht komt voor zinnige administratie, net zoals er recent meer aandacht is gekomen voor zinnige zorg. Een belangrijke stip op de horizon lijkt het uitwerken van een systeem waarbij organisaties die data uitvragen, ook de totale kosten ervan dragen. Dit is nu slechts beperkt het geval omdat de administratieve lasten van zorgprofessionals verstopt zitten in algemene statistieken. Dit idee hinkt op dezelfde gedachte als de belastingen op ongezonde voeding waarbij 'de vervuiler betaalt'.

Onderzoek naar betaalbare zorg lijkt zich tot dusver minder te richten op het verminderen van bureaucratie en het versterken van preventie. Dat is logisch omdat maatregelen zoals eigen betalingen, budgetplafonds en pakketbeperkingen directer samenhangen met betaalbaarheid en ook binnen één overheidstermijn tot besparingen kunnen leiden. Echter, dergelijke maatregelen zijn impopulair. 'Minder bureaucratie en meer preventie' zijn wel populair maar in dit proefschrift is de complexiteit verkend van het omzetten ervan in beleid. Beleidsmakers, onderzoekers en zorgprofessionals moeten deze complexiteit begrijpen en aanpakken zodat het gezondheidssysteem stapje voor stapje uit steeds minder bureaucratie en steeds meer preventie komt te bestaan.

Research data management

This dissertation relies on data acquired from publicly accessible repositories, literature reviews, surveys, focus group discussions, semi-structured interviews and a media analysis. The data from publicly accessible repositories were acquired from the OECD health expenditure database, the OECD health system characteristics database, the OECD fiscal decentralization database, the health expenditure data of Statistics Netherlands and annual reports of organizations involved in the governance and financing of Dutch long-term care. Our analyses of these data are described in chapter 2 and 3 and intermezzo 2. Appended to the publication in the Journal of Health Planning and Management on which chapter 2 was based, specifically, our use of data from the OECD health system characteristics database is described.

Chapter 3 describes the results of a survey held among experts in administrative costs in Dutch long-term care. The survey itself is appended to the publication in the Journal of Long-Term Care on which chapter 3 was based. To this study a set of powerpoint slides which contained the survey results in detail is appended. The results of the focus group discussions that are described in chapter 3 were appended as well in the form of anonymized focus group discussion reports.

The data that was collected in the literature review that is presented in chapter 5 is appended to the publication in Health Policy on which chapter 5 was based. Also appended is the list of experts that were consulted for validation of findings from the 13 case studies that were included in this study.

Chapter 6 describes the results of a survey held among stakeholders involved in the soda tax policies of Berkeley, Cook County and Philadelphia. The survey items are listed in this chapter. The total survey results are not provided because they cannot be published non-anonymously due to the small number of participants and because all items generated qualitative data. The same goes for the interviews that were held for chapter 6. These were transcribed, but the transcripts are not made publicly available because they cannot be presented anonymously. The coding schemes that were used for analyzing the survey results and transcripts are provided as an appendix to the publication in Health Policy on which chapter 6 was based. The narratives presented in chapter 6 present the analyzed data, in addition to table 2 which presents quotes that summarize the identified themes. The data that was collected and analyzed for the media coverage analysis in chapter 6 are appended to this study as well.

List of publications

Peer reviewed articles

Hagenaars, L.L. Jeurissen, P.P.T. & Klazinga, N.S. (2017) The taxation of unhealthy energy-dense foods (EDFs) and sugar-sweetened beverages (SSBs): An overview of patterns observed in the policy content and policy context of 13 case studies. *Health Policy, 2017;121(8):887-894.*

Hagenaars, L.L., Klazinga, N.S., Mueller, M., Morgan, D.S. & Jeurissen, P.P.T. & (2018) How and why do countries differ in their governance and financing-related administrative expenditure in health care? An analysis of OECD countries by health care system typology. *Int J Health Plann Mgmt;13:e263-278.*

Hagenaars, L.L. Jeurissen, P.P.T. & Klazinga, N.S. (2018) Sugar-sweetened beverage taxation in 2017: a commentary on the reasons behind their quick spread in the EU compared with the USA. *Public Health Nutr, 2018;22(1):186-189.*

Hagenaars, L.L., Jevdjevic, J., Jeurissen, P.P.T. & Klazinga, N.S. (2020) Six lessons from introducing sweetened beverage taxes in Berkeley, Cook County, and Philadelphia: a case study comparison in agenda setting and decision making. *Health Policy;124(9):932-942.*

Jeurissen, P.P.T., Klazinga, N.S. & Hagenaars, L.L. (2021) Complex governance does increase both the real and perceived registration burden. The case of the Netherlands. *International Journal of Health Policy and Management; Epub ahead of print.*

Hagenaars, L.L., Van Hilten, O., Klazinga, N.S. & Jeurissen, P.P.T. (2021) Track and trace of administrative costs in the Dutch long-term care system. *Journal of Long-Term Care; Epub ahead of print'.*

Hagenaars, L.L., Jeurissen, P.P.T., Klazinga, N.S., Listl, S. & Jevdjevic, M. (2021) Effectiveness and policy determinants of sugar-sweetened beverage taxes. *Journal of Dental Research; by invitation, Epub ahead of print.*

Non-peer reviewed articles

Hagenaars, L.L. & Potting, S. (2018) Meer preventie in de zorg: een narratief en uitnodiging vanuit de beleidspraktijk. *Tijdschrift voor Gezondheidswetenschappen; 96:314-317.*

Hagenaars, L.L., De Nood, R., Wouterse, B. & Polder, J.J. (2020) Wegen naar goede gezondheid liggen ook buiten de zorg. *ESB;106(4794):92-95*.

Technical reports

Hagenaars, L.L., Harbers, M., Achterberg, P., Van den Brink, C. & Jeurissen, P.P.T. (2018) *Het Nederlandse gezondheidszorgsysteem in internationaal perspectief.* Bilthoven: RIVM.

Book contributions

Mueller, M., Hagenaars, L.L. & Morgan, D.S. (2017). Administrative spending in OECD health care systems: Where is the fat and can it be trimmed? In *Tackling Wasteful Spending on Health*. Paris: OECD Publishing.

Hagenaars, L.L. & Klazinga, N.S. (2018) Betaalbaarheid door meer preventie. In *Betaalbare zorg, eds. Jeurissen, P.P.T., Maarse, J.A.M. & Tanke, M.A.C.* The Hague: Sdu.

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About the author

Luc was born in Bergen op Zoom, the Netherlands, on 27 July 1987. He followed his secondary education (Atheneum–Economy and Society) in Bergen op Zoom, at RSG 't Rijks. Luc graduated in 2005, after which he moved to Maastricht to study Health Sciences at Maastricht University with a major in Human Movement Sciences and a minor in Occupational Health. He obtained his Bachelor's degree in 2010. In 2012, Luc commenced his Master study in Global Health at Maastricht University, graduating cum laude in 2013 with his Master's thesis entitled 'The epidemiological transition and health policy in Sudan: an analysis of process and power'.

During his time as a student and in between obtaining his Bachelor's degree and commencing his Master study, Luc competed on a semi-professional level in road cycling races around the world. He was part of various Dutch and German UCI-registered sponsor teams in between 2006 and 2013. After obtaining his Master's degree, Luc left the world of cycling to commence a career in health policymaking and health policy analysis.

In 2014, Luc was admitted to the civil service traineeship of the Dutch national government. He was positioned at the Ministry of Health, Welfare and Sport and during the first term of the traineeship he worked at the Macro-economic Issues and Labor Market Department, Strategy & Science cluster. In the second term of the traineeship Luc was seconded to the Organisation for Economic Co-operation and Development (OECD). He concluded the traineeship at the Public Health Department of the Ministry of health, Welfare and Sport.

After finishing the traineeship in 2016, Luc returned to the Strategy & Science cluster of the Ministry's Macro-economic Issues and Labor Market Department where he provides economic and strategic policy advice on prevention-related issues such as health in all policies; health taxes; and the integration of health care, social care and public health. Luc supports the ministry's Chief Science Officer and he is involved in international comparisons of health system performance. Luc is a delegate to the OECD Health Committee and a bureau member of the OECD working group on economics of public health.

Luc has combined his work as a policy advisor with his research as an external PhD candidate since 2016. He lives in The Hague with Viola and their two children Amélie and Louis.

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