Viability and Feasibility of Alternative Payment Models in Health and Social Care

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Rethinking Payment Models

Viability and feasibility of alternative payment models in health and social care

Bekostigingsmodellen herzien

Levensvatbaarheid en haalbaarheid van alternatieve bekostigingsmodellen in zorg en welzijn

Thesis

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GENERAL INTRODUCTION

Background

The last decades have seen an increase in attention for integration within and across domains of health and social care as well as for complex interventions that transcend the boundaries of these domains (Nies et al. 2021). These developments call for a rethinking of how health and social care are paid for and funded, as this is not always aligned with the aims of these developments. How purchasers and care providers are trying to find solutions to these misalignments is central to this thesis. There is a broad policy consensus that current payment models for health and social care have drawbacks that prevent health and care systems from addressing issues of accessibility, affordability and quality. Traditional payment models do not always effectively encourage quality or value, and the landscape of payment models is highly fragmented. Henceforth, this impedes collaboration within and between professional groups, organizations, and domains of health and social care.

This fragmentation manifests itself at different levels in the system. Zooming in, providers and payers use payment models, such as fee-for-service (FFS) or diagnosis-treatment combinations (DTCs, in Dutch: *diagnose-behandelcombinaties*) that have historically been associated with (over)provision of low-value services and a lack of coordination between providers (Miller 2009; Nussbaum, McClellan, and Metlay 2018). Zooming out, health and social care have separate budgets, funding streams and governance structures (Tazzyman, Mitchell, and Hodgson 2021), resulting from legislation that stipulates which organizations are mandated to purchase, organize and deliver health and social care services. In the Netherlands, municipalities, nationally competing health insurers and care offices are respectively responsible for procuring social care and support, medical care and long-term care. These purchasers all operate from different regulatory frameworks. All in all, this fragmented and layered patchwork of payment models and funding streams poses challenges when integrating health and social care or implementing (intersectoral) innovations that aim to improve quality. To tackle these problems, health systems are increasingly experimenting with alternative payment models (APMs).

Alternative payment models

In essence, payment models refer to the funding mechanisms that purchasers of health and social care adopt to financially reimburse providers. Moving from traditional payment models to APMs means revising these funding mechanisms. This shift has the aim of moving away from traditional models such as FFS – which pays providers for services rendered – and DTCs – which provide payments for bundles of activities and diagnoses[1]. Fundamental to the switch to APMs is the idea that financial incentives, or lack thereof, influence the behaviour of provider organizations and professionals (Conrad and Perry 2009). For instance, Dutch physicians working under volume-based schemes seem to show higher utilization rates than salaried physicians (Douven, Mocking, and Mosca 2015). In addition, the financial incentives emanating from traditional models do not sufficiently encourage coordination between providers or the provision of high-quality services, nor do they stimulate reducing unnecessary care episodes (Miller 2009).

Instead of traditional models, APMs aim to reward or incentivize metrics that are more aligned with system goals of accessibility, affordability and quality. Specifically, I define APMs as payment models that either move from reimbursing individual providers to provider sets (e.g., networks or care chains), shift their focus from volume to value, or both. Following this definition, I categorize APMs into integrated payment models and value-based payment models. The primary aim of integrated payment models is stimulating integration, care coordination and collaboration between professionals and organizations within or across domains (Miller 2009). Value-based payment (VBP) models, on the other hand, are primarily aimed at stimulating "value" in the broadest sense, through incorporating explicit quality incentives (Cattel and Eijkenaar 2019; Cattel, Eijkenaar, and Schut 2020). A prime example of the VBP model is pay-for-performance, which rewards providers for improving their performance. Both models have their distinct primary aims. This, however, does not alter the fact that value-based payment models may also have the (unintended) effect of stimulating integration, coordination and collaboration. Vice versa, integrated payment models can contain incentives aimed at improving

1. DTCs are sometimes conflated with diagnosis-related groups (DRGs), but these models have fundamental differences. For a concise discussion of these differences see Krabbe-Alkemade and Groot (2017).

value (Conrad 2015; Porter and Kaplan 2016; Van der Hijden and Van der Wolk 2021). For example, bundled payment models can contain shared savings that are conditional upon reaching certain quality targets.

The duality of payment models

As previously described, there is a conceptual difference between *traditional* and *alternative* payment models. Yet, the distinction between these models is a matter of degree, not an absolute split. APMs can co-exist alongside traditional models, often as pilot programs which may become institutionalized over time. For instance, Dutch maternity care providers have the possibility to choose between a traditional payment scheme and an APM. The traditional model consists of monodisciplinary reimbursement, in which providers are paid separately for each care activity. Alternatively, maternity care providers in the Netherlands may choose to form integrated maternity care organizations (IMCOs). An IMCO then contracts a bundled payment with health insurers that covers all maternity care services throughout pregnancy, delivery, and the postpartum period (Struijs et al. 2024). In other instances, APMs build upon traditional models to maintain the financial and administrative stability provided by the traditional architecture. An example is provided by a case study on bundled payment in a Dutch stroke care program. This APM – a bundled payment – was built on top of the traditional payment model architecture of DTCs (Salet et al. 2023). It left intact the billing systems between the insurer and the provider, and there was no need to change reimbursement rules. In contrast, the IMCO bundled payment required the introduction of new billable activities and modification of rules and regulations (Salet et al. 2023; Struijs et al. 2018, 2024). As such, the timeframe and efforts required for APM implementation may depend on how *alternative* the payment model is, and to what extent it builds upon existing models (and its corresponding billing systems, rules and regulations), replaces these models, or co-exists alongside these models.

Hence, the landscape of payment models is characterized by duality between traditional schemes and APMs. Under this duality, traditional models often retain financial incentives that reward volume and encourage providers to focus on their parochial interests rather than prioritizing patient outcomes or population health. In contrast, the

experimental nature of most APMs tends to offer novel financial incentives and brings in (financial) uncertainty for providers (Struijs et al. 2024). This may discourage the widespread adoption of APMs among healthcare providers.

The 'unknown' of sustainable implementation of APMs

The current body of literature and state of knowledge on APMs is dominated by descriptive studies on the consequences of financial incentives on metrics of quality, utilization and financial indicators, and prescriptive studies on design elements of APMs. For instance, Hayen et al. (2015) provide an approach to designing a shared savings program that consists of five building blocks, Cattel et al. (2020) propose a framework that delineates a theoretically-preferred design for value-based payment models, and Steenhuis et al. (2020) identify key elements of bundled payment models. These studies provide relevant and useful insights into which design elements are needed to transition to APMs. However, in practice it appears that implementing and experimenting with APMs is a cumbersome process (Conrad et al. 2014, 2016).

Few studies have scrutinized payment reform initiatives, and the ones that did mainly focused on barriers and facilitators (Ridgely et al. 2014). To provide an even richer understanding of why these processes are difficult, it is necessary to investigate processual and relational aspects of APM implementation instead of maintaining a structuralist and mechanistic view on the phenomenon. This mechanistic view permeates not only the scholarly debate but also suffuses the policy debate. An advice on payment reform, published by the King's Fund in the UK, eloquently articulates this state of affairs (Collins 2019). The advice emphasizes that policymakers often assume a simplification of reality when considering payment reforms. This applies equally to the Dutch context as to that of the UK:

> At the heart of these reforms, there is an enduring conviction that recalibrating financial incentives will have a predictable, mechanical effect on a complex system. [...] In this clockwork universe, smart people at the centre just need to pull the right levers and put in place appropriate supporting conditions to create a self-improving health system. (Collins 2019:11)

This excerpt includes two key points that warrant reflection. The first sentence relates to the (unrealistic) linear effect that is often presupposed between APMs and their effects. APMs would simply produce financial incentives that lead to improved quality of care – or more distal outcomes – such as better coordination between providers. The second part of the quote relates to the challenges of implementing APMs and corresponding financial incentives that engender improvements in care processes and outcomes. Qualifying payment reform as a matter of 'pulling the right levers' does not do justice to the work of payer and provider organizations and negates the processual and relational aspects involved in efforts to design, implement and sustain APMs.

Organizations in health and social care work in a heavily institutionalized field characterized by a layering of arrangements (Van de Bovenkamp, Stoopendaal, and Bal 2017), among which are payment models (D'Aunno 2014; Scott et al. 2000). Like any other complex care intervention, APMs must relate not only to their traditional counterparts (as previously described). They must also relate to the existing organizational reality, as implementation of APMs does not happen in an institutional vacuum (Eriksson, Levin, and Nedlund 2022). Additionally, and drawing from Denis et al. (2002:65), diffusion of interventions requires considering not only the characteristics – or building blocks – of APMs but also the adopting system, which is "composed of actors with a certain set of values, interests, and power dependencies." Hence, it is important to scrutinize processual and relational aspects to improve our understanding of APM implementation.

Aim and research question

Given the lack of knowledge on processual and relational aspects of APM implementation, the thesis sets out to answer the following research question: *what are the viability and feasibility of alternative payment models in Dutch health and social care?* This question is answered by means of four research aims. To assess the viability, this thesis aims to (1) gain insight into the justification and future viability of integrated payment models; (2) unravel the effects that network-level payment models have on the multidimensional (quality, utilization, spending, miscellaneous) concept of performance in care networks. To assess the feasibility of APMs, the thesis aims to (3) understand why managers and physicians seek to maintain institutionalized payment models; and (4) shed light on the efforts by purchasers in (re)configuring boundaries of health and social care through APMs.

Methodological approach

This thesis is set in The Netherlands and spans different settings (individual organizations, professionals, and networks), domains (health care, social care and long-term care), payment models (integrated payment models, value-based payment models), and target populations (oncology care, elderly care). This thesis is largely driven by 'empirical surprises' (Tavory and Timmermans 2014), which explains the variation in settings, domains, payment models and target populations. The Dutch setting lends itself to study APMs because it has been a front runner in APM experimentation (De Bakker et al. 2012).

To better understand the phenomenon under study, this thesis mainly relies on qualitative research. The theory-informed chapters of this thesis (4 and 5) have been guided by the principles of abductive analysis (Gioia, Corley, and Hamilton 2013; Tavory and Timmermans 2014). The principles underlying abductive analysis depart from two important epistemological starting points (Gioia 2021; Gioia et al. 2013). The first guiding principle is that reality is socially constructed (Berger and Luckmann 1967). Our understanding of the world is shaped by social interactions situated within a cultural context. The second principle is that

the informants in this thesis are 'knowledgeable agents' (Giddens 1984). Informants are aware of their actions and capable of understanding the world they inhabit. With these assumptions in mind, this thesis sets out to generate insights that "reframe empirical findings in contrast to existing theories" (Timmermans and Tavory 2012:174). Besides generating these insights, the use of organization theory guided "the interpretation of data to develop practical knowledge" that may be used by practitioners and policymakers alike (Reay, Goodrick, and D'Aunno 2021:63).

Theoretical lenses

The case study research in this thesis is informed by theory on boundary work and institutional work. These theories help explain how social structures (i.e., institutions and boundaries) are either upheld or changed through emphasizing the purposive actions of individuals and collectives, and their underlying motivations and resources. Institutional work was chosen in Chapter 4 as the study deals with the maintenance of institutionalized practices (i.e., upholding traditional payment models). Boundary work was chosen in Chapter 5 because purchasers had to navigate more and less formalized boundaries of health and social care, whilst at the same time being able to influence these boundaries. These theories are specifically useful in the highly institutionalized setting of health and social care – which is permeated by numerous boundaries of all sorts (DiMaggio 1988; Scott et al. 2000; Tazzyman et al. 2021).

Although these theories will be discussed in more detail in their respective chapters, I will shortly elaborate on their fundamentals. Both theories shift the focus from structures to "structuration" and acknowledge that social structures are not static or purely deterministic but are created, sustained and transformed through human action (Barley and Tolbert 1997; Giddens 1984; Zietsma and Lawrence 2010). A distinct difference between the theories is the target of their purposeful actions. The efforts of boundary work are aimed at boundaries, which form the distinctions between groups of people, occupations, practices and organizations (Quick and Feldman 2014; Zietsma and Lawrence 2010). The efforts of institutional work are focused on institutions, which are "regulative, normative, and cultural-cognitive elements that,

together with associated activities and resources, provide stability and meaning to social life" (Scott 2013:56).

Institutional work involves the actions of individual or collective actors to create, maintain and disrupt institutions (Lawrence and Suddaby 2006). It emphasizes the role of actors in institutional stability and change. Although theory on institutional work stresses the purposive efforts of actors, much of the institutional work that actors carry out involves quotidian, routine actions aimed at achieving practical goals rather than the explicit and deliberate reshaping or disruption of institutions (Smets, Aristidou, and Whittington 2017). According to Jepperson (1991:145), "routine reproductive procedures support and sustain the [institution], furthering its reproduction." Hence, an ultimate consequence of dealing with practical exigencies may be the indeliberate change or maintenance of the institutional order (Smets and Jarzabkowski 2013).

The term boundary work was introduced by Gieryn (1983) to emphasize the socially constructed and negotiated nature of boundaries. It refers to the efforts of actors to "establish, expand, reinforce or undermine boundaries" (Zietsma and Lawrence 2010:194). In their seminal review, Langley et al. (2019) distinguish between competitive, collaborative, and configurational boundary work. Competitive boundary work is concerned with creating, maintaining or disrupting power relations between actors, whereas collaborative boundary work is primarily about enabling collaboration and coordination. The third form of boundary work takes a higher-level perspective: configurational boundary work is aimed at creating patterns of differentiation and integration among actors (Langley et al. 2019). Whilst boundary work is primarily aimed at changing or maintaining boundaries, boundary work plays a role in affecting institutions as well (Zietsma and Lawrence 2010). Boundaries are embedded within institutional contexts, and changing boundaries may have effects on institutional structures.

Thesis outline

This thesis is divided into two parts, that cover what can be considered the promises and processes of APMs and their implementation. The

first part of the thesis assumes a meso-level perspective to study the phenomenon, the second part focuses on organizational aspects of payment reform. The first part concerns a scrutinization of the *promises* of APMs, which informs the viability of said APMs and provides an answer as to whether APMs should be implemented. Chapter 2 presents a discourse analysis that provides insights into the discourses and expectations surrounding payment models aimed at stimulating integration in the Dutch context. To see whether the expectations articulated in the discourses are met, Chapter 3 presents a systematic review of the literature and provides further evidence of payment models that are aimed at networks of care providers.

To come to an understanding of whether APMs can be implemented, the second part dives deeper into the process of APM implementation in two different settings. Chapter 4 aims to understand how an attempt at value-based payment reform in a network of hospitals was thwarted. This chapter is theoretically informed by institutional work theory. Continuing the theme of payment models aimed at facilitating integrated care, and drawing from boundary work theory, Chapter 5 presents a comparative case study that explores how purchasers of health and social care (re)configure boundaries to enable experimentation with a novel care model. To conclude the thesis, Chapter 6 summarizes the main findings and discusses themes that recur throughout the preceding chapters. This chapter also presents practical implications and avenues for further research are presented.[2]

2. Chapters 2, 3 and 4 have been published. Chapter 5 is currently under review.

2

INTEGRATED PAYMENT, FRAGMENTED REALITIES?

A DISCOURSE ANALYSIS OF INTEGRATED PAYMENT

Published in International Journal of Environmental Research and Public Health (2022)

Introduction

Due to demographic and technological changes, an increasing number of people are depending on integrated care. However, the current approach to funding health and social care is seen as one of the major barriers to realizing integrated care (Auschra 2018; Van der Hijden and Van der Wolk 2021). Recognizing this, countries have begun experimenting with integrated payment schemes for healthcare and social services (Mason et al. 2015; Nolte and Woldmann 2021). Like integrated care, integrated payment assumes many forms. Common models are bundled payment or population-based payment (Sutherland and Hellsten 2017). A shared feature of these models is that payment is disbursed to groups of providers. The first is designed to cover episodes of care, certain procedures or (chronic) conditions, whereas the latter provides coverage for well-defined populations (Sutherland and Hellsten 2017). Shifting risk from the payer to provider groups is part and parcel to integrated payment, and sharing this risk between providers in the group consequently increases financial and clinical accountability (Frakt and Mayes 2012; Sanderson et al. 2018). This is expected to stimulate coordination and integration between providers (Hubley and Miller 2016), potentially leading to cost savings and improved quality of care (Frakt and Mayes 2012). Integrated care dimensions such as horizontal, vertical, and sectoral integration can also be used to map the coverage of integrated payment (Goodwin 2016). In instances where integrated payment covers and stimulates horizontal integration, with providers performing similar functions (e.g., multiple hospitals), competition is assumed to be fiercer compared to vertical integration, where successive partners in a chain collaborate (e.g., hospital and nursing home) (Lotfi and Larmour 2022). This is assumed to be further complexified when the scope of integrated payment widens to also cover intersectoral collaboration (e.g., health and social services) (Leutz 1999). Hence, the development and implementation of such schemes is complex, where giving substance to the key elements constituting such models requires the cooperation of regulators, payers, provider organizations and professionals (Steenhuis et al. 2020). Experiments have not yet led to conclusive improvements in terms of cost containment or outcomes (Billings and De Weger 2015; Conrad et al. 2014).

Despite these issues, initiatives to stimulate, develop, and implement integrated payment schemes remain prominent on the agenda of many countries. In the Netherlands, as in other countries (Sutherland and Hellsten 2017), this focus has led to a payment architecture that is characterized by its duality. Various types of healthcare provision in the Netherlands have different payment models, such as diagnosis-treatment-combinations for hospitals, and capitation plus consultation fees for general practitioners (GPs). During the past decade, integrated payment models have been introduced on top of, or alongside, this basic framework. The duality created through multiple payment regimes introduces administrative challenges and conflicting financial incentives (Miller 2012). For instance, critics argue that maintaining current fee schedules as the basic framework and building layers of alternative payment models on top will not "fix a broken system" (Miller 2012:5). The (further) development of payment policy should be devoted to striking a delicate balance between incentives (Quinn 2015). Currently, whether the duality can thrive is contested as is whether the basic framework will be replaced by or continues to co-exist with other, integrated, payment schemes in the near future.

Our aim is to understand how the Netherlands arrived at this dual payment structure through analysing the discourses of underlying values and beliefs regarding integrated payment. The primary objective is to determine which discourses predominate, how they have changed over time, and also differ among the key stakeholders in healthcare, to ultimately gain insight into the justification and viability of continuing to implement integrated payment in the future. Further, this will provide an understanding of why integrated payment schemes are pursued despite the lack of clear-cut evidence on their effectiveness (Billings and De Weger 2015; Conrad et al. 2014; Hughes 2017; Mason et al. 2015; Steenhuis et al. 2020). The Netherlands is an interesting setting for such a discourse analysis given its neo-corporatist style of policymaking, characterized by extensive consultations with a wide array of stakeholders (Okma and De Roo 2009), and a system based on managed competition (Enthoven and Van de Ven 2007) with both insurers and providers competing with similar organizations. Furthermore, like other member countries of the OECD (2016), the Netherlands is experimenting with payment models that have received considerable scholarly attention (De Vries

et al. 2019; Stokes et al. 2018). This paper outlines the discourses encompassing integrated payment and its argumentative rationalities, thereby contributing by expanding our understanding of how integrated payment progresses, and why it is pursued or slowed down.

Methods

This discourse analysis focusses on integrated payment in the Netherlands. It is in communicating and discussing policy that the values and beliefs of stakeholders come to the fore (Wash 2020). The primary stakeholders in the policy debate on integrated payment are the political-administrative system, interest groups, providers, and insurers. The political-administrative system is defined as consisting of the Ministry of Health, Welfare and Sport (VWS), two regulatory bodies: the Dutch Healthcare Authority (NZa) and the National Health Care Institute (ZIN), and the Dutch House of Representatives. Interest groups consist of professional and advocacy associations.

Table 2.1. Overview of documents used in the analysis.

Output type	Number of documents
Parliamentary papers	57
Reports	13
Professional magazine articles	8
Press releases and letters	8
Local and regional newspaper articles	3

To identify discourses on integrated payment by the various stakeholder groups, parliamentary databases were searched to identify relevant debates and letters from and to the Minister of Health, Welfare and Sport (henceforth: Minister). This search was supplemented with a scan of other policy reports, press releases, and letters on stakeholders' websites and in newspaper and magazine articles retrieved from the Nexus Uni database. The search terms used were Dutch words or terms reflecting "integrated payment". We analysed documents covering the period from January 2009 to October 2021. The year 2009 was chosen as the start date because the NZa published a report on the feasibility

of integrated payment for cardiovascular risk management (CVRM), diabetes, chronic obstructive pulmonary disease (COPD), and heart failure care in that year (D1)[1]. This report marked the beginning of the debate on integrated payment. Through this search process, a total of 89 documents were found (see Table 2.1).

Discourses are defined as expressions, statements, and concepts used to frame how an object is understood and constructed (Parker 1992; Watson 1994). Here, we apply a discourse analysis as it aims to understand how and what shared meanings – underlying values and beliefs – are conveyed through language by stakeholders (Starks and Brown Trinidad 2007; Yanow 2015). The analysis provides politicians, policymakers, and practitioners with "frameworks for debating the value of one way of talking about reality over other ways" (Parker 1992:5). Through illuminating distinct discourses over time, we can explore the "argumentative rationalities" (Hajer 2006) that stakeholders use to embrace or reject the implementation and use of an integrated payment policy, and hence its justification and viability going forward. To effectively illuminate the discourses, the associated materials are interrogated based on a heuristic consisting of four questions, loosely inspired by Bacchi (2009): For which problem is integrated payment the supposed solution? What are the underlying assumptions that justify or reject integrated payment as the solution? How is this solution advocated, questioned, or disputed by different stakeholders? And how do stakeholders' argumentative rationalities change over time? These questions help to identify distinct discourses, and since a set of statements is rarely "watertight" (Parker 1992), some overlap between discourses is acceptable.

To analyse the data, the collected material was imported into ATLAS.ti. The analytical process consisted of two stages. First, documents were inductively coded (Green and Thorogood 2004). During this phase, topics were manually linked to textual units such as phrases, sentences, or paragraphs. Codes were established that were as close as possible to the subject of the statement (Gioia et al. 2013). For example, the

1. Documents used in the analysis are denoted by D followed by the document number. The corresponding documents can be found in Appendix 1.

fragment "X is in favour of integral funding, but each healthcare provider now has a separate financial incentive that is not always in line with the interests of the pregnant woman" was coded as {incentives_X} and {collaboration_X}, where X is the relevant stakeholder. Codes were also labelled in terms of positive or negative affect towards integrated payment. Having created this set of codes, the remaining material was brought in to refine the codes. An extensive open coding process was followed by a thematic analysis in which the sets of codes and underlying data were assembled into groupings based on relationships between the codes to reveal wider patterns. In this phase, we were looking for codes that were related to each other. It was from these groupings of codes that the four discourses were constructed.

Findings

The various stakeholders identified a range of problems in the current organization of and payment for healthcare for which they perceive integrated payment to be a solution. When announcing the new policy on integrated payment, the then Minister framed it as a paradigm shift:

> *We are abandoning the idea on which our healthcare system was based for years: paying money to a hospital or a group of professionals. And we embrace the idea of where our healthcare system is heading in the coming years: paying money for a healthcare plan, for a complete treatment. So, we move from the* who *to the* what. *[emphasis added] (D2)*

The above quote illustrates that integrated payment is posited as a clear solution to an issue that is represented as being problematic and hence should be abandoned – integrated payment is necessary to move from fragmented to integrated care. This statement is also illustrative of the fact that the integrated payment policy was very much a top-down push, instigated by the Ministry and NZa and then widely discussed in Parliament and by other stakeholders. Identifying which discursive practices are elicited can reveal stakeholders' argumentative rationalities. For instance, stakeholders might recognize the problem but criticize the solution for reasons of their own.

These rationales are reflected in four distinct yet inter-related discourses: (1) quality-of-care, (2) affordability, (3) bureaucratization, and (4) strategic.

Quality-of-care

The discourse on quality of care has been multifaceted and is based primarily on the assumption that introducing integrated payment is a possible way to improve collaboration and quality of care. The Minister articulated this as follows:

> *Health insurers can purchase care integrally and care providers are encouraged to collaborate in integrated care arrangements that are designed around the demand for care. By stimulating collaboration in healthcare, the quality of healthcare can be improved. (D3)*

However, not all stakeholders agreed with this reasoning, stressing not the potential for collaboration, but rather the necessity to improve care quality through patient-centeredness. The NZa emphasized that the existing payment system was overly provider-focused, implicitly assuming that integrated payment would shift the focus away from the provider and toward the care recipient. In doing so, they allude to possible quality improvements:

> *Care should be organized around the patient, not the patient around the care. This applies in particular to the method of payment, which is currently focused too much on the provider and not on the care recipient. One possible way to achieve better quality and affordable primary care is the introduction of integrated payment. (D1)*

From the above quote, we can see that the NZa is alluding to "a possibility" to improve primary care (here in the context of COPD, CVRM, diabetes) – something that seems to contradict a later statement by the NZa concerning maternity care. That is, when the Royal Dutch Organization of Midwives (KNOV) emphasized that the assumption that integrated payment would lead to better quality had not been demonstrated, this position was endorsed by the NZa, as illustrated in the following quote:

> *[Integrated payment] does not enforce better and shared care. The KNOV professional group has expressed this aptly in a response to the NZa: 'It is an illusion to think that improvements in healthcare are achieved through a different payment method or by choosing to accommodate all chain partners in one organization'. (D4)*

Later (in 2015 and 2021), this sentiment was repeated by the KNOV with support from another maternity care advocacy group and the Dutch Patient Federation, continuing to underline that evidence for quality improvements was lacking. While the NZa seems to be the only party to have rapidly embraced the "integrated payment leads to improved care" axiom, over time a shift is visible. From 2012 onwards, a group of stakeholders – which included the Ministry, several insurers, the Dutch Society for Obstetrics and Gynaecology (NVOG), the trade association of Dutch healthcare organizations (ActiZ), and the NZa – began to espouse the "integrated payment leads to improved collaboration" axiom. On one occasion this reasoning was also embraced by the KNOV, with a policy advisor being quoted as saying that integrated payment helps "in further improving cooperation and mutual trust" (D5). Further, the committee responsible for the evaluation of integrated payment for diabetes, CVRM, and COPD observed that adequate integrated care could also be provided without integrated payment.

The necessity and sufficiency of integrated payment as a determinant of certain proximal (e.g., better collaboration or fewer financial incentives) or final (e.g., improved care, patient-centeredness) outcomes is contested by a broad range of stakeholders. The NZa appeared to concur that integrated payment could be a final element rather than a precondition:

> *Providers and insurers have stated that integrated payment can be the final element of the substantive improvements that are now being implemented, but not the start. The NZa agrees with this view. Payment is generally the final element and not the engine of the reorganization of the collaboration. (D4)*

Besides this, a range of stakeholders have addressed the role of incentives that stems from the current, siloed reimbursement system (D6, D7, D8, D9). Not all go so far as the Minister in asserting that paying individual providers incentivizes providers to focus on keeping a patient in their own domain or organization:

> *I expect that the fully-fledged option of integrated payment will offer many opportunities for collaboration between gynaecologists, midwives, and maternity nurses who voluntarily opt for this. Within the current system of separate payments, this is much more difficult to achieve because there is an incentive to continue to treat pregnant women within their 'own line'. (D10)*

Once more, it is the Ministry which, in another report, tries to succinctly explain how exactly a form of integrated payment will contribute to better care:

> *For example, by funding related healthcare activities based on integrated rates, it no longer matters to individual healthcare providers how many treatments they can claim themselves. Instead, healthcare providers are incentivized to organize healthcare as well as possible in collaboration with other providers in their network. (D11)*

Other parties deliver descriptive rather than causative statements when problematizing the role of incentives. For example, one political party indicated that each provider has a distinct financial incentive that is not always in line with pregnant women's interests (D7) and a gynaecologist commented that integrated payment removes undesirable financial incentives (D8).

Affordability

This discourse focuses on the value added by integrated payment in economic terms: will integrated payment guarantee affordability? Ensuring the long-term affordability of healthcare for future generations was one of the reasons given by the Ministry for implementing an integrated payment scheme for chronic diseases (diabetes, CVRM and

COPD) in 2009, claiming that the increased prevalence of chronic diseases was an important factor in rising healthcare costs:

> *According to the Minister, seventy percent of the total health insurance costs go to twenty percent of the insured: the chronically ill. Integrated care is necessary to guarantee the affordability of care in the future. (D2)*

As such, the Minister is claiming that integrated care is the mediating instrument through which integrated payment leads to affordability. There are numerous other underlying assumptions on how integrated payment affects affordability. Two such assumptions are that it reduces costs associated with duplicate services (D1, D12) and enables the possibility of shifting care from secondary to primary providers and also within primary care options (D1, D13). By coordinating care, there is less likelihood of duplicating activities and, hence generating duplicate costs. The presumption that substitution would lead to savings is linked to the removal of functional barriers between providers:

> *This last aspect of [integrated payment] will entail major cost savings. According to the CPZ [College for Perinatal Care], an obvious saving of millions of euros. Certainly, if the substitution from secondary to primary care is taken as the point of departure for this tariff structure, it is inevitable that costs will be saved with the introduction of the [integrated payment]. After all, the more expensive secondary care is partly being replaced by primary care. (D13)*

However, over time, part of this rationale has been increasingly questioned, and the reality of substitution disputed by the KNOV. According to them, rather than substitution, it is medicalization that is taking place. Medicalization, a process through which primary care is shifted to secondary care, is contrary to substitution from secondary to primary care. If substitution is assumed to lead to savings, then medicalization would presumably lead to cost increases, and for that reason negatively impact affordability (D14).

Furthermore, the Minister claimed that integrated payment would serve as an instrument to empower healthcare insurers to invest in prevention measures through which "sudden exacerbations and complications of conditions – and the associated healthcare costs – can be reduced" (D15). Although the affordability discourse has been largely dominated by the Ministry and NZa, throughout the debate several parties have questioned whether there is any supporting evidence that integrated payment leads to cost reductions (D16, D17).

Bureaucratization

The bureaucratization discourse addresses bureaucratic practices and structures, problematizing rules and regulations. The legal bedrock of the Dutch healthcare system is constituted in four healthcare acts, each with its own regulations and consequent budgetary frameworks and budget areas. It is argued that, from the patient's perspective, these budgetary frameworks form artificial financial "barriers" (D18). The Dutch Patient Federation asserted that it seemed plausible that integrated care requires integrated payment "across all barriers" (D19). This aligns with the Minister's view, supposing that there is a need to remove barriers between secondary and primary care, between professional cultures, and between financial flows (D20). One political party, referring to the financial barriers that derive from three healthcare acts, espoused this as follows:

> *ZIN proposes looking at integrated payment for dementia care. That money now comes from the Zvw [Health Insurance Act], AWBZ [current Long-term Care Act] and Wmo [Social Support Act] pots, my [political] party wants to remove those financial barriers so that integrated care and the dementia care standard can really get off the ground. (D21)*

Hence, the implication is that removing financial barriers by integrating payment flows would propel integrated care. In the same spirit, the Minister argues that "separate funding can lead to treatment in the wrong place, by the wrong provider" (D22). Overall, there appears a broad consensus that separate funding and financial barriers are an obstacle to integrated care. As such, integrated payment is an instrument

to transcend paywalls or merge cash flows in the "current, sector-based funding system" (D10) and would ease navigating the rules of the, now fragmented, system.

Another consequence of rules and regulations is an administrative burden experienced by healthcare professionals. Integrated payment could potentially reduce the administrative burden, with stakeholders ascribing qualities such as clarity and uniformity to it (D23, D24). A policy advisor working in the field of rehabilitation care (ActiZ) gave the following example:

> *There is no funding within medical care for [some] consultations such as the multidisciplinary consultations for specific patient groups. If you work together as an interdisciplinary team, you need an integrated payment. From some form of money package, you should be able to see what you need for a specific patient without having to [go] through all sorts of detours and troubles to identify which [billing code] you can [apply]. (D24)*

This policy advisor is emphasizing that integrated payment would remove the cumbersome efforts that the current system demands. However, this viewpoint, that an integrated payment is associated with less bureaucratic practices and administrative hassle is not embraced by all. In an opposing view, a group of stakeholders – consisting of an insurer, political parties, an interest organization, and an integrated maternity care organization (IMCO) – argued that integrated payment amplifies rather than reduces administrative complexity. Already by 2011, an insurer was quoted as saying that integrated payment for CVRM, COPD, and diabetes had led to additional bureaucracy that made the administrative complexity of the previous reimbursement system based on diagnosis-treatment combinations pale in comparison. The insurer continued as follows:

> *It is not a reassuring thought that, in the future, all these integrated care arrangements will only be funded through an integrated payment. After all, it concerns ever-changing partnerships of care providers, some of which have already*

been corrected for overhead costs, while others have not. [Administrative] cleaning problems and duplication of healthcare costs will soon be the order of the day. (D25)

The claimed increase in administrative complexity seems to be mainly because of the increasing number of agreements involving changing constellations of parties. Similarly, Bo Geboortezorg, the advocacy group for maternity nurses and care, argues that IMCOs will face such complexity:

This current form of [integrated] payment, in which maternity care organizations in many different IMCOs have to deal with all kinds of different agreements, is unworkable. The obstacles, imperfections, and undesirable effects are so big that we no longer see any benefit in it. (D26)

Another factor adding to the administrative complexity is the prospect of lingering duality. When integrated payment was introduced, the current payment models were retained. A politician raised the question of how these two modes can co-exist and what the bureaucratic implications would be:

Two reimbursement systems, what will they yield for bureaucracy? Will there be multiple contracts within a region? What substantive requirements will the health insurer set for integrated payment? What if a pregnant woman wants to make other choices than those the birth centre can offer her, for example a different midwife from a practice that is not affiliated, or another hospital? That's not going to work […]. A pregnant woman has something else on her mind than those worries. (D27)

It is important to emphasize that, according to this political party's logic, not only would the provider and the insurer fall prey to increased bureaucracy, but also the new payment model could ultimately disadvantage the patient.

Strategic

The strategic discourse is dominated by those who argue that the power dynamics created by the integrated payment system are disadvantageous to the care process and its outcomes. Already in 2009, the Ministry was

recognizing these dynamics, emphasizing that "working with integrated payment requires a certain development of the market relationships between main and subcontractors in the negotiation process and it entails new uncertainties for individual providers" (D28).

The new dynamic between providers as main contractors and as subcontractors was viewed as undesirable by one insurer (D29). To them, the expansion of the integrated payment model was a system change that implied that care groups were given control over care at the expense of insurers. The insurer was worried about a loss of control over its purchasing activities, warning that the contracting between individual providers within care groups would become more important than the provider–insurer contracting (D29). This sentiment was echoed by a parliamentarian: "In reality, it is about who manages the payment and thus has power over the entire care process" (D27). Devolving the negotiation process from the insurer–provider dyad to the provider–provider dyad would furthermore distract from the care process and providing the appropriate care, instead encouraging discussions about who gets what. The statements below show that this latter point was raised by political parties in 2010 (concerning COPD, CVRM, and diabetes) as well as in 2021 (on maternity care).

> *In practice, a general practitioner is now a contractor or subcontractor of a care group and must negotiate rates, whereby the price can be the main focus and not the quality. These members feel that this is at odds with establishing cooperation between care providers. Does this situation improve the quality of care? (D16)*

> *Why are we so concerned with integrated payment? Who actually wants that? If you throw the [payment model] over the fence – because that's what happens – then it is placed with the midwife and the [medical] specialist. They then have to negotiate about who gets which part of the financial pie. Surely that has nothing to do with good care, where everyone contributes what is needed from their own professionalism? […] Now, it is still the case that if one gets more, the other gets less. (D30)*

Besides the implications for what integrated payment would have for the negotiation process itself, stakeholders held assumptions about the consequences that would arise after the negotiation process. There was a belief that an integrated payment is an "instrument" that wields power to those who control it, as articulated by a political party thus:

> *It is obvious that the current funding system has perverse incentives. That is also noted. The question is, however, what the outcome should be. Are we introducing a completely new system of integrated payment, in which one party, i.e., the hospital, the gynaecologists, will probably be in the lead? That is the threatening reality. Or can we not take away those one or two perverse incentives and solve it in a different way? (D27)*

In the same spirit, another political party perceived a risk that community midwives would become subcontractors of the hospital if the insurer decided that the "pot of money" should be given to the hospital (D27). The concerns over the threat that integrated payment would supposedly pose to community midwifery were repeatedly voiced by various parties. Various political parties and the KNOV argued that with integrated payment, community midwives within IMCOs would be dominated by hospitals (D15, D30, D31). The Dutch Organization of Midwives and Pregnant Women (NOVEZ) believed that integrated payment would lead to the disappearance of community midwifery, "as a result of which hospitalization and medicalization, and with it the costs of care, will increase at a rapid pace" (D32). In line with this, political parties also signalled that integrated payment could harm the professional autonomy of community midwives and patients' freedom of choice:

The professional autonomy of the midwife and the continued existence of the independent practice – and thus the woman's freedom of choice to give birth at home in a familiar and peaceful environment – are at stake due to the integrated payment policy rule. (D33)

Another political party considered it important to come to a form of payment that did justice to the interests of all the parties involved, and

primarily those of pregnant women (D27). The main argumentation in this discourse was focused on highlighting that integrated payment would reshuffle the positions of parties in the negotiation process, the belief that it would have negative effects on the professional autonomy of the midwife and the freedom of choice of the patient, and that it would lead to increased medicalization. These rationalities were countered in several ways by the Ministry. First, it was argued that medicalization decreased in IMCOs that used integrated payment (D27). Second, it was asserted that IMCOs would presumably have an incentive to organize the care further upstream:

> *For each pregnant woman, the integrated tariff will be paid to the maternity care organization, so the organization will also have an incentive to organize care 'as low as possible'. In my view, integrated funding offers opportunities for midwives to strengthen their position in maternity care. (D10)*

That is, contrary to what had previously been argued by others, this development would reinforce the position of community midwifery because care would be rearranged within secondary care or shifted from secondary to primary care. Further, the underlying assumption that primary care is more economic than secondary care would increase the likelihood of savings at the behest of IMCOs. Third, concerning pregnant women's freedom of choice, the Minister assured doubters that a pregnant woman would retain the freedom to choose caregivers from other IMCOs: "switching to another network is possible" (D10), although this might complicate the payment modality as we saw in the previous discourse.

Discussion

This discourse analysis set out to gain insight into the justification and viability of continuing the implementation of integrated payment in the future by determining which discourses predominate, how they have changed over time, and how they differ among key stakeholders. Of the four discourses identified, the discourses on quality-of-

care and affordability were present from the outset, reflecting the justification for introducing integrated payment: that it will improve the quality and affordability of care. As time has moved on, strategic and bureaucratization discourses have come to the fore because the implementation process has exposed the consequences of integrated payment in terms of power, interests, and administrative burden. Furthermore, we have shown that key stakeholders hold different positions within various discourses: whereas policymakers and regulatory bodies tend to take a positive stance toward integrated payment, those involved in carrying out care, such as providers, their advocacy organizations, and healthcare insurers, tend to be more sceptical of the payment reforms.

In the transition from traditional to integrated payment models, the notion was put forward that "the old is dying but the new cannot be born" (Gramsci 1971:276). This was because this phase was accompanied not only by resistance from stakeholders but also with "symptoms" such as increased bureaucracy and an overall lack of clarity as to where the system was heading. At the same time, fragmented ways of paying, such as fee-for-service and diagnosis-treatment combinations, remain necessary for two reasons: not all care is amenable to integration (one-off care), and integration leads to new fragmentation, prompting an integration–fragmentation trade-off (Fabbricotti 2007). Furthermore, traditional models should continue to function as a necessary, fundamental backbone until integrated payment models have proved able to achieve their objectives.

As such, solving the integrated payment puzzle can be seen as a "wicked problem": actions oriented toward solving it typically have unintended consequences elsewhere in the system (Rittel and Webber 1973). Our analysis indeed shows that aiming to solve issues pertaining to quality and affordability through proposing and implementing an integrated payment scheme has repercussions elsewhere. It has brought to the fore concerns about conflicting interests, the allocation of resources, and differences in power, status, and autonomy which, subsequently, if deemed desirable, will have to be smoothed through a variety of "reconciling mechanisms" making integrated payment even more diverse and complex (Kaehne 2018). Furthermore, these tensions will

be amplified when integrated payment initiatives expand beyond their current scope and extend to the interface between health and social services (Leutz 1999). Because of this, even more parties with diverse backgrounds have to strategically interact and other traditional payment models will also have to be transformed and fused into integrated payment or funding arrangements.

In the strategic discourse, professional autonomy has proven to be one of the key concerns. Theoretically, an integrated payment scheme is credited with providing integrated delivery systems with flexible use of resources (i.e., money) and also with expanding professional autonomy, both clinically and economically (Barnum, Kutzin, and Saxenian 1995; Culbertson and Lee 1996). While some forms of integrated payment might indeed increase autonomy on the service delivery network level, the results of this study suggest that the professional autonomy of one provider vis-à-vis another is put under pressure. With the introduction of integrated payment, these networks are transformed into micropolitical economies in which individual actors seek to acquire the scarce resources necessary to sustain their activities (Benson 1975). Powerful actors can control the flow of these resources, thereby failing to utilize the potential benefit of deploying resources flexibly in order to optimize care. Another consequence is that less powerful actors struggle to maintain a claim on their professional activities (Benson 1975), resulting in diminished professional autonomy. As such, policymakers and managers should be aware of the implications that integrated payment has on professional autonomy. Here, Ten Have (2000:504) argues that a "scarcity of resources requires the development and implementation of strategies for the just distribution of resources", concluding that "it is an institutional duty to develop fair mechanisms of allocation and selection", thereby emphasizing the moral-political aspect of the question "who is getting paid, how much, for doing what?" (Cattel et al. 2020:7).

It is important to consider the role of research evidence in discourses. As experiments progress and the payment landscape changes, a growing body of evidence (Karimi et al. 2021; Mohnen, Baan, and Struijs 2015; Struijs et al. 2018; Struijs, De Vries, Scheefhals, et al. 2020) finds its way into the policy debate. The opportunity to use research evidence to back partisan assumptions, interests, or beliefs increases as the evidence

base continues to grow. However, more evidence does not necessarily lead to an evidence-based discourse (Baekgaard et al. 2019). While this discourse analysis has highlighted where, in some instances, stakeholders do point to evidence, or a lack thereof, to support their statements, it was not possible to conclude whether stakeholders wilfully refute or disregard evidence that is not congenial to their interests.

Comparable developments in the field of payment policy can be observed in other OECD countries (OECD 2016; Struijs, De Vries, Baan, et al. 2020), and it is relevant to consider the contextual differences between countries including in who pays for care. The Netherlands has a multi-payer system, in which comprehensive healthcare coverage is mandated by the government and subsequently offered by a number of competing, nationwide, insurers – similar to the systems applied in Austria, Belgium, Germany, Israel, and Switzerland (Tuohy 2019). Within regulatory boundaries, insurers are free to pursue their own purchasing strategies, which may include integrated payment. However, multi-payer systems are characterized by a lack of monopsony power, limiting the ability or desire of payers to push for novel payment policies (Hussey and Anderson 2003). The dynamics in competitive or other market forces (Petrou, Samoutis, and Lionis 2018) might affect the discursive mechanisms in multi-payer systems differently than in single-payer systems. Furthermore, these mechanisms might be affected by the differences in the laws and regulations present in other systems. We would therefore encourage investigation of the discourses on integrated payment schemes in other healthcare systems or regions.

Finally, our analysis revealed that the main actors in the discourses on integrated payment are the Ministry of Health, the healthcare authority NZa, political parties, insurers, care providers, and professional associations. Notably, patient advocacy organizations (PAOs) are absent from the discursive material. Although the role of PAOs in policymaking is widely recognized (Baggott and Jones 2018; Van de Bovenkamp, Trappenburg, and Grit 2010), the involvement of PAOs in payment reform initiatives and policy has not been acknowledged. Further research should therefore address whether, and if not, why not, PAOs are involved in payment reform because patients should be the ultimate beneficiary of any payment reform.

Conclusion

This analysis has identified four discourses on the values and beliefs surrounding integrated payment schemes. The future viability of integrated payment models will depend on how these models address issues concerning Bureaucratization and those coming to the fore in the Strategic discourse: issues of power, status, autonomy, and diverging interests. When addressing these issues, the tensions between the Strategic and Bureaucratization discourses on the one hand and the Quality-of-Care and Affordability discourses on the other will need to be carefully considered by policymakers, providers, and purchasers. The quality of care and its affordability are both important public interests in the Dutch healthcare system, and these should not be overlooked at the expense of bureaucratization and strategic issues.

It is reasonable to assume that the complexity surrounding the implementation of integrated payment systems will intensify due to an ever-increasing number of organizations becoming involved in further integrated payment initiatives, especially since this approach is expected to extend beyond the health domain to include the interface between health and other social services. Government has a stewardship role (Klasa, Greer, and van Ginneken 2018) and should nurture preconditions for pioneers to experiment with integrated payment. Accordingly, healthcare insurers – in their role of purchasers of – should prepare and align their internal organization for future integrated payment initiatives, and providers should ensure a fair and just allocation of funds within the group, so that every practitioner sees the benefits of integrated payment.

3

THE EFFECT OF NETWORK-LEVEL PAYMENT MODELS ON CARE NETWORK PERFORMANCE

A SCOPING REVIEW

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Introduction

Fragmented health care leads to poor system and patient outcomes. Fragmentation manifests itself in a myriad of ways, such as duplication of services and lack of involvement, ownership, or communication (Amelung et al. 2017). Ageing populations and multi-morbidity amplify these issues, making it more relevant to address fragmentation. In order to do so, governments and policymakers increasingly rely on networks of health care organizations (Raus, Mortier, and Eeckloo 2018; Sheaff et al. 2010). As an alternative to market or quasi-market structures, networks enable separate health care entities to work together and coordinate care (Miller 1996; Sheaff and Schofield 2016). However, the current ways of paying for care seem to impede coordination within networks. Providers are predominantly reimbursed separately, through traditional payment models such as fee-for-service (FFS) or diagnosis-related-groups (DRGs), leaving the paywalls between organizations intact (WHO 2010). It is widely assumed that most traditional models reward volume, discourage prevention, impede care coordination, and stimulate delivering the most profitable services (Cattel and Eijkenaar 2019; Ginsburg and Grossman 2005; Miller 2009). In essence, traditional models are perceived as not being able to create the right incentives for the integration of care, leading instead to an array of misaligned incentives (Stokes et al. 2018). Moving away from separate provider reimbursement to network-level reimbursement would support interorganizational coordination, flexible use of resources between organizations, and innovation in delivery design and IT (Barnum et al. 1995; Conrad and Perry 2009; Hubley and Miller 2016). Subsequently, it is assumed that developing adequate network-level payment models is essential to achieving high-quality patient care. Health care purchasers, policymakers and providers have correspondingly initiated demonstrations and experiments with novel network-level payment models. However, to date, how these payment models contribute to network performance has not been systematically investigated.

The current study adds to previous research by considering all payment models that are aimed specifically at joint reimbursement of networks. Although previous reviews have focused on various subsets of payment models, these reviews have not made a primary distinction between

disbursement to a network and to separate providers. For example, Cattel and Eijkenaar (2019) focused on key design features of value-based payment (VBP) initiatives and included 24 papers that shed light on VPB effects, but on the initiative level rather than payment model level. Vlaanderen et al. (2019) conducted an analysis of the characteristics of outcome-based payment (OBP) models and their effects in terms of structure, process, and outcome indicators. Kaufman et al. (2019) provide an overview of utilization, care, and outcomes associated with accountable care organizations (ACOs) in the USA. Thus, VBP, OBP, and ACO models have been systematically reviewed separately, but an overview of all network-level payment models, transcending definitions of VBP, OBP, and ACO models, and their performance, is lacking. Our aim is to study how such network-level payment models affect the performance of networks. We summarize this in the following research question: what is the effect of network-level payment models on the performance of care networks? From the resulting comprehensive overview of performance indicators, policymakers and health care professionals can, depending on what performance indicators they deem important, make a more informed decision when implementing a network-level payment model.

Theoretical background

Payment models, networks, and performance

Payment models refer to the funding mechanisms that health care purchasers adopt in order to financially reimburse providers of care or, in this case, care networks. The term network-level payment model is used to indicate a payment model in which a set of providers or facilities are jointly reimbursed through a contracting entity (i.e., the network or one network provider), which in turn can then disburse the money received to the providers in the care network. Care networks are defined as sets of two or more legally autonomous providers (see Provan and Kenis 2008) that are tasked with the coordination of care pathways and the execution of clinical interventions across providers (Sheaff and Schofield 2016). In this chapter, the term 'provider' is used to denote a practice, hospital, or other setting, and not an individual physician, unless otherwise noted. Network performance

is defined as the ability of the network to satisfy the payment model's objectives as made explicit in the included studies. In our study, the taxonomy of payment models by Tsiachristas (2018) has been used to identify and categorize network-level payment models (henceforth referred to as payment models). Non-network-level models have been excluded from this taxonomy (see Table 3.1) as they are not the focus of our study.

Table 3.1 Taxonomy of network-level payment models, adapted from Tsiachristas (2018).

Payment model	Definition
Base payment	
Capitation	Periodic lump sum per enrolled patient for a range of services
Episode-based bundled payment	Payment for medical services delivered during an episode of care
Disease-based bundled payment	Payment for all the care required by a patient for a particular disease over a predefined period
Global payment	Payment for all the services offered to cover the medical needs of a defined population for a specific time period
Add-on payment	
Pay-for-performance (P4P)	Payments to providers for meeting predetermined performance indicators
Pay-for-coordination (P4C)	Payment for taking responsibility for coordinating a patient's care along parts of, or complete, care pathways for a specific period
Risk and gain sharing / Shared savings	Payments are increased if financial targets are met for the wider system / Providers share in savings and losses if financial or quality targets are (not) met

Intended and unintended consequences of payment models

How payment models incentivize structural change will depend on the payment model. It is assumed that, given the appropriate incentives, providers will be able to deliver the right care at the right time in the right way, and at the right place (Quinn 2010, 2015). Under a capitation system, providers receive a periodic lump sum per enrolled patient for a defined set of services. This incentivizes providers to minimize costs, thereby encouraging them to innovate in cost-reducing technologies, select lower-cost alternative treatments, and invest in prevention. The downsides are increased financial risk for providers, and the temptation to stint on care

and avoid high-risk patients, often referred to as 'cherry picking' (Barnum et al. 1995; Frakt and Mayes 2012). Episode-based bundled payments cover medical services delivered during an episode of care. Providers are thereby encouraged to coordinate and organize care activities within an episodic bundle to eliminate unnecessary and expensive care and reduce costs (Miller 2009). However, there is little incentive to avoid unnecessary episodes since more care episodes implies more revenue (Hubley and Miller 2016). Disease-based bundled payments have a broader scope, covering all the care required for a patient with a particular disease during a predefined period. As with episode-based bundled payments, coordination between providers is encouraged. Providers are incentivized to improve quality since they bear the financial burden of complications and avoidable services, such as hospital readmissions. For both bundled payment types, costs incurred that exceed the pre-agreed payment are at the expense of the provider and, similarly, if the costs are less than the payment, providers retain the difference. This approach may lead to stinting on care and cherry picking if adequate quality monitoring is not in place, and patient choice might be limited due to a limited and fixed provider set (Hubley and Miller 2016). In another approach, a global payment is made to cover all medical services for a defined population during a period of time. In the literature, this term is used interchangeably with population-based payment and global budgets. A global payment model shares some properties with bundled payments and capitation but can offer greater managerial flexibility in allocating resources and enables innovation in delivery design (Barnum et al. 1995; Hubley and Miller 2016). A specific downside of global payments is that population health might be prioritized above individual health (Hubley and Miller 2016).

These basic payment models are often enhanced with additional payment formula: pay-for-performance (P4P), pay-for-coordination (P4C), risk- and gain-sharing and shared savings. Risk sharing arrangements, such as risk-and-gain-sharing and shared savings, are intended to increase efficiency in care delivery (Frakt and Mayes 2012). In part, this works through weakening the providers' tendencies to overtreat patients (Conrad 2015). Payers or providers can decide whether to agree to one-sided risk only (upside risk) or two-sided risk (upside and downside risk) and can also tweak the percentages of savings and losses that are shared (Burns and Pauly 2018). In a one-sided risk arrangement, providers

share only in gains, whereas in a two-sided risk arrangement gains and losses are both shared. Loss aversion theory argues that losses have a stronger psychological effect than have gains (Kahneman and Tversky 1979). This implies that two-sided risk arrangements will more strongly incentivize providers, and so have the potential to enhance performance. Providers that want to benefit from shared savings will have to improve in terms of quality and cost measures (Nembhard and Tucker 2016). All the above payment models are risk-based, except for P4P and P4C. If employing P4P, providers receive a payment for meeting predetermined performance indicators, with the main goal being to improve patient outcomes. Newhouse (2002:203) cautions however that "payment on specific process measures of quality […] can distort resource allocation to the measured areas and away from unmeasured areas." Hence, a disproportionate focus on measured aspects can be detrimental to aspects of care that are not incentivized (Eijkenaar 2013). Via P4C, a designated provider receives a payment to coordinate patient care across a set of services. This is intended to provide financial leeway for patient–provider and provider–provider communication, and to limit unnecessary services, and may furthermore increase "flexibility in how, where, and by whom care is provided" (Hubley and Miller 2016:5).

Network incentives

Theoretically, all payment models in the taxonomy can provide incentives at the network level. Group-level or network-level payments or 'rewards' stimulate structural changes that are seen as preconditions for optimized patient care (Conrad and Perry 2009). A switch from provider-level to network-level reimbursement implies a switch from individual (i.e., provider or organizational) incentives to network incentives. The terms network and groups are used interchangeably in the literature on monetary incentives that underpin payment models. In general, network-level incentives seem to be most effective when the delivery of health care services encompasses "significant interdependencies among group members" (Gaynor, Rebitzer, and Taylor 2004:930). This presumes that, between network providers, high levels of clinical, professional, and organizational integration are present (Valentijn et al. 2013). The intensity of network incentives might be attenuated by an increase in the number of providers working under the same target (Rischatsch 2015). That is, an increase in network size

leads to a weakening of incentives. Similarly, evidence from systematic reviews indicates that individual-level rewards are more powerful than network-level or group-level rewards (Conrad 2015). In addition to the properties of the specific payment models discussed in the previous paragraph, such idiosyncrasies of network incentives might also influence performance.

Methods

Given the broad nature of the research question, the polysemous nature of networks in health care, and the lack of uniform terminology of payment models, a scoping review was conducted (Levac, Colquhoun, and O'Brien 2010; Stokes et al. 2018). Scoping reviews are appropriate for topics where the field of literature is large, complex, ambiguous, and lacking in conceptual boundaries (Peters et al. 2015). In our review, we complied with PRISMA-ScR reporting guidelines and followed the five steps specified in the York framework, thereby allowing an iterative process (Arksey and O'Malley 2005; Tricco et al. 2018). The process framework consists of (i) identifying the research question (see Introduction), (ii) identifying relevant studies, (iii) study selection, (iv) data charting, and (v) reporting on results (Arksey and O'Malley 2005). In order to assess the evidence quality of studies, the Effective Practice and Organization of Care (EPOC) criteria table was adapted from Minkman, Ahaus, and Huijsman (2007). Evidence levels range from A (systematic reviews and RCTs), through B (controlled studies) and C (non-controlled studies), to D (descriptive, non-analytical studies).

Identification of relevant studies

To identify relevant studies, a broad systematic search was conducted in six bibliographical databases. An information specialist with expertise in improving literature retrieval for systematic reviews was consulted to draft the search strings (see Bramer 2019). The initial string consisted of terms similar to 'payment model' and 'interorganizational network'. A first search of four databases (Embase, Medline Ovid, Cochrane Central Register of Controlled Trials, and Web of Science Core Collection) yielded 3892 hits. The first author perused a sample of the identified studies to gain familiarity with concepts and identify additional terms

that could serve as input for refining the search string (Levac et al. 2010). This modified string was used for the second search in October 2019 and yielded 6069 hits including duplicates. For this search, two additional databases were consulted (EconLit ProQuest and CINAHL EBSCOhost) to further broaden the scope. The literature search was updated in November 2021, eventually yielding a total of 6953 studies including duplicates. Studies up to that date have been included with no earliest cut-off date set. Both the initial and final search strings are presented in Appendix 2. Alongside this bibliographical database search, reference lists were consulted to identify further studies that were eligible for inclusion.

Study selection

Studies were included if they were of an empirical nature, peer-reviewed, reported an impact on network performance, described a network-level payment model intervention, and were from an OECD country. OECD countries were chosen since the social and health challenges in these countries call for a well-coordinated system approach that networks can contribute to (OECD 2021). Systematic reviews were excluded (although their reference lists were scanned for studies eligible for inclusion) as well as articles where the full text could not be retrieved and where the contents were evidently not related to our research question. A concise list of the exclusion criteria can be found in Figure 3.1, in which the screening process following the PRISMA guidelines is also illustrated (Moher et al. 2009). All potential abstracts and titles were imported into EndNote X9. After deduplication, the remaining titles and abstracts were exported to an MS Excel workbook for further manual screening. All four authors were involved in the process. Before actual screening began, a sample of 90 papers was discussed to align the team members' interpretations of the exclusion criteria. For each potential inclusion, title and abstract screening was conducted by at least two reviewers independently in a double-blind fashion. The first author screened all titles and abstracts, and the other authors each screened one-third of the total. Inconsistencies were resolved between the two reviewers who had screened the specific title and abstract. Once this filtering process was completed, the full texts of the still potentially relevant papers were screened by the first author, and another author was consulted if there were doubts as to whether to include an article.

Data charting

First, each study was analysed to identify its year, author, country, methodology, intervention program, network configuration, payment model, payment flow, study population, sample size, the investigated indicators of performance, and if the performance on each indicator increased (+), decreased (–) or if there was no (statistically significant) effect (0) under the use of the payment model. The taxonomy discussed in the theoretical framework section was used to code payment models. A distinction is made between payment flows from payer-to-network (i.e., to the network) and network-to-provider (i.e., in the network). As a final step, all the indicators were inductively placed in one of four categories: (i) quality of care, (ii) utilization, (iii) spending, and (iv) other consequences. The fourth category is used for indicators that cannot be assigned to any of the first three categories. These tend to be more abstract measures such as 'level of collaboration' or 'level of integration'. A narrative synthesis of the evidence was conducted.

Results

In total, 6960 studies were identified, including seven additional studies that were identified through reference list checks (see Figure 3.1). Of those, 427 were found eligible for full-text screening. This screening eventually reduced the number of studies to include in the qualitative synthesis to 76.

Study characteristics

A comprehensive overview of all the included studies can be found in Appendix 3, with the numbers between square brackets referring to the overview. Most articles stem from the most recent decade *(N* = 71), and only two of the older five studies were published before 2000. Studies mainly employed quantitative research designs, and, if not, mixed-method designs were employed (see Table 3.2). Most studies were performed in the USA (*N* = 70), the others coming from Germany (*N* = 2) and the Netherlands (*N* = 4). This might explain the dominance of payments to ACOs as the networks under investigation. Capitation-based payments (*N* = 4), disease-based bundled payments (*N* = 5) and P4Ps (*N* = 8) were addressed in a total of 17 studies, while the remaining studies focused on global payments. The latter were often combined with additional

components such as shared savings (N = 45), shared savings plus P4P (N = 13), and pay-for-coordination (N = 1). Most studies lacked precise network configuration descriptions and payment flows to a network (N = 68) were far more common than payment flows in a network (N = 8). The studied populations ranged from disease-specific groups to entire populations served by a network. The quality of evidence was mixed but consisted predominantly of controlled studies (N = 65) (see Table 3.3). For studies with evidence level B, the results presented in Appendix 3 are statistically significant. For evidence C level studies, significance was only reported in two studies [#30, 31]. Given the exclusion criteria we had set, no studies were graded A (RCTs) or D (descriptive studies).

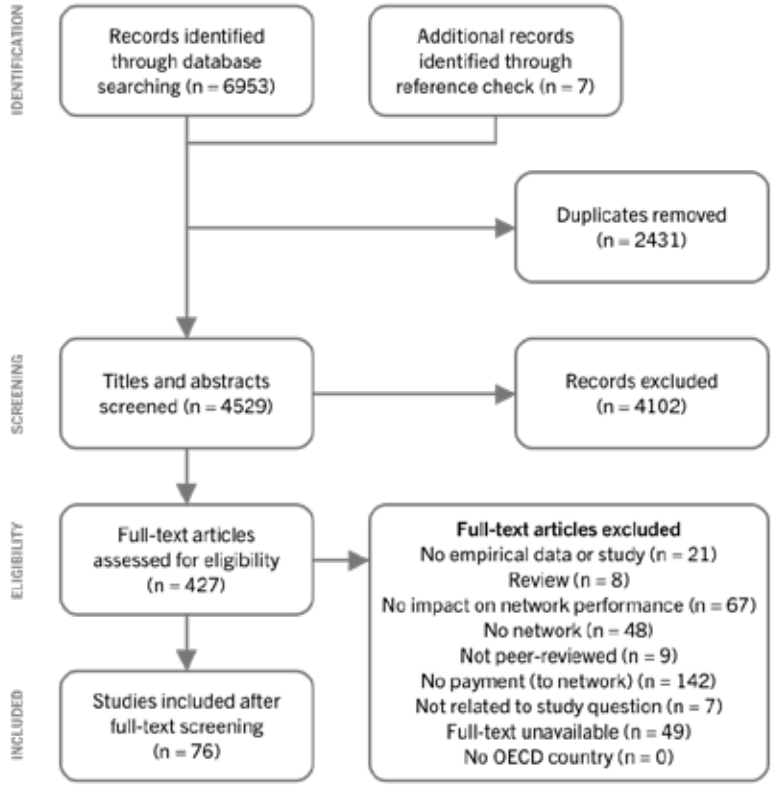

Figure 3.1. Flow diagram of screening process

Table 3.2. Summary of included studies.

Country	United States (*N* = 70)
	Netherlands (*N* = 4)
	Germany (*N* = 2)
Main payment model	Capitation (*N* = 4)
	Disease-based bundled payment (*N* = 5)
	P4P (*N* = 8)
	Global payment (*N* = 59)
Research design	Quantitative (*N* = 66)
	Mixed (*N* = 10)
Payment flow	To network (*N* = 68)
	In network (*N* = 8)

Table 3.3. Evidence quality of included studies.

Level	Description
A1	**Systematic review** Review of data from multiple RCT studies (*N* = 0)
A2	**Randomized trial** Comparative study with (random) intervention and control group design (*N* = 0)
B	**Controlled study** Trial with intervention and control group and comparisons on outcome B1 Multiple measurement points (*N* = 60) B2 One measurement point (*N* = 5)
C	**Non-controlled study** C1 Multiple case, multiple measurement points (*N* = 4) C2 Multiple case, one measurement point (*N* = 1) C3 Single case, multiple measurement points (*N* = 4) C4 Single case, one measurement point (*N* = 2)
D	**Descriptive, non-analytical** D1 Multiple projects (*N* = 0) D2 Single project (*N* = 0) D3 Literature review (*N* = 0)

Performance of care networks

In general, the results of the studies show that payment models have diverse effects on the performance of a network.

Capitation

From the studies, it can be concluded that a capitation approach, both stand-alone or in combination with elements of risk-and-gain-sharing or P4P, is an effective payment model to reduce spending [#1] and improve most types of health care utilization [#1–4], without affecting the quality of care [#4]. With regard to utilization, both timely discharge and the length of home health episodes showed the desired increase, and inpatient hospital admissions decreased as was anticipated [#1, 3, 4]. Most visit types were positively impacted for home health beneficiaries and community-dwelling elderly: emergency department (ED) hospital visits and home health visits decreased, whereas office-based and preventive visits increased [#1, 4]. However, HMO enrolees experienced an unwanted decrease in physician visits [#2]. No effects were found for one prevention activity (colonoscopy screening) and hospital readmission rates [#4].

Disease-based bundled payments

Four out of five of the studies that considered disease-based bundled payments to the network, had a focus on diabetes management programs [#5, 6, 7, 8]. In terms of utilization, use of specialist care decreased as expected and hoped for, but eye testing also decreased, and this had not been an intended outcome. All other measures of medical testing increased as was envisioned [#6]. Furthermore, the use of institutional post discharge facilities was successfully reduced [#9]. The model negatively impacted performance on total spending, medical specialist and medication spending, but post discharge spending and primary care spending were curbed [#6–9]. One qualitative study [#5] mapped other consequences and found some positive effects (better collaboration, greater transparency, and better process quality) but also some negative ones (increased administrative burden, greater price variations, and unwanted dominance by GP care groups). Quality indicators were identified in one study, indicating no significant effect on mortality and a desired decrease in readmissions, with the exception that readmissions for medical episodes were not significantly affected if the bundled payment was not in the setting of an ACO [#9].

Pay-for-performance

Of the eight studies on P4P, one described P4P as a means to reimburse on the network level [#11], one focused on payment flows both within and to the network [#10], while, in the rest of the studies, P4P was used to make disbursements to individual providers in the network. Levin-Scherz, DeVita, and Timbie (2006) [#11] only studied the utilization of diabetes-related services: screening and testing were successfully intensified, but a form of asthma therapy was unaffected. The results from the seven other studies are mixed in terms of both quality and utilization [#3, 10, 12–16]. Marton, Yelowitz, and Talbert (2014) [#3] observed an unsought increase in the utilization of health care professionals, whereas utilization of outpatient clinics and length of stay were successfully reduced. Substance use disorder (SUD) screening, blood lead level screening and visits that focus on prevention (well care visits) increased as hoped. However, treatments for ADHD and SUD were not affected [#13, 15]. An overall composite measure of quality showed desired improvements [#12], but a more detailed look reveals that the prevalence of asthma, pharyngitis, upper respiratory infection, and rotavirus were not affected, and the performance related to several types of immunizations varied widely [#15]. Spending was investigated in one study, which found no significant effects on shared savings or outpatient spending [#16].

Global payment with shared savings

Under this payment model, quality tended to improve and, if not, to remain stable [#30, 32, 33, 36, 37, 41–43, 45, 47–49, 51, 54, 60, 63, 65, 74, 76]. The same was true for spending [#33, 36, 37, 40, 46–50, 52, 55, 56, 58, 59, 63, 65–67, 69, 70, 73–76], whereas the effects on utilization were more diverse [#30, 31, 33–37, 39, 40, 42, 44, 48, 49, 53, 55, 57, 58, 61–64, 66, 68, 69, 71, 74–76]. Although quality improved overall, some negative outcomes could be observed. For instance, the percentage of patients that met the quality indicator for LDL-cholesterol testing and the number of people identified as having a depressive disorder had not improved, the latter hinting at an under-detection of depressive disorders [#47, 60]. Furthermore, medication adherence deteriorated in the first three years after payment model implementation, and adequate care for patients with depression was also negatively affected [#71, 75].

Findings related to spending performance were clearly mixed. Some studies indicated that spending was successfully curbed overall [#33, 65, 67, 76], whereas other studies showed no improvements in general [#46, 47, 50, 60, 66, 69, 70, 75]. McWilliams et al. (2016) [#49] found a more nuanced situation: declining spending rates for networks adopting this payment model in 2012 but not in those starting in 2013. These effects of the timing when a network adopts the model are visible specifically in the spending trends of hospital-integrated ACOs (as opposed to physician group ACOs) and for skilled nursing facilities [#52, 59]. Overall, shared savings arrangements with increased risk exposure show a more positive effect on spending than arrangements with less provider risk [#48, 58, 63]. For arrangements with increased risk exposure, the differences in spending performance could be explained by the number of years using, and hence experience with, the model [#47, 63] and by spending category (Medicare part D or A/B spending) [#40].

Performance in terms of utilization varied widely, especially for visits and hospitalizations [#30, 33, 36, 61, 63]. Some differences in visit rates seem to be explained by location and ACO-orientation (primary care or specialty-oriented) [#36, 61]. Furthermore, use of low-value care (i.e., care that does not or only minimally benefits patients) was not affected according to Modi et al. (2019) [#53] whereas Schwartz et al. (2015) [#58] did show favourable reductions. Heightened levels of provider risk did seem to play an important role in increasing testing: some studies showed that the amount of testing was successfully increased [#33, 48], although others contradicted this [#49]. Findings on performance in terms of screening for breast cancer are contradictory. One study [#44] observed an unwanted decrease in mammography screening, whereas other studies demonstrate desirable increases in screening [#74] or appropriate screening (which refers to the practice of increasing screening rates for patients likely to benefit and decreasing screening rates for those unlikely to benefit) [#31, 57]. Rates for other types of cancer screening (cervical, prostate and colorectal) were successfully increased [#44, 57, 74].

For all three categories (quality, utilization, and spending), indicator-level differences are in part attributable to topographical state [#36], entry cohort [#47, 49, 52, 59, 61, 62, 73], and performance year [#47, 63,

73–75]. It was observed that performance does not necessarily improve with time, the effects may slip back from one year to the next. In terms of utilization, the type of disease that is being screened for [#44, 57] or the type of low-value service [#58] seem to explain indicator-specific differences. Differences in quality at the indicator level (e.g., the number of readmissions) can be linked to the type of surgical procedure [#37] or to the level of risk [#47, 51]. In shared savings arrangements with little provider risk, two of the ten measures of patient experience improved whereas, when there were higher levels of risk, improvements in patient experience were lacking [#38]. Concerning other consequences, the proportion of vulnerable patients served by physician groups was not significantly changed, neither was the adoption of novel technologies for six surgical procedures [#68, 72].

Global payment with shared savings and pay-for-performance

This payment model led to some improvement in utilization rates [#18, 23, 28], in quality [#18–22, 26, 27] and in spending [#19–22, 28]. Utilization did improve for tobacco cessation treatment with increased use of related therapies and drug regimens [#23]. In contrast, with the exception of LDL-cholesterol testing, this model had no effect on testing and screening, overall drug utilization, and admission rates for ambulatory-care-sensitive conditions (ACSCs) [#18, 19, 24, 25]. The model's effects on substance use disorder services depended on the patient population [#18]. The majority of quality indicators showed positive results. Adult preventive care quality (an aggregate indicator for several screening measures and antibiotic use) improved over time [#20–22] and Chien et al. (2014) [#26] revealed that quality in terms of measures linked to P4P improved but that no effects were observed for quality measures not tied to P4P. Except for patients up until 21 years of age, total medical spending was successfully contained under this payment model [#26]. For specific spending indicators, the findings varied, with SUD spending and drug spending trends unaffected [#18, 24]. Turning to other consequences, Blewett, Spencer, and Huckfeldt (2017) [#29] showed that adopting this payment model in the setting of the Integrated Health Partnership in Minnesota led to the forming of community partnerships and service integration.

Global payment with shared savings and pay-for-coordination

Only one study, on the Total Cost and Care Improvement (TCCI) initiative, investigates a model that combined a global payment with shared savings and pay-for-coordination. Afendulis et al. (2017) [#17] showed that this specific model had no effects on either utilization or spending, while quality was not investigated.

Discussion

This review compiles the current evidence on the effect of various network-level payment models on the performance of care networks. The empirical results on performance for a set of payment models are mixed. Overall, no single payment model was associated with consistent improvements in network performance on all three criteria categories (utilization, spending, and quality). However, a more detailed look at the individual categories reveals some insights. First concerning quality, the papers reviewed found that, depending on the quality indicator investigated, quality generally increased or at least remained stable under whichever payment model they were investigating. The same can be said for utilization. Furthermore, all but two payment models showed improved performance in terms of spending. A negative effect on spending performance was found when adopting the disease-based bundled payment model, which failed to curb spending in most instances. Looking at other consequences of these payment models for care networks, some had identified improvements in performance indicators related to collaboration. However, these conclusions were almost entirely related to the effect of making payments to the network, and the very few studies that investigated payments within the network only addressed the P4P model.

Our findings support most, but not all, of the theory-based expectations of the effects of payment models on network performance. The expectation is that, under risk-based payment models such as capitation, disease-based bundled payment, and global payment, providers will be incentivized to minimize costs, control their volume by proactively monitoring utilization and spending, and invest in prevention to curb downstream health care use (Barnum et al. 1995; Bazzoli 2021; Frakt

and Mayes 2012). However, our analysis indicates that only capitation proved able to improve performance in terms of both spending and utilization. When applying disease-based bundled payments, performance in terms of utilization improved as predicted, but spending was not contained. In their study, Mohnen, Baan, and Struijs (2015) suggest that these results could be due to the negotiated contract working out well for the provider (a high bundle price) and that the short length of their study following the introduction of the scheme might not reveal longer term effects. Turning to the global payment approach, performance in terms of spending and utilization in the various studies was found to generally improve or at least remain stable. In the studies where shared savings had been added to the basic global payment approach, we found that shared savings arrangements where there was a significant risk element showed somewhat better performance in terms of spending compared with arrangements with less risk. This finding corresponds with the view that risk sharing arrangements induce cost-conscious behaviour (Lesser, Ginsburg, and Devers 2003). The payment models discussed above are, by their very nature, more focused on cost containment then on quality improvement (Barnum et al. 1995; Berwick 1996). This focus has the associated risk of stinting on care (Hubley and Miller 2016). However, our results do not reveal any adverse effects on the quality of care: quality improved or remained stable, with no clear differences between the models.

P4P has gained much attention in the scholarly literature as it is expected to enhance performance by financially incentivizing providers to deliver the best care. However, the evidence from our analysis is not consistently positive, a finding that is in line with earlier reviews of P4P (Eijkenaar et al. 2013; Mendelson et al. 2017). Further, our results do not convincingly demonstrate that P4P has added value over approaches based on a global payment plus shared savings. That is, no meaningful performance differences could be discerned between global payment plus shared savings arrangements with or without additional P4P. Cattel and Eijkenaar (2019) offered a potential explanation for this: that P4P is only a small part of the total reimbursement received by a provider. Following this line of reasoning, the P4P incentive in relation to global payment plus shared savings might thus have been too small to have a significant impact on performance.

Also, our results show that the relation between payment models and effects is not necessarily stable but depends on several other factors. For instance, our results suggest that the cohort entry year (starting year of the payment model), scope of services explain differences in performance, and timing of the performance assessment (years since implementation of a payment model). In terms of entry cohort, our review shows that early ACO entrants seem to do better overall in improving performance. Related to this, McWilliams et al. (2018) found that, for ACOs offering a wide range of services (hospital-integrated ACOs) – but not for narrow-scoped ACOs – there were performance differences between early and late adopters. Others have also identified scope of services as one of eight organizational attributes that might possibly explain performance differences between early and late adopters, alongside other attributes such as prior experience with payment reform (Shortell et al. 2014; Wu et al. 2016). In terms of changes in the years following the introduction of network payments, it seems that initial performance improvements tail off in later years. Thus, improvements might not continue and may even recede as time goes by. These studies that give insight in performance on the longer term, have a maximum span of three to five years. Other than this, evidence on the sustainability of incentives that derive from the payment models is lacking. More research on incentive sustainability and, accordingly, longer term impact on performance is warranted. Next to 'how long' performance is observed, it is important to emphasize 'what' performance is observed or neglected. Except for indicators of quality, patient-reported experience and outcome measures (PREMs and PROMs) have hardly been encountered in our study. As such, it can be argued whether the patient perspective is sufficiently covered in the indicators.

This review has several limitations. First, the insights are mainly drawn from studies in the USA. ACOs were formed after the passing of the Affordable Care Act in 2010 as an instrument to improve patient care but also to reduce costs, in order to tackle the 'affordability crisis' of the US health system (Blackstone and Fuhr 2016). This context might possibly explain the focus of the USA setting in our review, which limits generalizability. Another limitation is that the implementation of alternative payment models was generally part of a myriad of concurrent interventions, making it difficult to disentangle the effect of a payment model from those associated with other interventions. Additionally, the

studies that investigated non-commercial ACOs (Medicare Shared Savings Program and Pioneer) were not explicit as to whether the risks associated with shared savings were one- or two-sided. Hence, we cannot draw any inferences on the relation between the sidedness of risk and performance.

It seemed that networks are generally able to improve their performance under the investigated payment models, it only occasionally remained unchanged and rarely deteriorated. It would be valuable to investigate what circumstances are required to achieve a certain performance. This aspect was emphasized by Kaufman et al. (2019:270) who state that "looking at outcomes alone misses important information regarding what it takes to produce those outcomes". Here, further research could adopt a mixed-methods approach, combining qualitative research, to uncover contexts, mechanisms, and interpersonal dynamics within networks, with quantitative methods that measure quality, utilization, and spending outcomes on the network level. This contextual and interpersonal perspective would be a valuable addition to studies that have comprehensively investigated the more technical aspects of payment reform such as key design features of payment models (Cattel et al. 2020; Steenhuis et al. 2020; Vlaanderen et al. 2019). Furthermore, although bundled payment evaluations are omnipresent in the literature, more research is needed into multi-provider bundled payments, as most evaluations focus on single provider bundled payments. Additionally, to date, provider participation in reformed payment methods is largely voluntary, although policymakers are exploring the possibilities of mandatory participation (Liao, Pauly, and Navathe 2020). Developing a 'theory-based understanding' (Wong et al. 2016) of contexts and mechanisms – payment being one of many mechanisms (Looman et al. 2021) – under which certain outcomes are produced could help providers prepare for future, possibly mandatory, payment reform.

Conclusion

The aim of this study was to unravel the effects that network-level payment models have on the multidimensional (quality, utilization, spending, *other)* performance concept in care networks. Although network-level reimbursement schemes are still in their infancy, our

review shows that network-level payment has the potential to improve network performance. Given that health care networks are becoming increasingly common, it seems fruitful to continue experimenting with network-level payment models. In future studies, it will be important to broaden the scope beyond only outcomes and to also take contexts and the mechanisms through which networks adopt and implement payment models into account.

4

INCITING MAINTENANCE

TIERED INSTITUTIONAL WORK DURING VALUE-BASED PAYMENT REFORM IN ONCOLOGY

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Introduction

In the Netherlands, calls to reform provider payment are pervasive, with the Dutch government wanting to prioritize payment models that reward value for patients and facilitate outcome-based care (NZa 2018; VWS 2018). Shaped by the principles of value-based healthcare, value-based payment rewards or incentivises providers to deliver value by improving patient outcomes and containing costs (Conrad 2015). Value-based payment seeks to shift the focus of reimbursement from volume to value through alternative payment models: bundled payments with providers bearing responsibility for conditions or episodes of care, motivating them to optimize care cycles (Porter and Kaplan 2016), and pay-for-performance schemes, in which providers receive financial incentives for achieving predetermined quality or outcome metrics (Eijkenaar 2013). Yet, traditional payment models are deeply ingrained in the institutionalized logic of healthcare. The majority of current insurer–provider contracts still heavily focus on volume and cost control, with most contracts containing global budgets and revenue (Gajadien et al. 2022; Gaspar et al. 2020; Jeurissen and Maarse 2021).

The efforts aimed at moving away from volume-based arrangements, towards a broader emphasis on value, embody nascent institutional change (D'Aunno 2014; Reay and Hinings 2005; Scott et al. 2000). Previous studies have shown that value-based payment requires providers to adjust their financial and medical organizational and institutional structures and practices, but changing these proves difficult (Conrad et al. 2014, 2016). The studies by Conrad et al. have mainly illuminated the structural and technical issues of payment reform, but the interaction of provider-side actors with institutionalized practices related to payment reform has not received much attention (e.g., Eriksson, Levin, and Nedlund 2022). Therefore, this paper focuses on these specific interactions within the context of a value-based payment reform initiative that was top-down initiated by the management of a prostate cancer network. The reform was supposed to incentivize the uptake of interventions considered valuable for patients, but for which changes in the care pathway were required. Providers were supposed to be financially rewarded for making these changes and thereby improving quality of care and overall value. An essential building block of the

reform initiative was to co-design and translate the financial rewards into contractual arrangements with insurers. However, the latter was not realized, and the initiative did not lead to the implementation of the value-based payment reform.

To grasp why moving towards value-based payment proves challenging for Dutch hospitals, we apply the perspective of institutional work. This perspective specifically highlights the role that institutionally-given identities play in maintaining the status quo (Kraatz and Block 2008:256). By focusing on the actors affected by value-based payment reform, the concept of institutional work provides a practice perspective on institutional theory by emphasizing the individual's actions that aim to create, maintain or disrupt institutions (Lawrence and Suddaby 2006; Smets et al. 2017). This paper deals with a specific category of institutional work, that is, maintenance, as it turned out that the actors in our study engage in preserving pre-existing institutional practices. Practices which of itself are assumed to be intransigent and enduring (Trank and Washington 2009).

To increase our understanding why actors seek to maintain the status quo, making successful value-based payment reforms challenging (DiMaggio 1988; Kraatz and Block 2008), we formulate the following research question: *what motives do actors use to maintain current institutionalized payment practices when faced with value-based payment reform?* To answer this question, we draw from theory on institutional maintenance work, adapting a tiered approach that illuminates the interdependencies of actors when maintaining institutional practices (Jarzabkowski, Matthiesen, and Van de Ven 2009; Lawrence and Suddaby 2006). Research on institutional work in the healthcare setting has mainly focused on homogenous sets of actors (Hampel, Lawrence, and Tracey 2017), with ample attention for medical professionals (e.g., Bartram et al. 2020; Berghout et al. 2018; Currie et al. 2012). However, less research has focused on the institutional work of non-medical professionals (e.g., Daudigeos 2013; Radaelli et al. 2017; Singh and Jayanti 2013). We attempt to give a synoptic view on how both medical as well as non-medical professionals (physicians and hospital managers) maintain an institutionalized practice, drawing "attention behind the scenes" of the hospital, thereby answering a call

for accounts that consider the viewpoints of all the actors concerned (Hampel et al. 2017; Lawrence and Suddaby 2006:249).

Institutional maintenance work

Institutions are defined as comprising "regulative, normative, and cultural-cognitive elements that, together with associated activities and resources, provide stability and meaning to social life" (Scott 2013:56). Institutional work involves "the purposive action of individuals and organizations aimed at creating, maintaining and disrupting institutions" (Lawrence and Suddaby 2006:215), putting actors centre stage in institutional analysis. Our study deals with the maintenance of institutionalized practices through the work of actors, which "involves supporting, repairing or recreating the social mechanisms that ensure" adherence to current institutionalized practices (Lawrence and Suddaby 2006:230). Previous work has indicated that maintenance is the prevalent form of institutional work in environments that are highly institutionalized, such as healthcare (Andersson and Gadolin 2020).

Forms of institutional work have been matched with Scott's pillars of institutions (Perkmann and Spicer 2008; Scott 2013). Considering maintenance work, regulative maintenance ensures compliance with what is legally sanctioned (rules and laws). Normative maintenance is concerned with the reproduction of expectations and industry standards, basing its legitimacy on what is morally governed. Cultural-cognitive maintenance has to do with commonly held beliefs and a certain taken-for-grantedness of institutional practices (Lawrence and Suddaby 2006; Scott 2013).

Battilana and D'Aunno (2009) have emphasized the importance of 'embedded agency' in institutional work, which is characterized by temporal orientations resulting in three dimensions focused on the past (iterative), present (practical-evaluative), or future (projective agency). Analogously, in maintaining institutions, actors might fall back on habit, in which they scramble to (re)enact institutionalized practices. When being faced with present demands, actors may adapt institutionalized practices, or lastly, actors may consider alternative

futures, repairing or defending current institutional arrangements (Battilana and D'Aunno 2009; Lawrence, Suddaby, and Leca 2011). Table 4.1 gives an inexhaustive overview of the actions that may be involved in institutional maintenance work.

Although institutional work scholars mainly study the deliberate efforts aimed at maintaining institutions, it is important to juxtapose this view with the fact that most actors typically aim to manage the practical challenges of their circumstances rather than actively seeking to influence institutional practices (Smets et al. 2017). Rather than an esoteric phenomenon that focuses on the efforts of institutional entrepreneurs (Whittle, Suhomlinova, and Mueller 2011), institutional work is distributed, depending on a multiplicity of actors that engage in 'coordinated or uncoordinated efforts' to (un)intentionally maintain institutions (Lawrence and Suddaby 2006; Lawrence et al. 2011:55; Perkmann and Spicer 2008).

Table 4.1. Actions of institutional maintenance (adapted from Battilana and D'Aunno 2009).

Orientation	Past	Present	Future
Actions	- Enacting institutionalized practices - Selecting one legitimate, institutionalized practice over another	- Adapting institutionalized practices - Bolstering regulative mechanisms	- Repairing institutionalized practices - Defending institutionalized practices

Actors' interdependence in institutional work

Resources in organizations – an important medium of power – are crucial in facilitating or halting institutional change, and these resources are distributed across institutional actors (Battilana, Leca, and Boxenbaum 2009; Currie et al. 2012; Dorado 2005; Furnari 2016; Nicolini 2012). The capacity to change or sustain institutionalized practices relies on the ability to mobilize resources of other organizational actors or to control actors' own resources (Battilana and Leca 2009; Furnari 2016). In pluralistic organizations such as hospitals, actors are

dependent on each other's resources (Currie and Spyridonidis 2016; Jarzabkowski et al. 2009; Whittle et al. 2011). Formal authority and specialist expertise as enabling conditions for institutional work are distributed across the organization (Empson, Cleaver, and Allen 2013). Respectively, managers in our case control fiscal resources and possess the capabilities and mandate to reach contractual arrangements between insurers and hospitals, whereas physicians possess expert medical knowledge (Andersson and Gadolin 2020; Glouberman and Mintzberg 2001; Lawrence and Suddaby 2006). An exemplary of this comes from Andersson and Gadolin (2020), who point out that physicians possess the authority to veto any institutional initiatives that seek to challenge existing institutional practices. Hence, these professionals are discretionary in deciding whether to want to shield or wield these resources in order to maintain current arrangements (Conrad et al. 2016; Currie et al. 2012; Zilber 2013). Interdependence between actors contributes to the outcome of institutional work, where creative or disruptive work of one actor can be eclipsed by maintenance work of another actor (Hampel et al. 2017).

Context

Hospital reimbursement and financing

The Dutch healthcare system is based on the principles of managed competition (Enthoven 1993). The Health Insurance Act prescribes that citizens take out health insurance with one of the nationally operating health insurers. With a few exceptions, insurers may freely negotiate prices, volume, and quality with individual hospitals. Basic contract arrangements between insurers and hospitals are global budgets, revenue ceilings, and – to a lesser extent – open-ended contracts, with carve-outs for expensive drugs (Gajadien et al. 2022; Gaspar et al. 2020). The former two arrangements align with the national 'Outline Agreements', which contain agreements that cap national healthcare expenditure growth. The fee schedule undergirding all basic hospital arrangements is based on episode-based bundles of activities termed DTCs.

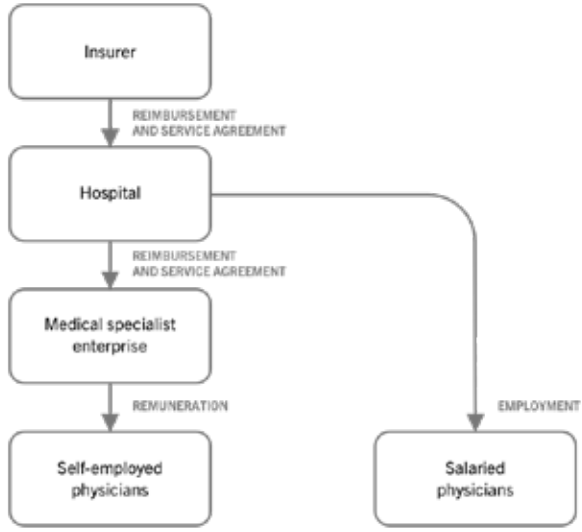

Figure 4.1. Financial flows in the hospital–insurer system

Financial flows and incentive transmission within hospitals

Physicians in the hospital setting are either salaried or self-employed. Self-employed physicians are independent and participate in medical specialist enterprises (MSEs). MSEs engage in contractual arrangements with the sales departments of hospitals (henceforth referred to as hospitals) regarding the amount of financing, the services to be provided, capacity and auxiliary matters (Van Manen 2019). MSEs distribute moneys to the (self-employed) physicians in the several physician groups (e.g., the urology department) based on a distribution key, that differs on several elements across MSEs (van Dusseldorp and Corbey 2018). Incentives arise from how MSEs are financed by the hospital, how MSEs remunerate physician groups, and how self-employed physicians divide these remunerations among themselves. The hospital, MSE and physicians are thus all involved in the transmission of the incentive from the primary *incentivizer* (insurer) to the *incentivized* (physician or physician group), mediated through the hospital and MSE levels which are on both the receiving and transmitting ends of incentives (cf. Town et al. 2004). Figure 4.1 provides an overview of the ties between the actors involved in incentive transmission. Transmitted incentives can be focused on a broad range of desired outcomes, such as quality, collaboration between providers, or volume.

The value-based prostate cancer project

In 2021, the management of a regional prostate cancer network initiated a project with the goal of pursuing value-based payment (VBP) for three interventions in the prostate cancer pathway. With the incidence of prostate cancer steadily rising from 11,507 diagnoses in 2012 to 14,649 diagnoses in 2022 (NKR 2023) the VBP project was assumed necessary to ensure financial sustainability of prostate cancer care in the future. The regional prostate cancer network consists of eight hospitals including one dedicated surgical clinic. Urologists are the main clinical profession represented in the network; patients have no formal representation. For carrying out the VBP project, the initiating network was joined by another network of two hospitals and a primary care laboratory, with the latter only involved in the first of the three interventions.

The first intervention, pertaining to diagnostics, is using a prostate cancer risk calculator in the primary care setting, which aims to reduce unnecessary referrals to the physician in the hospital setting (Osses et al. 2018). The second intervention, also pertaining to diagnostics, is the transperineal (TP) prostate biopsy, which is more labour-intensive than traditional transrectal (TR) biopsy but is associated with lower risk of complications (Xiang et al. 2019). The third intervention is the intraoperative neurovascular structure-adjacent frozen section examination (NeuroSAFE) during robot-assisted prostatectomy. Employing this technique increases the chances of preserving postoperative erectile function and decreasing incontinence rates compared to traditional prostatectomy (Beyer et al. 2014; van der Slot et al. 2023). All three interventions are expected to improve value: for the risk calculator intervention by moving diagnostics to the primary care setting, which is less expensive than the hospital setting, and for the TP biopsy intervention and NeuroSAFE intervention through better outcomes, which were associated with downstream cost savings in the care pathway.

The current traditional payment patchwork of DTCs, global budgets and revenue ceilings was assumed a barrier to transition to these novel techniques, because it is focused on volume rather than value. Therefore, VBP in this project aimed at financially rewarding good quality with the goal to improve the quality of care provided to and experienced by

patients, to reduce healthcare costs throughout the entire care chain by reducing overdiagnosis, side effects and complications, and to reduce the burden on healthcare professionals and provider organizations. Initially, the project suggested that the payment could be provided in bundles with a predetermined amount for the provision of, in principle, all care required for the diagnosis and treatment of a certain condition during a certain period, and in which the bundle is not limited to one setting or care provider. This could be expanded with explicit financial incentives (pay-for-performance or shared savings) for improved processes or outcomes.

Stakeholders were informed at the start of the project halfway 2021. Multiple meetings were organized to co-design the value-based payment. For sales managers specifically, a kick-off meeting was organized to explore the possibilities and design elements of value-based payment reform. Subsequent meetings with subsets of sales managers were held until halfway 2022. The last meeting was in the form of a focus group, which took place in the second half of 2022 and aimed to further explore design elements of value-based payment.

Methods

To unravel the motives employed by actors to maintain current institutional payment practices when faced with value-based payment reform, an embedded single-case design was employed (Eisenhardt 1989). The case entails an alliance of hospitals that are involved in the value-based payment reform project. The single-case design allows us to study the tiered units of analysis (see Figure 4.1) within the case over time (Yin 2014), as we want to find out how each level (inter)acts when confronted with pending institutional change. The use of a revelatory case, like this one, provides us with unique insights in which the process of exploring and adapting to value-based payment is "transparently observable" (Eisenhardt 1989:535; Yin 2014).

Our longitudinal data set contains interview data, field notes of project meetings, and a focus group meeting. Triangulation of multiple sources of evidence enhanced our understanding of the phenomenon under study (Yin 2014). Observation data of meetings enabled us

to capture the interactions of actors for the duration of the project (Jarzabkowski, Balogun, and Seidl 2007), whilst interviews were carried out to make explicit the underlying motives of these actors. Interview topics included the organization and financing of hospitals, its MSEs and sales departments, previous experience with payment reform, their expectations and perspectives on value-based payment, and its implementation process. Participants were purposively sampled based on their involvement in the project and were invited via e-mail. The degree to which sales managers participated in the project varied from hospital to hospital, meaning that some managers left the project after the initial project meeting whereas other managers remained involved. Unfortunately, reasons of managers for dropping out of the project are unknown. Therefore, the perspectives from sales managers that remained involved are discussed in the findings.

Interviews were conducted by the first author, online or face-to-face, from January to October 2022 and lasted on average 45 min. From the hospitals, three sales managers from distinct hospitals (n = 3) and the manager of a cancer clinic (n = 1) were interviewed. Interviews on the MSE level were conducted with a medical director (n = 1) and financial directors (n = 3), representing three different MSEs. Self-employed (n = 5) physicians were interviewed, as well as a salaried physician (n = 1), with the physicians based in six different hospitals. On the MSE level, one interview was conducted with two participants. Written informed consent was obtained, and interviews were audio recorded. Field notes describe eight hours' worth of meeting observations between project participants in which potential avenues for payment reform were discussed. After the initial observations, topics that warranted further exploration during interviews were noted. Data collection was concluded with a three-hour focus group meeting in October 2022, attended by sales managers, cancer clinic managers and one urologist (n = 12 participants) and four authors. Verbatim transcripts of interviews and meetings were imported into ATLAS.ti and were coded by the first author. During transcription and analysis, memos were made to facilitate the analysis.

We engaged in a process of abductive reasoning (Gioia et al. 2013), where we used the repertoire of institutional maintenance work (Battilana and

D'Aunno 2009; Lawrence and Suddaby 2006) as 'sensitizing concepts' which serve as a point of reference for approaching the empirical data (Blumer 1954; Bowen 2006). The first step in our data analysis concerned looking for the motives that actors used to maintain current practices, thereby remaining faithful to the terms used by informants (Gioia et al. 2013). This process resulted in 119 first-order codes. During bi-weekly sessions with the author team, the broad range of motives captured in first-order codes were discussed considering the sensitizing concepts until consensus was reached on how to aggregate codes into second-order concepts (Gioia et al. 2013). These concepts overlap with possible actions of institutional work (see Table 4.1) – complemented with actions that were inductively determined – such as 'coping', 'gatekeeping' or 'amplifying regulative mechanisms'.

Findings

We structure our findings along the three levels of incentive transmission in the hospital setting: the sales department which is mandated by the hospital to contract with the MSE that consists of physicians (see Figure 4.1). It transpires that actors on different levels all engage in maintenance work in some way or another, however the type of maintenance work most common per level differs.

Hospital gatekeeping

From the outset, sales managers found it difficult to imagine how to incorporate the value-based payment reform in their own work and that of their physicians. These managers held different perspectives regarding the notion of value-based payment, and how it should relate to current structures pertaining to finance and reimbursement schemes. Managers often questioned whether payment reform is necessary. The project departed from the idea that improved processes and outcomes of care should be incentivized (e.g., rewarded), as so to stimulate the uptake of novel treatment options. However, hospitals most closely involved in the project already completed the transition to novel treatment options for biopsy and surgery without having been financially incentivized. Managers mention normative and cognitive mechanisms such as intrinsic motivation of professionals, a culture of quality improvement

in the network and norms dictating the achieving of minimum volumes for certain procedures as assumed drivers of these transitions, as well as cost savings for society:

> *"We implemented some quality improvements within [the network] – even though it cost more money – with the thought that it is the best thing to do, because it saves money on a macro level, even though we as a hospital did not benefit from it ourselves." (Manager cancer clinic, interview)*

The novel TP biopsy method is an example of small-scale 'innovation', which managers claimed was a cost neutral transition for hospitals, implying that interference of an insurer that would arrange an alternative payment model with financial incentives was not necessary. It is assumed that there is enough leeway for physicians to implement small-scale changes. A relatively large-scale innovation (e.g., NeuroSAFE) was facilitated by pre-existing favourable contracting arrangements with insurers in the form of an open-ended contract, allowing the dedicated clinic to charge the insurer for every surgical treatment individually. These developments emphasize a lack of urgency for payment reform. Consequently, in such situations where the hospital can manage transitions internally and within current institutional arrangements, managers state there is no need for payment reform, which is further corroborated by implying that prostate cancer constitutes only a small portion of hospital revenue. Hence, payment reform prompts responses that question its need:

> *"For these types of qualitative developments, you do not necessarily have to make a bundled payment or shared savings agreement. For these types of agreements where you tackle the quality of your process at one point, you must see whether the claims value of your product is still aligned with the actual costs incurred, and whether you achieve the bottom-line target of not incurring more costs." (Sales manager, interview)*

Rather, the sales manager sees payment reform extended beyond its current, narrow definition (rewarding better process or outcome measures for interventions) to contracting arrangements with insurers that enable continuous innovation. They want to ensure that there is adequate space for hospitals to innovate and implement new treatment modalities as quickly as possible, without knowing in advance exactly what the results will be in terms of quality and costs.

> *"You need a kind of bonus system within which you get paid for extra efforts during a limited time frame with the premise that after that time, the bonus stops, and it should be assimilated into your normal reimbursement structure." (Sales manager, focus group)*

By proffering such examples, it uncovers a perspective on risk that balances liability between insurer and provider. The insurer is responsible for incentivizing innovation, whereas the provider becomes liable after a certain period. For the transitions that have already been implemented, a 'fair' price for the corresponding DTC would suffice. Further, under the guise of value-based contracting, a hospital sees the opportunity to grow in prostate cancer treatments by means of an open-ended contract – trying to exploit the project for growth:

> *"Because we want to grow, you need specific agreements for this, preferably open agreements, so that you do not work under a ceiling [...], and you could use this [value-based healthcare] instrument for that by saying, well, we deliver a certain quality and 'this is our standard' or 'this is what we want to achieve at least', and a possible open agreement fits that." (Sales manager, interview)*

Besides questioning the need for payment reform and proffering alternatives, reform's practical feasibility is debated. Managers amplify certain regulative and normative mechanisms when they do not see how value-based payment and the incentives that derive from it can be incorporated into hospital-insurer contracts, because it is at odds with the government mandated Outline Agreement and institutionalized

insurer–provider negotiations that are heavily constrained by a focus on global budgets and revenue ceilings:

> *"I find the connection of quality and financial incentives complicated. That connection would be possible to make in a real free market, without ceilings, without the outline agreement. Performance payment within this framework is swings and roundabouts." (Sales manager, interview)*

What is more, payment reform is associated with an increase in transaction costs (e.g., monitoring of outcomes and linking them to payment, contracting with insurer) – a manager had rather use these resources for actual care provision. In line with this, the fact that prostate cancer constitutes only part of a hospital's budget raises the question whether the volume is sufficient and worthwhile to pursue value-based payment for.

MSE buffering

As opposed to sales managers, managers responsible for the MSEs remained relatively aloof from the value-based payment initiative. This enabled them to articulate broader ideas about value-based payment and how it relates to the current remuneration models in place in MSEs. Their distance to the project might be explained by the fact that MSEs do not participate in contract negotiations of insurers and hospitals. Only in exploratory conversations between hospitals and insurers, MSEs and physicians are invited to inform insurers about the organization of care in the hospital. The MSE managers recognize that the current volume-driven remuneration model is no longer sustainable, and consequentially some MSEs are implementing or have already implemented tweaks to their models, which put more emphasis on quality or other indicators rather than volume alone. Although they underline the presence and importance of (financial) incentives, they do not necessarily embrace value-based payment as a singular solution, pointing at larger systemic challenges.

> *"And outcome-based payment [...] that's not good enough. That's... that's not the end station. That is not... I suspect that you will not prevent that care infarction. I*

think that the effects of that increase in demand for care and the absolute lack of staff are much greater than what you can solve with outcome-based payment. That is my ultimate concern." (Financial director, interview)

The value-based payment initiative coincided with a transition from volume-driven remuneration models towards models that incorporate other elements (e.g., quality, care substitution). The volume-driven remuneration model is supposedly outdated because it is designed as a 'fixed pie', where if one physician group's output is larger compared to the other, the other group must generate more output to maintain their level of income. Moving towards another definition of 'output', thereby incorporating such other elements, may avoid the rat race between physician groups. A manager alludes to external pressures that stimulate this transition to a new remuneration model. According to a financial director, the current model:

"[...] does not fulfil our social duty to remain within that Outline Agreement, so that was a system we wanted to get rid of." (Financial director, interview)

However, whether elements of value-based payment should be part of this new model is disputed. Partly because value-based payment is not seen as an ideal solution as described earlier, but also because outcome indicators (e.g., patient reported outcome measures, PROMs) that may be part of the value-based hospital–insurer contract cannot be automatically transmitted to the physician (groups), because insurers and MSEs do not directly contract with one another.

"I don't think it is clever if the insurer determines [the indicators of the distribution model], because then you notice that the practical reality is unruly, and that the insurer simply cannot oversee that." (Financial director, interview)

Although goal congruence between the hospital and MSE is deemed important, physician groups insist on determining what outcome indicators to incorporate into the hospital–MSE agreement and which

ones to subsequently include in their own remuneration model. One manager alludes to the importance of setting realistic outcome indicators that can be incorporated in the medical practice of physicians, and into their formal performance monitoring. When such indicators are agreed upon, it remains an issue whether these will be incorporated into the remuneration model:

> *"To me it is still quite vague, I have to say, although we can all think of something about value-based healthcare, are you really going to measure outcomes and costs and are you going to remunerate based on that? [...] I find that quite difficult, because I just don't have a very good view of what that looks like yet." (Medical director, interview)*

These findings show that although MSEs have an important mediating role in value-based payment and contracting, it becomes clear that MSEs do not explicitly link outcomes to payment, and ideas on value-based payment have yet to crystallize. If they can conjure up ideas pertaining to value-based payment at all, MSEs first want to decide what indicators they are bound to in their service agreement with the hospital, and second, they want to decide what indicators to explicitly link to the physicians' remuneration model, whilst at the same time concluding that the previous volume-driven model has had its time. This ultimately results in the MSE buffering physicians from prospective value-based incentives.

Physician coping

Like MSEs, physicians indicate that they were only superficially involved in the project. Within the hospital, contracting responsibilities with the insurers are mandated to the sales department. Physicians are not or only superficially involved in contract negotiations between insurer and hospital, or hospital and MSE. Upon request, physicians do indicate that they want to be more closely involved in contract negotiations. Nevertheless, most physicians were reticent about alternative payment and in-depth cost considerations. With one exception, physicians stated that they were not involved or only indirectly informed about the project, and therefore not or slightly aware of the project goals.

> *"We just do our work enthusiastically, the hospital sends the invoice to the insurer, we get part of the revenue. That then runs through an MSE, and there is a distribution key for that and that is how we get paid our salary. But I have little insight into what all these [treatments] cost and yield." (Urologist, interview)*

For the first intervention the project aimed to either relocate the rapid diagnostics consultation from secondary to primary care or put a price tag on the consultation in secondary care that better aligns with the costs of the intervention. Opinions are mixed on a possible shift from secondary to primary care, as the outcome of value-based payment negotiations strongly influences physicians' resources. There is an apprehension to 'lose' patients to primary care, and a consequent decrease in low-complex care relative to high-complexity care would increase physicians' subjective workload. Concurrently it is proffered that with accretion of patients, the gap created by the outsourcing of primary care will be filled by demand for care by new patients, and the relatively low number of patients would not have large impact on revenues, because "urology is kind of a growth market, so in that sense I don't directly worry about it" (Urologist, interview), indicating that there is no apprehension to lose income. Another quote emphasizes that this low-complex care does not belong in the hospital.

> *"I think the numbers are so small that it won't have a big impact, so to speak. That only means that, of course, in first referrals of people who come for rapid diagnostics, they shouldn't have come here. That's efficiency of care." (Urologist, interview)*

However, there are physicians that indicate they would want to use a new claims code with another tariff than is currently billed to the insurer, to either keep the consultation in secondary care or do the consultation themselves in primary care. Nonetheless, their dependence on administrative departments as 'gatekeepers' in the hospital makes it difficult to realize this, with one physician quoted as saying that "in theory, I dare to do it, but I am also dependent on others" (urologist, focus group), which was further elaborated by another physician:

> *"But indeed, then there must be a claims code that is reimbursed by a health insurer, and it has to be determined what part goes to a specialist and what part to the [primary care] lab. These are all things that we cannot arrange, that makes it very complex for us to set up something like this." (Urologist, interview)*

This shows both tenacity as well as resignation on behalf of the physicians, they need to cope with current institutional payment practices because their dependence on the MSEs and sales departments prevents them from changing these practices. The novel biopsy technique has been implemented in almost the entire network without the necessity of a financial incentive enveloped in an alternative payment model. One urology department however had not fully implemented the new technique, as lack of both time and a DTC rate that does not match the effort forced them to narrow the medical indications for patients for which this technique is used.

> *"If we want to move toward more quality and you keep paying the same for that DTC, that impedes the way to delivering quality." (Urologist, interview)*

Other urology departments chose for this new technique, despite the costliness of the TP biopsy contra the TR biopsy, resulting in additional costs incurred by the hospital for investments in new medical devices and potential loss of income for physicians. Loss of income is associated with the system of physician remuneration, in which physicians are benchmarked against each other. Physicians adhering to the prior technique can carry out more procedures during the same time than physicians preferring the novel, time-intensive technique, increasing their output relative to those performing TP biopsy. The degree to which current remuneration is perceived as a problem differs across physicians. Where some physicians agree that hospitals must buy expensive equipment, it does not necessarily pose an issue to their current remuneration. Rather, the role of the distribution model is frequently mentioned, but the degree to which this is perceived as a problem differs. A physician that is well-informed about the distribution model says:

> *"Medical specialists are remunerated based on standard times. [...] All the activities we do, there's a standard time attached to that. The TP biopsy takes longer than a TR biopsy. There was a 20-minute standard time for a TR biopsy, for a TP biopsy, certainly in the beginning, you need 45 minutes, for preparation and stuff. So, I said that another standard time was needed. [...] But they [professional association] did not want to adjust the standard time. So, what they did, for both types of biopsies, they changed the standard time to 45 minutes. But then you shoot off-target. Because you are going to reward people to do TR biopsies. You get more money for that because you get more hours [reimbursed]. So, the drive to innovate goes away." (Urologist, interview)*

Notwithstanding this impediment that stems from the distribution model, the transition to the TP biopsy took place. The physician that was previously quoted is conscious of the fact that "we choose for quality, but we cut ourselves in our fingers" (urologist, interview). Moreover, demand from patients for this novel technique, and the normative pressure of the network, or so a physician claims, have stimulated the uptake of the intervention. Physicians seem to feel obliged and go a long way in providing good quality care, despite those barriers that originate at higher levels in the organization (e.g., MSE and hospital level):

> *"If you look inside [the network], there are eight hospitals, and they are all doing it now. So yes, it's an unstoppable trend. At a certain point you can't just do that anymore, to offer that to your patients." (Urologist, interview)*

Although time-consuming and expensive, the third intervention (NeuroSAFE) was already implemented in the dedicated clinic with support of the entire network. This again hints at the fact that the 'network' itself is a driving force, but an open-ended contract for surgery between the clinic and insurers is said to have contributed to the uptake as well. Despite the clinic performing the procedure on a regular basis, tying an alternative payment model to the outcomes associated with this technique is presented as being difficult. This mainly has to do with the

data collection of PROMs; a physician claims that PROMs are the only reliable outcome measure for the treatment, but the number of patients that provide feedback for PROMs is low and stimulating patients to fill out PROM questionnaires is costly – articulating that without reliable PROM data, value-based payment is not desired. These reasons paint a picture of medical professionals that are highly dependent on other organizational tiers to realize changes in how they are remunerated.

Discussion

This study aimed to uncover the motives for maintaining current institutionalized payment practices when confronted with value-based payment reform. An overarching motive for maintaining current practices is that desired transitions to novel techniques proved possible under the currently prevailing institutional practices, dismissing the need for payment reform. Our analysis further revealed that actors on multiple levels engage in diverse institutional maintenance work, driven by various regulative, normative, and cultural-cognitive motives. Regulative maintenance was mainly observed at the hospital level, where sales managers pointed at national frameworks resulting in global budgets and revenue ceilings that made it difficult to implement reform. Motives for normative maintenance were pressure to adhere to state-of-the-art procedures and cost benefits for society from the hospital's point of view, whereas MSEs were already tweaking their distribution models to include value-based elements, interfering with the reform. Physicians reiterated the hospital's sentiment that they want to deliver state-of-the-art care, satisfying patients' and network expectations, as well as their own belief. Cultural-cognitive maintenance motives for sales managers related to prostate cancer constituting a small part of the hospital budget, increased risk, and administrative burden for the hospital under value-based payment. MSEs want to keep freedom in deciding how their physicians are reimbursed and think value-based payment is inadequate to solve current challenges in healthcare. Besides their intrinsic motivation to deliver good care, physicians also want to secure their stream of income, which they feel might be impacted (either positively or negatively) by value-based payment.

Our findings further indicate that some actor groups' institutional work carries more weight than others because of the dependency relationships that exist between hospitals, MSEs and physicians. Physicians depend on MSEs and sales departments in the hospital to decide whether the value-based payment is either adopted or rejected. This differs from the view often brought forward about medical professionals, that "they have the upper hand in relation to managers because they possess expert knowledge required to develop and deliver products/services" (Radaelli et al. 2017:3). Rather, this case study revealed a shadow hierarchy – resembling the incentive transmission order – in which the hospital has the "upper hand" in value-based payment reform, because of its expertise on financing and reimbursement and its contracting ties with the insurer. The hospital then reluctantly maintains current institutional practices, blaming regulative and normative mechanisms that hinder the implementation of payment reform, such as outline agreements that bolster current global budget or revenue ceiling arrangements. Theoretically, sales managers would be seen as apt 'diffusers' of novel payment models (McDonald et al. 2013; Squitieri, Bozic, and Pusic 2017). However, managers, as embedded actors, saw neither the opportunity nor necessity to fit new practices into established structures, which Reay, Golden-Biddle, and Germann (2006) recognize as an important step towards institutional change. The managers' key position in the shadow hierarchy makes them gatekeepers and buffers. Previous research indeed shows that managers buffer professionals from external demands (Ellegård and Glenngård 2019; Eriksson, Levin, and Nedlund 2021), to which we add that this activity is motivated by self-interest to maintain current practices. Consequently, the process of change remains stuck between Tolbert and Zucker's (1996) stages of innovation and habitualization, because there is a lack of consensus on the reform's necessity and structural changes to traditional payment were not achieved.

We, however, do see that these regulative and normative instances offer cues for actors to desire incremental changes to elements of current payment and remuneration. This echoes Waeger and Weber's (2019:349) position that "adaptation to new institutional elements often takes symbolic rather than substantive forms and is designed to buffer the core of the organization from external demands" – the

core being the clinical work done by medical professionals, with an organization-wide emphasis on volume instead of value. From both the sales departments' and physicians' point of view, the discussion is not so much about the method (value-based payment), but about payment parameters that should be adequate (fair DTC rates as well as standard times allocated for procedures in the distribution model) as well as sufficiently available and reliable outcome parameters. Miller (2023) similarly argues that regardless of the payment method, what matters is that the payment amount is sufficient to free up time and resources to carry out novel procedures.

Previous research indicated that low disease occurrence in the insured population is a reason for insurers to halt implementation of payment reform (Conrad et al. 2016). We add that low occurrence in the hospital population can result in balking by hospital sales departments, due to high transaction costs that are assumed to be disproportionate to the proposed monetary benefits of payment reform. Given the knowledge that care pathways are constantly subject to change, targeting value-based payment at specific novel interventions may not weigh against the time and cost that is involved in developing the payment model. Indeed, changing contractual relations in the English setting (Marini and Street 2007) were associated with an increase in transaction costs (e.g., data collection, contract monitoring), and evidence from the US suggests that administering alternative payment models has proven to be expensive (Milad et al. 2022; Walker et al. 2020). The lack of evidence in the Netherlands warrants further research, especially in payment reform initiatives that are currently piloted, and even more so when an important goal of payment reform is improving affordability (see Chapter 2 of this thesis).

Examining incentive transmission, we have observed that this is further complicated by the disjunctive organization of hospitals, with MSEs and hospitals being separate entities with diverging interests (Ubels and van Raaij 2022). In our case, these interests seem to diverge at the expense of reform. This emphasizes the importance of looking beyond the insurer–provider contracting nexus when exploring alternative payment, but to also convene with the MSE in an early stage, as this organization is instrumental in transmitting incentives to physicians (Town et al.

2004). This also underlines earlier research which found that MSEs are instrumental in physician–hospital alignment (Ubels and van Raaij 2022). In the absence of organizational hierarchy, where sub-ordinates can be told to comply with administrative orders, actors cannot coerce each other into participating in reform nor making sure that incentives are transmitted from the insurer to the physician. Hence, incentive transmission should be redefined into incentive translation, the latter accentuating the deliberate efforts needed from all levels (i.e., physician, MSE, sales department) to (enable) translation of incentives.

Our study re-emphasizes that hospitals wishing to implement value-based payment should first make sure that they align insurer–hospital incentives with hospital–MSE incentives. This corresponds to the need for 'goal congruence', which policymakers define as the alignment of agreements – and the financial incentives that derive from it – between insurers, hospitals and MSEs. Currently, a significant number of MSEs still prioritize the allocation of financial resources between physician groups based on indicators of care services provided, instead of value-based care (NZa 2021). Further, the question on how to incentivize performance remains unanswered; by enabling ex ante through performance funds or by rewarding ex post through pay-for-performance and shared savings arrangements (Custers et al. 2008). Either way, both possibilities conflict with the institutionalized and maintained practice of global budgets and revenue ceilings, which also hindered implementation of payment reform.

This study has two main limitations. The first is that we have not been able to interview all actors that were involved from the outset of the proposed reform, which would have provided more insight in the motives for retreating in an even earlier stage of the reform. In line with this is the missing perspective of the insurer. However, the omittance of the insurer in our case study enabled us to carefully examine the complexity at the provider side and the forces therein that maintain current institutional practices. Second, we acknowledge that the generalizability of our findings to other contexts may be limited since we focused on the Dutch prostate cancer context. Other medical procedures or disease populations may have brought about different dynamics. Further, the organization of physicians vis-à-vis hospitals

might differ in other health systems, affecting how incentives are transmitted. How the set of actors involved in incentive transmission influences the success of payment reform may be an important avenue for future research. Future research could also investigate the interplay between payers and providers and why they continue to participate in payment reform initiatives, because currently it seems that participating in reform initiatives is driven more by an urge for legitimacy rather than by a commitment to addressing (technical) requirements (Bromley and Powell 2012; Meyer and Rowan 1977).

Conclusion

To conclude, desired transitions to novel techniques proved possible under prevailing institutional practices that emphasize professionalism, dismissing the need for payment reform. Our findings reiterate the importance of looking beyond the insurer–provider contracting nexus when exploring value-based payment models, shedding light on the interdependence of physicians, MSEs and sales departments in hospitals in deciding whether value-based payment is either implemented or abandoned.

6

GENERAL DISCUSSION

This thesis set out to answer the following research question: *what are the viability and feasibility of alternative payment models in Dutch health and social care?* The thesis spans different settings, domains, payment models, and target populations to provide a kaleidoscopic answer to this question. In the previous chapters, I have introduced four studies that shed light on the viability and feasibility of APMs in Dutch health and social care, to ultimately infer whether these payment models should be and can be implemented. In this chapter, the conclusions of these four studies will be presented, along with a discussion of recurring themes.

Viability of APMs

Part 1 of this thesis provided insights into the justification and future viability of integrated payment models, and it unravelled the effects that integrated payment models have on the multidimensional concept of performance in care networks. The discourses revealed the expectations and qualities that professionals, managers and policymakers attached to integrated payment models (Chapter 2), and the systematic review showed whether there is a possibility that these expectations can be met (Chapter 3).

Discourses about APMs clash

Chapter 2 outlined four discourses on integrated payment that were identified through a discursive analysis of documents: the quality-of-care discourse, the affordability discourse, the bureaucratization discourse, and the strategic discourse. First, the discourse on quality-of-care is primarily based on the assumption that integrated payment models will lead to improved collaboration between providers, enhanced patient-centeredness and, ultimately, better care quality. Second, the affordability discourse centres around the question whether integrated payment models will lead to either increases or decreases in spending, depending on their ability to stimulate care substitution and care coordination. Third, the bureaucratization discourse highlights that integrated payment models may be a means to overcome financial barriers that stem from rules and regulations. These barriers would impede care substitution from secondary care to primary care. At

the same time, implementing and working with integrated payment models would increase administrative complexity due to co-existence of traditional payment models and APMs. Fourth, the strategic discourse reveals how integrated payment models would re-configure the (power) relations among (groups of) professionals and between providers and insurers. Discourses around care quality and affordability were evident from the moment APMs were introduced in the Netherlands, reflecting the two rationales for implementing integrated payment. Over time, however, the strategic and bureaucratization discourses surfaced. These discourses revealed the impact of APMs on power dynamics, interests, and administrative challenges. Key actor groups occupy different positions across the discourses: while policymakers and regulatory bodies generally view integrated payment positively, those directly involved in providing care – such as providers (and their advocacy groups) and insurers – are often more critical, because payment reform could have a direct impact on their vested interests. This indicates a mismatch between the organizational reality of integrated payment models on the one hand, and the expectations of those who support such models on the other hand.

APMs are moderately successful in improving network performance

In Chapter 3, performance indicators associated with integrated payment models for networks were identified through a scoping review and categorized into four dimensions (quality, utilization, spending, and other consequences). These indicators were scored on whether performance increased, decreased, or remained stable under the specific payment model. The scoping review revealed that networks were generally able to improve their performance under the investigated payment models, with deterioration of performance being rare. However, no single payment model was associated with consistent improvements along the three dimensions of quality, utilization and spending. Next to that, performance improvements seem to subside as time progresses. Although network-level payment models are still relatively new and consistent improvements along all dimensions are occasional, the collected evidence suggests that these models have the potential to enhance network performance.

Are APMs viable?

Given their potential, APMs are viable. However, even though the results of integrated payment models in reaching desired performance on indicators of quality, utilization, and spending are promising, one should temper expectations and be considerate of the divergent views different actor groups have on integrated payment models. Issues of power, status, professional autonomy and organizational autonomy, diverging interests, and the different goals of purchasers, professionals and provider organizations should be considered when implementing APMs.

Feasibility of APMs

To deepen the understanding of these issues, the second part of the thesis shifted the focus to processual and relational aspects of APM implementation to assess its feasibility. Chapter 4 shows why managers and physicians maintained traditional payment models and Chapter 5 revealed the efforts by purchasers of health and social care (i.e., municipalities, insurers and care offices) to configure boundaries between these domains through alternative funding and payment practices.

Actors maintain institutionalized payment practices

Chapter 4 focused on the provider perspective – specifically, hospitals – and unravelled the motives of managers and physicians to maintain institutionalized payment models and associated practices when faced with the prospect of implementing a value-based payment model for prostate cancer. Sales managers, medical specialist enterprise (MSE) managers and physicians engaged in diverse institutional maintenance work, which was informed by various regulative, normative and cultural-cognitive motives. Regulative maintenance was mainly observed at the hospital level, where sales managers pointed at national frameworks that result in global budgets and revenue ceilings, which made it difficult to implement value-based payment reform. Reasons underlying normative maintenance were external pressures emerging from the network, but also intrinsic motivation of physicians to adhere to state-of-the-art medical practice. At the same time, MSEs were already in the process of tweaking their distribution models to include

value-based elements in a way that suited their own interests, and which undermined the reform. Cultural-cognitive motives for maintenance included the fact that prostate cancer only constituted a small part of the hospital budget, and monitoring a value-based payment model would lead to higher risk and increased administrative burden for the hospital. Although hospitals, MSEs and physicians all engaged in institutional maintenance work, both discursively and practically, there are indications that some actor groups' institutional work carried more weight than others because of power asymmetries: hospitals and MSEs have a more powerful position, because of their knowledge and control over financial matters, as opposed to physicians. In short, this chapter highlighted how the transmission of incentives in the hospital is contingent upon the active cooperation of hospital, MSE and physicians, and how motives for maintenance vary across these groups.

Purchasers temporarily reconfigure boundaries of health and social care

Chapter 5 shifts the focus from the provider to purchasers of health and social care. This chapter addressed how purchasers tasked with the Long-Term Care Act, the Health Insurance Act and the Social Support Act engage in efforts to (re)configure boundaries between these domains to enable funding of the Dementia Social Approach (DSA), an integrated care model for people living with dementia. Taking a boundary work perspective, three phases were identified that show how the reconfiguration unfolded over time. The first phase was characterized by collaborative boundary work. Through downplaying and expanding the boundaries that formally demarcated their remits, purchasers assumed a joint responsibility and devised so-called workarounds – temporary payment solutions that bypass regular schemes – *within* their domains to make sure moneys reached providers. These collaborative modes of boundary work enabled the second phase, in which purchasers devised a workaround *across* domain boundaries (i.e., the experimental payment modality). In the ensuing phase of configurational boundary work, the constellation of workarounds within and across domains ensured that monetary resources were available for providers to sustain experimentation with DSA. Triggered by temporariness of workarounds and felt regulatory constraints, the third (competitive) phase saw purchasers limiting and reinforcing their traditional boundaries as determined by the three Acts,

through instrumentalizing (lack of) evidence, and through shifting and off-loading responsibility to other purchasers.

Are APMs feasible?

Although literature indicates that APMs are in principle feasible, this thesis shows that caveats are warranted, and feasibility depends upon several factors. First, its success depends on the urgency perceived by the actors involved. When purchasers or hospitals sense an urgent need for reform, they exhibit willingness to pursue APMs. However, without such urgency, institutionalized practices prevail, and managers prefer to implement tweaks to the current patchwork of payment models rather than to pursue APMs. Second, even when a need for reform is initially acknowledged, structural changes are rarely achieved because actors, over time, prioritize their immediate interests, whilst rules and regulations limit the scope to which APMs can be implemented. Third, differences in power and resources play a role. For instance, hospital managers can maintain existing payment practices more effectively than physicians because they are directly involved in negotiations. Similarly, purchasers may withdraw monetary resources because they lose faith in an initiative, with the consequence of reinforcing boundaries between health, social and long-term care. Hence, even when actors have some agency to pursue APMs and accordingly shape institutions (i.e., payment and funding) and boundaries (i.e., between health, social and long-term care) to their preferences, they nonetheless will be confronted with structural constraints or powerful actors that fall back on institutionalized practices and routines to maintain the status quo of the care system. This leads to modifications to traditional models, rather than a radical switch from these models to APMs.

Recurring themes

There are several themes that recur through the thesis that require further reflection, particularly regarding the feasibility of APMs. These reflections situate the themes in a broader literature and include APMs as institutional change; the temporality of workarounds; the duality of payment models; how actors deal with competing logics; and the integration–fragmentation trade-off.

APMs as institutional change

The findings show how institutions both enable and constrain the implementation of APMs. The enabling and constraining character of the institutional environment depended on how (1) normative (*what should happen*), (2) regulative (*what must happen*), and (3) cultural-cognitive (*what does happen*) pillars of institutions were leveraged or adhered to by the government, purchasers and providers[1]. First, normative mechanisms were mirrored in the fact that purchasers felt an urge to experiment with APMs because of social and relational pressures exerted by peers as well as their own statutory duty of care. Also, the Dutch government has been a steadfast proponent of value-based care and intersectoral collaboration. In turn, it implicitly pressures purchasers and providers to implement APMs that support these developments. Second, regulative mechanisms were constraining to such an extent that APMs were considered incompatible with current rules and regulations. Examples include the global budgets and cost ceilings associated with the government mandated Outline Agreement for medical-specialist care (Chapter 4) and strict specifications about what care is to be reimbursed by purchasers (Chapter 5). Another regulatory impediment is formed by a lack of policies that enable structural payment models across domains (i.e., the Health Insurance Act, the Long-Term Care Act and the Social Support Act). Third, cultural-cognitive mechanisms are reflected in the fact that traditional models and payment practices are considered taken-for-granted and comprehensible. These models further provide (financial) certainty to purchasers and providers. To sum up, there are normative pressures that drive change because the importance of APMs is recognized and emphasized. At the same time, the appropriateness of APMs is doubted by purchasers and providers. Additionally, cultural-cognitive pressures stress the importance of traditional payment models; and regulative pressures prevent structural implementation of APMs. This suggests that transitioning to APMs involves not only changing regulations so that they better align with value-based and integrated payment models. As previously established, top-down regulation must also be aligned with efforts to promote the change of norms and culture (Reay et al. 2021).

1. The *should–must–does* verbiage has been adapted from Macfarlane et al. (2013)

Temporality of workarounds

Although structurally overhauling funding and payment practices without involvement of regulatory bodies is unrealistic given strict rules and regulations[2] – changes in the form of tweaks or workarounds to current payment and funding structures *can* be achieved. In this dynamic, actors craft workarounds in grey areas that are temporarily afforded to them. Examples include a government waiver that allowed a care office to reimburse care outside of the care office's scope, insurers that contribute to experiments from equity, and hospitals that achieved tweaks in hospital budgeting processes. Actors seem to exploit what Seo & Creed (2002) call institutional contradictions: normative pressures force purchasers and hospitals to pursue APMs and state-of-the-art care procedures, whereas regulative mechanisms coerce them into abiding by rules, (internal) procedures and regulations. In between these divergent principles, purchasers and hospitals are able to bring about legitimate yet small or shallow change (see Whittington 1992). However, the change afforded by these grey areas is not sustainable for the long term, certainly in case of the workarounds devised in the DSA pilot (Chapter 5).

Duality of payment models

As alluded to in the introductory chapter, there is a duality that arises when traditional payment models are preserved, while alternative models are developed alongside or on top of them. The duality allows purchasers and providers to legitimately fall back on traditional, established payment and funding structures that are still broadly supported and taken-for-granted in the field. Chapters 4 and 5 demonstrated how tweaks and workarounds are devised within the existing structures. The behaviour of hospitals and insurers resembles that of so-called "institutional opportunists" (Mahoney and Thelen 2009). Institutional opportunists do not necessarily wish to maintain institutions, "opportunists instead exploit whatever possibilities exist

2. This is not impossible, however, as illustrated by the two cases described in Chapter 1 on bundled payments for stroke care and integrated maternity care organizations (Salet et al. 2023; Struijs et al. 2024). The first model was built on top of existing payment infrastructure, whereas the latter existed alongside traditional monodisciplinary payment. Because of the 'radical' nature of the latter model, it required regulator involvement to draw up new regulations.

within the prevailing system to achieve their ends" (Mahoney and Thelen 2009:26). Indeed, purchasers and hospitals do not necessarily want to leave things unchanged. However, because challenging the existing rigid system is costly, they avoid pursuing drastic changes to the rules. Analogously, if the current system allows for tweaks and workarounds through which actors can achieve desired end goals, APMs are just another alternative rather than the only answer to the shortcomings of traditional models.

Incompatible logics

In the field of health and social care, actors need to navigate different, often competing logics (Greenwood et al. 2011; Reay and Hinings 2009; Scott et al. 2000). Two examples illustrate how such conflicting logics hamper APM implementation. First, Chapter 5 has shown how actors fall back from one logic in another. In their efforts to reconfigure (financial) boundaries between social, health, and long-term care, purchasers adopted a logic that emphasized the importance of high-quality, integrated care for people living with dementia. However, as time progressed, insurers, municipalities and care offices retreated behind the boundaries of their own domains. Previous studies show how such endeavours can be conceptualised as starting from an orchestrator's logic – characterized by joint problem-solving and stimulating collaboration between care providers. However, purchasers eventually slide back into a bookkeeper's logic, which is focused on compliance with regulations and maintaining a stable financial position (Noort et al. 2021; Vannebo 2023). The orchestrator's logic that was initially adopted by purchasers of health and social care ultimately proved incompatible with the prevailing bookkeeper's logic, because shifts in use of care and support between domains brought in (financial) uncertainty for insurers, municipalities and care offices. Second, Chapters 2, 4 and 5 have uncovered how different actors embody competing logics. When considering APMs, it is mainly purchasers, regulators and managers who emphasize the importance of affordability and accessibility of care, aligned with a market logic. They bolster this argument by pointing, for example, to the (impending) 'care infarction'. Simultaneously, medical professionals adhere to a professional logic when emphasizing their professional autonomy and the importance of high-quality patient care. As a result, each actor approaches the discussion of APMs with their

own set of interests, creating tensions that complicate implementation. This challenge is particularly pronounced in the implementation of value-based payment models. Goodrick and Reay (2016:690) observe that "the idea of "value" captures both high quality and efficiency, which traditionally have been associated with the competing logics of professionalism and market." Consequently, the successful adoption of APMs necessitates trade-offs between these logics. This would require negotiation and compromise between actor groups. Leaving the tensions between these logics unaddressed will hinder the smooth implementation of APMs.

Balancing integration and fragmentation

Paradoxically, the pursuit of integration through APMs not only seeks to address fragmentation but also amplifies forms of fragmentation. In this context, fragmentation refers to the disconnections between various components and levels in the care system. This can manifest in different ways, including clinical fragmentation (lack of coordination in care delivery between providers), normative fragmentation (tensions or divisions between different professional groups), or organizational fragmentation (separation between care providers and purchasers). APMs are meant to address these forms of fragmentation and tackle issues such as service duplication and lack of collaboration. By working together, providers assumingly can better manage resources, streamline care, and avoid unnecessary services, leading to better patient outcomes (Barnum et al. 1995; Conrad and Perry 2009; Hubley and Miller 2016). However, APM implementation may exacerbate other forms of fragmentation. For example, APMs can increase professional fragmentation by either reinforcing or accentuating power imbalances between care providers (Chapter 2). When faced with the prospect of payment reform, professional groups may prioritize their own interests, leading to tensions and a reluctance to collaborate. These divisions can eventually undermine the integration of care and prevent effective teamwork across disciplines. Similarly, organizational fragmentation may be exacerbated as purchasers further emphasize boundaries between their organizations, shielding their resources to maintain control (Chapter 5). This dynamic undermines the collaboration that APMs seek to improve and reinforces existing silos. Hence, while APMs aim to reduce clinical fragmentation, it is crucial to consider

that (attempts at) implementation may amplify fragmentation between professionals or organizations.

Practical implications

The findings of this thesis have several practical implications. These implications offer considerations that policymakers, managers and professionals should take into account when they are in the process of either implementing or deciding to implement APMs.

Carefully choose between APMs and other interventions

Policymakers and practitioners should think carefully about what one aims to achieve with APMs. Given the promising yet limited evidence of APMs in terms of quality and affordability, it is essential to recognize that these system goals can be achieved through means other than APMs. The findings also show that other developments, such as network formation (Chapter 4), can contribute to achieving goals that would otherwise be incentivized through APMs. Although APMs are – in principle – viable, their viability should be considered vis-à-vis the caveats concerning feasibility before deciding to engage in payment reform. As the theoretical viability of APMs does not automatically translate into practical feasibility, alternative approaches may be more practical in cases where resistance to change, power and resource imbalances between actors, administrative complexity, (financial) risk, or regulatory constraints make APMs difficult to implement effectively. Further, APMs do not always lead to improved results, which prompts tempering of expectations. They are not a panacea nor a one-size-fits-all solution and must not become an end in itself. Each payment reform initiative must carefully consider which intervention – APM or otherwise – is suitable for achieving desired care improvements or care integration.

Favor conventional strategies over more radical strategies

When selecting APMs over alternative approaches, it is crucial to carefully choose an appropriate reform strategy. The implementation of APMs is often assumed to require a radical transformation. However, findings from our study suggest that this is not necessarily the case. Instead, reform strategies can also be either conventional or

incremental, depending on the desired outcome and the effort purchasers and providers are willing to expend (see Table 6.1). While incremental strategies refer to gradual stepwise improvements over time, in which APMs are built on top of traditional models, conventional strategies focus on adjustments within traditional models, such as tweaks and workarounds. Conventional and incremental strategies are suitable when APMs are targeted at (subsets of) care pathways. Both approaches contrast with radical strategies, which rely on large-scale, top-down, and regulatory intervention, but may be more suitable to address issues in integrated care pathways. Conventional and – to a lesser degree – incremental strategies manifest because the rigid, institutionalized system is difficult to change and there is a lack of urgency for APMs.

Table 6.1. Reform strategies.

Strategy	Conventional	Incremental	Radical
Definition	Prioritizes stability and risk aversion, and preservation of existing structures over change	Focuses on gradual adjustments and additions to existing structures	Seeks transformative change, by replacing existing structures or models with new ones
Dynamic	Preserving the status quo	Adjusting the status quo	Transforming the status quo
Appearance	Tweaks and workarounds within traditional models	APMs *on top* of traditional models (e.g., experimental payment modality)	APMs *instead* of traditional models
Desired outcome	Improvements targeted at interventions in care pathways	Improvements to care pathways	Improvements in integrated care pathways or population health
Initiator, change agent	Providers *or* purchasers	Providers *and* purchasers	Government, regulatory agencies
Commitment	Commitment from a small number of actors within an organization	Commitment from both providers and purchasers	Binding commitment across a wide range of actors and organizations
Main challenge	Sustaining workarounds given their temporality and controversial status	Dealing with administrative complexity inherent in duality	Long time horizon to implement enabling rules and regulations

The conventional strategy consists of making minor adjustments, while keeping the core architecture of traditional payment models unchanged. These adjustments take the shape of tweaks and workarounds, as evidenced in Chapter 4 and 5. Legal intervention is not or only minimally necessary, nor is APM reform. This contrasts with incremental and radical strategies. The more radical the nature of payment reform is, the higher the need for legal intervention by government and regulatory agencies. Also, commitment is needed from a wide range of actors, each with their own parochial interests. This would make incremental and radical strategies more vulnerable to failure opposed to a conventional strategy, given the number of actors required for change, the mutual interdependence between these actors and their (often) diverging interests. Incremental and radical strategies are also challenged by increasing administrative complexity and long time horizons to implement enabling rules and regulations. Yet, once cemented, their sustainability may be higher than conventional strategies. Based on these considerations, one can contemplate which strategy should be pursued to achieve desired outcomes: applying tweaks and workarounds within the current system (conventional), devising APMs on top of the traditional payment model architecture (incremental) or replacing traditional models (radical). It may be more efficient to look for solutions within the status quo – and its 'grey areas' – rather than engage in time-consuming experiments with APMs. An important vulnerability is how these solutions (i.e., tweaks and workarounds) can be sustained, given their temporality and sometimes delicate status. Therefore, the government, purchasers and regulators are implored to support providers – but also purchasers – in exploring the conventional strategy. Together, they could try to first leverage any possibilities available within the current system to accomplish desired outcomes, more so than directly opting for radical APMs.

Consider aligning incentives in the current system instead of implementing APMs

No matter the strategy, mechanisms standing in the way of achieving desired outcomes may arise from other institutionalized practices and infrastructures that are different from – yet closely linked to – payment models. It is important to consider payment models in this broader picture. Such impeding practices and infrastructures may include single-

year contracting, which prioritizes short time horizons over long time horizons, instead of (increasingly popular) multi-year contracting (Van Leersum et al. 2019) or remuneration schemes between physicians and MSEs that reward volume over value (Chapter 4). These may also include the ubiquity of global budgets and cost ceilings in hospitals (Gaspar et al. 2020), that conflict with the principles of value-based models such as pay-for-performance, but at the same time allow for flexible use of resources within the hospital (Chapter 4). Scrutinizing this layered ecosystem of incentives – which is a web of implicit and explicit rewards, penalties, motivations, prohibitions, and nudges that influence actions and decisions of professionals and managers – serves as a foundation for considering whether APMs are really needed. In this layered ecosystem, policymakers, purchasers and providers are implored to inquire "what is going on?" and unravel which incentives stimulate value or integration, which ones do not, and which ones impede these aspirations. This may ultimately result in a scenario where the APM is not always the intervention to pursue, but rather other mechanisms, such as aligning the DTC rate with the costs incurred for the services provided. It may also lead to a scenario in which better alignment between the APM and the other incentives present is achieved.

Focus on long-term benefits instead of short-term risks

The last implication concerns an important prerequisite for integrated payment models across domains of health, social, and long-term care. Given the fragmented funding streams across domains, the government is proposing legislation that enables payment for intersectoral initiatives and facilitates collaboration between municipalities, insurers and care offices. This proposal would enable a transfer of funds from care offices to invest in preventive activities in the social domain. This, however, does not mean that care offices will go along with this, because it will leave unchanged some of the dynamics between purchasers (Chapter 5). The persistent wrong-pocket-problem hence will probably not be solved by this proposal. It requires not only legal intervention, but also a visionary perspective by municipalities, health insurers and care offices. Investing in preventive activities, such as focusing on informal care and support instead of medicalization, requires a long-term vision from all three purchasers. This is because costs precede benefits, and benefits only become apparent after years, if at all. This long-term vision presupposes

risk-taking by purchasers. Both the government and purchasers will have to look for mechanisms to achieve a fair distribution of costs, benefits, risks and incentives. This can be done, for instance, by setting up revolving funds, in which the government invests, and from which other parties can pay for care innovations, with the returns flowing back to the revolving fund over time. In addition, shared savings could be considered, with all parties sharing in the costs and revenues of care innovations. To conclude, the government proposal does seem to lay an enabling foundation for solutions such as revolving funds or shared savings and thus offers some perspective for action. Yet, purchasers would have to cultivate a long-term visionary attitude on top of this to make integrated payment models and intersectoral collaboration a success.

Limitations and future research

Two methodological choices limit the generalizability of these studies to other contexts. Because this thesis mainly focused on the Dutch context, it remains to be seen how and whether the dynamics described also occur in other countries with (dis)similar health systems. The decentralized Dutch system is characterized by a multitude of purchasers of health, social and long-term care. It would be interesting to see whether, and if so, how in settings with more centralized health and social care systems, such as those based on the Beveridge model (with less purchasers), dynamics of collaboration within hospitals and between domains take shape. Related to this point, I have not studied government-mandated payment reform. This may invoke other dynamics, in which resistance to change is met with, for example, mandatory reform.

A second point that limits the generalizability is the selection of cases. In Chapter 5, cases were pragmatically sampled: they were selected because they participated in a larger, government-commissioned program. Instead of 'pragmatic' sampling, future research could extend and refine the findings of this chapter by applying theoretical sampling, and subsequently select cases with different settings (e.g., pilot programs targeting different populations). Although not a comparative case study, these suggestions likewise apply to Chapter 4. Selecting cases with

different conditions (e.g., urologic oncology in Chapter 4) or target interventions (e.g., DSA in Chapter 5) that the APM initiative is aimed at, and then focusing on commonalities between cases, may improve generalizability and transferability of findings across the wider field of health and social care (Eisenhardt 2021).

Previous research has called for integrating a focus on organizational outcomes with a focus on organizational processes in health services research (Reay et al. 2021). Although this thesis contains both ingredients of outcome (Chapter 3) and process (Chapters 4 and 5), it does not show how both ingredients materialize in, for example, a case study over time. To address this shortcoming, future research could longitudinally investigate how payment models are developed and implemented, how these models subsequently lead to processes of care improvement and collaboration within organizations, and how or if this configuration ultimately improves cost and quality of care. Such (prospective) longitudinal studies may also address if and how purchasers and providers reconcile short-term risks with long-term benefits.

This thesis separately studied the intra-organizational dynamics (i.e., in hospitals) and inter-organizational dynamics (i.e., between purchasers from different domains) during payment reform. However, there is still a knowledge gap concerning the inter-organizational dynamics between purchasers and providers regarding APM implementation. Focusing on this nexus provides more insights into how these actors collaboratively develop and implement APMs, and how they jointly look for solutions to fund new experiments. It may also provide answers to a question that is left unanswered in this thesis: how do purchasers and providers jointly scale-up such experiments? This question is partly inspired by the finding in Chapter 5 that purchasers' efforts and their resource distribution can influence the extensiveness and fidelity of interventions.

An important research implication is how APMs are conceptualized and thus studied. A body of work on the implementation of health interventions has explored how actors, including providers, managers, and professionals, translate ideas or interventions into practice (Czarniawska 2014). Recognizing that APMs are an intervention that –

like other health care interventions – needs to be actively translated and adapted to the context rather than just diffused, foregrounds the role of actors within the wider adopting system. Moreover, rather than viewing payment models merely as reified *structures,* which often appear on lists of barriers and facilitators in health services research, scholars should conceptualize them as *processes*. This shift in perspective moves the focus from payment models *as is* to the purchasers and providers that jointly shape and reshape these models.

Concluding remarks

In the last decade, the Dutch government has been a steadfast proponent of value-based care and intersectoral collaboration. Through a range of initiatives and grants, it has tried to urge field parties to develop, experiment with, and implement APMs that support these developments. This thesis offers an answer to the question whether APM implementation is viable and feasible, informing policymakers, professionals and managers if APMs should and can be implemented. I found that while APMs are potentially viable, their feasibility comes with several important caveats. Without a sense of urgency, there is no willingness to pursue APMs. Structural changes are rarely achieved because actors prioritize their own interests and regulatory constraints impede change. Furthermore, differences in power and resources impede APM implementation. Therefore, policymakers and practitioners are implored to carefully choose between APMs or other inventions. Further, depending on the outcome desired and efforts they are willing to expend, they may consider conventional reform strategies over more radical strategies. In line with conventional strategies, they may also consider aligning incentives in the current system instead of implementing APMs. If more radical strategies are deemed appropriate, purchasers and providers are required to balance short-term risks with long-term benefits, supported by government.

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Summary

This thesis revolves around the question of whether alternative payment models (APMs) in health and social care are viable and feasible. In popular and scholarly discourse, consensus exists that current payment models for health and social care have drawbacks that prevent health and care systems from addressing issues of accessibility, affordability, and quality. The current fragmented and layered patchwork of payment models and funding streams poses challenges for the integration of health and social care and the implementation of (intersectoral) innovations that aim to improve quality. These developments call for a rethinking of how health and social care are paid for and funded. Through providing insights into perspectives on APMs, outcomes linked to APMs, and how purchasers and providers deal with APM implementation, this thesis aims to investigate the viability and feasibility of APMs.

Chapter 1 introduces the current state of knowledge on APMs. It discusses how APMs differ from traditional payment models and defines them as payment models that either move from reimbursing individual providers to provider sets, shift their focus from volume to value, or both. Respectively, these models are referred to as integrated payment models or value-based payment models. APMs may exist alongside traditional models or replace them altogether. This chapter ascertains that the current body of literature is dominated by descriptive and prescriptive studies on APMs, rather than processual or relational aspects of its implementation. It is important to address this gap, as studies indicate that implementing and experimenting with APMs is cumbersome.

The empirical chapters of this thesis are divided into two parts. The first part addresses the viability of APMs and gives insight into the justification of APMs and their effects on the performance of care networks. To assess the feasibility of APMs, the second part of the thesis presents a single case study and comparative case study that show how and why implementation of APMs is cumbersome, from both the provider and purchaser perspective. The case study research is informed by theories on institutional work and boundary work, which help explain how social structures are upheld or changed through the purposive actions of purchasers and providers.

Chapter 2 presents a discourse analysis on a particular type of APMs, namely integrated payment models. Based on an analysis of parliamentary files, reports and media documents, four discourses were identified. First, the quality-of-care discourse sees integrated payment as instrumental in improving care. Second, the affordability discourse emphasizes how integrated payment can contribute to the financial sustainability of the healthcare system. Third, the bureaucratization discourse highlights the administrative burden associated with integrated payment models. Fourth, the strategic discourse stresses micropolitical and professional issues that come into play when implementing such models. The predominance of discourses changed over time. From the start of APM experiments, discourses around quality of care and affordability were more prominent, reflecting the government rationale behind implementation. As time progressed, strategic and bureaucratization discourses became more pronounced, which revealed the impact of APMs on power dynamics between actors, actors' interests, and administrative complexity. This chapter concludes that the future viability of integrated payment models depends on how issues reflected in the bureaucratization and strategic discourses are addressed without losing sight of quality of care and affordability, two aspects attracting significant public interest in the Netherlands.

To further address viability, **Chapter 3** presents a scoping review that evaluates the performance of care networks that have adopted network-level payment models. The scoping review of the empirical literature was conducted according to the five-step York framework. We identified indicators of performance, categorized them in four categories (quality, utilization, spending and other consequences) and scored whether performance increased, decreased, or remained stable due to the payment model. The 76 included studies investigated network-level capitation, disease-based bundled payments, pay-for-performance and blended global payments. The majority of studies stem from the USA. Studies generally concluded that performance in terms of quality and utilization increased or remained stable. Most payment models were associated with improved spending performance. Overall, the review shows that network-level payment models are moderately successful in improving network performance.

These two chapters show that whilst APMs seem moderately successful in improving network performance specifically, discourses about such (integrated) payment models clash. So, although part 1 of this thesis establishes the viability of APMs, policymakers and practitioners should temper their expectations. Issues of power, status, professional autonomy and organizational autonomy, and diverging interests and goals of purchasers, professionals and provider organizations should be considered when implementing APMs. To deepen the understanding of these issues, the second part of the thesis shifted the focus to processual and relational aspects of APM implementation to assess its feasibility.

Chapter 4 focuses on the provider perspective and presents a single case study that was conducted in a Dutch hospital alliance that aimed to implement a value-based payment model to incentivize the transition to novel interventions in a prostate cancer pathway. It unravels the motives of non-clinical and clinical professionals to maintain institutionalized payment practices when faced with value-based payment. Data collection consisted of observations and interviews with actors on multiple levels in the hospitals, including sales departments, medical specialist enterprises (MSEs), and physicians. On each actor level, motives for maintaining currently prevailing institutional practices were present. Regulative maintenance motives were more common for sales managers whereas cultural-cognitive and normative motives seemed to play an important role for physicians. An overarching motive was that desired transitions to novel interventions proved possible under the currently prevailing institutional logic, dismissing an urgent need for payment reform. Our analysis further revealed that actors engage in diverse institutional maintenance work, and that some actor groups' institutional work carries more weight than others because of the dependency relationships that exist between hospitals, MSEs and physicians. Physicians depend on MSEs and sales departments, who act as gatekeepers and buffers, to decide whether the value-based payment reform is either adopted or abandoned.

Chapter 5 shifts the focus from the provider perspective to purchasers tasked with the Long-Term Care Act, the Health Insurance Act and the Social Support Act. This comparative case study addresses how care offices, health insurers and municipalities engage in efforts to (re)

configure boundaries between these domains to enable funding of the Dementia Social Approach (DSA). Data collection consisted of interviews with actors across purchasing bodies, complemented with document analysis. Abductive analysis of the data revealed three phases of boundary work that show how the reconfiguration unfolded over the course of the DSA experiments. Starting with collaborative boundary work, purchasers assumed a joint responsibility and devised so-called workarounds – temporary solutions that bypass regular schemes – *within* their domains. This downplaying and expanding of boundaries by purchasers enabled the second phase, in which purchasers deployed an experimental payment modality to continue funding the experiment *across* boundaries. This configurational phase was finally followed by a competitive phase, which was triggered by temporariness of workarounds and regulatory constraints. Purchasers reinforced their traditional, formally demarcated boundaries, through instrumentalizing evidence and through shifting and off-loading responsibilities to other purchasers. These findings suggest that purchasers have greater potential to integrate health and social care interventions than is typically assumed. Through workarounds, purchasers fostered temporary shifts in funding practices demonstrating the capacity to enable integration between health and social care within restrictive frameworks.

Chapter 6 discusses themes that recurred throughout the previous chapters and presents practical as well as research implications. This chapter discusses show how institutions both enable and constrain the implementation of APMs and how actors seem to exploit institutional contradictions. It further discusses how the duality of payment models allows actors to fall back on traditional, established payment and funding structures that are still broadly supported and taken-for-granted. Chapter 6 also emphasizes that actors need to navigate often competing logics, and the successful adoption of APMs necessitates trade-offs between these logics. This chapter concludes that faced with APM implementation, actors have some degree of agency to shape institutional arrangements and boundaries to their preferences. However, with urgency fading, and faced with structural constraints, actors fall back on institutionalized practices and routines to maintain current models.

In conclusion, this thesis offers an answer to the question whether APM implementation is viable and feasible, informing policymakers, professionals and managers if APMs should and can be implemented. APMs are potentially viable, but their feasibility comes with serious caveats. Given these caveats, policymakers and practitioners should carefully choose between APMs or other interventions. Conventional reform strategies may be deemed more appropriate than radical strategies, and policymakers and practitioners may consider aligning incentives in the current system instead of implementing APMs.

Samenvatting

Dit proefschrift draait om de vraag of alternatieve bekostigingsmodellen in zorg en welzijn levensvatbaar (*viable)* en haalbaar (*feasible)* zijn. In het algemene en wetenschappelijke discours bestaat consensus dat de huidige bekostigingsmodellen nadelen hebben die verhinderen dat zorgsystemen toegankelijkheids-, betaalbaarheids- en kwaliteitsissues kunnen adresseren. De huidige gefragmenteerde en gelaagde lappendeken van bekostigingsmodellen en financieringsstromen vormt een uitdaging voor de integratie van zorg en welzijn en voor de implementatie van (domeinoverstijgende) zorginnovaties die gericht zijn op kwaliteitsverbetering. Deze ontwikkelingen vragen om een heroverweging van de manier waarop de zorg bekostigd wordt. Dit proefschrift heeft als doel om de levensvatbaarheid en haalbaarheid van alternatieve bekostigingsmodellen te onderzoeken, door inzicht te geven in perspectieven op alternatieve bekostigingsmodellen, de uitkomsten die voortvloeien uit dergelijke modellen, en hoe inkopers en aanbieders omgaan met de implementatie van deze modellen.

Hoofdstuk 1 introduceert de huidige stand van zaken met betrekking tot alternatieve bekostiging. Het bespreekt hoe dergelijke modellen verschillen van traditionele bekostigingsmodellen. Alternatieve bekostigingsmodellen worden hier gecategoriseerd in twee groepen. Integrale bekostigingsmodellen verschuiven de bekostiging van individuele aanbieders naar netwerken van aanbieders. Waardegedreven bekostigingsmodellen verleggen de focus van volume naar waarde. Deze modellen kunnen naast traditionele modellen bestaan of deze volledig vervangen. In dit hoofdstuk wordt geconstateerd dat de huidige literatuur gedomineerd wordt door beschrijvende en prescriptieve studies over alternatieve bekostiging, in plaats van studies die zich richten op de procesmatige of relationele aspecten van de implementatie ervan. Dit legitimeert nader onderzoek, omdat meerdere studies aangeven dat het *implementeren van* en *experimenteren met* alternatieve bekostiging omslachtig is.

Dit proefschrift bestaat uit twee delen. Het eerste deel gaat in op de levensvatbaarheid van alternatieve bekostigingsmodellen. Dit deel geeft inzicht in de rechtvaardiging van alternatieve bekostigingsmodellen en hun effecten op de prestaties van zorgnetwerken. Om de haalbaarheid

van alternatieve bekostiging te beoordelen, presenteert het tweede deel van het proefschrift twee casestudies die laten zien hoe en waarom de implementatie van alternatieve bekostiging lastig is, zowel vanuit het perspectief van de aanbieder als van de inkoper (gemeente, zorgkantoor en zorgverzekeraar). Het casestudieonderzoek is gebaseerd op theorieën over zogenaamd 'institutioneel werk' en 'grenswerk', die helpen verklaren hoe sociale structuren in stand worden gehouden of veranderd worden door de doelgerichte acties van inkopers en aanbieders.

Hoofdstuk 2 presenteert een discoursanalyse over een bepaald type alternatieve bekostiging, namelijk integrale bekostigingsmodellen. Op basis van een analyse van parlementaire dossiers, rapporten en journalistieke stukken zijn vier discoursen geïdentificeerd. Het discours over kwaliteit-van-zorg ziet integrale bekostiging als instrument om de zorg te verbeteren. Het betaalbaarheidsdiscours benadrukt hoe integrale bekostiging kan bijdragen aan de financiële duurzaamheid van het zorgsysteem. Het bureaucratiseringsdiscours benadrukt de administratieve last die gepaard gaat met geïntegreerde bekostigingsmodellen. Tenslotte benadrukt het strategische discours micropolitieke en professionele kwesties die een rol spelen bij de implementatie van dergelijke modellen. Het overwicht van de discoursen veranderde in de loop van de tijd. Vanaf het begin van de experimenten met integrale bekostiging waren discoursen rond kwaliteit van zorg en betaalbaarheid prominenter aanwezig. Dit weerspiegelt de beweegredenen van de overheid om dergelijke modellen te willen implementeren. Naarmate de tijd vorderde raakten de strategische en bureaucratische discoursen meer op de voorgrond, wat de impact van bekostigingsmodellen op de machtsdynamiek tussen actoren, de belangen van actoren en de administratieve complexiteit liet zien. Dit hoofdstuk concludeert dat de toekomstige levensvatbaarheid van integrale bekostiging afhangt van de manier waarop kwesties die worden weerspiegeld in de bureaucratiserings- en strategische discoursen worden aangepakt, zonder de kwaliteit van zorg en betaalbaarheid uit het oog te verliezen.

Om de levensvatbaarheid verder te onderzoeken, wordt in **hoofdstuk 3** een literatuurstudie gepresenteerd naar de prestaties van zorgnetwerken die op een alternatieve manier bekostigd worden. Het onderzoek van de

empirische literatuur werd uitgevoerd volgens het York-vijfstappenmodel. Uit de literatuur werden prestatie-indicatoren geselecteerd en gecategoriseerd in vier categorieën (kwaliteit, zorggebruik, uitgaven en andere gevolgen). Vervolgens is beoordeeld of de prestaties toenamen, afnamen of stabiel bleven als gevolg van het bekostigingsmodel. De 76 geïncludeerde studies onderzochten capitatie op netwerkniveau, bundelbekostiging, prestatiebekostiging en populatiebekostiging. De studies concludeerden over het algemeen dat de prestaties op het gebied van kwaliteit en zorggebruik verbeterden of stabiel bleven. Daarnaast werden de meeste bekostigingsmodellen in verband gebracht met verbeterde prestaties op het gebied van zorguitgaven. In het algemeen toont dit hoofdstuk aan dat bekostigingsmodellen op netwerkniveau matig succesvol zijn in het verbeteren van netwerkprestaties.

Deze twee hoofdstukken laten zien dat alternatieve bekostigingsmodellen weliswaar enigszins succesvol lijken in het verbeteren van netwerkprestaties, maar dat de discoursen over dergelijke (geïntegreerde) bekostigingsmodellen botsen. Dus, hoewel deel 1 van dit proefschrift de levensvatbaarheid van alternatieve bekostiging aantoont, dienen beleidsmakers, aanbieders en inkopers van zorg en welzijn hun verwachtingen te temperen. Kwesties rondom macht, status, professionele en organisatorische autonomie moeten in overweging worden genomen bij het implementeren van alternatieve bekostiging. Dat geldt ook voor de uiteenlopende belangen en doelen van inkopers, professionals en aanbieders. Om deze kwesties verder te onderzoeken werd in het tweede deel van het proefschrift de focus verlegd naar de procesmatige en relationele aspecten van de implementatie van alternatieve bekostiging om de haalbaarheid op waarde te kunnen schatten.

Hoofdstuk 4 richt zich op het perspectief van de aanbieder en presenteert een casestudy die werd uitgevoerd in een Nederlands ziekenhuisnetwerk dat een waardegedreven bekostigingsmodel wilde implementeren. Het doel was om de overgang naar nieuwe interventies in een prostaatkankerzorgpad te stimuleren. Dit hoofdstuk ontrafelt de motieven van professionals en managers om vast te houden aan geïnstitutionaliseerde bekostigingspraktijken. De dataverzameling bestond uit observaties en interviews met actoren op verschillende

niveaus in de ziekenhuizen, waaronder verkoopafdelingen, medisch-specialistische bedrijven (MSB's) en artsen. Op elk van deze niveau's waren er motieven om de huidige institutionele praktijken te handhaven. Regulatieve motieven kwamen vaker voor bij zorgverkoopmanagers, terwijl cultureel-cognitieve en normatieve motieven een belangrijke rol leken te spelen bij artsen. Een overkoepelend motief was dat gewenste overgangen naar nieuwe interventies mogelijk bleken onder de huidige institutionele logica, waardoor een dringende noodzaak voor bekostigingshervorming uiteindelijk ontbrak. Uit de analyse bleek verder dat het institutionele werk van sommige groepen meer gewicht in de schaal legt dan dat van andere vanwege de afhankelijkheidsrelaties die bestaan tussen ziekenhuizen, MSB's en artsen. Artsen zijn afhankelijk van MSB's en verkoopafdelingen, die respectievelijk fungeren als poortwachters en buffers, om te beslissen of bekostigingshervorming al dan niet doorgang kan vinden.

Hoofdstuk 5 verlegt de focus van het aanbiedersperspectief naar inkopers van de Wet Maatschappelijke Ondersteuning (Wmo), de Zorgverzekeringswet (Zvw) en de Wet Langdurige Zorg (Wlz). Deze vergelijkende casestudy laat zien hoe zorgkantoren, zorgverzekeraars en gemeenten zich – tijdens een experiment – inspannen om de grenzen tussen deze wettelijke domeinen te (her)configureren om bekostiging en financiering van een domeinoverstijgende benadering gericht op dementie mogelijk te maken. De dataverzameling bestond uit interviews met medewerkers van zorgkantoren, zorgverzekeraars en gemeenten, aangevuld met documentanalyse. Abductieve analyse van de data onthulde drie fasen van zogenaamd grenswerk. Deze fasen laten zien hoe de herconfiguratie zich ontvouwde in de loop van de experimenten. Beginnend met gezamenlijk grenswerk, namen inkopers een gezamenlijke verantwoordelijkheid op zich en bedachten zogenaamde *workarounds* binnen hun eigen wettelijke domeinen. Het hiermee gepaard gaande afzwakken en verleggen van de grenzen van deze domeinen maakte de tweede fase mogelijk, waarin inkopers een experimentele betaaltitel inzetten om het experiment domeinoverstijgend te kunnen blijven financieren. Deze configuratiefase werd uiteindelijk gevolgd door een competitieve fase, die werd getriggerd door de tijdelijkheid van *workarounds* en wettelijke beperkingen. Inkopers versterkten hun traditionele, formeel afgebakende grenzen door bewijsmateriaal te

instrumentaliseren en door verantwoordelijkheden af te schuiven op andere inkopers. Deze bevindingen suggereren dat inkopers meer mogelijkheden hebben om interventies in zorg en welzijn te integreren dan doorgaans wordt aangenomen, alhoewel structurele oplossingen lastig te realiseren zijn. Door middel van *workarounds* stimuleerden inkopers tijdelijke verschuivingen in bekostigingspraktijken en lieten ze zien dat ze in staat zijn om integratie tussen gezondheidszorg en welzijn binnen beperkte kaders mogelijk te maken.

Hoofdstuk 6 bespreekt terugkerende thema's uit de voorgaande hoofdstukken en presenteert zowel praktische als onderzoeksimplicaties. Dit hoofdstuk laat zien hoe instituties de implementatie van alternatieve bekostiging zowel mogelijk maken als beperken en hoe actoren institutionele tegenstrijdigheden lijken te exploiteren. Het hoofdstuk bespreekt verder hoe de dualiteit van bekostigingsmodellen ervoor zorgt dat actoren terugvallen op traditionele, gevestigde bekostigings- en financieringsstructuren die nog steeds breed gedragen worden. Dit hoofdstuk benadrukt ook dat actoren moeten navigeren tussen vaak concurrerende logica en dat voor een succesvolle invoering van alternatieve bekostiging deze logica tegen elkaar afgewogen dienen te worden. Dit hoofdstuk concludeert dat actoren een zekere mate van zeggenschap hebben om institutionele regelingen en grenzen naar hun hand te zetten om alternatieve bekostiging mogelijk te maken. Echter, wanneer de urgentie afneemt en ze geconfronteerd worden met structurele beperkingen, vallen actoren terug op geïnstitutionaliseerde praktijken en routines om de huidige, traditionele bekostigingsmodellen in stand te houden.

Concluderend biedt dit proefschrift een antwoord op de vraag of de implementatie van alternatieve bekostigingsmodellen levensvatbaar en haalbaar is. De modellen zijn potentieel levensvatbaar, maar hun haalbaarheid gaat gepaard met beperkingen. Gezien deze beperkingen moeten beleidsmakers, aanbieders en inkopers zorgvuldig kiezen tussen alternatieve bekostigingsmodellen of andere oplossingen. Conventionele hervormingsstrategieën, gericht op *tweaks* en *workarounds*, kunnen geschikter worden geacht dan radicale strategieën. Beleidsmakers, aanbieders en inkopers kunnen bovendien overwegen om de prikkels in het huidige systeem op elkaar af te stemmen in plaats van alternatieve bekostigingsmodellen te implementeren.

Acknowledgements

This thesis is the result of multiple years of detours and empirical wanderings. Writing it has taken me longer than anticipated. I could attribute that to the thinking that went into this thesis, but unfortunately, we live in times where even interruptions have interruptions. There is, however, merit in meandering.

Although writing a thesis is a solitary business, ultimately it is a product of dialogue. Dialogues with my supervisors, colleagues, friends, family, and students. I'm indebted to each of them, but I cannot possibly acknowledge everyone by name. I want to start with thanking some people that set me on this path. Manda Broekhuis, for asking whether I had ever considered pursuing a PhD and then giving me the confidence to do so. Jochen Mierau and Frederik van Kleef, for providing a very interesting work context at the Aletta Jacobs School of Public Health between completing my master and the start of this PhD trajectory.

The seed for this thesis was planted in the spring of 2019, in the context of a collaborative project between the University of Groningen, its University Medical Centre, and the Erasmus School of Health Policy and Management. I owe huge thanks to my supervisors Sandra Sülz, Isabelle Fabbricotti, and Kees Ahaus, for helping shape this project – together with other projects – into a seemingly coherent thesis. Sandra, thank you for your analytical thoroughness, attention to detail, and for always offering a listening ear. Your door was – and is – always ajar to ponder both the trivial and the important. Isabelle, your strength and resilience is something to behold. Never was there a moment during our supervisory meetings in which you were not incredibly lucid. Thank you for offering me the opportunity to work together on another project, I enjoy the prospect of continuing our collaboration. Kees, you invited me to apply to this PhD position – and I'm glad that I could follow you to Rotterdam. Your never-ending optimism and resourcefulness where it concerned data collection, funding issues, or career prospects were always encouraging. The way you empower and instill confidence in people is truly remarkable. I remember vividly that during one of our many online meetings in the pandemic, I expressed my disappointment and anxiety that, through virtual team meetings, the four of us would

not be able to build a special bond. Years later, I can gladly say that I feel our bond is special.

Throughout the years, I happily worked together on several projects, for which I want to thank some people. Ineke Middelveldt, thank you for bringing me along when I was a rookie and introducing me to the world of complex (network) collaborations in oncology. Chris Bangma, thank you for sharing your tireless drive to improve prostate cancer care. Steven Howard, thank you for involving me in your Dutch research endeavor on alternative payment models. Vivian Reckers-Droog, Anouk van Alphen, and Michael Fröhlke, it was a pleasure to closely collaborate with you.

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Then there's the colleagues who made the office a welcoming and supportive place – there are too many to mention (you know who you are!). A handful I want to acknowledge by name. Marike Wezenaar, thank you for your support and always showing interest. Pieter Vandekerckhove, thank you for your guidance during the start of my trajectory – and every coffee catch-up afterwards. And last but certainly not least, Maud van den Berg, Aaron Lennips, and Justine van de Beek – thank you for caring, cracking jokes, and putting things into perspective when needed.

To my friends and family, I say thank you for being there, unconditionally.

PhD Portfolio

Peer-reviewed publications

- **Reindersma, T.**, Fabbricotti, I., Ahaus, K., Bangma, C., & Sülz, S. (2024). Inciting maintenance: Tiered institutional work during value-based payment reform in oncology. *Social Science & Medicine*, *347*, 116798.
- Howard, S. W., Bradford, N., Belue, R., Henning, M., Qian, Z., Ahaus, K., & **Reindersma, T.** (2024). Building alternative payment models in health care. *Frontiers in Health Services*, *4*, 1235913.
- **Reindersma, T.**, Fabbricotti, I., Ahaus, K., & Sülz, S. (2022). Integrated Payment, Fragmented Realities? A Discourse Analysis of Integrated Payment in the Netherlands. *International Journal of Environmental Research and Public Health*, *19*(14), 8831.
- **Reindersma, T.**, Sülz, S., Ahaus, K., & Fabbricotti, I. (2022). The Effect of Network-Level Payment Models on Care Network Performance: A Scoping Review of the Empirical Literature. *International Journal of Integrated Care*, *22*(2), 3.

Papers in progress

- Reindersma, T., Sülz, S., Ahaus, K., Fabbricotti, I. Back to square one? Exploring boundary work by purchasers of health and social care.
- Reckers-Droog, V., Van Alphen, A., Reindersma, T. Societal preferences for prioritizing patients suffering from breast cancer, deafness, or knee arthrosis for scarce surgical capacity.
- Reindersma, T. Van Alphen, A., Reckers-Droog, V. Understanding citizens' preferences for surgical prioritization during high-scarcity: A think-aloud study.

Professional publications

- **Reindersma, T.** (2022). De (on)mogelijkheid van bundelbekostiging in de oncologische zorg. *VGE Bulletin*, *39*(2).
- Middelveldt, I., Wildeboer, A., Fröhlke, M., Regts, G. & **Reindersma, T.** (2022). Oncologienetwerken in beeld. Integraal Kankercentrum Nederland (IKNL).

Media

– *Dringende noodzaak voor waardegedreven bekostiging ontbreekt.* *Zorgvis*ie (2024).

Research projects

– Social Trials, funded by ZonMw
– Quantifying Health Gains, funded by ZINL
– Value-based Health Care Prostaatcarcinoom, funded by ZonMw
– Citrienfonds Naar Regionale Oncologienetwerken, funded by ZonMw

Conference presentations

Conference	Presentation	Year
Organisational Behaviour in Health Care Conference (OBHC)	Oral	2024
European Health Management Association Conference (EHMA)	Oral	2023
North American Conference on Integrated Care (NACIC)	Oral	2021
European Health Management Association Conference (EHMA)	Oral	2020

Teaching activities

Course	Role	Years
Bachelor course Zorgen voor Later	Tutor	2020 – current
Master course Healthcare Procurement	Lecturer	2025 – current
Master Thesis Health Care Management	Supervisor	2022 – 2023
Master of Health Business Administration Thesis	Supervisor	2024 – 2025

Courses

Course	Institute
Philosophy of the humanities and social sciences	Erasmus Graduate School of Social Science and the Humanities (EGSH)
Qualitative coding with ATLAS.ti	
Professionalism and integrity in research	
Visual exploration of scientific literature with VOSviewer	
English academic writing for PhD candidates	
Responsible data management	
Share your work via the OSF	
Large-scale register data for quantitative social research	
Qualitative data analysis with grounded theory	
Maximize your visibility as a researcher	
Communicating your research	
How to finish your PhD in time	
Basic didactics	RISBO
Group dynamics	
Methods of health services research	NIHES
Introduction to Realist Methodology: Evaluation and Synthesis	Centre for Advancement in Realist Evaluation and Synthesis (CARES)

Appendix 1

Document number	Document name
D1	NZa. Functionele Bekostiging: Vier Niet-Complexe Chronische Zorgvormen; NZa: Utrecht, The Netherlands, 2009.
D2	Klink: Ketenzorg Is Bittere Noodzaak. Zorg en Financiering, volume 8, issue 8, 2009.
D3	Ministerie van Volksgezondheid, Welzijn en Sport. Brief van de Minister van Volksgezondheid, Welzijn en Sport, 29247, nr. 84; Tweede Kamer der Staten-Generaal: The Hague, The Netherlands, 2008.
D4	NZa. Bekostiging (Integrale) Zorg Rondom Zwangerschap en Geboorte: Het Stimuleren van Samenwerking; NZa: Utrecht, The Netherlands, 2012.
D5	Karadarevic, A. Pionieren in de geboortezorg. Skipr, issue 12, 2018.
D6	Tweede Kamer der Staten-Generaal. Gehandicaptenbeleid, 24170, nr. 120; Tweede Kamer der Staten-Generaal: The Hague, The Netherlands, 2011.
D7	Tweede Kamer der Staten-Generaal. Zorg Rond Zwangerschap en Geboorte, 32279, nr. 98; Tweede Kamer der Staten-Generaal: The Hague, The Netherlands, 2016.
D8	Van Aartsen, C. Elke patiënt is even belangrijk. ZorgVisie, issue 11, 2018.
D9	Zorgverzekeraars Nederland. AO Zwangerschap en Geboorte, Brief aan de Vaste Commissie VWS; Zorgverzekeraars Nederland: Zeist, The Netherlands, 2015.
D10	Tweede Kamer der Staten-Generaal. Zorg Rond Zwangerschap en Geboorte, 32279, nr. 87; Tweede Kamer der Staten-Generaal: The Hague, The Netherlands, 2016.
D11	Ministerie van Volksgezondheid, Welzijn en Sport. Discussienota Zorg voor de Toekomst; Ministerie van Volksgezondheid, Welzijn en Sport: The Hague, The Netherlands, 2020.
D12	Tweede Kamer der Staten-Generaal. Zorg Rond Zwangerschap en Geboorte, 32279, nr. 58; Tweede Kamer der Staten-Generaal: The Hague, The Netherlands, 2013.
D13	Tweede Kamer der Staten-Generaal. Initiatiefnota Van Het Lid Wolbert over Afschaffing van de Eigen Bijdrage bij Bevallingen in Het ziekenhuis, 33769, nr. 2; Tweede Kamer der Staten-Generaal: The Hague, The Netherlands, 2013.
D14	KNOV. Oproep tot Uitstel Aanwijzing Integrale Bekostiging Geboortezorg in Reguliere Bekostiging; KNOV: Utrecht, The Netherlands, 2021.
D15	Tweede Kamer der Staten-Generaal. Vaststelling van de Begrotingsstaten van het Ministerie van Volksgezondheid, Welzijn en Sport (XVI) Voor het Jaar 2010, 32123 XVI, nr. 136; Tweede Kamer der Staten-Generaal: The Hague, The Netherlands, 2010.

Appendix 1 Continued

Document number	Document name
D16	Tweede Kamer der Staten-Generaal. Vaststelling van de Begrotingsstaten van het Ministerie van Volksgezondheid, Welzijn en Sport (XVI) Voor Het Jaar 2010, 32123 XVI, nr. 160; Tweede Kamer der Staten-Generaal: The Hague, The Netherlands, 2010.
D17	RIVM. Beter Weten: Een Beter Begin. Samen Sneller Naar een Betere Zorg Rond de Zwangerschap; RIVM: Bilthoven, The Netherlands, 2020.
D18	Hoekman, J.; Woldendorp, H. Integratie van formele zorg, welzijn en informele zorg. Sociaal Bestek, 2017.
D19	De Booys, M. Integrale zorg beoogt einde versnippering. Het Financieele Dagblad, March 8, 2010.
D20	Tweede Kamer der Staten-Generaal. Zorg Rond Zwangerschap en Geboorte, 32279, nr. 42; Tweede Kamer der Staten-Generaal: The Hague, The Netherlands, 2012.
D21	Tweede Kamer der Staten-Generaal. Herziening Zorgstelsel, 29689, nr. 493; Tweede Kamer der Staten-Generaal: The Hague, The Netherlands, 2014.
D22	Tweede Kamer der Staten-Generaal. Zorg Rond Zwangerschap en Geboorte, 32279, nr. 62; Tweede Kamer der Staten-Generaal: The Hague, The Netherlands, 2014.
D23	Eerste Kamer der Staten-Generaal. Invoering Diagnose Behandeling Combinaties (DBCs), 29248, C; Eerste Kamer der Staten-Generaal: The Hague, The Netherlands, 2009.
D24	Van Aartsen, C. Wegens succes verlengd. ZorgVisie, issue 3, 2021.
D25	Groenenboom, G. Lagere kosten bij ketenzorg door koptarief. Het Financieele Dagblad, January 31, 2011.
D26	Common Eye. Stip op de Horizon Voor de Geboortezorg; Common Eye: Bilthoven, The Netherlands, 2021.
D27	Tweede Kamer van de Staten-Generaal. Zorg rond Zwangerschap en Geboorte, 32279, nr. 96; Tweede Kamer der Staten-Generaal: The Hague, The Netherlands, 2016.
D28	Ministerie van Volksgezondheid, Welzijn en Sport. Brief aan de Directeur Zorginkoop, Achmea Divisie Zorg; Ministerie van Volksgezondheid, Welzijn en Sport: The Hague, The Netherlands, 2009.
D29	Evaluatiecommissie Integrale Bekostiging. Tweede Rapportage van de Evaluatiecommissie Integrale Bekostiging; Evaluatiecommissie Integrale Bekostiging: The Hague, The Netherlands, 2012.
D30	Tweede Kamer der Staten-Generaal. Zorg Rond Zwangerschap en Geboorte, 32279, nr. 207; Tweede Kamer der Staten-Generaal: The Hague, The Netherlands, 2021.

Appendix 1 Continued

Document number	Document name
D31	Tweede Kamer der Staten-Generaal. Zorg Rond Zwangerschap en Geboorte, 32279, nr. 67; Tweede Kamer der Staten-Generaal: The Hague, The Netherlands, 2015.
D32	NZa. Advies Toekomst Bekostiging Integrale Geboortezorg; NZa: Utrecht, The Netherlands, 2020.
D33	Tweede Kamer der Staten-Generaal. Zorg Rond Zwangerschap en Geboorte, 32279, nr. 117; Tweede Kamer der Staten-Generaal: The Hague, The Netherlands, 2017.

Appendix 2

First search string:

Database	Before removal duplicates	After
Embase.com	2371	2340
Medline Ovid	455	123
Web of Science Core Collection	1032	513
Cochrane Central Register of Controlled Trials	34	15
Total	3892	2991

Embase.com 2371

('prospective payment'/de OR 'diagnosis related group'/de OR (('economic model'/de OR model/de) AND ('reimbursement'/de OR 'medical fee'/de)) OR 'pay for performance'/de OR 'pay for performance program'/de OR (((prospecti* OR model* OR value-base* OR outcome-base* OR bundle* OR provider* OR reform* OR method* OR scheme* OR system OR systems OR blend* OR virtual*) NEAR/3 (payment* OR reimburse* OR re-imburse* OR purchas* OR remuner* OR fee OR fees OR reward* OR reimburs* OR financing OR funding OR budget OR capitat* OR bonus OR contract OR contracts OR contracting OR contracted OR spending OR pricing)) OR pay-for-performan* OR p4p OR (diagnos* NEAR/3 related NEAR/3 group*) OR drg OR drgs OR (shar* NEAR/3 saving*)):ab,ti) AND ('accountable care organization'/de OR 'health care organization'/de OR (interorganisation* OR inter-organisation* OR interorganization* OR inter-organization* OR (Accountable-Care NEAR/3 (Organization* OR Organisation*)) OR ((care OR clinical OR cancer OR integrated or PROVIDER) NEXT/1 (group* OR network*)) OR (service NEAR/3 deliver* NEAR/3 network*) OR ((health-care OR healthcare* OR integrat*) NEAR/3 network*) OR (integrat*) NEAR/3 (vertical* OR horizon*)):ab,ti) NOT ([Conference Abstract]/lim) AND [English]/lim

Medline Ovid 2371

(Prospective Payment System/ OR Diagnosis-Related Groups/ OR ((Models, Economic/) AND (Reimbursement Mechanisms/ OR Fees, Medical/)) OR Reimbursement, Incentive/ OR pay for performance program/ OR (((prospecti* OR model* OR value-base* OR outcome-base* OR bundle* OR provider* OR reform* OR method* OR scheme* OR system OR systems OR blend* OR virtual*) ADJ3 (payment* OR reimburse* OR re-imburse* OR purchas* OR remuner* OR fee OR

fees OR reward* OR reimburs* OR financing OR funding OR budget OR capitat* OR bonus OR contract OR contracts OR contracting OR contracted OR spending OR pricing)) OR pay-for-performan* OR p4p OR (diagnos* ADJ3 related ADJ3 group*) OR drg OR drgs OR (shar* ADJ3 saving*)).ab,ti.) AND (Accountable Care Organizations/ OR "Health Care Economics and Organizations"/ OR Organizations/ OR (interorganisation* OR inter-organisation* OR interorganization* OR inter-organization* OR (Accountable-Care ADJ3 (Organization* OR Organisation*)) OR ((care OR clinical OR cancer OR integrated or PROVIDER) ADJ (group* OR network*)) OR (service ADJ3 deliver* ADJ3 network*) OR ((health-care OR healthcare* OR integrat*) ADJ3 network*) OR (integrat*) ADJ3 (vertical* OR horizon*)).ab,ti.) NOT (news OR congres* OR abstract* OR book* OR chapter* OR dissertation abstract*).pt. AND english.la.

Cochrane CENTRAL register of trials 34

((((prospecti* OR model* OR value-base* OR outcome-base* OR bundle* OR provider* OR reform* OR method* OR scheme* OR system OR systems OR blend* OR virtual*) NEAR/3 (payment* OR reimburse* OR re-imburse* OR purchas* OR remuner* OR fee OR fees OR reward* OR reimburs* OR financing OR funding OR budget OR capitat* OR bonus OR contract OR contracts OR contracting OR contracted OR spending OR pricing)) OR pay-for-performan* OR p4p OR (diagnos* NEAR/3 related NEAR/3 group*) OR drg OR drgs OR (shar* NEAR/3 saving*)):ab,ti) AND ((interorganisation* OR inter-organisation* OR interorganization* OR inter-organization* OR (Accountable-Care NEAR/3 (Organization* OR Organisation*)) OR ((care OR clinical OR cancer OR integrated or PROVIDER) NEXT/1 (group* OR network*)) OR (service NEAR/3 deliver* NEAR/3 network*) OR ((health-care OR healthcare* OR integrat*) NEAR/3 network*) OR (integrat*) NEAR/3 (vertical* OR horizon*)):ab,ti)

Web of science Core Collection1032

TS=(((((prospecti* OR model* OR value-base* OR outcome-base* OR bundle* OR provider* OR reform* OR method* OR scheme* OR system OR systems OR blend* OR virtual*) NEAR/2 (payment* OR reimburse* OR re-imburse* OR purchas* OR remuner* OR fee OR fees OR reward* OR reimburs* OR financing OR funding OR budget OR capitat* OR bonus OR contract OR contracts OR contracting OR contracted OR spending OR pricing)) OR pay-for-performan* OR p4p OR (diagnos* NEAR/2 related NEAR/2 group*) OR drg OR drgs OR (shar* NEAR/2 saving*))) AND ((interorganisation* OR inter-organisation* OR interorganization* OR inter-organization* OR (Accountable-Care NEAR/2 (Organization* OR Organisation*)) OR ((care OR clinical OR cancer OR integrated or PROVIDER) NEAR/1 (group* OR

network*)) OR (service NEAR/2 deliver* NEAR/2 network*) OR ((health-care OR healthcare* OR integrat*) NEAR/2 network*) OR (integrat*) NEAR/2 (vertical* OR horizon*)))) AND DT=(article) AND LA=(english)

Final search string:

Database searched	via	Years of coverage	Records	Records after duplicates removed
Embase	Embase.com	1971 - Present	3112	3072
Medline ALL	Ovid	1946 - Present	966	207
Web of Science Core Collection*	Web of Knowledge	1975 - Present	1662	731
Cochrane Central Register of Controlled Trials	Wiley	1992 - Present	44	12
CINAHL	EBSCO	1982 - Present	1073	251
EconLit	ProQuest		96	40
Total			6953	4313

*Science Citation Index Expanded (1975-present) ; Social Sciences Citation Index (1975-present) ; Arts & Humanities Citation Index (1975-present) ; Conference Proceedings Citation Index- Science (1990-present) ; Conference Proceedings Citation Index- Social Science & Humanities (1990-present) ; Emerging Sources Citation Index (2015-present)

Embase.com

('prospective payment'/de OR 'diagnosis related group'/de OR (('economic model'/de OR model/de) AND ('reimbursement'/de OR 'medical fee'/de)) OR 'pay for performance'/de OR 'pay for performance program'/de OR (((prospecti* OR model* OR value-base* OR outcome-base* OR bundle* OR provider* OR reform* OR method* OR scheme* OR system OR systems OR blend* OR virtual* OR population-base*) NEAR/3 (payment* OR reimburse* OR re-imburse* OR purchas* OR remuner* OR fee OR fees OR reward* OR reimburs* OR financing OR funding OR budget OR capitat* OR bonus OR contract OR contracts OR contracting OR contracted OR spending OR pricing)) OR pay-for-performan* OR p4p OR (diagnos* NEAR/3 related NEAR/3 group*) OR drg OR drgs OR (shar* NEAR/3 saving*)):ab,ti,kw) AND ('accountable care organization'/de OR 'health care organization'/de OR (interorganisation* OR inter-organisation* OR interorganization* OR inter-organization* OR (Accountable-Care NEAR/3 (Organization* OR Organisation*)) OR ((care OR clinical OR cancer OR integrated

or PROVIDER) NEXT/1 (group* OR network*)) OR ((service OR system*) NEAR/3 deliver* NEAR/3 (network* OR integrat*)) OR ((health-care OR healthcare* OR integrat*) NEAR/3 network*) OR (integrat*) NEAR/3 (vertical* OR horizon*) OR (network NEAR/3 (organisation* OR organization* OR integrat* OR deliver*)) OR (provider* NEAR/3 chain*) OR (health NEAR/3 maintenan* NEAR/3 (organization* OR organization*))):ab,ti,kw) NOT ([Conference Abstract]/lim) AND [English]/lim

Medline Ovid

(Prospective Payment System/ OR Diagnosis-Related Groups/ OR ((Models, Economic/) AND (Reimbursement Mechanisms/ OR Fees, Medical/)) OR Reimbursement, Incentive/ OR (((prospecti* OR model* OR value-base* OR outcome-base* OR bundle* OR provider* OR reform* OR method* OR scheme* OR system OR systems OR blend* OR virtual* OR population-base*) ADJ3 (payment* OR reimburse* OR re-imburse* OR purchas* OR remuner* OR fee OR fees OR reward* OR reimburs* OR financing OR funding OR budget OR capitat* OR bonus OR contract OR contracts OR contracting OR contracted OR spending OR pricing)) OR pay-for-performan* OR p4p OR (diagnos* ADJ3 related ADJ3 group*) OR drg OR drgs OR (shar* ADJ3 saving*)).ab,ti,kf.) AND (Accountable Care Organizations/ OR "Health Care Economics and Organizations"/ OR Organizations/ OR (interorganisation* OR inter-organisation* OR interorganization* OR inter-organization* OR (Accountable-Care ADJ3 (Organization* OR Organisation*)) OR ((care OR clinical OR cancer OR integrated or PROVIDER) ADJ (group* OR network*)) OR ((service OR system*) ADJ3 deliver* ADJ3 (network* OR integrat*)) OR ((health-care OR healthcare* OR integrat*) ADJ3 network*) OR (integrat*) ADJ3 (vertical* OR horizon*) OR (network ADJ3 (organisation* OR organization* OR integrat* OR deliver*)) OR (provider* ADJ3 chain*) OR (health ADJ3 maintenan* ADJ3 (organization* OR organization*))).ab,ti,kf.) NOT (news OR congres* OR abstract* OR book* OR chapter* OR dissertation abstract*).pt. AND english.la.

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integrat*) NEAR/3 network*) OR (integrat*) NEAR/3 (vertical* OR horizon*) OR (network NEAR/3 (organisation* OR organization* OR integrat* OR deliver*)) OR (provider* NEAR/3 chain*) OR (health NEAR/3 maintenan* NEAR/3 (organization* OR organization*))):ab,ti) NOT "conference abstract":pt

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Appendix 3

Table A. Summary of included articles.

	Authors	Method	Country	Program	Network configuration	Payment model(s)	Flow	Study population
1	(Schlenker, Shaughnessy, and Hittle 1995)	QN	USA	HMO	Not specified	Capitation	To	Medicare home health beneficiaries
2	(Robinson and Casalino 1995)	Mixed	USA	HMO	Integrated physician medical groups in California	Capitation	To	Capitated HMO enrolees in six integrated physician medical groups
3	(Marton et al. 2014)	QN	USA	Passport (P) and Kentucky Health Select Plan (K)	Primary care practices in regional managed care networks	Capitation + P4P (P) P4P (K)	In	Children enrolled in Medicaid
4	(Mandal et al. 2017)	QN	USA	HMO	Provider group with 7 clinic locations and 25 primary care specialists	Capitation + risk-and-gain sharing	To	Community-dwelling Medicare Advantage enrolees ≥ 65 years
5	(De Bakker et al. 2012)	Mixed	NL	DMP for diabetes	Care groups, consisting of health care providers such as GPs, laboratories, dietitians and medical specialists	Disease-based bundled payment	To	Diabetes patients assigned to care group
6	(Busse and Stahl 2014)	Mixed	NL	DMP for diabetes	Care groups, consisting of health care providers such as GPs, laboratories, dietitians and medical specialists	Disease-based bundled payment	To	Diabetes patients assigned to care group
7	(Mohnen et al. 2015)	QN	NL	DMP for diabetes	Care groups, consisting of health care providers such as GPs, laboratories, dietitians and medical specialists	Disease-based bundled payment	To	Diabetes patients assigned to care group

Intervention *N*	Control *N*	Indicator	Quality of care	Utilization	Spending	Other	EPOC
181 patients	1,079 patients	Patient discharge		+			C2
		Home health visits		+			
		Cost per patient			+		
		Episode length		+			
Not reported	Not reported	Physician visits		–			C1
1,890 patients (P) and 4,273 patients (K)	2,816 patients (P) and 9,317 patients (K)	Outpatient utilization (P/K)		+/+			B1
		Professional utilization (P/K)		+/–			
1,230 patients	1,230 patients	Office-based visits		+			B1
		ED hospital visits		+			
		Inpatient hospital admissions		+			
		30-day readmission	0				
		60-day readmission	0				
		Preventive visits		+			
		Screening mammography		+			
		Screening colonoscopy		0			
Not reported (10 care groups)	Not reported	Collaboration				+	C4
		Process quality				+	
		Transparency				+	
		GP domination of care groups				–	
		Administrative burden				–	
		Price variations				–	
Not reported	Not reported	Specialist care use		+			B1
		Control of blood pressure and cholesterol		+			
		HbA1C		+			
		Regular check-ups		+			
		Foot exams		+			
		Kidney exams		+			
		Eye testing		–			
		Total medical spending			–		
20,257 patients	43,754 patients	Curative health care spending			–		B1

Table A. Continued

	Authors	Method	Country	Program	Network configuration	Payment model(s)	Flow	Study population
8	(Karimi et al. 2021)	QN	NL	DMP for diabetes, COPD and vascular risk management (VRM)	Care groups, consisting of health care providers such as GPs, laboratories, dietitians and medical specialists	Disease-based bundled payment	To	Patients enrolled in a bundled payment for diabetes, COPD, or increased vascular risk
9	(Navathe et al. 2021)	QN	USA	MSSP	Not specified	Disease-based bundled payment	In	Medicare fee-for-service beneficiaries
10	(Mandel and Kotagal 2007)	QN	USA	Not specified	Physician-hospital organization consisting of primary care practices (PCPs)	P4P	To/in	Children with asthma

Intervention *N*	Control *N*	Indicator	Quality of care	Utilization	Spending	Other	EPOC
807,197 patients (diabetes), 1,039,406 (VRM), 267,843 (COPD)	988,480 patients	Diabetes total cost			–		B1
		Diabetes medical specialist cost			–		
		Diabetes primary care cost			+		
		Diabetes medication cost			–		
		Diabetes bundled payment cost			–		
		VRM total cost			–		
		VRM medical specialist cost			–		
		VRM primary care cost			+		
		VRM medication cost			–		
		VRM bundled payment cost			–		
		COPD total cost			–		
		COPD medical specialist cost			–		
		COPD primary care cost			+		
		COPD medication cost			–		
		COPD bundled payment cost			–		
24,884 patients	70,208 patients	Post discharge institutional spending medical episode (non-ACO/ACO)			+/+		B1
		Medical episode mortality (non-ACO/ACO)	0/0				
		Medical episode 90-day readmissions (non-ACO/ACO)	0/+				
		Medical episode discharge to SNF/IRF (non-ACO/ACO)		0/0			
		Medical episode discharge to HH (non-ACO/ACO)		+/+			
		Medical episode length of stay SNF (non-ACO/ACO)		+/+			
		Post discharge institutional spending surgical episode (non-ACO/ACO)			+/+		
		Surgical episode mortality (non-ACO/ACO)	0/0				
		Surgical episode 90-day readmissions (non-ACO/ACO)	+/+				
		Surgical episode discharge to SNF/IRF (non-ACO/ACO)		+/+			
		Surgical episode discharge to HH (non-ACO/ACO)		+/+			
		Surgical episode length of stay SNF (non-ACO/ACO)		+/+			
13,380 patients in 44 PCPs	Not reported	Perfect care delivery	+				C3
		Influenza vaccination rates	+				

Table A. Continued

	Authors	Method	Country	Program	Network configuration	Payment model(s)	Flow	Study population
11	(Levin-Scherz et al. 2006)	QN	USA	Partners Community HealthCare (PCHI)	Network composed of 15 regional service organizations	P4P	To	PCHI patients
12	(Atkinson et al. 2010)	QN	USA	Long Island Health Network	Clinically integrated network of 10 hospital facilities	P4P	In	Not specified
13	(Rieckmann et al. 2018)	Mixed	USA	Coordinated Care Organization	Integrated financing and service delivery for medical, behavioural, and dental health	P4P	In	Members enrolled in CCO
14	(Hibbard et al. 2015)	Mixed	USA	Fairview Pioneer ACO	PCPs working in a Pioneer accountable care organization	P4P	In	Fairview PCPs
15	(Gleeson, Kelleher, and Gardner 2016)	QN	USA	Partner for Kids	Physicians in a paediatric accountable care organization	P4P	In	Community physicians who received P4P incentives

1. For this study, first symbol indicates results of comparison with control group that received exclusively fee-for-service payments, second symbol indicates results of comparison with control group that were salaried

Intervention *N*	Control *N*	Indicator	Quality of care	Utilization	Spending	Other	EPOC
Varied per measure	Varied per measure	HbA1C screening		+			B1
		Diabetic LDL screening		+			
		Nephropathy screening		+			
		Diabetic eye exams		+			
		Paediatric asthma controller use		0			
Not reported	Not reported	Quality (overall composite measure)	+				C3
		Hospital average length of stay		+			
Not specified	Not specified	SUD screening		+			C1
		SUD treatment initiation		–			
		SUD treatment engagement		–			
85 respondents	Not applicable	Efforts into increasing patient activation and patient self-management				0	C3
		Becoming more patient-centred				0	
203 physicians across 50 practices	2763 physicians across 82 practices	Adolescent well care visits		+			B1
		Well child visits at 3-6 years[1]		+/0			
		Asthma at 12-18 years	0/0				
		Asthma at 5-11 years	0/0				
		Immunizations (adolescents)	0/–				
		Meningococcal immunizations (adolescents)	0/–				
		Td/Tdap immunizations (adolescents)	0/–				
		Immunizations (children)	0/–				
		DTP immunizations (children)	+/–				
		Hepatitis A immunizations (children)	0/–				
		IPV immunizations (children)	+/–				
		MMR immunizations (children)	0/0				
		Pneumococcal conjugate immunizations (children)	+/0				
		Varicella immunizations (children)	0/–				
		Pharyngitis	0/0				
		Upper respiratory infection	0/0				
		ADHD maintenance		0/0			
		ADHD initiation		0/0			
		Lead screening		+/0			
		Influenza	0/0				
		Rotavirus	+/–				

Table A. Continued

	Authors	Method	Country	Program	Network configuration	Payment model(s)	Flow	Study population
16	(Ganguli et al. 2020)	QN	USA	MSSP	Not specified	P4P	In	ACOs using cost reduction-based specialist compensation (P4P)
17	(Afendulis et al. 2017)	Mixed	USA	Total Cost and Care Improvement (TCCI)	Primary care physician panels, consisting of at least 5-15 physicians and 1000 patients	Global payment + shared savings + pay-for-coordination	To	CareFirst BlueCross BlueShield Total Care and Cost Improvement Program enrolees
18	(Stuart et al. 2017)	QN	USA	AQC	Not reported	Global payment + P4P + shared savings	To	BCBSMA HMO and POS (point of service) plan enrolees
19	(McWilliams, Landon, and Chernew 2013)	QN	USA	AQC	Not reported	Global payment + P4P + shared savings	To	Elderly FFS Medicare beneficiaries in Massachusetts treated by AQC-affiliated providers
20	(Song et al. 2011)	QN	USA	AQC	Not reported	Global payment + P4P + shared savings	To	Enrolees whose PCPs were in the AQC system
21	(Song et al. 2012)	QN	USA	AQC	Not reported	Global payment + P4P + shared savings	To	BCBSMA enrolees
22	(Song et al. 2014)	QN	USA	AQC	Not reported	Global payment + P4P + shared savings	To	Persons in four cohorts of AQC organizations, defined by first contract year: 2009, 2010, 2011, 2012

2. For this study, first symbol indicates results for patients facing behavioral health risks and second symbol indicates results for patients not facing behavioral health risks.

Intervention *N*	Control *N*	Indicator	Quality of care	Utilization	Spending	Other	EPOC
41 ACOs	119 ACOs	Shared savings			0		B2
		Outpatient spending			0		
		Specialist visits		0			
298,463 patients	537,778 patients	Outpatient spending			0		B1
		Specialist visits		0			
		Specialist visits		0			
		Inpatient spending			0		
		Outpatient spending			0		
		Total spending			0		
10,817 patients	50,576 patients	SUD service utilization[2]		0/+			B1
		SUD spending			0/0		
		SUD identification		0/+			
		SUD initiation		0/+			
		SUD engagement		0/0			
417,182 person-years	1,344,143 person-years	Total spending			+		B1
		Admission rate for ambulatory care–sensitive conditions related to cardiovascular disease or diabetes		0			
		30-day readmission	0				
		Mammography screening		0			
		LDL-C testing (diabetes and cardiovascular)		+			
		HbA1C testing		0			
		Diabetes retinal examination		0			
380,142 enrolees	1,351,446 enrolees	Medical spending			+		B1
		Paediatric care quality	+				
		Adult preventive care quality	0				
		Chronic care management quality	+				
612,547 enrolees	1,339,798 enrolees	Medical spending			+		B1
		Paediatric care quality	+				
		Adult preventive care quality	+				
		Chronic care management quality	+				
1,348,235 enrolees	966,813 enrolees	Medical spending			+		B1
		Chronic disease management quality	+				
		Adult preventive care quality	+				
		Paediatric care quality	+				

Table A. Continued

	Authors	Method	Country	Program	Network configuration	Payment model(s)	Flow	Study population
23	(Huskamp et al. 2016)	QN	USA	AQC	Not reported	Global payment + P4P + shared savings	To	Adults between 18–64 years enrolled in BCBSMA HMO or POS (point of service) plans
24	(Afendulis et al. 2014)	QN	USA	AQC	Not reported	Global payment + P4P + shared savings	To	BCBSMA HMO and POS (point of service) plan enrolees
25	(Donohue et al. 2018)	QN	USA	AQC	Not reported	Global payment + P4P + shared savings	To	Individuals with alcohol use disorders (AUD) and/ or opioid use disorders (OUD)
26	(Chien et al. 2014)	QN	USA	AQC	Not reported	Global payment + P4P + shared savings	To	BCBSMA HMO enrolees 0-21 years with and without special health care needs (CSHCN)
27	(Pimperl et al. 2017)	QN	DE	Gesundes Kinzigtal	Not reported	Global payment + P4P + shared savings	To	Gesundes Kinzigtal enrolees
28	(Hildebrandt, Schulte, and Stunder 2012)	QN	DE	Gesundes Kinzigtal	Population-wide integrated care system that covers all sectors and indications of care with a group of providers	Global payment + P4P + shared savings	To	Gesundes Kinzigtal enrolees
29	(Blewett et al. 2017)	Mixed	USA	Integrated Health Partnership Minnesota	Integrated health partnerships deliver the full scope of primary care services, and coordinate access to specialty providers and hospitals	Global payment + P4P + shared savings	To	Minnesota Health Care Program enrolees

Intervention *N*	Control *N*	Indicator	Quality of care	Utilization	Spending	Other	EPOC
533,568 person-years	2,999,221 person-years	Any tobacco cessation treatment use		+			B1
		Varenicline or bupropion use		+			
		Nicotine replacement therapy use		0			
		Tobacco cessation counselling visit use		+			
		Combination therapy (pharmacotherapy plus counselling) use		+			
		≥90-day supply of tobacco cessation		+			
332,624 enrolees	1,296,399 enrolees	Drug utilization		0			B1
		Drug spending			0		
8,956 person-years	40,884 person-years	Medication treatment use		0			B1
126,975 enrolees	415,331 enrolees	Quality measures tied to P4P	+				B1
		Quality measures not tied to P4P	0				
		Medical spending			0		
Varied per measure	Varied per measure	Mortality rate	0				B1
		Average age at time of death	+				
		Years of potential life lost	+				
Varied per measure	Varied per measure	Hospitalization		+			B1
		Medical spending			+		
Not reported	Not reported	Forging of community partnerships				+	C4
		Service integration				+	

Table A. Continued

	Authors	Method	Country	Program	Network configuration	Payment model(s)	Flow	Study population
30	(Sandberg et al. 2014)	Mixed	USA	Hennepin Health	Hennepin County Human Services and Public Health Department; Hennepin County Medical Center, NorthPoint Health and Wellness Center, Metropolitan Health Plan (HMO), all covering physical, behavioural and social services.	Global payment + shared savings	To	Adults without dependent children
31	(Narayan, Harvey, and Durand 2017)	QN	USA	MSSP	Not reported	Global payment + shared savings	To	Medicare beneficiaries in ACOs
32	(Fraze et al. 2018)	QN	USA	MSSP	Not reported	Global payment + shared savings	To	MSSP ACOs
33	(Pope et al. 2014)	Mixed	USA	PGPD	Not reported	Global payment + shared savings	To	Beneficiaries assigned to PGPs
34	(Kim et al. 2019)	QN	USA	MSSP	Not reported	Global payment + shared savings	To	Medicare FFS beneficiaries with a cancer diagnosis who were 66 years or older and died in 2013-2014

Intervention *N*	Control *N*	Indicator	Quality of care	Utilization	Spending	Other	EPOC
Not reported	Not reported	ED visits		+			C3
		Outpatient visits		+			
		Hospitalization		0			
		Patients receiving optimal diabetes, vascular and asthma care	+				
5,329,831 beneficiaries	Not reported	Mammography screening use		+			C1
162 ACOs	Not reported	All-or-nothing diabetes composite	+				C1
		HbA1C controlled	+				
		LDL controlled	+				
		Blood pressure <140/90	+				
		Tobacco non-use	+				
		Aspirin use	+				
1,776,387 person-years	1,579,080 person-years	Medical spending			+		B1
		Hospitalizations		+			
		ED visits		+			
		HbA1C testing		+			
		LDL-C testing		+			
		Medical attention for nephropathy	+				
		Diabetes eye exam		+			
		Left ventricular ejection fraction testing		0			
		Lipid profile		+			
		Breast cancer screening		+			
9,033 beneficiaries	9,033 beneficiaries	≥1 ICU admission (Aggressive end-of-life care)		–			B2
		≥2 Hospitalizations (Aggressive end-of-life care)		+			
		≥2 ED visits (Aggressive end-of-life care)		0			
		Chemotherapy ≤2 weeks (Aggressive end-of-life care)		0			
		No hospice or enrolment ≤3 days (Aggressive end-of-life care)		0			

Table A. Continued

	Authors	Method	Country	Program	Network configuration	Payment model(s)	Flow	Study population
35	(Colla et al. 2014)	QN	USA	PGPD	Not reported	Global payment + shared savings	To	FFS Medicare patients assigned to PGPs
36	(Rutledge et al. 2019)	Mixed	USA	Medicaid ACO	Not reported	Global payment + P4P + shared savings	To	ACOs in Maine, Minnesota and Vermont
37	(Borza et al. 2019)	QN	USA	MSSP	Not reported	Global payment + shared savings	To	Patients undergoing common surgical procedures at ACO-affiliated hospitals

Intervention *N*	Control *N*	Indicator	Quality of care	Utilization	Spending	Other	EPOC
819,779 patients	934,621 patients	Discretionary carotid imaging use		0			B1
		Discretionary coronary imaging use		0			
		Discretionary carotid procedures use		0			
		Discretionary coronary procedures use		0			
		Non-discretionary carotid procedures use		0			
		Non-discretionary coronary procedures use		0			
3 ACOs	Not specified	Primary care provider visits (Maine, Minnesota, Vermont)		–/–/0			B1
		Acute inpatient hospitalizations (Maine, Minnesota, Vermont)		+/–/+			
		ED visits (Maine, Minnesota, Vermont)		+/+/+			
		30-day readmissions (Maine, Minnesota, Vermont)	0/+/0				
		HbA1C testing (Maine, Minnesota)		0/+			
		Medication adherence for depression (Maine, Minnesota)	0/–				
		Developmental screening (Vermont)		+			
		Total spending Maine, Minnesota, Vermont)			0/0/+		
		Inpatient spending Maine, Minnesota, Vermont)			0/0/+		
		Professional spending Maine, Minnesota, Vermont)			0/+/+		
		Pharmaceutical spending (Maine, Vermont)			0/+		
80,501 patients	348,774 patients	Overall 30-day readmission	+				B1
		Readmission after AAA repair	0				
		Readmission after colectomy	0				
		Readmission after cystectomy	0				
		Readmission after Prostatectomy	0				
		Readmission after lung resection	0				
		Readmission after total knee arthroplasty	+				
		Readmission after total hip arthroplasty	0				

Table A. Continued

	Authors	Method	Country	Program	Network configuration	Payment model(s)	Flow	Study population
38	(Diana et al. 2019)	QN	USA	Pioneer, MSSP	Not reported	Global payment + shared savings	To	ACO-affiliated hospitals
39	(Trinh et al. 2019)	QN	USA	MSSP	Not reported	Global payment + shared savings	To	FFS, non-HMO beneficiaries
40	(Zhang, Caines, and Powers 2017)	QN	USA	Pioneer	Not reported	Global payment + shared savings	To	FFS Medicare beneficiaries
41	(Winblad et al. 2017)	QN	USA	Pioneer, MSSP	Not reported	Global payment + shared savings	To	ACO-affiliated hospitals
42	(Kaufman, O'Brien, et al. 2019)	QN	USA	MSSP	Not reported	Global payment + shared savings	To	MSSP hospitals
43	(Bain et al. 2019)	QN	USA	MSSP	Not reported	Global payment + shared savings	To	MSSP hospitals

Intervention *N*	Control *N*	Indicator	Quality of care	Utilization	Spending	Other	EPOC
615 hospitals	2,847 hospitals	Communication with nurses (patient experience) (Pioneer / MSSP)				+/0	B2
		Communication with doctors (patient experience) (Pioneer / MSSP)				+/0	
		Responsiveness of hospital staff (patient experience) (Pioneer / MSSP)				0/0	
		Pain management (patient experience) (Pioneer / MSSP)				0/0	
		Communication about medications (patient experience) (Pioneer / MSSP)				0/0	
		Cleanliness of hospital environment (patient experience) (Pioneer / MSSP)				0/0	
		Quietness of hospital environment (patient experience) (Pioneer / MSSP)				0/0	
		Discharge information (patient experience) (Pioneer / MSSP)				0/0	
		Overall hospital rating (patient experience) (Pioneer / MSSP)				0/0	
		Recommend the hospital (patient experience) (Pioneer / MSSP)				0/0	
51,980 beneficiaries	222,800 beneficiaries	Rates of prostate specific antigen screening		0			B1
		Rates of prostate biopsy		0			
316,366 beneficiaries	559,241 beneficiaries	Medicare Part D drug spending			0		B1
		Total prescriptions filled		0			
		Medicare Part A/B medical spending			+		
226 hospitals	1,844 hospitals	30-day overall adjusted rehospitalization rate (MSSP / Pioneer)	+/+				B1
273 hospitals	1,490 hospitals	Discharge to home		–			B1
		30-day all-cause readmissions	0				
		Hospital length of stay		0			
		Days in the community	0				
		Mortality	0				
		Recurrent stroke within 1 year of hospitalization	0				
233 hospitals	3,100 hospitals	Probability of discharge to one-star (low-rated) SNFs	0				B1
		Probability of discharge to five-star (high-rated) SNFs	+				

Table A. Continued

	Authors	Method	Country	Program	Network configuration	Payment model(s)	Flow	Study population
44	(Resnick, Graves, Gambrel, et al. 2018)	QN	USA	MSSP	Not reported	Global payment + shared savings	To	Medicare Part A and B beneficiaries > 65 years
45	(Kim, Thirukumaran, and Li 2018)	QN	USA	MSSP	Not reported	Global payment + shared savings	To	MSSP hospitals
46	(Cole et al. 2019)	QN	USA	MSSP	Not reported	Global payment + shared savings	To	Medicare Part A and B beneficiaries ≥ 67 years with prostate cancer

Intervention *N*	Control *N*	Indicator	Quality of care	Utilization	Spending	Other	EPOC
4,989,210 beneficiary-years	12,263,135 beneficiary-years	Breast cancer screening use		–			B1
		Colorectal cancer screening use		+			
		Prostate cancer screening use		+			
Varied per measure	Varied per measure	30-day hospital-wide all cause readmission rates	+				B1
		30-day readmissions rates for AMI	0				
		30-day readmissions rates for heart failure	+				
		30-day readmissions rates for pneumonia	+				
3,297 beneficiaries	24,088 beneficiaries	Radical prostatectomy spending			0		B1
		Radiation therapy (EBRT, IMRT, Brachytherapy) spending			0		
		Expectant management (no surgery, radiation treatment within the first 180 days after diagnosis) spending			0		

Table A. Continued

	Authors	Method	Country	Program	Network configuration	Payment model(s)	Flow	Study population
47	(Busch, Huskamp, and McWilliams 2016)	QN	USA	Pioneer, MSSP	Not reported	Global payment + shared savings	To	Medicare beneficiaries ≥ 18 years with mental health illness
48	(McWilliams et al. 2015)	QN	USA	Pioneer	Not reported	Global payment + shared savings	To	Fee-for-service Medicare beneficiaries

Intervention *N*	Control *N*	Indicator	Quality of care	Utilization	Spending	Other	EPOC
Not specified	Not specified	All mental health care spending (Pioneer 2012 performance year / Pioneer 2013 performance year / MSSP 2012 entry cohort / MSSP 2013 entry cohort)			+/0/0/0		B1
		Outpatient mental health care spending (Pioneer 2012 performance year / Pioneer 2013 performance year / MSSP 2012 entry cohort / MSSP 2013 entry cohort)			0/0/0/0		
		ED visits with mental health diagnosis spending (Pioneer 2012 performance year / Pioneer 2013 performance year / MSSP 2012 entry cohort / MSSP 2013 entry cohort)			+/0/0/0		
		Inpatient admissions with mental health diagnosis spending (Pioneer 2012 performance year / Pioneer 2013 performance year / MSSP 2012 entry cohort / MSSP 2013 entry cohort)			+/0/0/0		
		30-day mental health readmissions (Pioneer 2012 performance year / Pioneer 2013 performance year / MSSP 2012 entry cohort / MSSP 2013 entry cohort)	0/0/0/0				
		Outpatient mental health follow-up within 7 days of discharge (Pioneer 2012 performance year / Pioneer 2013 performance year / MSSP 2012 entry cohort / MSSP 2013 entry cohort)	0/0/0/0				
		Identified as having a depressive disorder (Pioneer 2012 performance year / Pioneer 2013 performance year / MSSP 2012 entry cohort / MSSP 2013 entry cohort)	0/0/–/0				
768,054 beneficiary-years	19,152,460 beneficiary-years	Total spending			+		B1
		30-day readmissions	0				
		Hospitalizations for ambulatory-care sensitive conditions		0			
		CHF hospitalizations		0			
		COPD or asthma hospitalizations		0			
		Cardiovascular disease or diabetes hospitalizations		0			
		Screening mammography (for women 65–69 years)		0			
		HbA1C testing		+			
		LDL-C testing		+			
		Diabetic retinal examination		+			

Table A. Continued

	Authors	Method	Country	Program	Network configuration	Payment model(s)	Flow	Study population
49	(McWilliams et al. 2016)	QN	USA	MSSP	Not reported	Global payment + shared savings	To	Fee-for-service Medicare beneficiaries
50	(Lam et al. 2018)	QN	USA	MSSP	Not reported	Global payment + shared savings	To	Medicare FFS beneficiaries ≥ 65 years with cancer

Intervention *N*	Control *N*	Indicator	Quality of care	Utilization	Spending	Other	EPOC
884,810 (2012 cohort) and 1,015,722 beneficiary-years (2013 cohort)	10,924,440 and (2012 cohort) 14,587,259 beneficiary-years (2013 cohort)	Total spending (2012 / 2013 entry cohort)			+/0		B1
		30-day readmissions	0				
		Hospitalizations for ambulatory-care sensitive conditions		0			
		CHF hospitalizations		0			
		COPD or asthma hospitalizations (2012 / 2013 entry cohort)		+/0			
		Cardiovascular disease or diabetes hospitalizations		0			
		Screening mammography (for women 65–69 years)		0			
		HbA1C testing		0			
		LDL-C testing (2012 / 2013 entry cohort)		+/0			
		Diabetic retinal examination (2012 / 2013 entry cohort)		0/+			
		Low-value services provided		0			
388,784 patients	233,296 patients	Lung cancer spending			0		B1
		Hematologic cancer spending			0		
		Gastrointestinal cancer spending			0		
		Breast cancer spending			0		
		Genitourinary cancer spending			0		
		Gynaecologic cancer spending			0		
		Head and neck cancer spending			0		
		Sarcoma spending			0		
		Melanoma spending			0		
		Central nervous system cancer spending			0		
		Metastatic disease (primary unknown) spending			0		
		Total spending			0		
		Inpatient spending			0		
		Outpatient cancer spending			0		
		Physician services spending			0		
		SNF spending			0		
		HHA spending			0		
		Hospice spending			0		
		Radiation therapy spending			0		
		Chemotherapy spending			0		

Table A. Continued

	Authors	Method	Country	Program	Network configuration	Payment model(s)	Flow	Study population
51	(Duggal, Zhang, and Diana 2018)	QN	USA	Pioneer, MSSP	Not reported	Global payment + shared savings	To	ACO-affiliated hospitals
52	(McWilliams et al. 2018)	QN	USA	MSSP	Physician-group ACOs (narrow scope of provided services) and hospital-integrated ACOs (wider scope of provided services)	Global payment + shared savings	To	Fee-for-service Medicare beneficiaries
53	(Modi et al. 2019)	QN	USA	MSSP	Not reported	Global payment + shared savings	To	Medicare part A and B FFS beneficiaries ≥ 66 years undergoing meniscectomy, vertebroplasty or hip fracture procedure
54	(Herrel et al. 2016)	QN	USA	MSSP	Not reported	Global payment + shared savings	To	Patients aged 66 to 99 years that underwent major cancer surgery for nine solid organ cancers
55	(Borza et al. 2018)	QN	USA	MSSP	Not reported	Global payment + shared savings	To	Medicare part A and B FFS beneficiaries ≥ 66 years with prostate cancer
56	(Colla et al. 2016)	QN	USA	Pioneer, MSSP	Not reported	Global payment + shared savings	To	(1) Medicare part A and B FFS beneficiaries and (2) Medicare part A and B FFS beneficiaries ≥ 66 years with multiple clinical conditions (clinically vulnerable)
57	(Resnick, Graves, Thapa, et al. 2018)	QN	USA	MSSP	Not reported	Global payment + shared savings	To	Medicare Part A and B beneficiaries > 65 years

Intervention *N*	Control *N*	Indicator	Quality of care	Utilization	Spending	Other	EPOC
129 Pioneer-affiliated hospitals and 342 MSSP-affiliated hospitals	3,907 hospitals	Heart failure 30-day readmission rate (MSSP / Pioneer)	+/0				B1
		AMI 30-day readmission rate (MSSP / Pioneer)	0/0				
		Pneumonia 30-day readmission rate (MSSP / Pioneer)	0/0				
Hospital-integrated ACOs (132) and physician-group ACOs (203)	Not specified	Physician group ACO spending (2012/13/14 entry cohort)			+/+/+		B1
		Hospital-integrated ACO spending (2012/13/14 entry cohort)			+/0/0		
21,486 meniscectomy, 12,521 vertebroplasty and 13,930 hip fracture patients	54,770 meniscectomy, 32,018 vertebroplasty and 36,830 hip fracture patients	Arthroscopic partial meniscectomy (low-value procedure) use		0			B1
		Vertebroplasty (low-value procedure) use		0			
19,439 patients	365,080 patients	30-day mortality	0				B1
		30-day readmissions	0				
		30-day major complications	0				
		Hospital length of stay	0				
5,065 patients	27,946 patients	Treatment rate in highest mortality risk (overtreatment)		+			B1
		Overall payments			0		
		Payments in highest mortality risk			0		
Not specified	Not specified	Total spending (Pioneer 2012 entry cohort / MSSP 2012 entry cohort / MSSP 2013 entry cohort)			+/+/+		B1
		Spending among clinically vulnerable beneficiaries (Pioneer 2012 entry cohort / MSSP 2012 entry cohort / MSSP 2013 entry cohort)			+/+/+		
13,460,798 person-years	40,010,199 person-years	Breast cancer screening use among appropriate candidates		+			B1
		Colorectal cancer screening use among appropriate candidates		+			
		Prostate cancer screening use among appropriate candidates		0			

Table A. Continued

	Authors	Method	Country	Program	Network configuration	Payment model(s)	Flow	Study population
58	(Schwartz et al. 2015)	QN	USA	Pioneer	Not reported	Global payment + shared savings	To	Medicare Part A and B beneficiaries
59	(McWilliams, Gilstrap, et al. 2017)	QN	USA	MSSP	Not reported	Global payment + shared savings	To	Medicare Part A and B beneficiaries
60	(Markovitz et al. 2019)	QN	USA	MSSP	Not reported	Global payment + shared savings	To	Medicare FFS beneficiaries
61	(Barnett and McWilliams 2018)	QN	USA	MSSP	Not reported	Global payment + shared savings	To	Medicare FFS Part A and B beneficiaries

Intervention *N*	Control *N*	Indicator	Quality of care	Utilization	Spending	Other	EPOC
693,218 person-years	17,453,423 person-years	Total low-value services use		+			B1
		Total low-value services spending			+		
		Cancer screening use		+			
		Testing use		+			
		Preoperative services use		0			
		Imaging use		+			
		Cardiovascular tests and procedures use		+			
		Other invasive procedures use		0			
		Higher-priced low-value services use		0			
		Lower-priced low-value services use		+			
		More patient sensitive low-value services use		+			
		Less patient sensitive low-value services use		+			
Not specified	Not specified	SNF spending (2012/2013/2014 entry cohort)			+/+/0		B1
835,100 beneficiaries	Not reported	Total spending			0		B1
		HbA1C testing (% meeting quality indicator)	0				
		LDL-C testing (% meeting quality indicator)	–				
		Diabetic retinal examination (% meeting quality indicator)	0				
		All 3 diabetes measures (% meeting quality indicator)	0				
		Mammography (% meeting quality indicator)	0				
Not specified	Not specified	All specialist visits in primary care oriented ACOs (2012/2013/2014 entry cohort)		+/0/0			B1
		All specialist visits in specialty oriented ACOs (2012/2013/2014 entry cohort)		0/0/0			
		New specialist visits in primary care oriented ACOs (2012/2013/2014 entry cohort)		+/0/+			
		New specialist visits in specialty oriented ACOs (2012/2013/2014 entry cohort)		0/0/0			

Table A. Continued

	Authors	Method	Country	Program	Network configuration	Payment model(s)	Flow	Study population
62	(McWilliams, Najafzadeh, et al. 2017)	QN	USA	MSSP	Not reported	Global payment + shared savings	To	Medicare FFS Part A, B and D beneficiaries with cardiovascular disease or diabetes
63	(Nyweide et al. 2015)	QN	USA	Pioneer	Not reported	Global payment + shared savings	To	Medicare FFS beneficiaries

Intervention *N*	Control *N*	Indicator	Quality of care	Utilization	Spending	Other	EPOC
Not specified	Not specified	Statin use (2012/2013/2014 entry cohort)		0/0/0			B1
		Statin PDC (2012/2013/2014 entry cohort)		0/0/0			
		ACE inhibitor/ARB use (2012/2013/2014 entry cohort)		0/0/0			
		ACE inhibitor/ARB PDC (2012/2013/2014 entry cohort)		0/0/0			
		-Blockers use (2012/2013/2014 entry cohort)		0/0/0			
		-Blockers PDC (2012/2013/2014 entry cohort)		+/0/0			
		Thiazide diuretics use (2012/2013/2014 entry cohort)		0/+/0			
		Thiazide diuretics PDC (2012/2013/2014 entry cohort)		0/0/0			
		Calcium channel blockers use (2012/2013/2014 entry cohort)		0/0/0			
		Calcium channel blockers PDC (2012/2013/2014 entry cohort)		0/0/0			
		Metformin use (2012/2013/2014 entry cohort)		0/0/0			
		Metformin PDC (2012/2013/2014 entry cohort)		+/+/0			
675,712 beneficiaries in 2012 and 806,258 beneficiaries in 2013	13,203,694 beneficiaries in 2012 and 12,134,154 beneficiaries in 2013	Total Medicare spending (2012/2013 performance year)			+/+		B1
		All inpatient hospital (Part A) spending (2012/2013 performance year)			+/+		
		Physician (Part B) spending (2012/2013 performance year)			+/+		
		Hospital outpatient spending (2012/2013 performance year)			+/0		
		SNF spending (2012/2013 performance year)			+/0		
		Home health spending (2012/2013 performance year)			+/0		
		Hospice spending (2012/2013 performance year)			+/0		
		Durable medical equipment spending (2012/2013 performance year)			+/+		
		Acute care inpatient days (2012/2013 performance year)		+/+			

Table A. Continued

	Authors	Method	Country	Program	Network configuration	Payment model(s)	Flow	Study population
63	(Nyweide et al. 2015)	QN	USA	Pioneer	Not reported	Global payment + shared savings	To	Medicare FFS beneficiaries
64	(Lin, Ortiz, and Boor 2018)	QN	USA	MSSP	Not reported	Global payment + shared savings	To	ACO-affiliated rural health clinics (RHCs)
65	(Colla et al. 2013)	QN	USA	PGPD	Not reported	Global payment + shared savings	To	Medicare FFS beneficiaries with cancer

Intervention *N*	Control *N*	Indicator	Quality of care	Utilization	Spending	Other	EPOC
675,712 beneficiaries in 2012 and 806,258 beneficiaries in 2013	13,203,694 beneficiaries in 2012 and 12,134,154 beneficiaries in 2013	Inpatient admissions through ED (2012/2013 performance year)		+/+			
		IRF or LTC facility days (2012/2013 performance year)		0/+			
		All-cause 30-day readmissions (2012/2013 performance year)	0/0				
		Post discharge physician visits within 7 days (2012/2013 performance year)	+/+				
		Post discharge physician visits within 14 days (2012/2013 performance year)	0/+				
		Post discharge physician visits within 30 days (2012/2013 performance year)	0/0				
		Primary care evaluation and management visits (2012/2013 performance year)		+/+			
		Procedures use (2012/2013 performance year)		+/+			
		Imaging services use (2012/2013 performance year)		+/+			
		Tests use (2012/2013 performance year)		+/+			
		ED visits (2012/2013 performance year)		+/+			
		Observation stays (2012/2013 performance year)		0/–			
		SNF days (2012/2013 performance year)		+/0			
		Home health visits (2012/2013 performance year)		+/0			
		Hospice days (2012/2013 performance year)		+/0			
19 RHCs	484 RHCs	Risk-adjusted diabetes hospitalization rate		0			B2
123,249 beneficiaries	865,532 beneficiaries	Acute care spending			+		B1
		Imaging spending			0		
		Deaths occurring in hospital	0				

Table A. Continued

	Authors	Method	Country	Program	Network configuration	Payment model(s)	Flow	Study population
66	(Lam et al. 2019)	QN	USA	MSSP	Not specified	Global payment + shared savings	To	ACO cancer decedents
67	(Bakre et al. 2020)	QN	USA	MSSP	Not specified	Global payment + shared savings	To	Medicare fee-for-service beneficiaries on long-term dialysis
68	(Modi et al. 2021)	QN	USA	MSSP	Not specified	Global payment + shared savings	To	ACO hospitals

Intervention *N*	Control *N*	Indicator	Quality of care	Utilization	Spending	Other	EPOC
12,248 patients	12,248 patients	Total spending			0		B1
		Inpatient spending			0		
		Outpatient spending			0		
		Physician services spending			0		
		SNF spending			0		
		Home health spending			0		
		Hospice spending			0		
		Radiation therapy spending			0		
		Chemotherapy spending			0		
		≥1 Emergency room visits (180 days/30 days prior to death)		0/0			
		≥1 Inpatient hospitalizations (180 days/30 days prior to death)		–/0			
		≥1 ICU admission (180 days/30 days prior to death)		0/0			
26,694 patients	167,817 patients	Total spending			+		B1
707 hospitals	1,770 hospitals	AAA treatment rate		0			B1
		AVR treatment rate		0			
		Carotid endarterectomy / stent treatment rate		0			
		Colectomy treatment rate		0			
		Lung lobectomy treatment rate		0			
		Prostatectomy treatment rate		0			
		Proportion of AAA surgery using EVAR				0	
		Proportion of AVR using TAVR				0	
		Proportion of carotid surgery using stenting				0	
		Proportion of colectomy surgery using minimally invasive approach				0	
		Proportion of lobectomy surgery using minimally invasive approach				0	
		Proportion of prostatectomy using minimally invasive approach				0	

Table A. Continued

	Authors	Method	Country	Program	Network configuration	Payment model(s)	Flow	Study population
69	(Chang et al. 2021)	QN	USA	MSSP	Not specified	Global payment + shared savings	To	Long-term nursing home Medicare fee-for-service beneficiaries
70	(Erfani et al. 2021)	QN	USA	Medicare ACO	Not specified	Global payment + shared savings	To	Medicare fee-for-service beneficiaries aged 65 years or older with cancer
71	(Acevedo et al. 2021)	QN	USA	MSSP	Not specified	Global payment + shared savings	To	Medicare beneficiaries
72	(Lee et al. 2020)	QN	USA	MSSP	Not specified	Global payment + shared savings	To	Vulnerable ACO beneficiaries in physician group panels

3. This study has also stratified post-hoc for ethnicity/disparity

Intervention *N*	Control *N*	Indicator	Quality of care	Utilization	Spending	Other	EPOC
121,690 patients	121,690 patients	Evaluation & management visits		0			B2
		Proportion of evaluation & management visits to primary care physicians		+			
		Total admissions		+			
		ACSC admissions		+			
		30-day readmissions		0			
		Observation stays		0			
		ED visits		+			
		Total spending			0		
517,623 patients	348,909 patients	Lung cancer spending			0		B1
		Hematologic cancer spending			0		
		Gastrointestinal cancer spending			0		
		Breast cancer spending			0		
		Genitourinary cancer spending			0		
		Gynaecologic cancer spending			0		
		Head and neck cancer spending			0		
		Sarcoma spending			0		
		Melanoma spending			0		
		Central nervous system cancer spending			0		
		Metastatic disease (primary unknown) spending			0		
853,953 patients with disability (D) and 2,917,299 patients aged 65 years or older[3] (65)	1,675,928 and 5,492,387 patients	Any outpatient mental health visits (D/65)		+/–			B1
		Any outpatient substance use visits (D/65)		+/0			
		Any inpatient mental health stays (D/65)		+/+			
		Any inpatient substance use stays (D/65)		+/0			
		Number of inpatient mental health visits (D/65)		+/+			
		Number of inpatient substance use visits (D/65)		0/–			
		Adequate care for patients with depression (D/65)	–/–				
1,024,833 patients	2,912,043 patients	Proportion of black patients				0	B1
		Proportion of patients that are dually enrolled in Medicare and Medicaid				0	
		Proportion of patients that live in areas with higher poverty rates				0	
		Proportion of patients that live in areas with higher unemployment rates				0	

Table A. Continued

	Authors	Method	Country	Program	Network configuration	Payment model(s)	Flow	Study population
73	(McWilliams et al. 2020)	QN	USA	MSSP	Not specified	Global payment + shared savings	To	ACOs across different entry cohorts
74	(Zhang et al. 2019)	QN	USA	Commercial ACO	HMO, large independent practice association of physicians and hospital system	Global payment + shared savings	To	Enrolled members of commercial HMO
75	(Zhang et al. 2021)	QN	USA	Commercial ACO	HMO, large independent practice association of physicians and hospital system	Global payment + shared savings	To	Enrolled members of commercial HMO

Intervention *N*	Control *N*	Indicator	Quality of care	Utilization	Spending	Other	EPOC
114 ACOs (2012 entry cohort), 106 (2013), 115 (2014)	Not specified	Spending (2012 entry cohort) (2013/14/15)			0/+/+		B1
		Spending (2013 entry cohort) (2013/14/15)			0/+/+		
		Spending (2014 entry cohort) (2014/15)			0/0		
40,483 patients	20,275 patients	Inpatient and outpatient payments (2010/11/12/13/14)			–/–/0/0/0		B1
		PCP visits (2010/11/12/13/14)		0/0/0/–/–			
		Specialist visits (2010/11/12/13/14)		–/–/–/–/–			
		ED visits (2010/11/12/13/14)		0/0/–/0/0			
		Inpatient admissions (2010/11/12/13/14)		0/0/0/0/–			
		30-day readmissions (2010/11/12/13/14)	0/0/0/0/0				
		Breast cancer screening (2010/11/12/13/14)		0/0/0/+/+			
		Cervical cancer screening (2010/11/12/13/14)		0/0/0/+/+			
		Colorectal cancer screening (2010/11/12/13/14)		0/0/0/+/+			
		HPV vaccine (2010/11/12/13/14)	0/0/0/0/+				
		Immunizations (combination 1) (2010/11/12/13/14)	+/0/+/0/+				
		Meningococcal immunizations	+/0/+/0/+				
		Td/Tdap immunizations	0/0/0/0/0				
		HbA1c testing		0/0/0/0/0			
		Medical attention for nephropathy		0/0/0/0/+			
11,958 patients	20,275 patients	Generic drug use (2010/11/12/13/14)		0/0/0/0/0			B1
		Generic drug spending (2010/11/12/13/14)			0/+/0/0/0		
		Brand drug use (2010/11/12/13/14)		0/0/0/0/0			
		Brand drug spending (2010/11/12/13/14)			0/0/0/0/0		
		Total prescription drug use (2010/11/12/13/14)		0/0/+/+/0			
		Total prescription drug spending (2010/11/12/13/14)			0/0/0/0/0		
		Medication adherence (2010/11/12/13/14)	–/–/–/0/0				

Table A. Continued

	Authors	Method	Country	Program	Network configuration	Payment model(s)	Flow	Study population
76	(Marrufo et al. 2020)	QN	USA	ESRD Seamless Care Organization (ESCO)	Dialysis facilities, nephrologists, and other providers	Global payment + shared savings	To	Medicare fee-for-service beneficiaries

Abbreviations: HMO, Health Maintenance Organization; GP, general practitioner; ED, emergency department; HbA1C, average blood glucose levels for last two to three months; LDL(-C), low-density lipoprotein (cholesterol); SUD, substance use disorder; P4P, Pay-for-performance; SNF, skilled nursing facility; AMI, acute myocardial infarction; COPD, chronic obstructive pulmonary disease; CHF, congestive heart failure; ICU, intensive care unit; IRF, inpatient rehabilitation facility; HHA, home health agency; LTC, long-term care; AAA, abdominal aortic aneurysm; CABG, coronary artery bypass grafting; ACO, Accountable Care Organization; FFS, fee-for-service; DMP, disease management program. SBI; Screening and Brief Intervention (for SUD); PDC, proportion of days covered; ESRD, end stage renal disease; AVR, aortic valve replacement; MSSP, Medicare Shared Savings Program; AQC, Alternative Quality Contract; PGPD, Physician Group Practice Demonstration

Intervention *N*	Control *N*	Indicator	Quality of care	Utilization	Spending	Other	EPOC
73,094 beneficiaries	60,464 beneficiaries	Radiation therapy use (180 days/30 days prior to death)		0/0			B1
		Chemotherapy use (180 days/30 days prior to death)		0/0			
		Hospice use (180 days/30 days prior to death)		0/0			
		ESRD hospitalization complications payment			+		
		Total dialysis payment			–		
		Hospitalizations		+			
		Readmissions		0			
		ED visits		0			
		Emergency dialysis		0			
		Dialysis sessions		+			
		Catheter placement	+				
		Vascular access complications	0				

In popular and scholarly discourse, consensus exists that current payment models for health and social care have drawbacks that prevent health and care systems from addressing issues of accessibility, affordability, and quality. The current fragmented and layered patchwork of payment models and funding streams poses challenges for the integration of health and social care and the implementation of (intersectoral) innovations that aim to improve quality. These developments call for a rethinking of how health and social care are paid for and funded. The current body of literature is dominated by descriptive and prescriptive studies on APMs, rather than the processual or relational aspects of its implementation. It is important to address this gap, as studies indicate that implementing and experimenting with APMs is cumbersome.

This thesis shows that issues of power, status, autonomy (both professional and organizational), and diverging interests and goals of purchasers, provider organizations, and professionals should be considered during implementation. Case studies illuminate how both purchasers and providers engage in pilots to experiment with alternative payment and funding models. They show how institutions both enable and constrain the implementation of APMs. The co-existence of traditional and alternative payment models allows actors to fall back on traditional, established payment and funding structures that are still legitimate. Yet, actors exercise some degree of agency to shape the boundaries and institutions that underlie and influence payment models. However, with fading urgency – and faced with structural constraints – actors fall back on institutionalized practices and routines to maintain current models.