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Een studie naar innovatie en de governance van innovatie in de zorgpraktijk

Proefschrift

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CHAPTER 1

Introduction: Healthcare innovation and questions on governance

"We say 'The wind is blowing', as if the wind were actually a thing at rest which, at a given point in time, begins to move and blow. We speak as if the wind were separate from its blowing, as if a wind could exist which did not blow" (Elias 1978: 112).

ON HEALTHCARE INNOVATION

> *"Meet Adam, now almost five years old, and a former patient of ours," is the first thing I hear when the meeting starts. It is Wednesday morning, November 6, 2013 and I'm in a university hospital attending a meeting during my days of observation in neonatology care. A neonatologist chairs this meeting, known as the 'case of the week'. Adam appears on screen again in a short clip of him visiting the outpatient clinic. He struggles to walk a few meters from a door to a desk. It is immediately clear that Adam has problems doing apparently easy tasks, due to what appears to be a combination of cognitive and physical problems. I'm struggling with what I see, as I'm not a trained medical doctor. I'm not sure what the aim of showing this clip is. However, it sinks in slowly when I look at the others in the room. I see surprise, laughter even, and listening to what people are whispering to each other I realize I've seen something probably remarkable. Everybody says how unbelievable it is to see Adam like this. He's walking and using both arms! Then the neonatologist confirms this impression and explains it is indeed remarkable that Adam is doing so well given his diagnosis right after birth." (Observation notes, University Hospital, November 6, 2015)*

Only later on did I realize how typical this moment of observation was for the way healthcare innovation is studied in this thesis. Innovation can be about apparently small, yet crucial, changes and adaptations to existing ways of working and doing. These innovations are made in practice. The example above illustrates that – although still severely handicapped – Adam was doing better than had been expected at the time of his birth, partly due to the innovative treatment he received.

Adam was treated not only by medical specialists and nurses, but also by a new healthcare professional – the physician assistant. Later in his development he received an innovative treatment known as the 'pirate group', a method that teaches children to use their underdeveloped arm properly.[1] These two examples may seem relatively modest innovations and at first sight not in line with what people think about when the topic of innovation is brought up. Often, innovation is considered a synonym for high-tech, radically new technologies or treatments. Adam's example, however, shows that healthcare innovation is about incremental innovation in addition to the more appealing fundamental or radical innovation that shakes existing foundations (Garud & Rappa, 1994). Healthcare innovation can take many forms, e.g. new drugs, treatments, technology and training, management and education plans. The importance of innovation for practice is not determined by promises or their radical character but – as I will argue in this study – by how they are given meaning and how they result in valuable outcomes in practice. Incremental innovations are certainly not uninteresting or inconsequential; they too have the potential to enhance the quality of care (Dixon-Woods et al., 2011; Hernes, 2014). On a more practical level, significant valuable health care improvements can be achieved by practitioners working on incremental, maybe less-appealing and practice-driven change processes, which may not be disruptive or the immediate cause of radical change, but which still have a significant impact on the practice of care delivery and its outcomes (Essén & Lindblad, 2013). This makes the observation at the beginning of this Introduction illustrative for innovation, but especially for innovation processes in a public sector such as healthcare.

Studying innovation in healthcare – as this research does – is interesting because the attitude toward innovation in healthcare may be different from that in private sectors (Rathenau, 2009). As innovation involves failure and risk, the desirability of innovation in a sector where peoples'

[1] I first encountered this treatment well before my time in the neonatology department, while I was doing another research project in rehabilitation care. These two PhD projects, unrelated in time and place, converged in this example years later.

lives depend on the reliability of service provision may be questionable. People tend to be cautious toward innovation in a public sector such as healthcare, even while healthcare practice is full of technological, organizational and social innovations. In public sectors such as healthcare, the way services are provided depends on the interactions among many actors, such as patients, payers, providers, suppliers and policy makers. This variety of actors ensures that multiple public and private logics and a wide variety of interests and values are at play (Meurs & van der Grinten, 2005; Witman et al., 2011; Thakur et al., 2012). This multiplicity and variety makes healthcare get seen as a hybrid sector (Putters, 2009; Bal & Zuiderent-Jerak, 2011). Its hybridity means that actors in healthcare may hold on to different views of innovation and each has their respective motives and resources. The evaluation of an innovation's success is bound to be relatively varied as a consequence. Depending on which actor is asked, a different image emerges of whether, how and to what extent public and private logics and interests are compatible (Mulgan et al., 2007). This multi-actor context and the fact that healthcare is about delivering delicate services with a great impact on people's lives makes healthcare an interesting sector in which to study innovation. Within this sector ideas on innovation are characterized by an innovation logic.

THE INNOVATION LOGIC

The thoughts on the observation at the start of this Introduction illustrate what is described here as the innovation logic – an idea or overall collection of assumptions on innovation that currently dominates the thinking about and understanding of healthcare innovation practice and policy. It captures three main elements.

First and foremost, innovation often seems to be about specific kinds of innovations only: the technological ones. Although literature provides different definitions and categorizations of innovation – from incremental to radical; from technological to social and from product to process – innovation is often automatically related to technology. Sometimes,

the word innovation is even used as synonym for new technologies. Ever since the work of Schumpeter (1883-1950) – commonly referred to as the founding father of innovation sciences[2] – innovation scholars have defined innovation by contrasting it with the notion of invention. Although what innovation exactly is, other than 'not an invention', can be worked out in various ways, a technological conceptualization of innovation is what tends to prevail in public and scientific debates. Even though some studies particularly focus on the analysis of social innovation (Mulgan et al., 2007), often promising technological fields such as nanotechnology or personalized medicine, are automatically and easily linked to debates on healthcare innovation (Van Lente & Rip, 2011; Van Lente & Bos, 2014). As a consequence, most attention tends to go to technological innovations, the 'boys toys', to radical and manufacturing innovations (Castellacci et al., 2005). This leaves other forms of innovation – those not involving much research and development or organizational, institutional, behavioral or practical innovations – relatively unnoticed or neglected in scientific and public debates on healthcare innovation (Martin, 2012a; 2012b; Turnheim, 2015). Sometimes, when these non-technological innovations are mentioned, they are not recognized for their value in their own right. In these cases, social and process innovations are considered to be supportive for the implementation of technological innovations only (Tweede Kamer, 2015a).

Second, partly caused by the automatic reference to high-tech technologies, debates on innovation are generally characterized by high hopes. Innovation has become a 'hurrah word'. It is considered uniformly positive, inherently good and it usually expresses unqualified praise (Dixon-Woods et al., 2011; Thomas & Morgan, 2013).This faith in the inherent goodness of innovation manifests itself in defini-

[2] Schumpeter was in a sense a great innovator himself. He was not the first to use the notion of 'innovation' (Mensink, 2011). However, he was the first to position it successfully as a conceptual construct in established fields of science and policy. In creating this position and becoming known as the founder of innovation science he proved the very value of the notion of innovation.

tions of innovation: "*Those changes in healthcare which enable care professionals to work smarter, faster, better, more cost-efficient and patient-centered*" (Thakur et al., 2012: 565). Because the effects of an innovation on practice are in the future, they form fertile grounds for grandiose promises (Van Lente et al., 2013; Pols & Willems, 2011). As a result, innovation tends to be presented as the pre-eminent solution to many of the major problems our society, economies and healthcare systems currently face. As such, the high hopes have resulted in an expressed need for innovation and almost unlimited expectations of what innovation could bring about (Van Lente, 2010a, Van Lente, 2010b). President of the United States, Barack Obama mentioned it explicitly in his State of the Union speech of 2014: "*We know that the nation that goes all-in on innovation today will own the global economy tomorrow*" (Obama, 2014). Dutch politicians also tend to stress the need for innovation, saying that innovation is a must considering the promises it holds for economic growth, employment rates, and the economic situation in terms of both competition and solutions for the big challenges of our time (e.g. Rutte, 2014). Innovation is thus not only presented as inherently good for the future of our economic system but also for societal challenges (Moors, 2013; Cuijpers, & Van Lente, 2015). Innovation is believed to play a decisive role in attempts to enhance the sustainability of our healthcare system and counteract challenges to the affordability of care, such as the ever-rising demand and ever-decreasing resources (Mulgan, et al., 2007; Bosley & Dale, 2008). Bolstered by the promised benefits of innovation – or by a felt need to claim more than might actually be delivered when faced with resistance or opposition during an innovation process – people tend to easily accept this high hopes connotation (Pols & Willems, 2011; Rip & Joly, 2012). In sum, the innovation logic describes innovation as inherently good, as something with only positive connotations. This positive discourse surrounding innovation is also evident in innovation policy. For example, policy documents describe how innovations – product, process, social, technological, regulative, financial, educational and systemic – are key in findings ways to solve the complex problems our societies currently face (Mensink, 2011; Tweede Kamer, 2015b).

Third, the innovation logic presents itself not just as a conceptual idea, as explained so far, but also in the way innovation policy is developed and in how it conceptualizes innovation processes. Ever since the beginning of the 21st century 'innovation' is a topic of interest for policy makers, especially in healthcare which has built a strong tradition in developing policy and policy instruments for innovation (Putters, 2009; Mensink, 2011; Velzing, 2013). However, much innovation policy and the debates surrounding it, reflect an understanding of innovation that is characterized by a specific line of reasoning built on a basic idea of linearity (Dolphin & Nash, 2012). It reasons from clear distinctions between phases of the development of an innovation and its diffusion. Illustrative for this are the many attempts to develop best practices through programs that provide support to innovative developments in different contexts:

> *"I (the state secretary) suggest starting a new four-year innovation policy program and I ask providers who have the ambition to become a best practice to participate…[..]… They will receive support in developing the desired improvements…so that a new standard can be developed in a very brief period of time" (Tweede Kamer, 2015a).*

This quotation by Martin van Rijn, Dutch State Secretary of Health illustrates the belief that programs are the most suitable way to get actors to develop and use innovations in practice. This kind of policy is aimed at finding new standards and best practices that can be introduced and 'scaled up' with relative ease after their development within an innovation program (Mulgan et al., 2007; Tweede Kamer, 2015b). As this study will show, however, programs are never normatively neutral policy instruments, nor do they just provide passive contexts to innovation. Classical literature on governance (e.g. Lindblom, 1959; Rhodes, 1997) and especially work on network governance (e.g. Provan & Kenis, 2008) and tentative governance (e.g. Kuhlmann et al., 2012) has shown that policy instruments are never neutral and that policy is just one element in a complex social world with a multitude of actors and institutions. However, best practice thinking is still prominent in innovation policy, research and practice. For example, policy makers often see research

and development (R&D) as the main driver or 'life-blood' of innovation (Dolphin & Nash, 2012) as it is assumed that scientific and technological knowledge needs to be exploited to come up with innovations. In research, studies suggest ordered and sequential models for 'optimal implementation processes' of innovations in terms of managerial support or funding, for example (Essén & Lindblad, 2013). From research into successful innovation projects, these studies contain the lessons learned, some standard ways of working and descriptions of fixed sequences of linear innovation processes for others to learn from and use. In practice, many guidelines for innovation describe how innovations can, or should be, developed, introduced and scaled up. Often, these guidelines are based on research that only identifies lists of stimulants and barriers for innovation (RVZ, 2001; ZVI, 2013; OMS, 2014). The next section explains the consequences of the innovation logic with its emphasis on technological innovations, its belief in the inherent goodness of innovation and its description of linear innovation processes.

CONSEQUENCES OF THE INNOVATION LOGIC

Despite the former critical remarks, much good has come out of innovation processes in healthcare. A strong belief in the positive effects of innovation has resulted in countless valuable treatments and technologies for healthcare practice. Many medical and care innovations have increased the quality of care for many patients all over the world. However valuable, the described innovation logic also comes with other, slightly negative, effects. Three of them are described below.

First, the innovation logic comes with high hopes, but also with deep disappointment. Although there is nothing wrong with having high hopes – a belief in the potential good of an innovation may be what sets innovation processes in motion when there is nothing else than a belief in what is possible (Garud & Rappa, 1994) – it can bring disappointment as well, especially when expectations and outcomes are not in line (Van Lente 2010a, Van Lente et al., 2013). An unlimited belief in the benefits of innovation partly conceals the fact that innovation

projects sometimes lead to negative outcomes. History provides ample examples of new technologies and other innovations that had serious negative consequences (van den Hoven, 2014). For example, it is known that technological innovations especially, can increase the cost of services and lead to a medicalization of care (Rathenau, 2009). Also, innovations may have unpredictable results and may not always deliver the promised value, caused by, for example, uncontrollable dynamics or unexpected behavior of actors (Propp & Moors, 2009; Pols, 2012). Even more so, a majority of healthcare innovations may fail to have a sustained impact as it appears to be rather difficult to achieve long-term effects or improvement (Becker et al, 2000; Greenhalgh et al., 2004; Länsisalmi et al., 2006; Essén & Lindblad, 2013). Arguing that innovations need to, or will, simultaneously reduce costs and improve care may be one reason why many potentially valuable but costly innovations will not see the light of day. The innovation logic may conceal the fact that innovation sometimes develops more slowly than expected – as is the case with personalized medicine; that hype/disappointments cycles exist – as is the case with nanotechnology or that there is also unforeseen rapid diffusion or uptake of dubious innovations – as is the case with the Da Vinci robot (Broeders & Ruurda, 2001; Zorn et al., 2007; Dixon-Woods et al., 2011; Abrishami et al., 2014; Turnheim et al., 2015). So, while some innovations with yet unproven value diffuse rapidly, others with high potential show a slow uptake in practice. Both the rapid diffusion of non-valuable innovations and the failed attempts to develop valuable innovations may lead to disappointments or even damaging effects for care outcomes and patients (Tymstra, 1989; Dixon-Woods et al., 2011; OMS, 2014). The innovation logic tends not to recognize that innovations – although holding promise – also come with insecurities, risks and new problems. As such, the promise of innovation tends to remain immune to criticism, especially in political debates and policy (Dixon-Woods et al., 2011; Rip, 2012). Innovative successes tend to be ascribed to the 'force' of the promise whereas failure is seen as the direct consequence of wrong choices, behavior or practical circumstances. In sum, the innovation logic, however valuable it may be, tends to underemphasize the potential risks and downsides of healthcare innovation processes.

A second negative effect of the innovation logic and its inherent emphasis on the goodness of innovation is that it tends to neglect the normativity of innovations. As it is hard to argue against the premise 'the newer, the better', critical reflection is often limited, whereas I believe that reflection on the normative value of innovations is actually of great importance. Although not always recognized, normative issues are connected to innovation and thus need to be accepted, asked about or dealt with (Mensink, 2011; Pols, 2012). Innovations are normative as they stand for ideas about 'what ought to be'. Innovation may cause changes in structure, power relations, values and ways of working, which is why it asks for reflection on the desirability of those changes (Dwarswaard & van de Bovenkamp, 2015). Especially in sectors such as healthcare, *the* public value is not always unequivocal. Hence, reflection is desirable to critically review the relevance and value of innovations (Turnheim et al., 2015).

Third, the innovation logic and its reference to best practices assumes that innovations can be implemented and scaled up with relative ease when certain conditions are set right. However, experience shows that in actual work practices, innovation is different from what is normally described in popular handbooks on innovation. Innovation appears to be messier, more diverse, dynamic and situational than the dominant discourse suggests (Sevón, 1996; Szulanski, 1996; Kuipers et al., 2014). Thinking about the passive reproduction or diffusion of innovations tends to neglect the fact that they actually do things in practice (Pols, 2012; Kuipers et al., 2014). Here it is argued, however, that innovations are objects that do things in practice, something that makes them deserve and require further study. Many analyses of how innovations diffuse have led to the identification of ample stimulants and barriers for innovation – like 'culture', 'competition', 'technology', 'organizational characteristics', 'leadership' and 'market environment' – and to attempts that measure an innovation's effect or those that develop a practical guideline for innovation (Mulgan et al., 2007; Thakur et al., 2012). Although valuable and maybe useful for practice, these attempts often contain contradicting messages on how to be innovative and how to organize for innovation (Oke, 2004; Van Dijk

et al., 2011). For example, they argue for simultaneous flexibility and efficiency and for clear guiding principles and room to experiment (Quinn 1985; Dougherty 1992). In the process, they seem to imply that the innovations themselves do not fully matter, as if they are not processes or actors themselves in processes of innovation (Pols, 2012; Hernes, 2014). Therefore, it is argued here that thinking in terms of the diffusion of best practices does little to further the understanding of innovation, even though this may be useful or beneficial for the actors involved. Basically, the innovation logic expresses a belief in a rather unproblematic nature of innovation and its smooth implementation. In contrast with the innovation logic, this study will show that ethnographic research into innovation practices can show a different reality, in which processes of innovations gain another meaning.

Taken together, these three effects show that the innovation logic does not automatically lead to an increased understanding of innovation. What innovations are, what they do, how they influence practice and how the effects are enacted by those involved in innovation processes in healthcare remains underexplored with the dominant logic. So, although it contributed much to several improvements in healthcare, the innovation logic comes with disadvantages as well. The preference for technology, the dominant premise 'the newer, the better' and the belief in a strategy of planned innovation, find their origin in the supposed ability to control stimulants, conditions and barriers for innovation. A consequence is that certain innovations, the potential risks and downsides of innovation and the way value for innovation is created are left unnoticed. In an attempt to prevent the debate on innovation getting stuck between hope and disappointments – or between expressed need and high expectations – this study develops an alternative approach that could unpack innovation processes further and may assist in acquiring an enhanced understanding of healthcare innovation processes. This alternative could offer additional opportunities, places and directions for future innovation processes, innovation policy and research on innovation in healthcare.

The innovation logic and its consequences as described above, raise questions on how innovation can be managed and organized in practice. On the one hand there seems to be a strong desire to stimulate and enhance innovation practices by providing room for creativity, novelty and the development of innovations. On the other hand, however, there is a great desire to get grip on or control over those same innovative developments (Rathenau, 2009). Especially politicians and policy makers are pleased when innovations contribute to the quality of care or when outcomes serve and advance public values. These issues are in essence questions on the governance of innovation.

The notion of governance entails quite a complex process for which a myriad of theoretical definitions is available. The attractiveness of the governance concept lies in the fact that it differs from the notion of management as it links management more directly to other notions such as policy, responsibility, legitimacy, stakeholder engagement and accountability (Bovaird & Löffler, 2009). Governance literally means 'the act of governing', but it is generally used to describe a shift from a central governing actor (the government) to a more dispersed networked way of organizing in which many actors bear responsibility (Rhodes, 1997; Rhodes, 2007; Stoopendaal & van de Bovenkamp, 2015). Studies into governance, for example, analyze how regulation, supervision, guidelines, performance indicators, policy initiatives and innovation programs are developed and work in practice (Bovaird & Löffler, 2009).

Used in a healthcare innovation context, governance refers to the way it is tried to ensure that innovation policies and practices of all kinds of actors result in beneficial outcomes (Bovaird & Löffler, 2009). The interesting question here is not just how to stimulate innovation, but also to find proper ways to monitor, influence and intervene in the way innovations contribute to the public values of quality, affordability and accessibility. As many actors together bear the responsibility for these values, governance refers here to the collection of ways which are used

to stimulate and organize innovation in and between organizations, and on a policy level. It deals with such topics as what instruments, knowledge and positions of actors are in play, and how these influence healthcare practice.

This study combines these notions of 'governance' and 'innovation' and analyzes how they relate in practice. At first sight, the very notion of governance seems at odds with innovation as one could ask whether it is at all possible to govern innovation. Can innovation be considered manageable? Is it possible at all to make innovation processes governable? And if so, how? To complicate things further, when healthcare innovation itself is understood as a highly complex undertaking, to what extent can innovation be planned or encouraged in a sector with a wide range of actors present (Mowles, 2013)? These kinds of questions have fascinated me ever since the start of my research into innovation and they find their origin in a paradox that in this study I call 'the governance struggle of healthcare innovation'. From earlier studies it is known that innovations may spring to life in extraordinary ways, as unintended results or even as surprises sometimes (Garud et al., 2011). Innovation processes tend to be messy, unpredictable and uncertain as they – surrounded by uncertainties and a non-linear cycle of activities – are often cumulative and take place in collective processes (Castellacci et al., 2005; Mulgan et al., 2007). Given what is known about innovation, it is not at all easy to influence, manage, structure or steer innovation processes with their inherent uncertainty. Several attempts are, however, made to do so. This leads to a paradoxical situation with on the one hand a strong desire and a collection of attempts by governments, healthcare insurers and managers etc. to organize, structure, steer and enhance innovation processes through programs, procedures and structures, and on the other hand, the knowledge that innovation processes are often creative, chaotic and evolve unpredictably. This study argues that the inherent paradoxical relation between innovation and governance demands further exploration. The rationalized ways of steering and management on the one hand, and knowledge of the dynamic character of innovation processes on the other, ask for other approaches and strategies to deal with this

struggle of the governance of healthcare innovation. Especially when innovation is no longer considered inherently good, questions on the governance of innovation become even more relevant and important, yet, still not easy to answer.

To explore the seemingly paradoxical relation between 'governance' and 'innovation', this study focuses on actual innovation processes in a healthcare context. An important aim of this study is to learn lessons on how governance of innovation can work so that new directions and room for innovation can be created in future practices. Formulating these lessons requires a framework to assess the dynamics of innovation processes in practice. An enhanced understanding of what innovation is, how it is organized and how value for innovation is created is believed to add insights to the current understanding of innovation, and to deliver input for findings ways to deal with the struggle of innovation governance.

RESEARCH QUESTIONS

As an important aim of this study is to learn lessons on how innovation processes can be guided, organized, stimulated and possibly steered – based on an enhanced understanding of innovation – the main research question of this study is:

How are healthcare innovations enacted in practice, and what can be learned from such an understanding about the governance of processes of innovation?

This study ought to be read as a quest for insights into innovation to be able to learn lessons for innovation governance. It will seek to answer the main research question on innovation and governance by first taking a step back. It will analyze both conceptually and empirically innovation practices according to three fundamental research questions on innovation.

What is healthcare innovation, considered from practices of innovation? Before the act of the governance of innovation can be better understood, we need to further the understanding of innovation itself. *What* exactly is being governed? To avoid ignoring the most obvious question, this study first clarifies what healthcare innovation *is*. With a wide range of existing disciplines that study innovation, current definitions vary widely. It is far from a clear-cut concept. Instead of defining innovation beforehand, this study analyses what the notion of innovation entails and means for those working on it in practice. Doing this enables an exploration of how innovation is conceptualized and enacted by those involved in specific practices and as a result, this study can offer an empirically grounded conceptual understanding of innovation (Schön, 1983).

How do innovation processes evolve and what role do actors play in such processes? Despite the vast variety of scholars' recommendations on conditions, stimulants and barriers for innovation, being innovative is not an easy endeavor (Berwick, 2003). To learn about the governance of innovation, this study makes the way innovations emerge, come about or are enacted in practice the subject of study. As such, it aligns with studies that not only analyze innovations, but also the interactions between technology, social processes and institutional contexts (Garud & Rappa, 1994). By looking into innovation practices, this study aims to learn empirically and conceptually how innovations are, rather than should be, enacted. This also leads to insights into the roles various actors play in processes of innovation in healthcare.

How does an innovation's value gets constructed in practice? In addition to insights into what innovation is and how it is organized, this study aims to obtain an enhanced understanding of an innovation's normativity. To engage with the topic of normativity, this study empirically explores what counts as 'good innovation'. As it is almost impossible or undesirable to claim that an innovation is always good in itself, no blueprint for determining an innovation's value will be developed. Rather, this study focuses on how value comes into being, is created

or enacted, negotiated and agreed upon in practice in processes of innovation.

To develop an understanding of innovation and its governance this study explores, and aims to answer, these three fundamental questions on innovation. Insights into what healthcare innovation is, how it is organized and how its value is created, all contribute to an enhanced understanding of innovation processes and their governance in practice. This study is not unique in its efforts to answer these kinds of questions on innovation, but it is unique in its specific multidisciplinary, empirical and conceptual approach. Five case studies in different subfields of healthcare – ranging from studies in long-term elderly care to neonatology care – are used for the analysis. Theoretically, this analysis draws on four theoretical paradigms for insights from process studies, institutional theory and science & technology studies are used in combination with the field of innovation studies.

A MULTIDISCIPLINARY THEORETICAL FRAMEWORK

Given this study's focus on healthcare innovation, it is quite obvious one should look at what is already known about it in literature on innovation; that is "*in so far as it is possible to 'know' a complex and uncertain phenomenon like innovation*" (Rip, 2012: 158). Innovation has been an object of study for over 50 years in various scientific disciplines. Ever since its birth, 'innovation studies' has been positioned and recognized as a distinct scientific discipline (Fagerberg & Verspagen, 2009; Rip, 2012; Mensink, 2011). Its literature contains valuable insights into innovation processes, also in healthcare. Some of these insights are described below, followed by explanations for each of the other three disciplines (process theory, institutional theory and science & technology studies) on how they supplement and contribute separately and together to this study's aims of enhancing the understanding of innovation and its governance in healthcare.

Insights from innovation studies

Innovation studies is a scientific discipline at the crossroads of sociological, technological, economic and policy studies (Smits, 2002). It is considered to be a more or less robust body of knowledge that discusses the nature of innovation and innovation processes.[3] Debates on the status of the field as unique discipline are ongoing, as some scholars argue that it is still far from a settled science or theoretical bastion (Smits, 2002). Independent of what position one picks in this debate, it can be said with certainty that this field has contributed much to the current understanding of innovation processes in sectors such as healthcare.

Within the innovation studies literature, scholars have defined innovation in many different ways, ranging from broad generalizations to highly specific or technological ones. What many definitions have in common is a reference to 'novelty', to something new. In addition to defining innovation, the field also contributes insights into processes of innovation. For example, innovation studies has introduced, and later criticized and repudiated, the 'linear model of innovation'. This model describes innovation as a rather straightforward and standard process in which science leads to technology, which leads to goods and services that users will adopt. It sees innovation as something coming from research & development that diffuses and finally gets implemented easily in practice (Mensink, 2011). This model has been criticized for being too simplistic and incorrect in its use of theories on diffusion (Rogers, 2010; Bozeman & Sarewitz, 2011; Martin, 2012a; 2012b). Later on, scholars argued that the model fails to account for social factors – such as market factors and social demands – that also shape innovation.

[3] The scientific community of innovation studies is enormous: it consists of thousands of scholars who are using insights from over 20 theoretical frames (such as economics, policy & management sciences, organization studies, sociology, and STS) to study innovation in various sectors and publish results in over 50 peer-reviewed journals (Pettigrew, 1985; Fagerberg & Verspagen, 2009; Martin 2012a). The field shows great richness and heterogeneity in concepts used, approaches, and results (Castellacci et al., 2005; Lundvall, 2007). The field has profoundly enhanced the understanding of innovation, the way it comes into being, works and leads to effects (Pols, 2012).

As a reaction to the linear model, the notion of 'innovation systems' saw the light of day. This line of theory describes how the system in which an innovation is developed is the main explanatory factor for the diffusion of innovations. Innovation was no longer conceptualized as a mechanical process but as an inter-related whole in which an innovation interacts with its systemic context (Edquist, 1997; Fagerberg, 2003). With the rise of system thinking, attention for the role of actors increased. For example, entrepreneurs were seen as an important source of, and drivers for, innovation in systemic contexts under the influence of several more systemic conditions (Dolphin & Nash, 2012). Thinking in terms of innovation systems made that it was no longer considered sufficient to analyze innovations in a vacuum. The interactions and entanglements with the system needed to be considered as well to gain a better grip on changing actors, technologies, organizations, logics, norms and habits related to an innovative development (Landry et al., 2002; Rip, 2012; Moors, 2013; Turnheim, 2015). From now on, innovation was understood as a process characterized by dynamics, uncertainty and strong relations with the context in which the interactions between multiple actors are decisive for the effects of an innovation (Bijker 1997; Garud & Karnoe, 2001; Akrich et al., 2002; Nooteboom & Stam, 2008).

With this recognition of the importance of institutions, structures and systems in innovation processes, social factors entered the known, mainly technological, explanations of innovation (Smits, 2002; Landry et al., 2002). With the increased attention for innovation systems, criticisms of this notion of 'systems' also increased. It was argued that it is quite paradoxical to see a system – defined by its instruction for its reproduction to remain intact – as the main explanatory factor for innovation and change (Czarniawska 1997). However, the popularity of the system approach illustrates a drastic theoretical development in innovation studies. From a focus on the innovation – in which the innovation itself was seen as a discrete entity that results from the application of knowledge developed by isolated inventors – to a focus on more social, interactive and contextualized processes (Landry et al., 2002).

Although innovation studies has delivered many insights into the development of innovations, it has been criticized as well for it still tends to underemphasize social and contextual considerations, and actors' and organizational agency in innovation processes (Mutch et al., 2006; Kuipers et al., 2014). Even though the field of innovation studies is rich, manifold and extensive nowadays and though it contains useful insights into how innovations should be fostered, cared for, and organized to repeat a particular success (Martin 2012a; 2012b), it does so very specifically. In line with the innovation logic described earlier in this Introduction, the field of innovation studies tends to have a strong preference for technological innovation, a strong belief in the inherent goodness of innovation and for linear, mostly best practice thinking. Although useful, this is considered of limited use for enhancing our understanding of innovation processes. Therefore, other bodies of literature are used here to discover insights that may be of assistance in finding ways to deal with the 'the governance struggle of healthcare innovation' with all of its technological, ethical, social, managerial, organizational and institutional factors playing a role (Smits, 2002).

This study therefore uses, builds on and adds insights to innovation studies by incorporating insights from three other theoretical paradigms: process studies, institutional theory and science & technology studies. Although some scholars in these fields study innovation, they are not considered part of the field of innovation studies (Castellacci et al., 2005). Here it is argued, however, that they can enhance our understanding of innovation and its governance. Why and how they can, is explained below.

Insights from process theory

Known for acknowledging complexity, process theory is used to obtain a better position to unravel what innovation is and how processes of innovation evolve. The process studies literature rests on a relational ontology: everything that is has no existence apart from its relation to other things. As such, process theory sees process as constitutive *of* the world; it does not merely study processes. Instead of seeing process

as a progression, or as an orderly accumulation of discrete events – known for example as 'communication processes' or 'innovation process' – process studies demonstrates the processual nature of things like discrete events or entities (Dacin et al., 2002; Hernes, 2014; Knight, 2015). Seeing process as a fundament of the world does not deny the existence of concrete states, events, and entities, but insists on unpacking them so that the processes that contribute to their constitution are revealed (Hernes, 2014). What is conceptualized as 'an organization' is not just an actor, and what is conceptualized as 'an institutional arrangement' is not just a context for action, as both actually consist of processes that are constitutive *of* those very notions. Many conceptual, human and material elements play a role in these processes. They form interconnected wholes that may be known as entities or structures, such as the previously mentioned organizations and contexts (Rip, 2012; Hernes, 2014).

Using process theory in this study has major implications for the conceptualization of innovation because process theory invites scholars to look beyond taken-for-granted assumptions on what innovation is, how it is organized, and how innovations get value in practice. Rather than concrete innovative developments, process theory aims to explain continuous change. It does not speak of a changing 'thing' as that would suggest the existence of an entity in itself (Hernes, 2014). Considered from a process perspective, an innovation is never just a thing, technology or an object per se, but something that embodies numerous processes and encounters between actors (Mutch et al., 2006). In avoiding generic descriptions of 'innovation', the use of process theory allows for an analysis that captures the dynamics of innovation and does justice to its fluidity (Rip, 2012). In addition to process studies, this study draws on two other theoretical paradigms and associated bodies of literature to make the analysis more contextually and socially embedded.

Insights from institutional theory

While process theory is useful for stressing the emergent, ongoing nature of innovation, institutional theory helps explain the importance

and characteristics of an innovation's context. It reasons from the idea that innovations do not emerge simply out of nothing. Innovations do not just appear in a vacuum of empty space. On the contrary, an innovation is often thought of and developed in a highly institutionalized practice of vested norms, interests, values, rules, regulation, materials, infrastructures and relationships between actors (Bijker et al., 2009; Rip, 2012). Especially healthcare is considered a highly institutionalized sector as it is characterized by high public expenditures and has public values at stake, such as 'accessibility', 'quality' and 'affordability' (Van de Bovenkamp et al., 2014). Institutional theory can explain how innovations come about in heavily institutionalized sectors like healthcare.

Whereas traditional institutional theory explains stability, as it elucidates how institutions – defined by Scott (2001) as "*regulative, normative, and cultural-cognitive elements that provide stability and meaning to social life*" – impact on the behavior of actors, more recent approaches in this field have focused on describing how change comes about (Oliver, 1991; Garud & Rappa, 1994; Dacin et al., 2002; Kellogg, 2009). For example, literature on 'institutional entrepreneurship' (DiMaggio, 1988; Oliver, 1991), 'institutional work' (Gawer & Philips, 2013; Smets & Jarzabkowski, 2013; Lawrence & Dover, 2015) and 'inhabited institutions' (Hallett & Ventresca, 2006; Scott, 2008) describes ways in which individual and organizational actors escape the so-called 'paradox of embedded agency'. They find answers to the question as to how actors – constrained by their institutional context – act to change that same context. Notwithstanding minor differences, all these approaches mark the success of agency-centered views on change in institutionalized settings (DiMaggio & Powell 1983; Fligstein 1997; Dacin et al., 2002; Leca et al., 2008). This study draws on these recent agency-centered views in institutional theory, using it to describe how institutions are constitutive of the structure and context for innovation, just as they themselves are the product of agents' interactive behavior (Castellacci, et al., 2005).

In this study, the use of institutional theory allows for a detailed analysis of the role of institutions and actors in innovation processes. Both

organizations and individual actors such as professionals, policy makers and entrepreneurs can be seen as actors as they are more than passive recipients of institutional pressures. They can act proactively as they do not act just like "*billiard balls struck by a cue stick; nor do they mindlessly await their fate like members of a species suddenly subjected to climate change*" (Barley & Kunda, 2001: 78). Institutional theory adds insights into this active role of actors as it elucidates the interactions between institutions and actor's everyday practices and experiences (Hallett and Ventresca, 2006). In sum, this study draws on agency-centered views in institutional theory to analyze both the role of actors and the institutionalized healthcare context in processes of innovation.

Insights from science & technology studies

The field of science & technology studies (STS) has contributed many insights into innovation processes, although it is traditionally not well connected to studies of innovation (Martin, 2012a). An important stream of literature in the field of STS that explicitly connects both is actor-network theory and concepts such as 'translation', 'materiality' and 'unpacking' within it (Callon, 1986; Callon et al., 1985; Czarniawska, 1997; Zuiderent-Jerak & Jensen, 2007; Czarniawska, 2009). Literature on translation claims that 'the diffusion of innovations' is a somewhat misleading description of practice as it assumes that innovations move automatically through time and space (Czarniawska, 1997). The translation concept describes something different; it claims that the way innovations spread is in the hands of people (Latour, 1987). It describes how actors play a significant role, and thus also need to be enrolled in studies on innovation, as actors are the ones that pass innovations on, while translating them according to their own frame of reference (Czarniawska, 1997). STS unpacks what happens when innovative ideas or concepts – although they may travel globally – are translated locally in processes in which also materiality plays an important role (Orlikowski, 2007; Zuiderent-Jerak & Jensen, 2007; Czarniawska, 2009).

As STS problematizes deterministic views on innovation, it helps to overcome these. In this study STS assists in deconstructing known entities and practices by showing how innovations can be seen as

constructed entities (Czarniawska, 2009; Pols, 2012). STS literature allows one to make processes of innovation visible and illuminate innovation in the making, describing what forms innovations take, how they are accounted for and how they do (not) move through healthcare in processes of constant (re)negotiation (Garud & Rappa, 1994; Mensink, 2011; Bijker et al., 2012). STS has ample attention for, and sheds a light on, why innovations do not come naturally as it gets scholars 'underneath an innovation' in showing the work required to develop innovations in practice (Greenhalgh et al., 2004). STS thus shifts the gaze from innovations as pre-existing entities to the result of actions of actors. In so doing, it also sets the methodological stage for this study as it emphasizes the importance of practice-oriented research in "*putting scholars' noses down to the ground*" (Czarniawska, 2009: 157).

In sum, STS offers this study a vocabulary and discourse to discuss the material, symbolic and social aspects of innovation. Combined with the other paradigms, it supports this study's exploration of the enactment of innovation and processes of innovation and its governance.

Bringing the streams of literature together

Although other bodies of literature are concerned with innovation, the ones used in this study together represent interesting shifts in studies on the notion of innovation. First, a shift in moving from a focus on analyzing innovations and identifying conditions for their development in innovation studies toward a processual understanding of how innovations are 'enacted' and 'come into being' in processes of work in process studies. Second, from institutional theory, which emphasizes the role of actors that work within an interactive social, political and cultural context to achieve change in practice to STS that emphasizes the social-technical aspects of innovation more by making visible how values, materiality and performativity play a role as well.

The value of combining these four paradigms – that is, as they are not considered bodies of dogma or are combined in one heuristic framework (Mutch et al., 2006) – is that they all act as a lens that provides partial understanding of the object of study (Turnheim et al., 2015). In

this study each paradigm is valued, for it makes visible, explains and therefore adds specific insights to analyses of healthcare innovation. In so doing, this study risks criticism for not doing full justice to any one of the paradigms. However, it is argued here that its combination of theories is this study's main added value. I realize that in describing what every theoretical approach visualizes and contributes, the focus automatically is on particular instantiations of these theories (Mutch et al., 2006; Turnheim et al., 2015). Although this bears elements of arbitrariness, I believe that this multidisciplinary approach better equips the study to gain an enhanced understanding of innovation processes and its governance in healthcare practices.

In sum, in being multidisciplinary, this study's value is what it can be criticized for as well: finding differences and common grounds in traditionally unrelated theoretical paradigms. All four, however, provide valuable insights. Each with its own discourse, methods and concepts, the paradigms pave the way for a theoretically inspired analysis of innovation and its governance in practice, which is of key importance in this study.

METHODOLOGICAL CONSIDERATIONS

The theories used in this study do not come with a standard research design or set of methods to be used for data collection and analysis. In the absence of a universal study design, this study is explorative. As it is believed that real understanding comes from acts of experiencing, it draws heavily on the analysis of concrete experiences. The methodological challenge is then to "*catch reality in flight*" (Pettigrew, 1997: 338): to capture the ongoing experiences of individuals. Therefore, this study uses a qualitative, mostly ethnographic, study design to combine theoretical insights into innovation with empirical research in practice. The combinations of methods contribute to achieving in-depth insights

into the three research questions on innovation, innovation processes and an innovation's value.[4]

To gain an in-depth understanding of healthcare innovation processes, innovations are analyzed for how they come into being while actors are analyzed for how they ascribe meaning to innovation and how they find or develop their role in processes of innovation. In order to understand how innovation works, one has to figure it out from within. Not as an abstract concept in itself but as something that is enacted in time, in daily practice, and through social processes (Tsoukas & Chia, 2002). This requires a researcher to be present when innovations are enacted (Meyer, 2006; Mutch et al., 2006). Researchers need to go into dwelling mode: *"They need to take the time and patience to tease out developments that arise unexpectedly; this asks for the art of being curious at opportune but unexpected moments*" (Hernes, 2014: 182). Additionally, it means that researchers need distance from their study object to reinterpret retrospectively what and how the observations matter. The combination of proximity and distance is of crucial importance to analyze the interactions in more detail (Wynne, 1992; Boden, 1994; Rip, 2012). In sum, research is about being both within and outside that what is going on:

> *"It is 'proximity' what brings you closer to what happened, is responsible for the facts we glean, the artefacts we possess, the verbatim quotations of what people said; but distance is what makes possible the story of what happened, is precisely what gives someone the freedom to organize and shape those bits into a pleasing and coherent whole" (Mendelsohn 2008: 417).*

Throughout the empirical research this study relies on observations, shadowing techniques and in-depth formal and informal interviews for data collection. This combination is used to unlock daily practice by relating it to the fundamental questions on innovation and its

[4] Details such as the exact number of interviews and data collection moments can be found in the separate chapters of this study.

governance. Every case study uses a specific combination of research methods, adapted to the specific topic and empirical field. Known as means to describe practices from an insider's perspective, shadowing and interviews formed the most important data collection methods. Professionals, managers, project leaders, entrepreneurs and other stakeholders in innovation projects were observed and shadowed to get an understanding of their work in innovation practices. In addition to the observations, many formal, semi-structured interviews and countless informal interviews were conducted with key stakeholders in the different case studies. Whereas formal interviews were useful to analyze interpretations, meanings and related underlying developments, informal interviews during moments of shadowing were useful in studying the work in actual innovation practices (Schön, 1983).

The results of the independently conducted case studies are described in the empirical chapters of this study. To come to an answer to the main research questions on innovation and governance – and to add theoretical rigor to the empirical research – this study makes a secondary, cross-case analysis based upon the five empirical case studies. The results of this cross-case analysis are described in Chapter 7.

EMPIRICAL CASE STUDIES & STRUCTURE OF THIS BOOK

The multiple case studies and cross-case analysis of their results will lead to insights into innovation and its governance in a healthcare context. In drawing on five case studies, it is by no means argued that the healthcare sector is homogenous or that these case studies are typical for all possible healthcare innovation practices (Mowles, 2013). These cases were selected partly due to practical considerations related to doing research in a dynamic academic setting. They are, however, illustrative examples of innovations that allow for the analysis of processes of innovation, the role of actors and how value is created in these processes. Combined, these cases provide an opportunity to build an empirical understanding of healthcare innovation practices, their internal dynamics, their institutional contexts and the way they

evolve in and outside the context of an innovation program. As such, the cases are considered suitable to build a theoretical, empirical and practical understanding of healthcare innovation. The remaining part of this chapter introduces the five case studies. Their descriptions also serve as reading guide for this study.

In **Chapter 2**, a one-year innovation program in rehabilitation care forms the setting for this study into innovation practices. This chapter deals explicitly with the first research question as it analyses empirically and conceptually what healthcare innovation is and means for those involved in it. Based upon data collection in four innovative projects, and an analysis that uses innovation theory, process theory and STS literature, this chapter explores the notion of innovation and introduces a new concept to the study of innovation processes: 'situated novelty'.

In **Chapter 3**, healthcare innovation processes are analyzed in terms of entrepreneurial strategies. Entrepreneurs are considered an important source of innovations, as they are often responsible for introducing innovations in practice, also in healthcare where many different kinds of actors play a role (Aldrich & Fiol, 1994; Alkemade et al., 2011). To gain an understanding of how innovation processes evolve and are enacted in practice, entrepreneurs are analyzed for their behavior in relation to the context in which they maneuver. The interaction between the behavior of actors and the context in which they work is the key object of study here as analyzing this delivers insights into the role of individual actors in processes of innovation in institutionalized settings. The analysis in this chapter draws strongly on innovation studies and institutional theory.

Both **Chapter 4** and **Chapter 5** analyze the development and enactment of a particular kind of healthcare innovation, i.e. that of new professional roles. Not only are professionals often seen as the first group of users of an innovation, they also form an important source of innovative developments. Most important in this study, however, is that new professionals are the embodiment of the innovation. The roles they fulfill in practice are worth analyzing as the reconfiguration

of human resource for health is considered a promising innovative direction in large scale reforms initiated due to reasons of sustainability of our current healthcare systems (Dubois & Sing, 2009; Tsiachristas et al., 2015). Taken together, the development of new professional roles is considered an interesting empirical field in this study. Institutional theory and STS literature is used in these chapters to study the development of new professional roles in various secondary and tertiary care settings. Whereas Chapter 4 focuses on the role of human actors within an organizational context, Chapter 5 dives into the individual level as it analyzes how actors are directly involved in and, in essence, constitute the innovation.

Chapter 6 discusses the results of the fifth and final case study and brings the analysis to the topic of innovation policy. It studies the design and functioning of two innovation programs as programs are the most commonly used and pre-eminent policy instrument to stimulate and organize innovation (Roessner, 1989; Velzing, 2013). This chapter analyzes how programs work and what they do. Results describe how innovation programs are not merely contexts for innovation as they also influence innovation practices directly. Here it is argued that programs form the ideal place to learn about the governance of innovation because if governance takes place anywhere, it is in the design, implementation and evaluation of these programs. This chapter studies how two programs – one innovation program in rehabilitation care and one in long-term care – develop over time. The analysis covers the course of their development and the interaction between innovation projects and the programs. As such, it shows how both innovation and governance are enacted in practice. This analysis draws mainly on innovation studies and process theory.

Chapter 7 concludes this study and provides the answers to the main research questions. Based upon the empirical and conceptual analysis of the five case studies, conclusions are drawn on 'the nature of innovation', on 'innovation processes', on 'innovation's value' and on 'doing governance'. With respect to the main aims of this research, this chapter develops an alternative conceptualization of innovation and an

alternative approach to the governance of healthcare innovation under the name 'situated novelty'. This approach provides a theoretically and empirically inspired perspective to the seemingly paradoxical relation between governance and healthcare innovation. The situated novelty approach describes innovation as emergent: as phenomena that arise out of contextualized, interactional and time-dependent processes. According to the situated novelty approach governance is, in essence, about modulations of ongoing processes in practice. It describes that governance is about influencing and enhancing an emergent, temporary, fluid and mostly unforeseen process which requires continuous reflection by actors on the normative effects that are enacted over time. After briefly reflecting on the theory and methodology, this chapter also provides a description of this study's implications for practice, policy and research. Some remarks on this study's potential contribution round off the final chapter of this study into healthcare innovation and its governance.

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CHAPTER 2

Situated Novelty: Introducing a process perspective on the study of innovation

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ABSTRACT

This paper introduces a process perspective to innovation studies to answer the research question: *What is innovation and how are different meanings ascribed to it in a healthcare setting?* Drawing on four ethnographic case studies of projects in a public-funded innovation program in rehabilitation care in the Netherlands, we challenge some well-known assumptions about innovation that have long inspired traditional understandings of innovation. The findings are based on data derived from observations and interviews with managers, project leaders, and (para)medical professionals involved in the four innovation projects. The results indicate that (1) people often assign other meanings to innovation than mere 'novelty'; (2) that innovation usually entails extensive work that also constructs the value of an innovation; and (3) this has major implications for the management of innovation in organizational practice. This paper builds an argument for introducing an alternative ontological perspective on innovation based upon the notion of 'situated novelty'. In proposing the contextual perspective, we aim to extend current understanding of innovation processes.

INTRODUCTION. ON INNOVATION

In the course of our research into innovation in rehabilitation care,[5] we came across a picture of a device in an old book on the historical development of rehabilitation care in the Netherlands. Shortly after, to our surprise we came across a very similar device at an innovation fair:

> *As researchers interested in innovative developments in rehabilitation care we attended an exhibition on that theme eager to discover new technology and working methods. To our surprise, we stumbled upon a device that on first sight looked very familiar. Called an 'Armeoboom', the device [an overhead sling suspension system] was presented as the newest thing for training patients with impaired functionality of the upper body. A decade ago, one of us had worked as an occupational therapist in a rehabilitation center before starting a career in research. This new device reminded her of one she used when she was a therapist: the 'OB device' designed by Olle Blomqvist. She asked the exhibitors if the Armeoboom was perhaps the latest update of the OB device. They looked puzzled and clearly didn't know what she was on about. Their reaction made us wonder: How could something so old be treated as if it were a brand new innovation? Passing by other stalls showing new technology made us wonder again: What does this say about innovation in the sector? What does innovation actually mean? (Field notes from 'Symposium on Innovation in Rehabilitation', June 8, 2012)*

This fragment from our observation notes shows *how* framing something as new or novel can play a role in presenting an innovation project. However, this experience made us think not only about the novelty of the particular device, but what the word innovation actually means. Could nothing have actually changed in rehabilitation care in the past decade, despite all the attempts to fuel innovation at the

[5] The rehabilitation care sector provides treatment and support to people with (temporary) physical disabilities and/or chronic conditions. Please see the Methods section for more information on the sector.

organizational and professional level? Our experience at the innovation fair may suggest that the result of all this effort may be incremental continuity, in the sense of minor improvements and adaptations to an established concept, rather than radical innovation. It may also point to the difficulty of discussing a sector's actual innovativeness, even if the main body of literature on innovation delivers insights into how innovation can or should be managed – implying that innovation is actually there. Based mostly on research into successful innovation projects, the traditional literature usually describes how innovations should be fostered, cared for, and organized to repeat a particular success. Despite all the scholars' recommendations that tend to emphasize the preconditions, stimulants and barriers to success, innovation is still a modest endeavor (Berwick, 2003). The studies often lead to seemingly contradictory ideas on the management of innovation in organizations. Paradoxically, they argue for allowing room to experiment and establishing guiding principles, for collaboration and control, for flexibility and efficiency and for closely involved management and management at a distance (Quinn, 1985; Dougherty, 1992; Oke, 2004; Van Dijk et al., 2011). Traditional attempts in current literature include explanations of innovation in terms of best practices (Sevón, 1996; Szulanski, (1996), studies that distinguish innovation from implementation in a more linear process (e.g. Rogers, 2003) and those with a strong focus on managing or working around the paradoxes (Chia & Holt, 2009; Farjoun, 2010; Smith & Lewis, 2011, Schultz & Hernes, 2013). We believe these current characterizations help to communicate ideas, but we consider them insufficient to facilitate a thorough understanding of innovation processes in organizations. They tend to focus on similar questions that rely on similar assumptions about what innovation is; namely, something new by definition. We see two problems in that view: (1) it fails to problematize the underlying descriptions of this 'newness' and (2) it overlooks the processes that constitute what is seen as new.

In this paper, we present four case studies analyzing innovative projects included in a subsidized innovation program in the Netherlands (see Table 2.1). A qualitative evaluation of this program, aimed at improving the sector's innovativeness, formed the context for this

Table 2.1: Brief descriptions of casestudies

#	Title	Description
1	E-health therapy for patients with impaired memory / memory loss.	This project was aimed at the full development of a training program for patients with memory loss caused by severe trauma-induced brain damage. The program offers patients the opportunity to learn to use compensation strategies for their lost brain functionality (i.e. memory). At the time this project started, these strategies had been a well-known strategy for treating non-innate loss of memory in addition to training remaining functionalities. The e-health therapy, which contains elements of self-diagnosis, monitoring and training, enables patients to train their skills independent from time and place which is why it is believed to reach larger populations than traditional face-to-face treatment.
2	Implementation of Acceptance & Commitment Therapy for patients with chronic pain. (ACT)	Bringing a treatment for patients with chronic pain to practice was the main purpose for this project. The multidisciplinary treatment is built on the concepts of acceptance and commitment and has two main purposes. It tries to bring patients to accepting their suffering from chronic pain while it also aims to increase their motivation for treatment. Therefore, treatment focuses on making the life of patients more valuable instead of on fighting the pain itself. Based upon over 20 years of research into human behavior, pain and psychological treatment, ACT offers coping strategies instead of actual pain treatment. The project consisted of developing ACT into method suitable for sector-wide implementation.
3	Communication Training for Partners of patients with aphasia. (PACT)	The PACT-method aims at training communication skills of patients with aphasia and their partners by professional speech therapists. Within this project it was developed into a method that is applicable to Dutch healthcare as it was originally developed in England under the name 'Supporting Partners of People with Aphasia in Relationships & Conversation'. PACT builds on the premise speech therapy could be improved by including partners into the treatment relation. As communication is something that happens between people, the original inventors realized that working on remaining communication skills of aphasia patients could benefit from training those skills of their partners as well. During the project, PACT was developed into a method, consisting of teaching material, guidelines and instructions, which speech therapists could use in practice.

Table 2.1: Brief descriptions of casestudies (continued)

#	Title	Description
4	Implementation of a treatment protocol for children with cerebral palsy.	The aim of the project was to implement a set of recommendations from the guideline 'Diagnostics and treatment of children with spastic cerebral palsy'. Over 10 years ago the project started with the development of the guideline, but soon the initiators realized that the mere publication of the guideline was insufficient to guarantee therapist would use it in practice. The method of 'knowledge-brokers' was used to develop the guideline into practical instruments for therapists to assists the implementation of the guideline. The project facilitated the work of the knowledge-brokers by organizing project meetings and by creating online communication platforms.

study on innovation practices. Starting from the question of how to manage innovation, we argue that we need a critical analysis of these assumptions, and the ontological standpoint that they reflect, before we can analyze how to manage innovation. This approach may deliver additional insights if we first determine what innovation means; *what* exactly is being managed? Although current definitions of innovation differ across scholars and research disciplines, in one way or another many refer it to mean something new or 'novel.'[6] It remains, however, difficult to get a grip on this 'novelty' element. Instead of striving for a stricter definition of novelty, we take an alternative approach that goes beyond traditional views. Drawing on an emergent trend of process thinking in organization studies, e.g. Weick's (1979) work on organiz*ing* and sense making and Van de Ven's (1999) work on innovation, we turn attention from novelty as an end state toward gaining an understanding of *how processes produce what we see as new or novel* (Thomas & Morgan, 2013). The theoretical framework in this paper adopts the ontological standpoint that innovations are representations of complex social processes in which many interactions take place over time. These processes constitute what innovations *are* and what they *mean* in practice. Tangible innovations (e.g. new treatment methods

[6] See Crossan and Apaydin (2010) for a review of definitions used in organizational literature on innovation.

or technologies) are then seen as representations of processes of continuous enactment. This turns both the innovation and the processes that lead to its existence into complex, continuously fluctuating units (Farjoun, 2010). So, instead of assuming that it is known beforehand what innovation is, and thus also what needs to be organized or managed, we take the question of how to manage innovation back a step by rethinking the underlying concepts from a process perspective. We aim to illustrate innovation processes from a processual viewpoint by describing how innovations are enacted in practice (e.g. Thomas, 2003; Hernes, 2008; Langley & Tsoukas, 2012). Here we use 'enactment' as it reflects our theoretical and ontological perspective in which we consider innovation as a practice that is constituted through ongoing, coordinated actions and relationships (Mol 2002; Woolgar & Neyland 2013). We thus explore the multiple meanings of innovation by focusing on the work that is conducted in innovation projects to gain a better understanding of innovation processes, and to draw lessons for the management of innovation. The central question this paper addresses from a process perspective is: *What is innovation and how are different meanings ascribed to it in a healthcare setting?*

This paper continues by describing the theoretical framework to show how a process perspective contributes to the understanding of healthcare innovation. It assesses various streams of literature from our interest in ontology to help develop a way of further specifying concepts such as innovation and novelty. The Methods section further describes the case studies, and how we studied them. The Results section discusses three main findings of our analysis: (1) people often assign other meanings to innovation than just the novelty element; (2) innovations usually entail extensive work and through that work construct the value of the innovation; and (3) the different meanings of innovation, and the work inherent in it, influence the management of innovation in organizational practice. Finally, the Conclusion answers the main research question, discusses the implications of our findings for practice and research, and elaborates on the contribution this paper makes to innovation studies.

THEORETICAL FRAMEWORK

Given the fact that innovation is conceptually defined in many different ways in a wide variety of research traditions, it seems undoable and even unwise to try to fully grasp this diversity here. What matters for the purpose of this paper is that all the definitions have one common element; they all refer to 'novelty' or 'newness'. Schumpeter (1934), often called the founding father of innovation studies or the prophet of innovation (Louçã, 2014), speaks of *new* elements or *new* combinations of existing elements. West (1990) emphasizes the adoption of innovation in his psychological perspective by defining innovation as ideas, processes, products, or procedures that are *new* to the unit of adoption. Bledow, Frese, Anderson, Erez, and Farr (2009), in turn, refer to innovation as the development and intentional introduction of *new* and useful ideas. Greenhalgh and Stones (2010) and Sørensen and Torfing (2011, p849) also emphasize the novelty element in actor-network theory and public administration literature on innovation by "*novel* set(s) of behaviors, routines, and ways of working" and "intentional and proactive processes that involves the generation and practical adoption and spread of *new* and creative ideas," respectively. In the literature on innovation systems Hekkert (2008) uses "the successful development and application of knowledge and technology in the form of *new* technologies, products, processes, practices and services" to define innovation. This vast range of literature and definitions raises the question what 'novelty' means exactly. What appears novel to some could be more common to others; something can be novel for an individual, a firm, a sector or for the entire world. The pursuit of innovation is theorized as crucial for the long-term survival of both public and private organizations, and novelty is a recurring element in its definition. Novelty is, however, in this respect often narrowly defined. Others have already pointed at the problematic nature of narrow definitions of novelty. Rosenkopf and McGrath (2011) specified and defined 'novelty' by treating it as a multi-dimensional construct. They provide a well-structured overview of conceptualizations of novelty and conclude, for example, that novelty can be found in either the innovation itself or in its context. Although these insights are valuable for questions on

innovation management, they contribute little to our understanding of novelty and innovation itself. In this paper, we problematize the central importance of the novelty element in definitions of innovation. Rather than predefining (or accepting given definitions of) innovation and the role of novelty and value in it, we focus on analyzing when, where and how innovations are enacted in practice; that is, how they are created and experienced in order to gain meaning in practice. We reason from an ontological perspective that sees innovations as complex processes. From this view, it becomes fruitless to further operationalize, specify, or define generic definitions of novelty as these attempts neglect the fact that novelty will always be constituted and contested in practice. It will only be meaningful in relation to its antonym (e.g. Mowles, 2013). That is why we use process theory to explore the idea of novelty in relation to innovation.

Process thinking invites scholars to acknowledge the complexity of novelty and innovation in organizations in a constantly changing world. It questions the utility of timeless concepts, fixed taxonomies and linear causality. To us, a process view opens up other ways to study the traditional concept of innovation. Process thinking not only offers an alternative ontological viewpoint and way of thinking about innovation theories, it also changes the way novelty can be analyzed in relation to innovation as both are situated and constructed in innovation processes. This implies that innovation is almost never a thing-in-itself, even though there may be something that is identified in everyday talk as new and that certainly looks new, such as new products, technologies or working methods (May 2013). A tangible innovation is never an end state; it is more an artifact in an ongoing process of situated work (Orlikowski, 2007). A metaphor, borrowed from Thomas and Morgan (2013, p.11), illustrates this further: “A new machine represents a material change, but is meaningless without being brought into relation with the social and institutional relations in the factory it is implemented.” The innovation itself is considered an artifact that is inherently part of social processes. What is called an innovation thus represents an underlying process, which the innovation becomes part of, and it is constructed in the course of daily practice. This requires work as such

factors as context, interactions and time all play important interactive roles in these processes. The process perspective we adopt in this paper enables us to focus on the work conducted in a study of innovation in organizational practice. It helps to visualize the amount of work that needs to be done to be innovative in practice (e.g. Suchman, 1995; Barley & Kunda, 2009).

Hence, innovations do not emerge in a vacuum, but in a dynamic and complex context, resulting from the actions and interactions of various actors in different time slots (Edquist, 1993; Geels, 2004). What is seen as an innovation, and how it is valued, varies from one context to another. As Bateson (1978) states: "What can be studied is always a relationship or an infinite regress of relationships; never a 'thing'" (Bateson cited in Star, 1999) apart from its context. Following this line of reasoning, we argue that innovations are the result of interactions between humans and non-humans (Sawyer, 2007; Stoopendaal & Bal, 2013) always in close relation to their corporate and institutional contexts (Janssen & Moors, 2013) and influenced by actors' investments and several social mechanisms (Thomas & Morgan, 2013). In this view, novelty emerges out of processes that are by definition relational and interactive (e.g. Star, 1996, 1999). Innovation itself becomes a social and unpredictable process (Mowles, 2013) in which interconnected actors present unpredictable behavior (McDaniel & Driebe, 2005). In addition, Marvin (1988) argues that innovation is a time-specific phenomenon. By adding the temporality element to the description of innovation, he argues that innovations cannot be seen independently of time and their specific history. Time is an element of an innovation's context and so history matters for understanding innovation because it is the specific arrangement of place, actors and time that determines if something is considered novel. In accordance with Ancona, Goodman, Lawrence and Tushman (2001) who stated that a temporal lens is often lacking in research, we argue that novelty can only be described in relative terms, from a certain perspective and at a specific moment in time.

As we have argued, applying a process perspective to innovation implies that while novelty is linked to innovation, it is not a mutual

exchangeable term. Innovation becomes an ongoing activity embedded in work processes in everyday practice, instead of something that awaits implementation (Essén & Lindblad, 2013). Hence, the novelty element of innovation is not a given; it is an 'ought to be enacted in practice'[7] (Essén & Lindblad, 2013). From our perspective, innovation is seen as a qualitative outcome that is valued rather than measured. Following this process approach and the idea that innovations are fluid and thus enacted in daily practice of working on them, we can analyze *how* the extensive amount of work that constitutes innovation gives meaning to an innovation (Barley & Kunda, 2001; Greenhalgh, Robert & Macfarlane, 2004; McMaster & Wastell, 2005; and May, 2013) and how this work is made manageable. Thus, we study innovation by analyzing work practices from the process perspective. Before presenting the results, we will now detail our research setting and methods.

METHODS

Following the process approach, we analyze innovations as work processes in which contextual nuances, interactions and temporality are important (Rosenkopf & McGrath, 2011). To learn about the nature of healthcare innovations we studied innovation projects in rehabilitation care as they evolved in daily practice. We applied a constructivist case study approach, based upon Boblin et al. (2013), analyzing *how* particular innovations are enacted in practice (based upon Woolgar & Neyland, 2013). Empirical data in this study comes from a large qualitative research project that evaluated a one-year, sector-wide innovation program[8] on rehabilitation care in the Netherlands. This publicly

[7] This makes measuring the degree of novelty of innovations unproductive and inadequate as it is not clear what should be measured, who to ask and how to incorporate the dimension of time.

[8] The program was subsidized by the Dutch Ministry of Health, had a budget of €6 million and was executed by the Netherlands Organization for Health Research & Development and the Netherlands Association for Medical Rehabilitation. It was part of a temporal arrangement to finance innovation during the development of a new financial scheme for the entire sector.

funded program aimed to stimulate innovation throughout the sector. It subsidized over 40 projects as well as promising new developments, financially supported implementation projects and offered supportive infrastructure for knowledge exchange. The empirical basis for our paper draws on the program evaluation, which involved four simultaneously conducted case studies.[9]

In each case, we collected data in a various ways: document analyses, observations (4 days; 24 hours in total), informal and semi-structured interviews (N=12) and focus groups (N=3). Data collection took place between February and October 2012. We followed the innovative projects' lead in collecting data. This means that the selection of respondents in every project was made in close consultation with the project leaders of the four case studies. Striving to include a wide range of views on the topics at hand, we conducted interviews, observations and ran focus groups with program managers, project leaders, various (paramedical) healthcare professionals and executive directors of the participating organizations. Our approach encompasses *in situ* participant observation to understand the innovation process from the actors' points of view. Observational data was supplemented by informal interviews, that is conversations throughout the day and between activities, which added detailed information by exploring the participants' work and the ways they made sense of what they did (Allen 2015). The semi-structured interviews contributed to a thorough understanding of innovation practices since they allowed the interviewees to provide underlying arguments and motives to support their answers, and in turn enabled the researchers to discuss the observation findings in detail. The interviews were recorded, transcribed, and then analyzed multiple times by different researchers according to the process of subsequent open and selective coding (Charmaz, 2006).[10] Triangulation was achieved by

[9] Selection of the cases was made in close consultation with a guiding committee consisting of project leaders, representatives of both organizations involved in the program and managers from major rehabilitation centers in the Netherlands. Selection was based on content variety; success in itself was not a selection criterion.

[10] Interviews were conducted in Dutch, quotes were translated into English by the authors.

combining the interview results with the outcomes of the document analysis and observations, and by discussing the results in meetings with fellow researchers and members of the guiding committee (N=3) in an iterative data analysis process. Additionally, individual feedback on transcripts from our respondents served as member checks to enhance the validity of the data. We used the process of abduction, that is, a repeated process of interrogating the data with the use of theory, in the analysis of the empirical data (Reichertz, 2010; Van de Ven, 2007, p98 in Alvesson & Kärremen, 2011; Lipscomb, 2012).

Case descriptions

This paper is about innovation processes in rehabilitation care,[11] where people with (temporal) disabilities and/or chronic conditions receive treatment and support from a variety of (para)medical professionals. Physicians coordinate both intramural and extramural treatment processes. Treatment is aimed at regaining and maintaining the patients' ability to participate in society, given their impairment or disability. In the Netherlands, rehabilitation is considered a hybrid sector because it consists of privately owned, specialist organizations and hospital departments that fulfill a public function (Brandsen, Donk v/d & Putters, 2005; Putters, 2009). In general, there is an ambigious view of the role of innovation in rehabilitation care. While some consider the sector very innovative, others argue that such a characterization is superficial. Surprisingly, advocates on both sides refer to factors such as the position of research and strong networks of cooperation to support their view. To us, this debate on the sector's innovativeness and recent developments in the sector (e.g. rising market-based competition and the emergence of integrated care and self-management) makes rehabilitation care an interesting subsector for a study on innovation. Table 2.1 provides information on the four case studies.

[11] The Dutch rehabilitation care sector employs specialist physicians (456 in 2011) and paramedical professionals. Sector turnover was €425 million in 2010. In 2011 a total of 8500 clinical and almost 70,000 non-clinical patients received treatment in this sector in the Netherlands.

RESULTS

Our ontological approach to innovation, as described in the theoretical framework, calls for an analysis of the enactment of innovation in practice. The innovation and its value are constructed in work processes. Here we deal with both aspects. The first part describes what innovation is by going into its assigned meanings. The second part describes the work that constitutes an innovation project. The third and final part of the Results section describes a particular innovation management challenge that we observed in practice.

Multiple meanings of innovation

We noticed in our cases that healthcare practitioners do not use the word innovation so much. People often said that it is not important or even irrelevant or unwise to describe a particular project as innovative. Moreover, people described what innovation is to them rather differently. To some, a certain innovation project may bring a logical improvement to the regular work of professionals, while others may consider it as highly innovative. The framing of innovation projects played a role in the management of the innovation program. The degree of novelty was an important criterion for the selection of projects by the program committee. As the interview fragment below shows, the decision to grant a subsidy for a specific project was based on an estimation of the novelty element, defined as the extent to which the project aimed at doing 'new things'.

> *"Then it became clear to me – also because of the selection criteria – that it was really important to look at how innovative or new a project was. Would it really contribute to another way of dealing with certain aspects of rehabilitation care?"(Member, program committee, personal communication, May 7, 2012)*

The innovativeness of the project, and thus the decision to include it in the program, was based on an estimate of project's degree of novelty. The importance of novelty as criterion is also relevant when the opposite decision was made. Those who questioned the innovativeness

of certain applications did so by referring to its novelty element (or actually the lack thereof):

> *"I think lots of money has been invested in implementing innovations. What's so new about that? I think sometimes it's limited. Of course, it's all about a balance but if you look closely at how many projects are really new…[..]…I know it is much to ask from the field, but hey." (Member, program committee, personal communication, February 21, 2012)*

According to the program committee members, the novelty element mattered when determining the innovativeness of projects. Apparently, novelty is what makes a project innovative, indicating that they treated novelty and innovation as mutually exchangeable terms. This strongly contrasts with our findings from the case studies, where some professionals did not regard their projects as innovative and seldom referred to novelty when discussing their projects. On the contrary, they said they actively downplayed the novelty element. Especially when facing opposition to their projects, the innovative aspect was no longer relevant. This suggests that it harms something to position it as truly novel. This difference in the importance of the novelty element shows that novelty and innovation are contested in particular situations. Some projects are left on the shelf for years before the start of a program.

Another leader of a project aimed at developing a methodology for an existing treatment said clearly that novelty was a non-issue for him even if his project was subsidized as an innovative project[12] (personal communication, project leader case #1, September 11, 2012). Different actors thus expressed different views on the novelty of some of the

[12] Other authors have suggested that portraying innovations as incremental enhancements helps their acceptance (e.g. Bartunek et al. 2006; Starbuck 2003: 349 in Sandberg & Alvesson 2010). This could offer an alternative explanation for the differences in framing we observed.

projects and it may be these differences in framing that may form the start of an answer to the question as to what innovation actually is.

Something presented as 'the newest development' is at the same time less novel if one knows its history and the developments that led to its existence. Novelty, and that what is seen as old or already existing, both matter for understanding innovation. An example of this is the device at the innovation fair that we described in the Introduction. The device had been around for years but had not remained the same; it was a fluid and changeable object (de Laet & Mol, 2000) altering over time. The current model is the result of improvements to a manually operated device originally designed by Olle Blomqvist. This newest version has the same working principle but is operated electrically. Although new versions may be developed, the original does not totally disappear. It is as if the novel and the old are simultaneously part of the innovation (Thomas & Morgan, 2013). This also becomes clear in our case studies, when asked about their projects, respondents started to explain them in terms of existing elements. In case #1, the project leader explained they were developing a new treatment tool based on e-health that would replace its predecessor, face-to-face treatment. The 'old' treatment served as a basis for the new e-health tool since it built on the same working mechanisms. A similar story goes for case #3, about a treatment method originally developed in England adapted for the Dutch context. In this case, the essence of the project was incorporating patients' partners in the treatment. This idea was new to the target audience of speech therapists, but to welfare workers it was what they had been doing for years. These two examples show that what is seen as an innovation very much depends on whom you ask. Any innovation project can be framed as novel or mundane regardless of how much change it will lead to (Thomas & Morgan, 2013). Although the tools and the methods from both these examples were not considered to be really new, they had a major or even radical impact on the behavior of patients and professionals in treatment relations. Therefore, the novelty of an innovation does not say anything about its impact or value for practice. Since innovation can be framed in various ways, the novelty element is open to multiple interpretations. Because

of the range of interests and values involved in an innovation project, the innovation in itself can never be defined as novel. Considering an innovation as something new is problematic, since what is termed an innovation can be described as a (re)combination of existing elements in other contexts or forms. This turns innovations into representations of their own history; a history that matters to understanding how innovations evolve and how they are valued.

Problematizing the novelty element raises the question 'what is an innovation if it is not new?' What innovations are not only depends on the chosen perspective but also on the meaning (apart from novelty) those involved assign to it. The remaining part of this Results section analyzes these meanings.

Some respondents, such as the project leader and professionals working on e-health therapy in case #1, valued the innovation projects most for the opportunities they offered to further improve healthcare practice. Others, such as the professionals working on PACT in case #3, particularly appreciated the career opportunities the projects offered. Some innovations served as a platform for new opportunities as their use offered new opportunities in research and practice improvements. Using the newly developed e-health tool (case #1), for example, was not only a change from the old face-to-face treatment for people with non-innate memory loss, it also provided researchers with new data on promising options for further improvement of the treatment and its outcomes in practice. Especially for the paramedical professionals involved, the innovation projects offered a welcome distraction from their daily activities. Working on innovation gave them an opportunity to grow as a professional, and an alternative to the traditional move into management to improve their career in terms of responsibilities and salary. Respondents thus assigned other meanings to innovations than the novelty aspect. The two examples, 'platform' and 'career' show that the opportunities the innovations offered were valued more than the innovation itself or its degree of novelty.

However, the most important meaning assigned to innovation was that it often represents a desired change in the underlying paradigm. Several respondents indicated that the innovations served as symbols to them. They saw innovations as 'carriers of meaning' representing larger, more meaningful changes in practice. This implies that the meaning of an innovation is determined by the change in practice it represents. For these respondents, an innovation is more a means to an end than a goal in itself; they described it as 'a change of paradigm'. Although the exact phrasing differed – e.g. 'changes in thinking and acting', 'changes in thinking about the problem' and 'cultural change' – the descriptions indicate that a form of reflection or awareness is needed to fully understand the meaning of an innovation. The PACT methodology (case #3) that included the partners of patients with aphasia in the treatment serves to illustrate this symbolic meaning.

> *"Rehabilitation care focused too closely on the patient while we knew that the partner is crucial for communication. In PACT, the focus is now on 'living with the disease'…[...]…This lets us work on treatment and coping at the same time…[...]…so it is also about acceptance of the situation." (Member, PACT treatment team, personal communication, August 31, 2012)*

While it seems a simple matter to include the partners of patients in the treatment relation – the essence of PACT methodology – applying this idea in practice requires complex and radical behavioral changes in attitude and behavior of all professionals involved. The partner is no longer just an element in the patient's context that provides information or acts as sparring partner. Instead, the partner becomes a factor in the treatment relation itself. Professionals struggle with this, as the new role of the partner changes the dynamics of the treatment relation, both in and outside the treatment room. Partners and patients are now treated as equals by the treating physician, while initially partners often took the role of a semi-therapist. Additionally, the interview fragment above shows that incorporating partners in the treatment relation changes what the treatment is actually about. It is more about acceptance and coping with the disease than a treatment to recover

the lost ability to communicate. Hence, PACT actually stands for a far-reaching change in practice as it changes the dynamics of the treatment and the relation between patients, their partners, and physicians. This shows how the application of the PACT treatment directly and radically changes a healthcare practice.

ACT (case #2), on offering coping strategies for sufferers of chronic pain, offers a similar example as it too shows the symbolic function of an innovation. ACT aimed to change the way patients experience their physical impairments and the way professionals consider their role as a therapist:

> *"We're trying to get our patients to accept their situation with the ACT method. Then they can let go of their frustration and stop fighting. Only then can they set realistic goals for themselves and abandon the unachievable desire to be fully cured of their chronic pain. Creating that form of acceptance is the ultimate goal of our treatment with ACT…[…]…We know from practice that this is not exactly easy to achieve and that it can be detrimental to go too fast."(Member, ACT treatment team, personal communication, September 11, 2012)*

This interview fragment describes the essence of the project, in which both professionals and patients need to integrate a new way of thinking. Both have to get rid of the desire to fight the incurable pain and focus on the remaining possibilities patients have. The real value of the project is hard to explain to outsiders. For example, an executive pointed out that paradigm change is hard to capture in a glossy presentation (personal communication, executive director, September 11 2012). The exercises and treatment descriptions in the ACT method are clearly described and easy to use, yet what really matters is the far more difficult to achieve change in behavior and thinking that one needs to adopt. What is seen as an innovation – the method – actually serves as a symbol for this required behavioral change.

Both ACT and PACT (cases #2 & #3) are examples of innovations considered symbols for far-reaching changes. Both projects had the underly-

ing objective of inducing a certain behavioral change in practice. This brings us to the idea that what is seen as the innovation actually represents a change of paradigm in treatment practice. A too strong focus on the symbol may shift attention away from the underlying paradigm change the innovation is trying to achieve. In accordance with Essén and Lindblad (2013), these examples show that fundamental assumptions about the way care is delivered can change in the course of an innovation project. This makes innovations not just 'gadgets' that can be distributed with relative ease; they are often intended to achieve more than an instrumental use of the innovation itself (e.g. Loon Van, Oudshoorn & Bal, 2014). Although not always directly visible from the outside, paradigm changes rest upon underlying ideas about what good or better care entails. A strong focus on disseminating the innovation may cause these ideas to get lost in translation, resulting in innovations that are 'used' but not integrated in practice. In such situations, the changes in thinking and behavior targeted by the innovation will not be achieved. In turn, this may diminish the value of an innovation for the quality of care.

This first part of the Results section on adopting a process perspective to innovation shows that innovation has different meanings in practice and is not just about novelty as a fixed characteristic. The meaning and value of an innovation are enacted in practice; both are contextualized and actor-specific. We demonstrated that a situated approach provides insights into the meanings assigned to innovation, and into its value for daily practice. The second part discusses how a situated approach delivers deeper insights into the enactment of meaning by bringing the work inherent to innovation to the fore.

The work inherent to innovation

The four case studies in our research show that innovation projects are complex processes entailing different kinds of work. Innovations are deeply tied up to the work needed to construct them and give them their value. The concrete activities of actors like professionals constitute what is seen as an innovation and determine the impact of an innovation on practice (Barley & Kunda, 2001). The work of those

involved creates, produces, and gives innovations their value. In this part we discuss the significant amount of work that needs to be done to make innovation work in practice by illustrating how value is in motion and created throughout the innovation processes. The fact that this work is inherent to innovation projects implies that the outcomes of a certain innovation project may serve as a possibility or source of inspiration for other cases and contexts, but not as a template. Rather than seeing innovations as potential best practices, they can at best be ideas that others use, further develop, and improve upon (e.g. Essén & Lindblad, 2013). PACT (case #3) illustrates the work that is inherent to innovation projects. The PACT team worked on adapting a treatment originally developed in the United Kingdom to the Dutch context. They had to translate and change the treatment from a group intervention into individual therapy. The methodology was enshrined in a specially developed 'PACT box' containing a book, instruction manuals, and a DVD of treatment examples for practitioners. According to the project's leaders, this tangible form of PACT was crucial in convincing others and in helping them to use the PACT methodology. The most difficult thing in the PACT development process was ensuring that people had the time to work on this project and develop the materials. It was a highly situational effort as many different organizations participated. Consequently, the project team had to develop several versions of a plan for introducing ACT in practice in all these organizations. Another example of the work required in innovation projects can be found in case #4, on the implementation of treatment guidelines. The work conducted here illustrates that the applicability of guidelines to the daily work of professionals is not self-evident, even if the guidelines are based on highly sophisticated theory. They are rarely written in a format that can be used immediately in day-to-day practice. Although protocols and guidelines are developed for this purpose, they need to contain descriptions and be adjusted to the specific needs of professionals if they ought to be used in practice. An interview fragment from a researcher from case #4 illustrates this:

> *"The document was [author's words] 'impractical'. It was over 270 pages long. The recommendations in the protocol were not specific*

enough. [...] What does it mean when the protocol states that treatment should be short and intensive rather than long and extensive? Do you know?" (Researcher, knowledge institute (case #4), personal communication, August 23, 2012).

The work in this project consisted of translating the innovation – in this project the protocol that, we argue, is a symbol for change – into instruments, recommendations, books, tools and other practical material for professionals to use. This work produced decision trees, graphics, visualizations, documents, and even comics that were exchanged at project meetings and through a digital forum.

Turning an original innovative idea into tangible results was also important in case #2. A lot of work was done to develop the ACT method for practice. To get professionals to work with ACT, they developed a six-day course that offered all participating teams of professionals the opportunity to experiment, fail, and learn to work with the method in their own way and at their own pace.

These examples demonstrate how the work conducted on the relatively abstract guideline (case #4) and the two practical treatment methods (cases #2 and #3) led to tangible outcomes and tools that answered questions of who, what, where, when and how for the end-users, the professionals in rehabilitation care. This enabled the innovations to have an impact on practice. The specialist course and training days, workshops and presentations, supervision meetings, inter-collegial observations with and without video material, and the role-playing with actors were all not just means to implement an innovation but proved essential in developing the innovation itself and for making it valuable in practice. This work demonstrates that innovation requires time, energy and the dedication of those who are closely involved in an innovation project. All the activities and tangible outcomes represent the work needed to innovate successfully, that is, to let the innovation have a real impact on practice independent of the quality of the innovation itself.

Describing the work that we see as inherent to innovation strengthens our ontological viewpoint that innovations are enacted in practice rather than given. The work constituting innovation projects goes beyond increasing the applicability of an innovation as it actually changes what the innovation actually *is*; that is, a process of continuous work. This implies that innovations can never be clear-cut best practices. If it is at all possible to define these, they cannot be disseminated or implemented without adjustment for context in which they are applied. Considered from a process perspective, such careful work creates the innovation, and perhaps its alternative forms. Acknowledging this notion of the constitution of an innovation questions the sequential or linear steps often referred to as determinants of successful innovation projects (Essén & Lindblad, 2013). We argue that working on innovation is always situational work, in contrast to the innovation program that distinguished innovation from implementation projects. Having separate labels for 'innovation' and 'implementation' suggests a linearity that is not present in actual innovation processes.[13] Although the reconstruction of an innovation process may seem to mirror a linear development, we argue that the adaptability of innovations suggests they are a fluid entity that permits the development of new working tools or methods when an innovation is brought to other contexts (de Laet & Mol, 2000).

So far we have shown that the work done constitutes what an innovation is. However, not only the innovation is enacted through that work. Our ontologically inspired perspective implies that the *value* of an innovation is also enacted in practice and is thus not a given or predetermined. Although there seems to be a standard attitude to innovation – best described as 'the newer, the better' – our cases show that an innovation can have both positive and negative value, even simultaneously for different actors or ambivalently for certain individuals (Thomas & Morgan, 2013). It is not easy to assess the success or value of an innovation, not only because the criteria are seldom clear-cut but

[13] This is also the main argument for marginalizing the linear model in current innovation literature (e.g. Smits, 2002; Essén & Lindblad, 2013).

mainly because its value has yet to be constructed. Professionals working on innovation seem to recognize this as they often strongly disagree with the idea of presenting certain innovations as inherently positive developments. In practice they draw a distinction between the value and novelty of an innovation as the following quote nicely illustrates:

> *"It does not really matter if something is new or not. What matters is if it is proven and available for practice. The novelty of a product doesn't tell me a thing about the value of an innovation."(Executive director, rehabilitation center, personal communication, September 11, 2012).*

This quote shows that the value of an innovation is based upon quality and content, not on its novelty. This distinction between novelty and value is not only interesting for theory, it has an impact on practice as well. We occasionally met project leaders who emphasized the novelty of their projects, because they knew the outside world would use that as a way to value their innovation. In addition, outsiders sometimes questioned the value of an innovation by expressing doubts about its novelty. Even so, we argue that there is nothing inherently 'good' about innovation (Thomas & Morgan, 2013). Holding to the premise 'the newer, the better' means that one misses the details of the situatedness of an innovation and the inherent work that innovations entail. The work we describe in this part shows that innovations do not suddenly pop-up, or emerge out of the blue when conditions are right. Instead, much work is done to construct what is seen as the innovation and that work constructs the value as well. Practical improvement is achieved through other means than some form of ordered implementation of given innovations (Essén & Lindblad, 2013). Considered from our process perspective, we can conclude that the ongoing work processes transforms and constructs both the *innovation* and the *value* it represents in practice.

So far, we have dealt with two important points about the relation between novelty and innovation. First, we demonstrated how innovations are defined, shaped, and constructed in practice in a specific context

and time frame. This implies that 'novelty' is not an intrinsic characteristic of an innovation. Although sometimes framed or presented as such, we should consider it analytically as context and time-dependent. Second, we demonstrated how both the innovation and the value it represents are constructed in the situated work inherent to innovation. Therefore, novelty is not a valid predictor for an innovation's value. Merely analyzing an innovation's degree of novelty proves to be insufficient for understanding its value as this depreciates the work needed to construct value.

Building on these two findings, in this last part of the Results section we introduce the notion of 'situated novelty' as an alternative way to describe and analyze innovations in practice. This notion, we argue, best represents what innovations are as it understands them in their specific historical context. Using situated novelty shifts attention to other meanings than novelty alone. It reflects the idea that continuous work brings innovations into different contexts in terms of actors, materials, structures and time. From a process-inspired perspective we argue that the notion of situated novelty reflects that the innovation and the value it represents is enacted in the work conducted by those involved in situated practice. In addition, situated novelty influences the perspective on the management of innovation.

Managing situated novelty

Recognizing that an innovation and its value are both enacted in practice is important for the management of innovation projects. This is illustrated by a major struggle project leaders and managers faced in the case studies we analyzed. This had to do with the management of flexibility vs. rigidity. Although the project leaders acknowledged that flexibility makes an innovation suitable for multiple contexts, they see a threat in maximizing flexibility as it decreases the project leader's span of control. They tend to dislike this, as a project leader explained, because it allows people to "make a mess of it and throw away the value of an innovation." However, the challenge of managing contextual and situated innovation goes beyond the risk of loss of control. What worries project leaders the most is the risk of losing the

underlying value of an innovation. Innovations that are too flexible may result in diminished effectiveness and eventually to loss of value, as the following interview fragment shows:

> *"How do you monitor if and how people stay true to the concept. I think this deserves proper attention…[...]…What actually concerns me is that people tend to make their own versions of an innovation... [...]..I think this is a potential risk to effectiveness."(Member, program committee, personal communication, February 21, 2012).*

In response to the risks of flexibility, some argue for its opposite: rigidity. However, striving for rigidity also bears risks for innovation and is therefore equally undesirable. Our cases show how rigidity may turn an innovation into something labeled a rather simple best practice. Although in our opinion all project leaders believed they were working on the newest, best practices for the entire sector, and thus that others should 'follow' their efforts, the cases also show that dogmatic thinking may lead in the long-term to misinterpretation and even to misuse. Whenever an innovation is seen as merely a simple trick or a goal in itself, it detracts from the underlying principles and value propositions, which make an innovation valuable. ACT (case #2) serves as an illustration here:

> *"It [ACT] is kind of brainwashing. People sometimes overdo it. For example, we all say 'What makes you happy?'...[...]…And we notice that in the end this question loses value. Sometimes, when people have lost their inherent flexibility, we need to work in the opposite direction. Then you hear people say, 'But I thought that it [fighting the pain] was not allowed in ACT!'"(Member, ACT treatment team, personal communication, September 11, 2012).*

Searching for easy ways to work with an innovation in practice is quite understandable. The above example shows how, when treating patients, people tend to look for a simple explanation for ACT – in this case a simple phrase that reflects its essence. The example also points to the risk that an innovation runs of becoming dogma, which may af-

fect the outcome, and may alter it in an undesirable way. It may end up harming the value of the innovation and its ability to be used in other contexts.

This brings us to the conclusion that although both dogmatic thinking and too much flexibility may seem useful, both are unfavorable for the work in innovation processes. As we have showed, both could alter the innovation and its value proposition. What matters is that the true intention behind an innovation – what people are really trying to change in practice – needs to be the center of attention (Czarniawska, 1997). The assumptions about the underlying value of an innovation and the change in practice it stands for need to remain intact, even if an innovation is enacted in a situated manner. The innovation and the evaluation of what it does have fluid boundaries in practice. In line with de Laet and Mol (2000), we therefore argue that some parts of the innovation are essential while others can be replaced with something else. This makes an innovation fluid within certain boundaries, as the following quote from one of the project leaders nicely expresses:

> *"It's open to discussion whether an innovation is what was intended when people adjust it to local circumstances. I think it's a general issue of both adapting and staying true to the original idea. How much adaptation can an innovation endure?" (Project leader (case #4), personal communication, September 14, 2012).*

This short fragment illustrates the project leader's struggle with the need for both flexibility and rigidity in the course of an innovation process. We argue that this dual need, and the downsides of dogmatic thinking and too much flexibility, mean that while some elements of an innovation should remain intact, the innovation itself can be adjusted or experimented with. Though many elements can be transformed, the value propositions of an innovation must not be allowed to collapse so that intended effects of the innovation practice can still be achieved. The notion of situated novelty, with its emphasis on meanings other than novelty and the work that is inherent to innovation, represents a perspective that allows for the existence of both flexibility and rigid-

ity in innovation processes. We spell out the implications of situated novelty for innovation management in the following section.

CONCLUSION AND DISCUSSION

This paper introduces an alternative approach based on a process perspective that we developed to study innovation. Our approach emphasizes that novelty, including the meaning and value of an innovation, is contingently enacted in processes of work (Woolgar & Neyland, 2013). In our opinion, the notion of situated novelty is more than a straightforward linguistic change as it contributes a richer conceptual understanding of innovation and because it may mark the beginning of a new vocabulary to discuss innovation management in organizations. This section describes some conclusions about our alternative approach and discusses the implications for further research and management of innovation.

Situated novelty reflects that what is considered 'new' is situational within a specific historical context. What is new depends on how it is used and framed in a certain situation. Innovations gain meaning in practice, which makes it irrelevant to focus on the analysis of novelty alone. Other meanings of innovation matter as merely analyzing an innovation's degree of novelty proves to be insufficient for understanding its value as it depreciates the work needed to construct value. Hence we argued for another conceptualization of innovation. Instead of considering inherently given properties or definitions (capabilities) of innovation, we applied a process ontology to analyze how innovations come to seem what they are. A process ontology is a worldview that sees processes rather than substances and that recognizes that everything has no existence apart from its relations (Garud et al., 2013). Unraveling events from a process ontology standpoint reveals and acknowledges complexity in (social) processes rather than expresses an aim to reduce this complexity. Based on the results of an analysis of four case studies using the process perspective, we introduced the notion of situated novelty to emphasize that novelty is not some intrinsic characteristic

of innovation as it does not fully encompass what an innovation means and involves for those working on and using it. Nothing about the characteristics or the value of an innovation is universally valid.

Our research focused on the main research question: *What is innovation and how are different meanings ascribed to it in a healthcare setting?* We have shown that innovations are not too rigorously bounded but adaptable, flexible and responsive. Innovations and their value are fluid entities that are enacted in practice in the processes of work. The fluidity of an innovation says nothing about its value as this value also comes about in practice. Instead of stereotyping change and innovation as if they were almost always positive, we pointed out that the interactions between actors, materials and contexts that underlie the meaning of an innovation subsequently create value. We built our argument for reframing novelty as situated novelty by explaining the situatedness of innovation, adding the contextual, interactional, and temporal elements to the study. This clarified how and why people assign different meanings, other than novelty, to innovations in practice. Situated novelty reflects the idea that it is continuous work that brings innovations into different contexts in terms of actors, materials, structures and time and that the value an innovation presents is enacted in the work conducted by those involved in a situated practice. The major contribution of reasoning from a process ontology is that it enables us to demonstrate that the value of an innovation is context-specific and enacted in situated processes of work.

The notion of situated novelty also has major implications for (studies on) the management of innovation. Although the management of innovation is not the main purpose of this study, our research was sparked by a question about it which is why we will go on to discuss three major implications of adopting our ontological perspective to innovation for management.

(1) Emphasizing the situatedness of innovation and its value questions the relevance of distinguishing between phases of 'innovation' (steps in the development of something new) and 'implementation' (its dis-

semination or diffusion) as often described in mainstream literature on innovation management. Both the innovation and its actual value are enacted in practice and are thus determined by meanings people assign to it. As the innovation's value is also constructed in practice, it is relevant for managers to focus on the management of meaning in a way that goes beyond influencing conditions that merely cultivate novelty (Gowler & Legge, 1996; Lindstead, 2001). Identifying lists of stimuli and barriers to innovation has limited practical value as that tends to undervalue or miss out on the work that is inherent to innovation. Our process perspective on innovation may inspire managers to focus on mundane daily activities such as sense making, informal chatting and making constant adjustments and searching for temporary solutions (Alvesson & Sveningsson, 2003; Weick et al., 2005; Holmberg & Tyrstrup, 2010). In this way situated novelty changes *what* is being managed and *how* that is done in innovation projects.

(2) Situated novelty suggests that innovations emerge from iterative processes that have strong links to historical developments. As innovations arise out of the interweaving of multiple processes, we question attempts to control or even plan innovation (Mowles, 2013). We argued that innovations are dependent on continuous work on developing, adapting, implementing, and translating innovations. This implies that innovation managers are challenged to organize and facilitate this work continuously, for example in terms of time, financial means, and appreciation for people working on innovation. Managing innovation is becoming more about abandoning control to give room for the methods and insights of those who use the innovation in practice (de Laet & Mol, 2000). This asks for a context-specific discussion on how actors, places, materials, and time contribute to turning innovation into a structural activity in the organization instead of finding the right prescriptive model for managing innovation.

(3) Our notion of situated novelty offers an alternative perspective on the dual need for flexibility and rigidity in innovation, as we mentioned earlier. Although this duality is not new to the literature on innovation (e.g. McKinley et al., 1999; Gibson & Birkinshaw, 2004 and Smith &

Lewis, 2011),[14] our concept sheds a new light on its management. With respect to flexibility, the dual need does not automatically lead to a trade-off as so-called ambidextrous organizations can alternate flexibility and rigidity in a process known as the management of ambidexterity (Tushman & O'Reilly, 1996; Jansen, Simsek & Cao, 2012). While this conclusion focuses on the level of the organization, in the section headed 'Managing situated novelty' we showed that innovation projects combine flexibility and rigidity on the level of the innovation itself. We described the risks of too much flexibility and rigidity in innovation and emphasized that the essence of an innovation should remain intact. Innovations are both flexible and robust at the same time.[15] Moreover, this fluidity makes the innovation stronger than a firmly fixed one. Regarding innovation as fluid therefore implies that innovation managers should focus on managing this ambidexterity, not only on the level of the organization but also on the level of the innovation by ensuring that any innovation – considered a symbol for larger changes in practice – can be adjusted while its established essence remains intact.

A test for a proposed new concept is whether it creates new questions or provides a fresh and useful perspective on existing ones (Lawrence et al. 2011). We suggest that the usefulness of our notion of situated novelty should be considered in further research on innovation. We argue that the concept opens up a valuable perspective on innovation, which may assist scholars to analyze innovation in a way that goes beyond seeing an innovation as merely something new that awaits implementation. We particularly invite scholars to shed a light on how our ontological perspective that describes how innovation emerges from contextualized, interactional and time-dependent processes rhymes with the desire to influence, steer, and organize innovation processes in complex organizational contexts. Although our intentionally limited

[14] It has been described as a balance by McKinley et al. (1999) or as a tension or a paradox between exploration and exploitation by Gibson and Birkinshaw (2004) and Smith & Lewis (2011).

[15] Our argument here is similar to Feldman and Pentland's argument on organizational routines (2003).

selection of cases makes this particular research not representative for the entire healthcare sector, or for other hybrid sectors, the aim of introducing our theoretical concept of situated novelty as a valuable approach to innovation may inspire future research efforts. We hope that our research contributes to further development of theory and that it may inspire further debates about innovation management across a series of other (sub)sectors in our society

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CHAPTER 3

Caring for healthcare entrepreneurs: Toward successful entrepreneurial strategies for sustainable innovations in Dutch healthcare

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ABSTRACT

The sustainability of current healthcare systems is threatened by several societal developments, including an aging population, an increase of unmet medical needs and rising healthcare costs. A transition is needed in order to meet these threats and to achieve a proper balance between the demand for care and the capacity to supply it. Entrepreneurs play a crucial role in developing the required sustainable innovations for this structural change. They are able to develop innovations in close interaction within the healthcare context. This paper studies entrepreneurial strategies for the successful development of sustainable innovations in Dutch healthcare. Data comes from semi-structured interviews with healthcare entrepreneurs. Results show that entrepreneurs experience the interaction with the healthcare system context in various ways and act accordingly. Four types of sustainable healthcare entrepreneurs could be identified: isolated, innovative, evolutionary and revolutionary. These entrepreneurial types differ in terms of their beliefs as to whether and how individual entrepreneurs can contribute to achieving structural change in healthcare.

UNDERSTANDING SUSTAINABLE HEALTHCARE ENTREPRENEURS

Although the intensive growth of national economies has led to an enormous growth of welfare, we are increasingly confronted with the boundaries of what had seemed to be unlimited growth. As a consequence, society increasingly imposes demands on the direction of economic developments. These should be more sustainable in order to meet the needs of current generations without simultaneously compromising the ability of future generations to meet their own needs (WCED, 1987). This specific requirement for sustainability seems especially important in healthcare, where societal trends jeopardize the sustainability of the sector. An aging population, with increasing prevalence of long-term and incurable illnesses,[16] an increase in the number of people living unhealthily; an increase in unmet medical needs; increasing patient demands for quality and the availability of expensive new diagnostics and treatments will threaten the provision of healthcare for future generations (Rotmans, 2007; Rosenberg-Yunger et al., 2008). In order to meet these threats and to achieve a more sustainable healthcare system in the future, a transition of the health sector is needed.[17] These transitions require far-reaching innovations, ranging from new products, services and technologies to systemic changes (Elzen & Wieczorek, 2005; Hekkert et al., 2007).

Such far-reaching innovations do not emerge in a vacuum, but rather in a dynamic and complex context, resulting from activities and interactions of different actors who are part of this context (Edquist & Lundvall, 1993; Geels, 2004). This 'system of innovation' approach describes innovation as an interactive phenomenon: i.e. a co-evolutionary

[16] By the year 2015, half of the population (15–85 years old) will suffer from a chronic disease (Perenboom, 2008).

[17] In literature transitions are described as major, complex, large-scale, long-term and structural transformations of an entire sectors which require structural reorientations at the micro- and macro-level of the economy that go beyond incremental change (see for example Ashford, 2001; Geels, 2004; Geels, 2005; Elzen & Wieczorek, 2005; Dijkema et al., 2006; Hekkert et al., 2007; Rotmans, 2007; Suurs & Hekkert 2009; Geels, 2010; Meijer et al., 2010).

process of structural reorientation. This view results in an integrated system-based model of innovation that introduces potentially influential contextual factors for innovation processes. Studying innovation processes in terms of systems has developed into an established research tradition that studies structural elements, the actors involved and the institutions that guide and influence actor's perceptions and activities (Geels, 2004; Edquist, 2005; Hekkert et al., 2007; Lundvall, 2007). This paper follows Lundvall (2007) indicating that the core of an innovation system is formed by the relation between micro-behavior of key actor groups and the wider system context in which they operate. This paper focuses on entrepreneurs as these are believed to be one of the key actor groups due to their ability to discover, develop and diffuse innovations (e.g. Gerlach, 2003; Lundvall, 2007; Hekkert, 2008).[18] By focusing on the actions of entrepreneurs, contextual elements will be discussed when relevant. The innovation systems approach is often criticized for its lack of explanatory power caused by a wide focus on all actors, networks, organizations and institutions that influence the development, diffusion and implementation of a particular innovation (e.g. Geels, 2004; Lundvall, 2007). This research, however, describes the context based on experiences of entrepreneurs; consequently, only factors from the system context with an actual influence will be discussed. Furthermore, this research not only identifies contextual factors, but also analyzes how and why they matter for entrepreneurs.

According to many scholars (e.g. Exton, 2008; Garnier, 2008; Kola, 2008), entrepreneurs play a crucial role in innovation processes that contribute to sustainability. Former studies into transitions have mainly focused on how entrepreneurs innovate (e.g. Lumpkin & Dess, 1996; Sarasvathy, 2000; Davidsson, 2004; Nooteboom & Stam, 2008) and on the identification of personal characteristics that determine which

[18] Two citations illustrate that entrepreneurs are believed to form a key actor group in innovation processes: (1) "Sustainable entrepreneurs identify market opportunities for innovations concerning sustainability, successfully implement these innovations and create new products or services" (Gerlach, 2003: 3) and (2) "Innovation can be seen as 'new combinations'. It can be separated from invention that becomes an innovation only when the entrepreneur brings it to the market" (Lundvall, 2007: 7).

individuals become entrepreneurs (e.g. Baum & Locke, 2004; Philips & Tracey, 2007). According to Edquist (2005), innovation scholars started to recognize the importance of the system context for innovation processes from the 1990s onwards. Ever since, many scholars have devoted their work into explaining and describing the role of the context, which resulted in many studies into innovation systems and its elements: e.g. work into 'network interactions' of Carlsson & Jacobsson (1997), Edquist (2005) and KleinWoolthuis et al. (2005); 'guidance' of Ashford (2001) and Hekkert et al. (2007); 'competition' of Sarasvathy (2000); Davidsson (2004); 'institutions' of North (1991), Johnson & Gregersen (1994), Olsen (1998), Scott (2001), Hahn & Scheermesser (2006) and Rotmans (2007). However, within this literature about the system context of innovation, studies analyzing the influence of this context on entrepreneurs greatly outnumber those considering the influence of entrepreneurs on the context (e.g. DiMaggio & Powel, 1991; Edwards, 1993; Jacobsson, 2002). Although these efforts are worthwhile, they illustrate that existing research fails to explain how entrepreneurs exert their potential influence on the system context, whereas such explanations would especially contribute to one important challenge in innovation theory as described by Lundvall (2007): linking entrepreneurship as a classical driver of innovation to the concept of innovation systems. Hence, current innovation literature offers insufficient insights into how innovating entrepreneurs interact with the system context for their innovation. This gap in innovation literature is caused by insufficient knowledge on the characteristics, success and time-related dynamics of entrepreneurial strategies to interact with the wide variety of elements within the system context. An improved understanding of this interaction, especially for those entrepreneurs that contribute to the transition, could improve the understanding of innovation processes on a micro-level and could be used to improve innovation policy. This research analyzes this interaction from the viewpoint of individual entrepreneurs in healthcare.

Contextual factors are, however, by definition sector-specific. Therefore a more detailed description of the sustainability challenge and innovation characteristics of the sector under study is required before the interaction itself can be analyzed. This paper focuses on Dutch healthcare,

because of its high impact on the Dutch economy in terms of public expenses and employment numbers (e.g. CBS, 2011); its fundamental character of providing a public good according to well-known public values as quality, affordability and accessibility, and its strong sustainability threats like an aging population and increase of chronic illnesses. Until now, most studies into transitions have been applied to the energy and environmental sector (e.g. Negro et al., 2008; Suurs & Hekkert, 2009; van Alphen, 2009; Meijer et al., 2010). Applying an innovation systems and a transition approach to the healthcare sector is rather new, although the sustainability threats clearly emphasize the need for a transition toward sustainability in healthcare (Olsen, 1998; Rosenberg-Yunger, 2008; Havighurst, 2008; Hwang & Christensen, 2008).

The main aim of this research is therefore to gain greater insights into the interaction between entrepreneurs and the system context in healthcare by simultaneously taking a wide scope (focusing on a wide variety of elements within the system context of innovation) and a narrow scope (focusing on the entrepreneurial perspective). This research will answer the following research question: *what are the successful entrepreneurial strategies to change the system context for the development and diffusion of sustainable innovations in Dutch healthcare?*

Fig. 3.1 gives an overview of the focus of this paper. Relation 1 illustrates that healthcare entrepreneurs develop certain innovations in interaction with the healthcare system context, which in turn contributes to the transition toward sustainable healthcare. Relations 2 and 3 represent the interaction between the healthcare system context and innovations by healthcare entrepreneurs: the influence of the system context on the entrepreneur (Relation 2) and the influence of an entrepreneur on the system context (Relation 3). Section 2 presents the theoretical background for studying entrepreneurial strategies of sustainable healthcare innovations. Section 3 describes the research methodology: the research population, the data used, the measurements and the various methods of analysis. Section 4 presents the results. Section 5 provides the conclusions. Section 6 discusses the findings and gives recommendations for policy and further research.

Figure 3.1: Conceptual relations between entrepreneur and system context

THEORETICAL BACKGROUND

The contribution of this paper to innovation and sustainability literature is twofold. In addition to the emphasis on the important role of healthcare entrepreneurs in realizing a transition toward sustainability, this research delivers more detailed insights into the dynamics of transition processes. By analyzing the direct behavior of entrepreneurs in interaction with the healthcare system context, it delivers insights into the micro-level of such transitions.

The need for innovation

Transition management literature does not only emphasize the importance of innovations for transition processes; it assigns a crucial role to it. Innovation is the critical factor to realize radical change because it possesses the potential to contribute to fundamental changes toward sustainability (Gerlach, 2003; Hekkert et al., 2007; Coenen & Diaz Lopez, 2008). Because of ongoing changes in the ideas on and the possibilities to sustainability, transitions need to be understood as ongoing change processes toward sustainability and not as the creation of a final sustainable system. Transitions are roadmaps or visions that indicate a direction for development and show which new competences are needed to get there (Olsen, 1998; Larson, 2000). This paper defines innovation as: "the successful development and application of knowledge and technology in the form of new technologies, products, processes, practices and services" (Hekkert, 2008). This definition builds on work of for example Ashford, 2001; Gerlach, 2003 and Hekkert et al., 2007). It describes the development of something new and, simultaneously, the reflection of that new knowledge and technology in something that is brought to the market. By ascribing such an important role to innova-

tion in transition processes, this paper is in line with the innovation system approach (e.g. Edquist & Lundvall, 1993; Edquist, 2005; Jacobsson, 2002) and the multi-level theoretical perspective (e.g. Geels, 2004; Geels, 2005; Rotmans, 2005). According to both theories innovation processes are able to contribute to transition processes (i.e. able to mitigate various societal challenges) by inducing structural change in a sector, in addition to the possible contribution of innovation to traditional economic factors (Ashford, 2001; Hekkert et al., 2007; Gerlach, 2003; Fagerberg & Godinho, 2005; Coenen & Diaz Lopez, 2008; Markard & Truffer, 2008). Innovation contributes to a transition when it possesses the ability to change the sector structurally by causing the required far-reaching changes on the level of an entire system (Markard & Truffer, 2008). Innovations that only change the sustainability of a single firm, that are only applicable in very specific situations or that make individual product-life-cycles more sustainable, are therefore irrelevant from a transition perspective. To conclude, from a transition management perspective, innovations are applications of knowledge and/or technology in the form of new products, processes and services that possess the potential to induce a structural system change and thus contribute to transition processes.

The need for entrepreneurs

This paper is in line with the work of Schumpeter (Schumpeter, 1934), recognized as one of the first authors who related entrepreneurs to the development of innovations. Ever since, many well-known scholars widely recognize and support the important role of entrepreneurs in innovation processes and their ability to develop and implement valuable innovations.[19] This paper focuses especially on entrepreneurs that fulfill a crucial role within transitions processes in healthcare; it defines entrepreneurship as 'the introduction of a new economic

[19] Various arguments for why innovative entrepreneurs are able to change the current system context around them and consequently force innovation processes into new directions are well-known in literature: entrepreneurs are not hampered by vested interests; may experiment on a small scale against low costs and are often venture some people that are willing to experiment (see for example: Sarasvathy, 2000; Garud & Karnoe, 2001; Geels, 2004; Davidsson, 2004; Hekkert et al., 2007; Hekkert, 2008; Nooteboom & Stam, 2008)

activity, which is expected to be economically viable (aimed at gaining some form of economic returns), and which leads to a change in the marketplace when introduced' (based upon Gartner, 1989; Lumpkin & Dess, 1996; Sarasvathy, 2000; Saltman et al., 2002 and Davidsson, 2004). This definition allows the inclusion of a wide variety of healthcare entrepreneurs in this research, varying from new entrants to incumbent companies. As opposed to mainstream economic literature (e.g. Eckhardt & Shane, 2003) this research does not overestimate the economic rationales of innovation; it does however acknowledge that entrepreneurs are, at least partly, driven by expectations of economic viability. Entrepreneurs potentially contribute to economic viability and sustainability at the same time. In addition to the contribution to sustainability the 'more traditional' goals of innovation (such as economic viability in terms of profit optimization, competitive advantage, market share, firm growth and/or an increased chance of survival) need not to be neglected (Fagerberg & Godinho, 2005; Asoh et al., 2005; Verspagen, 2005). This idea is in contrast with the traditional belief that every sustainable innovation is inherently associated to a trade-off in economic profitability (Cohen & Winn, 2007). This paper considers entrepreneurship as able to reconcile economic growth with transition efforts toward sustainability in healthcare.

Explaining entrepreneurial success

Explaining entrepreneurial success has been the aim of many theoretical approaches, including the opportunity recognition and the opportunity discovery view (e.g. Shane, 2000; Park, 2005). This research, however, considers these approaches as insufficient to understand and explain entrepreneurial behavior and success, because they are both unable to explain the dynamics of innovation processes within transitions. The recognition view disregards the system context of innovation and the societal pressures coming from it by explaining entrepreneurial success from opportunities that would arise from market failures. This neglects the fact that entrepreneurs are risk-taking individuals who operate under high uncertainty and who are influenced by interdependencies with other stakeholders, policies, regulations and institutions (e.g. Gerlach, 2003; Cohen & Winn, 2007; Dean & McMullen, 2007 and Hall

& Lobina, 2007). The opportunity discovery view on entrepreneurial opportunities explains entrepreneurial success in term of information asymmetry based opportunities. This is considered insufficient, and even confusing, as it suggests that opportunities are just 'out there', waiting to be exploited instead of recognizing the importance of actions, activities and strategies of individual entrepreneurs. In this research entrepreneurial opportunities are considered a direct result of individual entrepreneurial action (recognition, evaluation and implementation) in response to certain contextual factors and/or conditions (Schumpeter, 1934). Turning an idea into entrepreneurial success is therefore the result of individual action that is based upon the entrepreneurs' perception, interpretation and understanding of factors from the system context (Schumpeter, 1934). This view on entrepreneurship aligns with the 'opportunity creation' view, because it assumes that entrepreneurs create market opportunities by applying certain strategies in interaction. Within this view, innovation processes are considered to be characterized by an intricate interplay between elements from the system context and the interpretation and strategies of individual actors. This would make it worthless to analyze innovation processes independently from the intense interaction between elements of the system context and the individual entrepreneur (Philips & Tracey, 2007). Innovation is a dynamic phenomenon and using the system approach helps to gain insights into the dynamics of innovation systems (e.g. Balzat & Hanusch, 2004). To sum up, entrepreneurs fulfill a crucial role in the transition toward sustainability, because they develop innovations that are economically viable and potentially induce valuable systemic changes within an interactive context. The adjective 'interactive' implies that entrepreneurs are not merely influenced by the system context; they also exert an influence on it. This paper increases the understanding of this interaction by analyzing how entrepreneurs innovate. To be more specific, new insights into how the system context influences entrepreneurs and how entrepreneurs influence the system context will lead to a more profound understanding of how macro-economic dynamics work out on micro-level of entrepreneurial innovation and vice versa.

METHODOLOGY

Research design & research population

The research design is exploratory and qualitative, due to the rather new focus on the interaction of entrepreneurs with the system context, and the current lack of available knowledge on this topic in the light of the sustainability challenge in healthcare. Inductively analyzing the data is most valuable for gaining new valuable insights for both innovation theory and practice (Yin, 1994). This paper is based on data from 14 illustrative examples of healthcare innovations. To explore these examples, semi-structured, in-depth interviews with entrepreneurs have been carried out and relevant field documents have been analyzed. The research population consists of innovative healthcare entrepreneurs. All entrepreneurs must have developed healthcare innovations that were aimed at the delivery of certain health services. Fig. 2 defines the specific target population of entrepreneurs (SE = sustainable entrepreneurs).

The entrepreneurs were selected based on their compliance with three criteria: (1) *'Qualify as an entrepreneur'*: the entrepreneur developed and introduced a new viable economic activity into the market. This includes new entrants, start-ups, corporate ventures, spin-offs and even new innovative activities by (employees of) large firms. (2) '*Be innovative'*: the entrepreneur has developed an innovation in the market, which is a 'new combination' in the form of a sellable product, service or concept which (potentially) leads to a change in the market

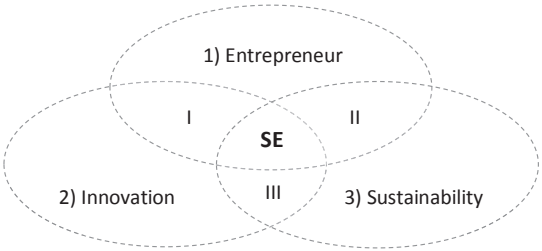

Figure 3.2: Defining the population of entrepreneurs of interest (SE = sustainable entrepreneur

place after introduction. (3) *'Contribute to transition'*: the innovation should possess the ability to induce structural change in a sector while, at the same time, it needs to retain or improve economic returns for the individual entrepreneur.

Fig. 3.2 clearly distinguishes sustainable entrepreneurs from three other groups of entrepreneurs (I t/m III) for which only two out of three criteria apply. Although these other groups could develop valuable innovations as well, they do not contribute to the transition toward sustainability according to the theoretical logic and criteria formulated here. Group one (I) reflects non-sustainable innovative entrepreneurs, i.e. individuals or firms that introduce innovations that do not contribute to the sustainability challenge. For example, new daily practices within any particular healthcare organization may not be applicable to another organization, so that they cannot induce structural changes throughout the sector. Group two (II) consists of entrepreneurs that contribute to sustainability but not through innovation, such as entrepreneurs that start private non-innovative clinics for a specific target populations of which many already existed, or an individual that gets self-employed by starting a health consultancy firm. These entrepreneurs merely create new ventures without causing a real (innovative) change in the marketplace. Finally, group three (III) consists of persons that develop innovations that contribute to the sustainability challenge, but who do not qualify as an entrepreneur according to criterion one. For example, a company or person that develops an innovation platform that disseminates 'best practices' is not by definition entrepreneurial. Often these persons work for organizations that can be characterized as mission driven or not-for-profit. Although these endeavors may be valuable from a societal perspective, they are irrelevant for this research, because their success is mainly dependent on others and their operations are not aimed at creating viable businesses (Gerlach, 2003; Dean & McMullen, 2007). This research analyzes entrepreneurs that comply with all three criteria and they are referred to as sustainable entrepreneurs. The use of these three criteria makes 'success of the entrepreneur' inherent to its selection because all the interviewed entrepreneurs were at least successful in developing a particular healthcare innovation.

Data collection

After a thorough literature review on healthcare entrepreneurs and the Dutch healthcare system in international peer reviewed journals and relevant field documents, data was collected by: (a) semi-structured, face-to-face interviews with innovative healthcare entrepreneurs (N=14) and (b) meetings with other researchers (N=3) to discuss our findings. Semi-structured qualitative interviews offered the best opportunity to contribute to an improved and thorough understanding of the interaction of individual entrepreneurs with the system context for innovation. In order to be able to elucidate commonalities within a diverging set of individual perspectives, multiple entrepreneurs were interviewed (Yin, 1994). The semi-structured interviews allowed for gaining insights into the interaction of individual entrepreneurs with the system context for innovation. The influences, the applied strategies and the underlying argumentations and considerations were discussed in detail. For this purpose, the interviews consisted roughly of two parts: first, the influences the entrepreneurs experience from the system context were analyzed, after which the second part was dedicated to the identification and analysis of the implemented strategies aimed at inducing system change. During the second part of the interviews, the entrepreneurs were asked to relate the strategies to the earlier identified influences whenever possible. Questions about this relationship were asked to ensure that insight into the interaction was gained. The semi-structured interviews were also conducted to allow the interviewees to give underlying (argumentation and) motivations for their answers. To increase the reliability of the data, the interviews were recorded and transcribed. This offered the opportunity to analyze the data multiple times and by different researchers.

Methods of data analysis

The interviews delivered insights into the interaction of individual entrepreneurs with the system context. Since the interviews were open and semi-structured, they resulted in a large amount of qualitative data that needed to be analyzed in a comprehensive way to draw some general conclusions. The analysis of the qualitative data was conducted

interactively, with the use of both theory and the data. First, raw data obtained from the interviews was transcribed and coded according to the process of 'open coding' (e.g. Boeije, 2008). Because there was no theoretical framework with related labels to apply to the data, the labels came directly from the raw data, i.e. as they were mentioned in the descriptions of the interviewees. The next step in the analysis was structuring the data by excluding the overlap in the descriptions and by a continuous iterative comparison between theoretical insights and the raw data. This step in the analysis consisted of a continuous development of a framework based on a comparison of the data to already developed labels and categories. For every piece of raw data it was determined whether it fitted with an already developed label; whether it required a change in the definitions of current labels or whether it legitimizes the creation of an entire new label. Finally, the raw data was analyzed again, based on pattern-matching (Yin, 1994), to investigate whether the empirical data matched the developed framework. This final analysis needs to ensure that all the raw data, in terms of influences and strategies as mentioned by the entrepreneurs, could be assigned to one of the developed categories. In order to further increase the reliability, the details of the coding process and the results were discussed with colleague researchers. Source triangulation took place by using both field documents and exploratory interviews with entrepreneurs. In addition, close cooperation with other researchers took place during start-up, data collection and data analysis. So also investigator triangulation has been carried out as way to improve validity. The process of iterative analysis results into a framework of categories of influences and thus represents the researchers' interpretation of the raw empirical data in the light of existing theory. It was the goal of this research to identify and clarify the interaction of factors from the system context and the strategy of healthcare entrepreneurs with regard to the transition toward sustainability. The rather explorative research design with iterative data analysis is considered suitable to deliver these insights, since it represents a first attempt to develop new models and theory about the behavior of sustainable entrepreneurs in interaction with the context. Since the interviewed entrepreneurs were selected randomly the results of this research are considered valid for

the specific target population as described in Section 3.1. However, as the results will be very sector- and target population specific, additional research is needed before generalizations to other sectors and target populations can be made.

RESULTS

The aim of this paper is to deliver detailed insights into the interaction of individual healthcare entrepreneurs with their system context. First, this study investigated what the term 'sustainable healthcare innovation' means. Next, a distinction has been made between influences from the system context on the entrepreneurs and, vice versa, the influence of entrepreneurial strategies on the system context.

Sustainable healthcare innovations

'Healthcare sustainability' refers to the balance between the demand for care and the capacity to deliver it. A sustainable healthcare system can be described as financially robust, economically viable, accessible to everyone and valuable in improving the health status of the individual (according to Rotmans, 2007). Sustainable healthcare systems thus need the long-term capacity to mobilize and allocate sufficient resources (such as human resources, technology, information and finance) to activities that meet individual or public health needs (Olsen, 1998). Ensuring a sustainable healthcare in terms of quality, affordability and accessibility is therefore dependent on the ability to find appropriate responses to sustainability threats. These threats are already identified and described in earlier research efforts (e.g. Perenboom et al., 2008). On the demand side, we need to come to terms with: an increasingly aging population, an increasing prevalence of long-term and incurable illnesses; an increase in the number of people with unhealthy life styles (e.g. obesity); an increase in patient demands for quality; and the availability of new, expensive diagnostics and treatments (Rosenberg-Yunger et al., 2008). A threat to the supply side of healthcare could be a possible shortage of capacity, which may be the result of higher expenditures on healthcare, limited growth of productivity (e.g. in-

novation deficit in drug development pipelines) and an increasing lack of qualified personnel[20] (Rotmans, 2007; Rosenberg-Yunger et al., 2008). In addition to these threats, also long development times, rigid patent laws, strict safety regulations and complex ethical issues characterize healthcare. Together these threats and characteristics make the need for a transition evident. Healthcare needs to develop into a more sustainable healthcare system, i.e. one that is capable of providing affordable, safe, effective and innovative care now and in the future. A wide range of (non)-technological innovations is needed for this purpose (Hwang & Christensen, 2008). Healthcare is thus sustainable when healthcare demand and the capacity to deliver it (supply) are in balance, now and in the (near) future. Even innovations that are not fully sustainable at the time of introduction are valuable from this perspective if they contribute to sustainability by inducing long-term systemic changes. Criteria for determining whether innovations have the potential to contribute to healthcare sustainability (VWS, 2006) are listed in Table 3.1.

Table 3.1: Description of criteria of sustainable healthcare innovation (VWS 2006)

An innovation contributes to the transition in healthcare if (one of the following)	
It focuses on the interest of the patient with a demand for care	It integrates different valuable aspects from the supply chain of care
It includes intensive cooperation with services form other sectors	It recombines health, prevention, cure and care in a more valuable way
It mobilizes valuable resources from sectors outside of care	It creates support and care from a distance to reduce the demand for care
It increases the learning- and innovative potential of care	It offers opportunity to increase the productivity of healthcare substantially
It redefines the demand for care (in the future) by for example focus on prevention	It is not restricted to a particular location, i.e. that it is suitable to be scaled up
It encompasses social support systems that reduce the demand for care	

[20] It is estimated that 1 out of 5 people will have to work in care by the year 2030 in order to sustain the current system of healthcare (Perenboom et al., 2008).

Influences from the system context on entrepreneurial strategy

A total of 23 influences from the system context were identified during the initial round of interviews. All exerted an influence on the innovation processes of the entrepreneurs. A detailed analysis of the data resulted in a comprehensive overview, in which all influences were assigned to one of five inductively developed categories[21] of influences: 'network interactions', 'infrastructure', 'institutions', 'technology' and 'external factors'.[22] The category of network interactions describes cooperative and competitive relations between different organizations within and outside the healthcare sector. Although the entrepreneurs acknowledged the importance of competition for determining their strategies, they did not consider it as a threat for their success. It was often argued that when an innovation adds real value to potential customers, all competition becomes irrelevant. Other entrepreneurs considered competition as the most important driving force for their success because it forced them to keep performing well. Sometimes, the influence of competition on entrepreneurial strategy was evaluated from a general healthcare perspective, as is evident in the following illustrative quote:

> *"The more added value for healthcare the better. That's why we share lessons learned freely and without preconditions with 'competitors'… [..]…That's what we want right, spreading valuable ideas" (Personal communication, February 2009).*

In addition to competition, the existence of either too strong or too weak interactions was referred to as another important aspect of net-

[21] Subdividing the influences in categories instead of failures (e.g. KleinWoolthuis et al., 2005) is done to ensure that they comprise both drivers and barriers.

[22] As explained in Section 3, the categories are based upon an iterative analysis of raw data and theory. The following theoretical contributions were used in the analysis: 'network interactions' follows from KleinWoolthuis et al. (2005); 'infrastructure' from Smith (2000); 'institutions' from Edquist (2005); 'technology' as systemic component comes from Suurs & Hekkert (2009) and the category of 'external factors' was added because some influences wouldn't fit the other categories.

work interactions. The entrepreneurs indicated that those too strong relations – often between health professionals, patients and technology providers – make money flows, rather than social and societal values, dominant when new developments were evaluated. Too strong relations, described as being intensive, rigid and long lasting, may form a problem when they lead to a certain level of myopia within healthcare organizations. Examples of this myopia are general practitioners that always send patients to the same specialist without any obvious reason; or medical professionals that are hesitant to work with new technologies or methods, even when the added value for patients is clearly present. Too strong relations may therefore result in a fear to innovate, which in turn threatens the room for experiments and innovation. This is especially the case for outsiders who cannot build on existing relations with partners when they develop an innovation. According to the entrepreneurs, also too weak interactions were an important aspect of network interactions that influenced them negatively. They may hamper learning and consequently the development of shared visions and/or interests. These too weak interactions make that the healthcare sector is often characterized as highly fragmented in terms of responsibilities. This may be problematic for entrepreneurs because it makes it very hard to develop new and/or integrated healthcare concepts. An illustrative example is the case of an entrepreneur that developed a new care concept for disabled people. The concept consisted of more than merely delivering care since it also comprised educational/training and financial elements. Confronted with the fragmentary nature of healthcare, it was totally unclear for the entrepreneur to decide who to approach when he/she desired to start implementation. Too weak interactions may also lead to a lack of shared vision of what sustainable healthcare is and of which promising developments are potentially valuable in that perspective. This is often addressed as an important reason for the disappointing implementation of promising innovations in practice. Too weak interactions may lead to organizational isolation which makes it almost impossible to look beyond the boundaries of the individual organization for potentially valuable innovations. The final result may be that professionals are not aware of new developments and that promising initiatives are not implemented on a larger scale.

Finally, the fragmentation also results in a lack of guidance. There is no clear description of what society expects from innovation or which developments are considered desirable. Such a description could really support the creation of legitimacy of the entrepreneurial innovation and its societal acceptation. A vision on the long-term future of healthcare rather than a continuous focus on short-term interests, e.g. a certain technology or the discussion of any particular merger between providers, would be able to provide this legitimacy in the important and crucial implementation phase. In the view of the entrepreneurs a strong guidance, based on a strong and stable vision on the future of healthcare, could ensure that society profits from the promising initiatives of entrepreneurs, as is clearly illustrated by the following quote from one of the entrepreneurs:

> *"They don't need to tell me how to innovate. What we do need is a proper vision and a government that acts accordingly" (Personal communication, February 2009).*

Three infrastructural elements that influence the entrepreneurs were identified during the interviews: the labor market, the education system and the financial infrastructure. In general it was stated that a proper functioning of these three structural elements were important because they provide the required resources for entrepreneurs to develop their innovation. An example is the availability of personnel that is crucial because many entrepreneurs emphasize that the value of the innovation often lies in the employees that work with it. Attracting the right personnel is therefore crucial and easier when the labor market functions properly. The labor market is also strongly related to the educational infrastructure which needs to ensure that a sufficient amount of well-trained professionals is educated. To phrase it differently, a proper functioning of the education system increases the number of possible employees. Contrary to what is often assumed, the influence from the financial infrastructure did not concern the limited availability of funds. The main problem with financing their innovation came from a non-proper functioning of this system, given the available funds. Often entrepreneurs think it is problematic that investors do not

reap the profits from the investments in an innovation. An example of a technological innovation in home care illustrates this. A new technological innovation in e-health was very promising from a sustainability perspective but the one that profits from it was not the entrepreneurial firm that invested in its development but the insurance company of the potential clients.

Another category of identified influences from the system context consists of institutions. These are subdivided into three forms. Regulative institutions are the formal rules of the game and their enforcement including legal, political and economic arrangements (Orr, 2004). Normative institutions are both values and norms and cognitive institutions are cultural institutions, taken-for-granted assumptions that have developed into routines like common beliefs, mutually developed mental models and shared logic, habits, behaviors, cultural practices and indirect agreements about how things should be done accordingly (see DiMaggio & Powell, 1983; Scott, 2001; Geels, 2004 and Lepoutre, 2008). Many different opinions exist about the details of the influences of institutions; Table 3.2 presents a short overview. This table makes a subdivision between institutions that exert an influence on individual entrepreneurs and the ones that influence healthcare in general.

Table 3.2: Overview of normative and cognitive institutions

Influences upon individual entrepreneurs	Influences upon healthcare
Preventative care should be accepted more as a new form of valuable care.	Professionals do not render an account to society. They do not critically reflect on their own position.
Norms are too conservative, too reserved and based on too much hierarchy; together this decreases the acceptance of entrepreneurial activities.	Taboos may hamper entrepreneurs to a large extent; e.g. the black box attitude toward medical errors decreases the acceptance of innovations that contribute to safety.
A too strong focus on quality may hamper innovation and quality on the longer term. Innovation / experimentation should be accepted as equally important values.	Government is ruled by a fear to innovate since it is believed it may damage the quality of care. This results in reservations toward investments of time and money.
Management should change: it is focused on problems rather than opportunities; on the past instead of the future; on avoiding problems instead of creating promising solutions. Healthcare would benefit from the opposite.	Reward structures are too rigid since they are not related to results. Increasing the relation between results and profits for a professional would increase the quality of care. This should be done without hampering experimentation.
Healthcare is ruled by a certain fear for personal investment and change because of high bureaucracy and high degree of narcissism. This makes health professionals afraid of loosing reputation and experimentation.	There is a too strong focus on an 'evidence-based dogma' that does not align with the nature of innovation. A new innovation based dogma should take its place to replace traditional values like accessibility, affordability and quality by a new one: 'optimal care'.
Professionals are ruled by envy toward valuable innovations from entrepreneurs outside of healthcare. It is thought that real value can only come from people within the sector, which in turn decreases the acceptance of valuable innovations from outsiders.	It has become common behavior for large research institutes to take advantage of SMEs, only to obtain access to subsidies. These SMEs often form the link with business practice that is often required, SMEs seldom profit from these contacts.
As a changing norm, it needs to be accepted that people will pay for health services from their private budgets. This shift from public to private funding has already taken place in other sectors, such as home security.	Healthcare is characterized by lack of openness about quality / costs, while efficient markets need openness. "Transparency should shed a light in the black box healthcare still is".

The influences of technology on entrepreneurs was sometimes referred to as somewhat paradoxical since it was stressed that a certain level of technical knowledge is needed to prevent the technology-push model of becoming too dominant. In general it seemed as if the availability of new knowledge was seldom the problem in healthcare practice. The application sometimes was.

> *"Especially in healthcare there is a vast range of valuable and useful knowledge and research insights present; it is the biggest challenge to apply it in such a way that the entire healthcare system can profit from it" (Personal communication, February 2009).*

Finally entrepreneurs indicated that certain external factors had a large influence on their innovation processes. These influences were termed external factors since they could not be ascribed to a certain category there was no, easily identifiable, common factor. Examples of identified external influences were the worldwide credit crisis, the emergence of a spontaneous hype surrounding a certain innovation, the need for positive news, the increasing and changing demand for care and finally pure luck:

> *"Sometimes it happens that everything fits together; it would be rather arrogant to ascribe that to something else than pure luck!" (Personal communication, February 2009):*

Although many of the described influences were stated during the exploratory interviews, one observation seems valid for almost every one of them: innovations often emerge out of certain dissatisfaction with the current situation. An underlying degree of dissatisfaction with the current functioning of the healthcare system was, at the same time, the definition of the added value of that particular innovation. The existence of a certain problem is what makes the innovation valuable if it offers a solution for it. For example, the fact that currently the communication between healthcare professionals and patients is complicated and inefficient adds value to an ICT innovation that tries to improve that communication. Up to this point, influences from the

system context on entrepreneurs were discussed; the next section discusses the entrepreneurial strategies that were applied with the aim to influence that system context.

Strategies of entrepreneurs

A majority of the entrepreneurs acknowledged that the current healthcare system, with its actors and relations, is probably hampering the development of radical innovations or is at least not supportive for radical innovation. Therefore, most entrepreneurs acknowledge that healthcare would profit not only from innovations, but also from changes in the system. This section will further explain the interaction between an entrepreneur and the system context by providing an overview of applied strategies aimed at improving the success of the innovations and influencing the system context. During interviews it appeared that the entrepreneurs often relate the application of a certain strategy to certain influences from the system context. It seemed as if all influences from the healthcare system context were reacted upon by applying a certain strategy. Still, the strategies are described independent from the influences defined earlier, because the specific argumentation of applying a certain strategy differed across the interviewed entrepreneurs. Furthermore, the aim of this paper was to describe the entrepreneurial interaction with the system context in general terms. Table 3.3 provides an overview of the identified strategies and describes a particular application of that strategy within the context of healthcare.

Table 3.3: Strategies applied to influence the system context

Strategy	Description of application in healthcare
Networking	In order to gain access to new resources the aim is to create a network of stable and valuable relations. The network must have a certain focus; however, for its quality it is important that it contains a wide variety of organizations including patient-organizations, medical professionals and policy makers. One entrepreneur emphasized the importance of having governmental actors in the network: "To emphasize the need for system change, e.g. in regulation, it is of the utmost importance that I have direct contact with the decision makers. Convincing them may in turn lead to new valuable regulation".

Table 3.3: Strategies applied to influence the system context *(continued)*

Strategy	Description of application in healthcare
Find supporters / ambassadors / promoters	The commitment of people who are really enthusiastic about the innovation helps in creating legitimacy, acceptance and in turn success; especially if those people have some status, credibility and influence in the sector. For example, well-known professors and/or large groups of satisfied patients could fulfill the role of valuable supporters, who in turn create legitimacy for it.
Creating awareness and/or commitment	Creating awareness and commitment is important because it contributes to the innovative success by breaking resistance, creating acceptance and convincing policy makers and potential customers of its value. This will get people to support the innovation and will diminish the impact of taboos that hamper it. Examples are the creation of mutual dependency between users and an innovation or increasing the awareness of an underlying problem. The essence is that creating awareness and commitment requires action; it will not come in itself.
Timing	Properly timing the introduction of an innovation is crucial because often certain time-frames, often termed 'windows of opportunity', exist in which innovations are accepted more easily. Sometimes societal trends cause the momentum to be good, although the innovation itself may stimulate the trend as well. Timing the introduction may help to improve long-term success. Even though the timing of the introduction is difficult, and success can only be easily determined afterwards, timing the introduction needs to be a deliberate strategic decision. For example; one entrepreneur stated that his efficiency improving innovation was a success because of the trend of ever increasing healthcare expenditures. Timing the introduction when this trend was heavily discussed had increased the acceptance of the innovation.
Taking time	It is important to not always aim for rapid growth, especially when certain developments need time to prove their value. Sometimes, trying to accelerate the development and introduction may be harmful for long-term success. Building legitimacy in a complex and delicate sector as healthcare sometimes asks for patience. Additionally, taking time allows the individual entrepreneur to stay in control of its own development.
Cooperation	Cooperation is of crucial importance given that innovations often emerge out of collective actions. Vertical-, horizontal- and diagonal cooperation agreements were created to correct for lack of power, to increase legitimacy and to get access to additional resources. Cooperation may also help to deal with the fragmentary nature of the sector. Additionally, collective actions are more likely to succeed in breaking through system barriers because they have for example more power to put problems on the public or political agenda.

Table 3.3: Strategies applied to influence the system context *(continued)*

Strategy	Description of application in healthcare
Finding coaches	Finding a coach that supports not only the innovation but also and especially the entrepreneur, is important, even when the entrepreneur has ample experience. Every entrepreneur lacks certain relevant skills or knowledge and coaches are often an easily available tool to fill this gap. In this research, entrepreneurs consulted coaches for assisting the entrepreneurs during the entire innovation process.
Demonstration projects	Demonstration projects may be used to build legitimacy based upon early results. In this way potential value can be shown as a proof of principle, also when no large scale projects and/or results are available. These projects may not only deliver useful insights for potential customers (value) but for the entrepreneurs as well (potential benefits and risks). In this way these projects may be very helpful in building and creating support, visibility, safety, awareness, interest and acceptance of the innovation. If the innovation consists of unique projects, every successful project can be used as a demonstration project.
Non-conformity	Being non-conform to existing practices may be a very successful strategy to increase the success of the innovation, especially when those innovations offer solutions to not yet existing problems. Real innovation asks for changes in behavior of customers and entrepreneurs. Non-conformist entrepreneurial behavior may consist of: naïve persistence, acting according to yet-to-be-developed-standards; asking awkward questions at places where it is normally not accepted, accepting new and odd business models, or by just feeling inviolable for criticism.
Defining model and position of the organization	Defining the exact business model and position of the entrepreneur and/or firm is essential for future reputation. Selecting a business model, such as a traditional healthcare organization, a franchise organization or an external service provider, determines the probability of success and the possibilities to achieve it. For example, the service-provider model could be valuable due to its ability to make change happen without losing independency from traditional actors. Defining a position is especially important for integrated health concepts; it needs to be clear what does and what does not belong to it.
Free-publicity	Although, publications and lectures are more important than mass media in healthcare and although market niches are always small, publicity needs to be a main element of any entrepreneurial business strategy. In modern times, the media is very important for creating (and destroying) reputations. Deliberately thinking of opportunities to talk about the innovation may create legitimacy for the innovation among insiders and outsiders who may become important new customers.

Table 3.3: Strategies applied to influence the system context *(continued)*

Strategy	Description of application in healthcare
Dealing with competition	The large influence of competition on entrepreneurial success makes it very important to determine how to deal with it. Examples of aggressive approaches to competition can be found in aggressive PR-strategies, in attempts to hinder competition by influencing policy makers, in trying to get the innovation patented or in building strong consortia. However, some entrepreneurs actually did quite the opposite: "By actively assisting competitors we work in the advantage of the entire system; improving health asks for openness and joint efforts. Because of that no rights are patented." Independent of the details, choices related to competition need to be made.
Multiple roles	Although all entrepreneurs tried to develop innovations to create added value, it is wise to be flexible in the role one plays. Healthcare innovation is often considered to consist of a trade-off between the interest of an individual and of an entire patient population. Therefore, entrepreneurs should find a proper balance between different roles; including that of a specialist, therapist, scientist or an entrepreneur; the right choice is context dependent.
Personal attitude	Thinking of personal attitude as a strategic choice may improve the success of the innovation. Often innovative success is determined by personal contacts and always making a good impression. Therefore, even with technological innovation, the person behind the innovation matters. Being benevolent, positive, ambitious but realistic, having a focus on realization instead of exploitation and being open to learning and mistakes are ways to increase the acceptance of the person and the innovation.
Flexible financing	The success of an innovation often depends on financing possibilities; therefore it could be valuable to make finances flexible. Financial flexibility exists in different forms: (1) not being dependent on a single form of financing; (2) splitting the innovation in two different services (e.g. care and housing) in order to gain access to different financial streams; (3) just take time to build a strong business case; (4) try to attract financial means especially for financing diffusion and, finally, (5) gaining access to privately owned money.
Standardization	The effect of standardization on innovative success is twofold. First, sometimes the innovation itself sets a new standard if it allows professionals to improve their work. This may lead to new evidence that stimulates inspectorates to accept the innovation as a new standard. Second, it can also be important that an innovation just fits within current standards, or that it is open for future improvements when new standards are developed. The development of an open ICT platform for delivering specialized care on demand is an example of this second form of standardization. Exact details may differ, however the entrepreneurs agreed upon the importance of thinking strategically about the relation between the innovation and the current standards in healthcare.

Table 3.3: Strategies applied to influence the system context *(continued)*

Strategy	Description of application in healthcare
Ex Ante Investment Ex Post Justification	Sometimes it seems advisable to start with an innovative development before the official approval of management authorities is acquired. Although this is a risky strategy, it enables the entrepreneurs to use real realized value to attract new investors or customers instead of being dependent on the persuasiveness of individuals. Initial results may now be used afterwards to create the legitimacy needed for further implementation. The introduction of an ICT innovation, that had already proven its value in other countries, is a successful example of applying this strategy. The entrepreneur implemented the innovation despite of severe initial resistance: "Now that the innovation is running people see the value and continue using it. The lack of approval at time of introduction is not discussed".
Building and using status	Using status of a firm or of its owners as a resource may be helpful in building legitimacy for the firm. This could attract new potential clients and in turn improve the innovative success. Especially small-scale entrepreneurs, who are often new entrants on already existing markets, emphasize the importance of status. Examples are efforts to convince a reputable hospital to join a partnership around a medical innovation. Although most entrepreneurs agreed upon the importance of status, some stated that "real innovation doesn't care about reputation or status".
Link with other societal functions	Some entrepreneurs deliberately tried to link their innovative concept to other social and societal functions such as education, social support or even leisure activities. According to the entrepreneurs these interactions and relations are able to increase the societal value by getting the innovation socially embedded. Linking the innovation to a broader concept makes it an integral aspect of something that is already or more easily accepted (like a site for leisure activities). In turn this could decrease initial resistance.

After this overview of entrepreneurial strategies, three more general remarks about the results need to be made. First, the overview shows that the entrepreneurs use many different strategies to get their innovation more widely accepted and beyond the stage of experimentation and small-scale application. At least part of the population of entrepreneurs believes that valuable innovations (from the perspective of its users) will be easily accepted and that they will spread easily:

> *"It is remarkable that with every innovation process, no matter how radical it is, there are always some early adopters and some laggards. The real challenge is to get the first group to follow you because the laggards will always follow" (Personal communication, February 2009).*

The strategies are all developed to eventually cause a real effect in the widespread diffusion and application of the innovation. Second, the analysis of the interviews indicated that the strategies were applied by individual entrepreneurs only and not in (close) cooperation. None of the innovative healthcare entrepreneurs participated in any form of collective entrepreneurial action aimed at changing system conditions and/or the healthcare system context, although it is known that these could be very useful in changing conditions such as institutional arrangements (e.g. Van de Ven (2005). Third, by describing their strategies in detail the entrepreneurs acknowledged that they are able to change current structures around them and consequently force innovation processes into new directions. Although many entrepreneurs experienced some difficulties in their innovation processes, they consider themselves capable of making change happen.[23] The strategic reactions of entrepreneurs on influences from the system context consist of strategies that deal with certain influences and active strategies aimed at changing them. The next section describes the underlying argumentation of entrepreneurs in applying certain strategies, which

[23] Moreover, most of the entrepreneurs explicitly state that they do not only strive for business like successes. They also strive, although in different degrees, for broader and more general societal changes and improvements in particular aspects of healthcare.

also relates the influences and strategic reactions of entrepreneurs in more detail.

Toward a new typology of sustainable entrepreneurs

It appeared that for some interviewed entrepreneurs, the influences and strategies were directly related. In such cases, a strategy was applied as a strategic reaction to a certain influence. Only rarely strategies were applied independently. Since all the interviewed entrepreneurs developed and introduced sustainable innovations in healthcare they all contributed to the transition toward sustainability. They all qualified as an entrepreneur; all had innovated something and all had developed innovations that potentially induce system changes (see the criteria in Fig. 2). The fulfillment of these criteria however does not imply that all the entrepreneurs recognized their contribution, let alone that it is their desire to reach such an effect. It does not give a clue about the specific intentions of the entrepreneurs when applying certain strategies. During the interviews it appeared that the entrepreneurs sometimes apply the same strategies with different intentions. This is due to a difference in underlying argumentation and beliefs about their role in the transition and the expected effectiveness of their actions (see Relations 2 and 3 in Fig. 1). Accordingly, in order to understand innovation processes on the micro-level of individual entrepreneurs, detailed insight is needed into actors' beliefs and practices. This may clarify and explain entrepreneurial behavior in terms of interactions with the system context and will help to improve the understanding of entrepreneurial behavior. This study indicated that entrepreneurs apply their strategies, either as a reaction to certain influences or not, with four different aims: (1) improving the innovation itself; (2) generally improving the success of the entrepreneurial firm or entire company; (3) creating or improving market conditions; and finally, (4) changing or improving the system context in general (and thus without a direct relation to any particular innovation). The applied selection criteria ensured that all interviewed entrepreneurs contributed to the transition, however, they do not always recognize the role of innovations in transitions. The fact that four different aims came up during the analysis illustrated that the theoretical logic presented in section

two is not consciously acknowledged by the entrepreneurs: creating an innovation is, according to the entrepreneurs, not the same as changing the system context for innovation. The application of entrepreneurial strategies is therefore not always an attempt to change the system context directly. Summarizing, entrepreneurs apply different strategies with different aims and only some are directly aimed at inducing system change. Although this is a valuable result in itself, it remains an unanswered question why entrepreneurs set different aims and consequently apply different strategies. It appeared that the entrepreneurs differed in their beliefs about their role in realizing the transition. This observation lead to the formulation of the following hypothesis: different interpretations of the role of entrepreneurs in realizing the transition could lead to differences in interaction between the system context and the entrepreneur, because these opinions have an effect on aims and the actual application of their strategies. In order to gain some understanding of the validity of this hypothesis, the interviewees were asked whether they believed that it was their role to induce system change by developing innovations and if so, what they thought would be their effectiveness. It appeared that there are four types of entrepreneurs that differ in their thoughts about the influence an individual entrepreneur can exert on the system context. Table 3.4 presents these types as fourfold typology.

Table 3.4: Typology of sustainable healthcare entrepreneurs

#	Entrepreneurial type	Description of beliefs about entrepreneurial role
1	Revolutionary "I can directly and successfully induce system change"	Individual entrepreneurs may be successful in inducing system change besides developing a sustainable innovation. Although it may be difficult, it is considered a realistic and legitimate aim to try to structurally change the healthcare system. Therefore, these entrepreneurs apply strategies aimed at inducing system change directly. The idea that individual entrepreneurs are able to cause structural change legitimizes the term 'revolutionary' entrepreneurs.

Table 3.4: Typology of sustainable healthcare entrepreneurs (continued)

#	Entrepreneurial type	Description of beliefs about entrepreneurial role
2	Evolutionary "I can induce system change through my innovation"	Entrepreneurs can only be partly effective in changing the healthcare system context because of the close interaction between structural change and innovative success. This interaction makes it very difficult to predict the long-term effectiveness of strategies aimed at changing the system. The success of the innovation itself is considered as the best indicator for determining the effectiveness of strategies that were aimed at changing the system. As a result, these entrepreneurs apply both strategies that are aimed at the innovation and at the system context. The emphasis on the interdependency between the development of an innovation and changes in the system context legitimizes the name 'evolutionary entrepreneurs'.
3	Innovative "Entrepreneurs cannot induce system change"	Entrepreneurs are only able to contribute to the transition by developing successful sustainable innovations. They do not have the possibility to cause structural changes. Strategies are therefore always aimed at increasing the innovative success. The innovation itself is at the center of focus, which legitimizes this entrepreneurial type's name. Three different lines of argumentation were used to defend this position: (1) Entrepreneurial variety is needed because individual influence is strongly limited. Structural change may only be the overall result of activities of many entrepreneurs; (2) Attempts to influence the system context have no short-term effect on the success of an innovation. This makes these attempts of secondary importance, especially when they could conflict with short-term business goals; (3) It is impossible to change the system context as an individual entrepreneur, either if they want to or not. Entrepreneurs may profit from structural changes, however, this desire becomes irrelevant due to the inability.
4	Isolated "System context is irrelevant for my innovation"	Entrepreneurs believe the system context is absolutely irrelevant for the success of their innovation. They consider all attempts to structurally influence the system therefore as worthless. It is of no use to them to think of effectiveness of those attempts. Because there is no relation with the broader system context the term 'isolated' is used to describe this type.

This fourfold typology illustrates the different ways in which entrepreneurs think about their contribution to the transition. The typology also illustrates that it is not as straightforward as it seems to evaluate the success of an entrepreneur. Both from the perspective of an individual entrepreneur as from the viewpoint of other stakeholders, it depends on the ideas about the role of an entrepreneur to decide whether one is successful or not. Although all the entrepreneurs were at least successful in developing an innovation; it is plausible that isolated entrepreneurs apply other criteria to determine or measure their success than revolutionary entrepreneurs. Also other actors will expect certain outcomes based on the specific categorization of the entrepreneurs. The typology, therefore, seems to offer some initial insights into the underlying argumentation of determining success by emphasizing the role of expectations and different logic about the role of entrepreneurs. The same reasoning goes for determining which type of entrepreneur is most valuable for the transition. In order to value entrepreneurial activities with respect to the transition, a distinction needs to be made between (1) the intention of an entrepreneur, (2) the actual behavior in interaction with the system context and (3) the short- and long-term effects of that behavior. Moreover, determining which of these three s most important for the transition is complex and difficult, and actually also partly a political question. The typology developed in this paper is a first attempt to contribute to this challenge by classifying entrepreneurs according to their beliefs about their role in realizing a transition.

CONCLUSION

This paper investigated the interactions between entrepreneurial strategies and the system context for innovations in healthcare by considering the following main research question: What are the successful entrepreneurial strategies to change the system context for the development and diffusion of sustainable innovations in Dutch healthcare? Thirteen (of 14) entrepreneurs recognized that they developed innovations in an interactive system context; only one entrepreneur thought the system context was irrelevant for his innovative activities. These

entrepreneurs were aware of the broader societal impact they could have if their innovation would be accepted throughout healthcare practice. This research focused on the interaction of entrepreneurs, more specific on the influences that entrepreneurs experience and react upon within the interactive system context. This findings are in line with what Giddens called the 'duality of structure', which describes the essence of interaction in slightly different words: 'structures are both the product and medium of action' (Geels, 2004). Entrepreneurs, as actors in an innovation system, operate within the constraints and opportunities of existing structures while at the same time restructure that same system. This means that the system may be changed by deliberate strategies of entrepreneurs but the same system also forms a context for their actions (Geels, 2004). Most of the entrepreneurs acknowledge that there is, given the system context, some room for intelligent interpretation and strategic maneuvering. This research has therefore confirmed the existence of interaction between structural elements from the system context and strategic behavior of individual entrepreneurs.

To be more specific, in reaction to five categories of influences – i.e. network interactions, infrastructure, institutions, technology and external factors – this study showed that the entrepreneurs applied 19 different strategies in order to deal with, change or adjust the influences coming from the system context (Table 3). The categories of influences were discovered inductively so they are different from already known classifications from for example Geels (2004) and Lundvall (2007). Despite the slight differences in descriptions, the entrepreneurs acknowledged that they operate in interaction with a dynamic system context. They do not only recognize the existence of influences from certain contextual factors but also agree upon the possibility of influencing these factors themselves. These findings therefore support the view of Geels (2004) who stated that factors from the system context are more than explanatory factors for stability and inertia. By deliberately emphasizing the ambition and possibility to influence factors such as institutions and network interactions, the entrepreneurs acknowledge that institutions are dynamic instead of static.

The entrepreneurs do however differ in their interpretation of the influences and in their description of the usefulness and goals of applying the 19 different strategies. How the entrepreneurs decided to act was dependent on their ideas about the effectiveness of the strategies to develop and introduce sustainable innovations. A more detailed analysis of the underlying argumentation offered new insights into possible explanations of the observed differences. As a result of this analysis, a fourfold typology of healthcare entrepreneurs was developed, consisting of 'isolated', 'innovative', 'evolutionary' and 'revolutionary' entrepreneurs. This typology implies that entrepreneurs only seldom aim their strategies at changing the healthcare system structurally, because they think in various ways about the relevance of the system context for their innovation and about their own interest in and potential to change it. Most entrepreneurs do not relate changes in the system context directly to their innovation. Developing an innovation and improving the healthcare system are considered as independent goals of applying a specific strategy. Only the 'revolutionary entrepreneurs' consider inducing system change directly (i.e. without directly intending to innovate) as a possibility and thus as legitimate reason to apply a certain strategy. These different opinions about their role in the transition also makes that entrepreneurs evaluate and value their own success differently.

By focusing on beliefs rather than actions, the typology seems to provide a deeper understanding of innovation processes by clarifying differences in interaction between individual entrepreneurs and the broader system context. The typology therefore deepens our understanding of the straightforward interaction between entrepreneurs and the system context (Relations 2 and 3 in Fig. 1) by showing the types of entrepreneurs each interpret the interaction differently and act accordingly. In light of these findings, it is questionable whether it can be assumed that the development of a (radical) innovation and system changes emerge simultaneously. At least, these findings indicate that entrepreneurs are not always aware of this mutual relation. Therefore, the developed typology of isolated, innovative, evolutionary and revo-

lutionary entrepreneurs seems to form an underlying explanation for the actual interactions between entrepreneurs and the system context.

DISCUSSION

Although the status of the 'Systems of Innovation' approach as a theory is often debated, it has shown to be of value for the aim of this paper. It delivered more insight into the interaction of entrepreneurs with the system context, even while this research focused on the micro-level within a system, i.e. the level of individual entrepreneurs. Analyses on macro-level, i.e. system or policy level, should therefore be considered as valuable complementary research strategies instead of as alternatives. This research has demonstrated that certain healthcare entrepreneurs are able to combine economic goals with a contribution to the transition toward sustainability in healthcare. This justifies further analysis of the underlying argumentation of entrepreneurs in order to obtain an improved understanding of their behavior. Further research into this topic could be useful for improving policymaking for the transition in healthcare. Because of the importance of the perspective of the entrepreneurs in this research, rather open and explorative research methods were used. Although these were considered suitable with respect to the aim of this paper, the results should be interpreted with caution. The dataset was quite limited in size, although it consisted of rich and in-depth information. Possibilities to gain more detailed insights into entrepreneurial behavior range from planning new interviews and increasing the research population to testing the typology in a quantitative study with a larger dataset and/or with entrepreneurs within other sectors. Several authors have written about the specific characteristics of healthcare that influence the details of the observed interaction[24] which makes this comparison worthwhile. This research has shown that it is valuable to analyze the underlying argumentation

[24] See for example Rotmans (2007) for discussion of what 'demand' means in healthcare, Saltman et al. (2002) for a description of surrogate symbols for economic benefits and Havighurst (2008) on the special normative aspects of healthcare.

of entrepreneurs to gain more insights into the dynamics of innovation processes. Additional quantitative research with larger datasets could reject, confirm or adjust the identified fourfold typology of entrepreneurs and consequently further clarify whether and how assigning an entrepreneur to a certain type does determine the experienced influences and the applied strategies. Further research could compare our classification of entrepreneurs with earlier classifications, for example Mitroff's classification of system entrepreneurs by Meyers–Briggs personality scores (see for more information e.g. Mason & Mitroff, 1973). Our research has refined the insights into the interaction of individual entrepreneurs with the system context in healthcare (Relations 2 and 3 in Fig. 1). Further research may generate more detailed insights by delivering generally valid results about innovation processes on the micro-level of an innovation system and innovative entrepreneurial behavior. Innovation policy could profit from the results of this research because insights are useful for policy makers to develop more refined preconditions for sustainable healthcare innovation. At first, the central government should recognize that it is an important actor in the innovation system. Its role goes beyond merely exerting the legitimate power to develop new regulation. This research illustrated that central government is also mentioned as having an influence on the creation of weak and strong (network) ties, in increasing the general awareness of the need for transition and in guaranteeing guidance for the direction of development. This means that policy making could be improved by reconsidering the role the central government plays in the functioning of the system. Second, policymakers should realize that traditional and old-fashioned believes about intentions, goals and actions of entrepreneurship characterize healthcare. Commercial healthcare does not always strive for maximized profits; some entrepreneurs are able and willing to combine an economic interest with a contribution to the transition within certain circumstances. The trade-off between economy and sustainability does not always exist; therefore, developments and innovations should be judged on actual effects instead of assumptions about underlying intentions. This trade-off between different value orientations is an interesting topic both for innovation research and policy. Finally, policy makers should benefit from the practical knowledge of

entrepreneurs to improve policy making for innovation. Examples of that knowledge from this research include the stimulation of preventative care; making money flows less dominant in decision-making; allow investors to profit from their investments (financially); improving the subsidiary system and finally, focus more on translation and diffusion of innovations instead of their initial development. If policy makers are willing to take up their responsibility they can be more active in 'caring for entrepreneurs' and doing so bringing the transition toward sustainable healthcare one step closer.

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CHAPTER 4

Reconfiguring Health Workforce through Mundane Care: How New Professional Roles Transform Institutionalized Healthcare Practices

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ABSTRACT

Literature on professions and organizations tends to focus on struggles of new professionals on entering a specific healthcare setting. In this paper, we adopt an alternative approach that considers the roles of new professionals as continuously shaped and reshaped in everyday practice. Drawing on the theoretical notion of 'institutional work', we analyze the institutionalization of new professional roles in day-to-day practice. Data comes from three case studies in a broader study of new professional roles in the Netherlands: the clinical settings of wards in neonatology, cardiology, and breast cancer. Results show how new professional roles are institutionalized in practice through their everyday work on the organizational, professional and patient domain. This study contributes to theory on professionals and institutional change by emphasizing the role of mundane work in institutional processes, which has far-going implications for research and practice of new professional roles in healthcare.

INTRODUCTION

Peter, a physician assistant (PA), and a cardiologist look into the incubator of Max, a severely ill premature infant about to undergo heart surgery. All the medical staff, including Peter, starts preparing for the operation. The ward is closed, the incubator is cleaned, and Max is put on a drip. After donning a surgical gown, Peter intubates Max. Soon after, a surgeon and the PA from the surgical department enter and take the lead in the operation. Assisted by the PA, the surgeon makes the initial incision. They briefly deliberate on cutting a blood vessel. After a final check, they close the wound and Peter takes over the treatment again. (Observation notes, neonatology case, 6-11-2013)

Throughout Europe governments take on strategies to adapt healthcare systems to changing care needs as well as a shifting work force capacity, for example by modernizing and reconfiguring the current clinical workforce (Adams et al., 2015; Dubois & Singh, 2009; Martin et al., 2009). New professional roles, like prescribing pharmacists and specialized nurses, are introduced to increase efficiency of care provision and enhance patient centered care (Janssen et al., 2016; Sanders & Harrison, 2008; Weiss & Sutton, 2009). Additionally, new professions such as the physician assistant in the excerpt above, play a growing and central role in clinical care delivery. They participate in high complex clinical procedures like operations on premature newborns, which once was the preserve of medical specialists. The introduction of these new professionals is not a straightforward or neutral process, however (Niezen & Mathijssen, 2014). Various scholars have pointed out how new professions enter in an institutionalized field of established expertise, ways of working and authority. In these fields, 'elite' professions such as physicians succeed in maintaining their jurisdictional claims as they keep control over the core knowledge and/or create an 'overseeing' role (Weiss & Sutton, 2009) for themselves, and as such are enforcing their professionals authority (Currie et al., 2012; Martin et al., 2009). These studies are often informed by institutional theory. It is analyzed how social actors are change agents as they shape institutions

through their ability to simultaneously create, legitimize and control the knowledge and practices they are part of (Blomgren & Waks, 2015; Micelotta & Washington, 2013; Scott, 2008a; Suddaby & Viale, 2011). Scholars particularly highlight elite profession's abilities to resist and repair change to preserve and reinforce the status quo and reproduce institutionalized practices (Currie et al., 2012; Micelotta & Washington, 2013). This body of literature fits in with the mainstream sociological literature on professionalism, stressing the dominance of 'real professions' over 'other' occupations (Currie et al., 2009; Currie et al., 2012; Freidson, 1994). These studies, we argue in this paper, tend to overlook the real life changes in everyday clinical care delivery as reflected in the opening quote of this paper.

In this paper we will demonstrate that the strong focus on the power of elite professionals leaves unaddressed the changes in organizations and the work of new professionals that generates room for profound workforce change. We shift gaze from conflict-based traditions in institutional theory to a more enabling, differentiated, dynamic and empirically grounded perspective on institutional transition (Bjerregaard & Jonasson, 2014; Slager et al., 2012; Smets & Jarzabkowski, 2013; Suddaby et al., 2015). We build upon the growing body of studies that focus on day-to-day practice within an organizational context (Abbott, 1988; Barley & Kunda, 2001; Nicolini, 2012). More specifically, we draw upon the notion of 'institutional work', a flourishing concept in contemporary literature on institutional change (Lawrence & Suddaby, 2006; Lawrence et al., 2011). It captures how actors create, maintain or disrupt institutions by describing how actors are continually engaged in the partial re-enactment of routines and practices that may ultimately lead to field dynamism, but which may also result in the strengthening of existing institutional arrangements (Jarzabkowski et al., 2009; Lawrence et al., 2011; Suddaby & Viale, 2011). In this study the notion of institutional work is used to analyze how new healthcare professionals acquire and create a position and get institutionalized in healthcare practice. In doing so, we not only provide insights in the process of workforce change (Dubois & Singh, 2009; Martin et al., 2009), but also align with – and aim to contribute to – a recent call to shift the so-

ciological analysis of professional evolvement from managerial control and the strategic resistance of professions to the actual and emergent practices of how professionals interact, mediate and co-create an organizational environment (Waring & Bishop, 2013). The central question that guides our research is: *How do new healthcare professional roles get institutionalized through day-to-day work in healthcare practice?*

The study draws on an ethnographic study (2013-2015) on new professional role development in the Netherlands. To the purpose of the paper, we selected three case studies that were conducted in Dutch hospitals (neonatology, cardiology and breast cancer care). The ethnographic designs of this study allowed us to explore the mundane and everyday work activities that new professions carry out in the hospital organization, as part of the medical team in interaction with others as well as in patient care, and how they, in doing so, acquire a legitimized professional role and position in clinical care delivery.

The remainder of the paper is organized as follows. In the next section we develop our theoretical framework on institutional change and institutional work that informs the empirical analysis. In the methods section we describe our ethnographic research approach and the empirical settings of our study, outlining the introduction of new professional roles in healthcare in the Netherlands. Then the empirical findings are discussed by showing the work that new professions conduct in three related domains: the organization, the medical team and in patient care. It is shown how new healthcare professionals - through their daily work in these domains - enact a new role. We end with conclusions and discussion in which reflection is provided upon the theoretical and practical implications.

INSTITUTIONAL CHANGE AND THE ROLE OF PROFESSIONALS

Professionals are considered influential crafters of their work as they define, interpret and apply institutional elements in practice. An emerging stream of literature envisions professionals as institutional

agents, capable of creating, maintaining and transforming the institutions they inhabit (Ackroyd & Muzio, 2007; Scott, 2008a; Suddaby & Viale, 2011; Suddaby et al., 2015). Micelotta and Washington (2013), for example, demonstrate how professionals conducted repair work to preserve disrupted institutions and re-establish the status quo – and with that their professional autonomy and authority. In another article, Suddaby et al. (2015) point out how the use of social media produces the space for new professionals to engage in practices and actions that have the unintended consequence of extending domain by redefining professional expertise, thus reconfiguring existing institutional arrangements. They draw on the notion of institutional work to point out how members of an institution engage in relatively mundane actions of individuals and collectives to create, maintain or alter an institution (Lawrence & Suddaby, 2006; Lawrence et al., 2011; Slager et al., 2012).

This view on institutions as adaptable and moldable entities contrasts with the classic view on institutions underscoring their stabilizing and lasting effects. In this classical view, the institutions' ability to exert pressure through coercive/regulatory, normative and cultural-cognitive forces is highlighted, providing standardized rules for organizational practices leading to the reproduction of these institutions at the local level (Finn et al., 2010; Jepperson, 1991; Scott, 2008b). New institutionalism, conversely, highlights the dialectic relationship between structure and agency in how institutional forces work to shape organizational practices (Powell & DiMaggio, 1991). Starting with the literature on institutional entrepreneurship, scholars have drawn attention to how institutions are shaped and reshaped through human actions. The institutional entrepreneurship approach considers institutional change to be the product of deliberate efforts and the purposive actions of agentic, strategically operating individuals with clear interests (Battilana et al., 2009; Dacin et al., 2002; DiMaggio, 1988). Although institutional entrepreneurship literature has been celebrated for that it re-introduced agency and intentionality into institutional theory, it has also drawn substantial criticism for portraying actors as powerful, rational or even heroic individuals with the ability to (re)shape institutions (Battilana et al., 2009; Smets & Jarzabkowski, 2013). The

institutional work literature, conversely, does not treat social actors as grand entrepreneurs but rather as intentional and practically operating actors who 'conduct work'. Institutional work shifts focus towards the mundane and modest efforts of actors who are motivated in their desire to revise the institutional arrangements and structures they inhabit. Lawrence, often considered one of the founding fathers of institutional work literature, has repeatedly stressed the importance of intentionality in the concept of institutional work, which is defines as "intelligent, situated institutional action" (Lawrence and Suddaby, 2006: 219). As it is defined by its aims rather than its effects (Lawrence & Dover, 2015) intentionality encapsulates both the focus on actors as consciously and strategically reshaping social situations, and their practical intentionality. Practical intentionality directs at emerging and unexpected situations; the managing of the exigencies of immediate situations (Lawrence et al., 2011; Lawrence et al., 2013).

More recently, attention is drawn to the actual *processes* of institutional work, turning to the everyday practices of social actors in which the outcomes of actions cannot be fully overseen or were actions are unintended as practices are considered emergent and recursive (e.g. Bjerregaard & Jonasson, 2014; Slager et al., 2012; Smets & Jarzabkowski, 2013). The focus is shifting from the purposive action of foresighted actors who envisage desirable institutional arrangements, to a more differentiated, dynamic and empirically grounded understanding of how different modes of agency unfold as actors develop and realize their interest in particular institutional settings (Smets & Jarzabkowski, 2013; Suddaby et al., 2015). Smets and Jarzabkowski (2013) stress the importance of practice and the *work* that is being conducted within these practices. In addition, Bjerregaard and Johnson (2014) point at the ambiguous and heterogeneity character of institutional work (see also Monteiro & Nicolini, 2015), arguing that institutional work is emergent and 'always becoming' (Bjerregaard & Jonasson, 2014). The concept of institutional work, they state, warrants a more dynamic understanding of how institutional evolvement takes place in the messy and unfolding practice of doing institutional work amid multiple other actors' work

strategies (Bjerregaard & Jonasson, 2014; Slager et al., 2012; Suddaby & Viale, 2011).

Intentionality, then, should not be labelled in a narrow sense of institutional work as purposive action, but rather as the accomplishment of practical work in the environments in which it occurs (Gawer & Philips, 2013; Smets & Jarzabkowski, 2013). In a sense, this view on institutional work focusses on *"efforts of individuals and collective actors to cope with, keep up with, shore up, tear down, transform or create anew the institutional structures within which they live, work and play, and which give them their roles, relationships, resources, and routines"* (Lawrence et al., 2011: 53). In this paper we adopt a practice approach and examine how new professions (i.e. nurse practitioners and physician assistants in this study) create their legitimized professional role by conducting institutional work in the institutionalized context of the hospital organization.

METHODS

To reconnect institutional change with the 'coalface' of everyday life in organizations and to gain insights into the work practices of new professionals, we used an ethnographic study research design. Before providing details on the case studies, data collection and analysis, let us first briefly sketch the landscape of the introduction of new professionals in healthcare in the Netherlands.

The introduction of new professional roles in the Netherlands

In the Netherlands, new professional roles have been introduced to change both care provision and the organization of care (Wallenburg et al., 2015). These new professional roles encapsulate traditional professions carrying out tasks beyond their traditional scope of practice (e.g., specialized nurses now prescribing medicine), and new university-trained professionals trying to acquire a new position in the healthcare arena. The nurse practitioner (NP) and the physician assistant (PA) in this paper are an example of the latter. NPs have a nursing background

and conduct their work at the interface of care and cure usually focused on a specific group of patients (e.g. NPs treating patients with breast cancer). PAs, in turn, have a background as a nurse or allied health professional and work with a variety of patients within a specific clinical domain (e.g. radiology or neonatology). In 2012, following a revision of the Dutch Individual Health Care Provisions Act, both professional groups obtained the legal right to independently carry out clinical procedures that used to be the preserve of medical doctors. Examples include catheterization, defibrillation, endoscopy, injections, punctures and prescribing medication (de Bruin-Geraets et al., 2014). The act's revision is temporary (for a period of five years) and its continuation depends on evaluation- yet it is generally assumed that the act will be continued.

Case studies

We build on a three-year study (2012-2015) into new professional roles development in Dutch healthcare, which was commissioned by the Ministry of Health in collaboration with the national association of nurse specialists and practitioners and the Dutch national association of physician assistants. Within this study, nine ethnographic case studies were carried out to gain in-depth insight in the roles, daily work, tasks and responsibilities of NPs and PAs in various clinical settings: mental care, elderly care in nursing homes, academic and general hospitals (Wallenburg et al., 2015). Selection of the case studies happened according to the method of maximum case variation as we aimed to explore the various institutional settings in which new professions are employed. As such we attempted to gain in-depth understanding of how new professional roles in healthcare evolve. A research partner conducted the case studies in primary care (van de Burgt et al., 2015a; 2015b). To the purpose of this paper, we selected three cases studies in different wards at three different hospitals in the Netherlands: neonatology, cardiology, and breast cancer. The wards were chosen for reasons of variety, yet the similar hospital setting provided a comparable context. Details of three case studies are presented in Table 1. We conducted a cross case analysis over the three case studies (Sanders & Harrison, 2008).

Table 4.1: Overview of case studies

#	Department	Hospital	Type of new professional	Data collection
1	Neonatology	Academic medical center, 'Hospital A'	Physician assistants (PAs)	8 interviews & 130 hours of observation
2	Breast cancer	Specialized cancer institute, 'Hospital B'	PAs Nurse practitioners (NPs)	9 interviews & 65 hours of observation
3	Cardiology	Top referent hospital, 'Hospital C'	PAs NPs	10 interviews & 25 hours of observation

Data collection and analysis

Data was collected through ethnographic observations, in-depth interviews, informal interviews and document analyses. Prior to the research a research protocol was developed, defining the topic list for interviews and observations. According to Dutch law and regulations on research ethics - and confirmed by an ethical board of one of the participating organizations - official ethical approval for this study was deemed exempt.

Following the practice approach (Monteiro & Nicolini, 2015; Nicolini, 2012) we focused on mundane activities, interactions and work routines; on what individual professionals actually *do* to accomplish their everyday work. In all three settings, the authors shadowed NPs, PAs and a variety of medical specialists for over 200 hours in and outside their work at the clinic, in staff meetings, while they were treating patients, during consults and while they were enjoying their lunch breaks. If possible, patients were observed or interviewed as well. During the observations we held countless informal interviews with our respondents and the practitioners (physicians, nurses, etc.) and the patients and relatives we encountered. These informal interviews provided more detailed information about the daily practice of new professional role evolvement. Notes of observation and informal interviews were worked up in detailed observation reports (so-called 'thick descriptions', (Geertz, 1973) shortly after. In addition, we held 27

semi-structured interviews with medical doctors, nurses, NPs, PAs, and managers at. After permission, the interviews were audio-recorded (none of the respondents refused) and transcribed verbatim. Furthermore, the interviews served as a 'member check' in which shared and reflected upon preliminary findings.

Data analysis followed the abductive method (Agar, 2006; Tavory & Timmermans, 2014), meaning that we coded the transcripts and observation reports both inductively (starting with empirical data) and deductively (constantly comparing preliminary results to the theories we used). In addition, we discussed the initial results in meetings (n=5) including representatives from the Ministry of Health, the PA association, the NP association, a representative from new professions education programs, and co-researchers. These meetings served as focus group meetings, where discussions of the results led to new stories, debates and reflections on the work and role of NPs and PAs, deepening out knowledge of new professional role evolvement.

The variety of data collection methods, and the combined and iterative methods of data analysis enabled to produce both situational and theoretically generalizable findings on new professional roles and role evolvement in hospital practice, the topic of the next section.

RESULTS: INSTITUTIONAL WORK IN THREE DOMAINS

From the data analysis it appears that NPs and PAs carry out institutional work in three different but slightly overlapping domains: the organizational domain, the professional domain, and the patient domain. In each domain, they provide other kinds of activities that shape their institutional position as well as the ways in which care is organized and delivered. We will elaborate on the three domains separately below, and then bring them back together in the Discussion.

Institutional Work in the Organizational Domain

Organizations are a primary site for professional development as they form the context in which institutional change takes place (Muzio et al., 2013). Due to technological development, budget restrictions, transitions in population health – e.g. more chronic and life style diseases - as well as an increasing emphasis on quality and patient-centered care, hospital organizations are forced to organize and deliver high quality care and to account for this to both internal and external stakeholders. These transformations affect workforce needs. In Hospital B, for instance, the introduction of new professionals (here, both NPs and PAs) was a result of a growth of the number of patients. Because of its high-specialized nature and outstanding reputation for the treatment of breast cancer, Hospital B attracted patients from all over the country. More practitioners were needed to keep up with the increasing number of patients seeking care in this hospital, as one of the surgeons put it, "*One operation generates five years of follow-up treatment. This can't be done by physicians alone*". NPs and PAs, as part of the medical team, were introduced in patient counseling, chemotherapy treatment, radiation therapy and hormone therapy. They conducted their work next to, and in close collaboration with the medical doctors. In a comparable fashion, the neonatology department of Hospital A was in need for extra pairs of skilled hands. They dealt with a changing patient population, a decreasing inflow of medical residents and a staff that was growing older. The neonatologists felt the burden of complex care, long hours and frequent on call work:

> *"We have way more extreme premature newborns now; some babies are born after fewer than 26 weeks of pregnancy.25 We've seen some policy changes in that. These children weren't saved before and now we treat and try to save these children. That surely asks for a lot of extra care. [...] The very sick children we have as patients have grown both in number and complexity, which makes it all more difficult." (Interview, neonatologist, 27-02-2104)*

[25] In 2010 the threshold for treatment has been lowered to 24 weeks of pregnancy.

In neonatology, PAs were employed to support the medical staff. They partly replaced medical residents that had staffed the wards for a long time. PAs served at the wards for premature babies carrying out daily procedures, assisting physicians in medical procedures, managing and supervising the team of nurses, and doing on call work. It appeared that PAs not just replaced neonatologists and residents, but also added to the quality of care:

> *"We have practitioners here [the PAs] who offer continuity because they're here for a longer period of time and are in on a more regular basis. They develop many skills that are important to our department. For example, intubation is something medical residents can't do. They aren't around long enough to acquire the competence to do it on our very fragile patients." (Interview, neonatologist, 27-02-2014)*

The medical specialist in this excerpt explains how the work of PAs has increased continuity of care, leading to smoother and skilled care delivery, enhancing quality of care. The work NPs and PAs did, was often not exactly defined beforehand but developed in a more ecological sense (Abbott, 1993). It depended on local demands and needs, available competences and individual preferences of both physicians and new professions. These rather situated demands and opportunities intermingled with (national) regulations and guidelines. In cardiology care, for instance, NPs where employed to fulfill the increasing need for patient centered care and patient education at the outpatient clinic. Here, cardiologists faced national regulations setting standard for the number of specific clinical procedures they had to do annually in order to keep license. These numbers hampered the new professionals who were willing to take over certain tasks. In addition, the associations of cardiologists had defined limitations to replacement of cardiology care:

> *"I can't do deep invasive surgery in the heart. The national professional association doesn't like the idea of us doing heart procedures. That holy grail of cardiology care is preserved for cardiologists and, of course, they want to follow that guideline here. [...] In practice, this means that you find yourself at the operating table beside a cardiolo-*

gist. You know that you could do the procedure and you know you are ready for it. However, you're only the second in line. You do all the preparatory work. You make the incisions, you cover everything, keep everything clean and make sure everything is set for the real procedure in the heart. The cardiologist attaches the wires [pacemaker or defibrillator] to the heart and then I can do the last part of the procedure." (Interview, physician assistant, cardiology, 12-05-2014)

National and organizational regulations thus set restrictions to the work new professionals could do. However, we also learned that these regulations are negotiable:

During an observation, Lisa says that she is not allowed to order breast prostheses for aesthetic surgery as "doctors don't want surprises at the operating theatre' [e.g., being confronted with a wrong-sized prosthesis during surgery]. However, the patient who is visiting the NP is in the final stage of filling up the tissue expander and is ready for surgery. Lisa takes her sizes and orders prosthesis. After the patient has left, I ask why she hasn't contacted the plastic surgeon this time. Lisa answers that it was "quite obvious, it's the same size as the prosthesis on her other side." When I ask if she agreed this with the plastic surgeon Lisa says she felt uncomfortable asking him in this particular case; she doesn't like to interrupt him for such a small and obvious issue. She explains that she once ordered a prosthetic device in a similar case, informing the surgeon only afterwards and he had agreed on her initiative. From that moment onwards, it had become part of the regular process. (Field notes, breast cancer case study, 09-05-2014)

From this excerpt it occurs how new work routines emerge out of, and are established in, day-to-day practice. The allocation of tasks and responsibilities is not fully predefined but (also) negotiated and thus situated, leading to practice varieties. Put is differently, new professionals are not just influenced by guidelines and protocols but they also actively shape and reconfigure them. This reshaping of care provision is part of the institutional work new professionals carry out: it is

through their work that they become hooked into procedures, resource allocations, and structures in healthcare organizations, allowing them to attain a substantive position in care delivery (Reay et al., 2006). This reconfigures both the organization of care (e.g., staffing) and the content and process of care provision.

Institutional Work in the Professional Domain

From our analysis it emerges that interactions with and among other clinical practitioners, in particular physicians, are crucial for new professions' role development. First of all, the role of the individual practitioner mattered. In most cases, NPs and PAs had worked at the department as a registered nurses or allied practitioner for a long time. They had already proven their personal capabilities and trustworthiness. This gained trust enabled them to insert themselves in the medical team and to develop a clinical role:

> *"When you know someone well, like I know the NPs in heart failure, and you are used to working with them, you trust them. I know they can assess things properly, when they need to see me, when they can solve a problem themselves and what issues we need to discuss. In the beginning it took more time to supervise them in making that distinction." (Interview, cardiologist, 22-04-2014)*

This excerpt points out that trust grows over time, enabling new professionals to become members of the medical team and to acquire a more autonomous clinical role. They play a central role in the care process, organizing care and carrying out clinical tasks. Rather than initiating new clinical procedures they 'keep things going' (Allen, 1997):

> *Due to recent regulatory changes, NPs are no longer allowed to prescribe chemotherapy. However, physicians are not yet used to this and occasionally patients show up at the daycare center while their medicines is not available. Amy's [NP] phone rings. It is a NP from the daycare center who wants to discuss the treatment of a patient they both know. Although there is no valid prescription, they agree on prescribing a new course of chemotherapy anyway. The NP sends a*

prescription to the hospital's pharmacists. Afterwards she turns to me, saying this is how they keep things going. I ask here whether she will notify the physician later on. She answers that she will, if she doesn't forget doing it. (Field notes, breast cancer case study, 02-05-2014)

The autonomy of NPs and PAs is obtained through, and at the same time restricted by their membership of the medical team. We observed NPs and PAs having numerous exchanges with physicians during the day. These included both formal meetings (e.g., multidisciplinary team meetings to deliberate patient cases) and brief informal exchanges in the corridor or on the phone. During these encounters, patients and treatment plans were discussed and adapted. These contact moments served both as moments of surveillance and deliberation. They ensured that everyone was informed and updated on medical decisions and enabled a smooth treatment process. Furthermore, they allowed NPs and PAs to grow into their role as clinician and to develop an autonomous role in clinical care delivery.

In all case studies, NPs and PAs worked in specific parts of the care trajectory only. The PAs in Hospital A, for example, served at the wards and not at the outpatient clinic. The NPs in Hospital C mainly worked at the outpatient clinic. In Hospital B, NPs and PAs worked in the whole range of the care process, yet individual practitioners took part in specific parts of breast cancer care only (e.g. PAs worked for the radiotherapy department, a small group of NPs served at the nursing ward, another group worked at the surgical outpatient clinic). As NPs and PAs often worked for specific departments or wards for long periods of time, they gained expertise in sometimes highly complex and risky procedures. In the breast cancer case, for example, NPs served at wards for high-dose chemotherapy and stem cell transplantation, something medical residents were not allowed to do due to its high-risk character. Patients receiving high doses chemotherapy must be looked after closely, undergoing frequent checkups and surveillance. The new professions developed deep knowledge of the patient groups and procedures, developing a new kind of 'routinized expertise'. This means that due to their experience and developed expertise, new

professionals can turn high-complex procedures into routine care. They acquire in-depth knowledge on the mundane of high-complex medical treatment, a topic we return to further down the analysis. In neonatology, PAs developed expert routine in inserting drip lines in premature infants. After a while, neonatologists preferred to leave this task – which is a burden to patients and their parents– to the PAs. This, 'routinized expertise' allowed NPs and PAs to develop a relatively independent role in clinical care provision. Hence, new professionals do not simply replace doctors, but play a role as distinct experts in the clinical team. Through their ways of doing and their professional focus, new professionals also add to the clinical team itself:

> *"Part of the added value is that we bring expertise together. Sharing things is also a team function. […] They're better at bringing in emotional aspects and sharing feelings. We, doctors, aren't used to that. But they add this to the team." (Interview, oncologist, 02-06-2014)*

From this excerpt it emerges that is not only the actions of the new professionals themselves, but also the interactions that they accomplish that matter (Hallett & Ventresca, 2006). New professionals are able to make the team more complete by adding 'soft skills', thus contributing to the team process.

In sum, PAs and NPs get institutionalized through the clinical work they perform. They facilitate medical work, bring in new skills, routines and expertise that add to the care itself as well as the process of care delivery. The interrelationship between different professionals appears to be crucial (Kellogg, 2009), both for the room new professionals get to perform and for how they contribute to the professional team. This mutual shaping of care provision and team-work strengthens the role *and* the embeddedness of the new professionals in healthcare practice. In addition, the NPs and PAs reconfigure care itself, as is discussed in the next section.

Institutional Work in the Patient Domain

New professionals do not totally replace physicians, they also actively give shape to the care they provide by applying their own professional background and identity (Bolton, 2001). In the cardiology case for example - where NPs treated the chronic heart failure patients at the outpatient clinic – they provided patients with information on medication, arranged rehabilitation care, monitored medication adherence and handled small procedures such as drawing blood. From an interview fragment with an NP it emerges that their work not only focused on the medical aspects of treatment but also on giving social support:

> *"I believe I can do a lot for patients. It's really satisfying that I can support them. I was trained as a nurse, so supporting and taking care of severely ill patients is what I do. […] We both know they are going to die but it is good to know that you can give them some relief. We do a bit of supervision. We look at all their arrangements and support them by giving information on their condition and treatment. We're the ones they rely on for all kinds of questions and concerns. I do believe they really appreciate that I can support and treat them." (Interview, nurse practitioner, cardiology, 21-05-2014)*

This example illustrates how the work of new professionals is about combining medical ('cure') and non-medical ('care') aspects of living with a severe condition. The combination is regarded of added value to both patients and their relatives (Kessler et al., 2015). Relatives are a crucial element in the work of new professionals and they spend a significant amount of time on them. Especially in the case of chronic or severe conditions, parents, spouses and other relatives of the patient are affected as well and play an important role in caring for the patient. In the neonatology case, for example, PAs supported the parents and prepared them for what might happen to their severely ill baby. Another example stems from the breast cancer case study, where the NP cared for a young patient *and* her mother:

Lisa (PA) says she's really worried about the next patient, a 28-year-old woman who has a known tumor in her left breast and metastasis in her pelvis. The medical team has just discovered a second tumor in her right breast. Lisa looks at the test results and finds out about the second primary tumor. It's bad news. She takes a deep breath before opening the door and inviting the patient to come in. The patient enters the room with her mother. Lisa offers them a seat and tells them about results. She asks the patient about her experience with chemotherapy and then turns to the mother. "How are you doing?" she asks. The mother looks surprised, and at the same time her eyes fill with tears. "You'd do anything to take it over, wouldn't you?" Lisa asks. "Yes, I wish it were me instead of her!" answers the mother. (Observation notes, breast cancer case study, 02-05-2014)

The incorporation of informal caregivers in treatment is illustrative for how new professionals take the broader social and emotional context of the patient into account. It also contributed to the quality of care provided in the different departments as people increasingly realized that social care elements are vital for the quality and effect of treatment. The focus on the well-being of patients was also reflected in their approachability. NPs and PAs were far easier to reach by phone than physicians, and they even encouraged patients and their informal caregivers to give them a call whenever they felt the necessity. As patients can now call for minor questions or feelings of insecurity, the new professionals changed the way healthcare is provided:

"The oncologists say things that I can find on PubMed for myself. The nurse practitioners explain what I'm probably going to feel, and what I can do about it. For example, the doctor said that I would feel really nauseous while the NP said I could take some kind of candy. That really helped, that's the information I need." (Observation notes, breast cancer case study, 11-07-2014)

The NP's focus on the mundane aspects of dealing with disease, as expressed above, is illustrative for how new professionals not only combine care and cure, but also capture this as their specific expertise

(Charles-Jones et al., 2013). Instead of rendering such aspects as the daily inconvenience of suffering from an illness to the periphery of the care process, hardly worth problematizing, they place these 'soft aspects' at the center of the care process and connect them with the 'hard' medical aspects of a disease. Hence, in addition to specializing in a different focus – i.e., 'doing other things' – the new professionals also 'do things differently'. They link care to cure and stress their accessibility, contributing to patient-centered care delivery.

DISCUSSION

NPs and PAs, as new professions in healthcare, get institutionalized in practice through their simultaneous and overlapping work in the domains of the organization, profession and patients. We have shown the critical role of organizations and organizational life in mediating the emergence, justification and lasting effects of change in professional work practices (Brock et al., 2014; Suddaby & Viale, 2011). Although the role of the organization is often ignored in institutional analysis (Smets et al., 2012), our analysis establishes the crucial importance of the organizational domain for institutional work. In our case, new professionals not only formed a solution to organizational challenges (e.g. a growing patient population, increased complexity of care) but also added value to the healthcare organization by fostering continuity and quality of patient care delivery. It is particularly this added value that enabled NPs and PAs to create their professional roles, gain legitimacy and become trusted and respected members of the medical team. Moreover, and crucial in the sociological debate on professions and jurisdictional claims (e.g. Currie et al., 2012; Sanders & Harrison, 2008; Weiss & Sutton, 2009), the NPs and PAs in our case did not replace medical doctors which retained a significant and powerful position. Rather, the new professionals added certain expertise that intermingled with and contributed to existing ways of working in care provision. A striking example hereof is the 'routinized expertise' of NPs and PAs that enabled smooth and high quality care delivery. Furthermore, through their professional identity and orientation, NPs

and PAs contributed to the constitution of the medical team, fostering team-based care delivery.

In our case studies, new professionals added value to healthcare organizations and the provision of care, two highly nested and interrelated fields of course. Furthermore, they reconfigure existing ways of working, mirroring the multidimensional nature of institutional change. NPs and PAs develop their professional orientation (i.e. focus on social support and the daily difficulties of dealing with the nuisances of illness and treatment, the focus on team work) in the ways they design and provide care and in how they contribute to the medical team. As a result, the shape and reshape institutionalized arrangements of organizing and providing care, evoking new ideas on 'good care'. Good care increasingly is about patient centered and team-based care, something new professionals –in our case NPs and PAs– not only contribute to, but also actively help to constitute.

Rather than defining the different types of institutional work new professions carry out, as is often done in the literature on institutional work (e.g. Currie et al., 2012; Lawrence & Suddaby, 2006; Slager et al., 2012), we have shown how NPs and PAs get institutionalized *through* their work in day-to-day practice. Institutional change, as this paper demonstrated, occurs through mundane activities and everyday adaptations to settled ways of organizing and providing care. This focus on the mundane (Woolgar & Neyland, 2013) downplays and nuances the central importance of intentionality in theory on institutional work. The institutionalization of new professional roles is not so much a purposeful action of new professionals aimed at creating a new practice, but much more the result of an ongoing effort of improving care and adapting care processes to new challenges and changing circumstances. Rather than pursuing master plans of change, institutional transformation emerges from practices where institutions are enacted, sustained, altered and extinguished by individuals (Powel & Colyvas, 2008). A focus on daily work, we argue, enables to render visible the micro-foundations of institutional change that contribute to more macro-level discussions on new professional roles and work force reconfigurations. To sum up, this

paper stresses the role of practice, interpreted as 'doing work', in the understanding of institutional change, pointing out a middle ground between seeing institutional change as the result of strategic planning and as outcomes of unintentional change (Smets et al., 2012).

CONCLUSIONS

Literature on professions and healthcare practice often stress medicine's resistance to change, highlighting its capabilities to preserve jurisdictional claims and restore the status quo (e.g. Currie et al., 2012; Micelotta & Washington, 2013). Our practice-based study, however, has shown how new professionals use their unique set of skills and competences in their work to obtain a role and position in the medical team. They simultaneously develop, challenge and modify their role it in the course of their work - either deliberately or not - by doing different things and do these things differently compared to traditional professions. In doing so, they prove their added value and reconfigure institutionalized practices of organizing and providing patient care. New professionals do not simply 'replace' physicians but conduct medical work in new ways, introducing new forms of 'good care' in institutionalized arrangements of care delivery. Institutional change of health workforce, we argue, is less of a battle and more the result of seemingly trivial or mundane yet pragmatic and highly consequential actions of individuals (Hallett & Ventresca, 2006; Smets et al., 2012; Blomgren & Waks, (2015).

Our analysis thus contributes to a nuanced, empirically grounded understanding of workforce transformation by describing how institutions and professional work practices are intertwined in practice. We argue that a practice approach on institutional work is fruitful to enhance understanding of professional workforce change, as well as it helps to further develop a more nuanced understanding of intentionality and agency with respect to institutional transition.

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CHAPTER 5

Carving out a place for new health care occupations: An ethnographic study into job crafting

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ABSTRACT

Over the past few years several new occupations have been introduced in health care next to those of vested professionals. In this chapter we analyze the introduction and development of the physician assistant (PA) as one of them. A PA is an allied professional or nurse who has obtained additional university training and who is allowed to work independently in health care practice, conducting certain medical procedures. The central question this chapter addresses is: '*How do new professionals craft their job by carving out a place in health care practice?'* To explore this topic we build on the theoretical notions of *place* Creswell (2004) and *job crafting* (Wrzesniewski & Dutton, 2001). Data comes from two case studies; one in emergency care and one in neonatology. Through ethnographic research we analyze how new professionals continuously develop their job and how this changes their place in everyday health care practice. Our results show that increasing experience, developed routines, specialization and trust among the medical and nursing staff enables PAs to gradually expand their occupational place, highlighting the fluidity of its boundaries. PAs do not only create and *occupy* their place; they add specific meanings to it and in the process create both individually and collectively a new work identity for the PA as an occupation.

INTRODUCTION

Occupational roles in health care are rapidly changing due to the introduction of new health care services, changes in health care education and demographic transitions. In recent years, several new professional occupations, such as the nurse practitioner and the physician assistant, have been introduced in the health care arena next to *vested* health care professions. New occupations continuously develop in practice and take over clinical tasks that used to be carried out by medical specialists such as conducting physical examinations and prescribing medication. These changes in workforce illustrate a trend described as the *replacement* of care from clear-cut and well-defined occupational groups (e.g. specialists, medical residents, nurses) to more situated professional roles and team-based work. To put it differently, boundaries between occupational groups seem to be fading, prompting new questions on task distribution, on responsibility and accountability of the delivery of care as well as on the relations between different health care professionals. Distributing tasks to new health care practitioners asks for new to-be-developed arrangements; legally, socially and in terms of skills and expertise (Oldenhof et al., 2015). In this chapter we aim to enhance the understanding of new occupational development by analyzing how a new health care occupation gets established. More precisely, we study the work that a new professional, in our study the physician assistant (PA), needs to conduct to obtain an own position in everyday health care practice. The PA has been introduced as a new occupation in countries such as the USA, the UK, the Czech Republic, Germany and the Netherlands.[26] PAs conduct a range of medical procedures that used to be preserved to medical specialists, e.g. the prescription of medication. We investigate how the PA has developed and gets integrated in the everyday practices of hospitals. We draw

[26] In the UK, the term *physician assistant* was replaced by *physicians' associate*. Yet, the tasks and responsibilities of a Dutch PA are quite similar to that of the physician associate in the UK. A PA in the Netherlands does however bear more clinical responsibility and autonomy than a PA in Germany, which also illustrates the situated nature of the development of a new occupation (Wallenburg et al., 2014b).

on ethnographic research in two case studies in the Netherlands to analyze how individual PAs act upon, give shape, add meaning, change and create their occupational role in daily practice.

For our analysis we introduce the notion of place (Gieryn, 2000; Creswell, 2004) as alternative to the often used notion of *professional jurisdictions* that is key in traditional sociological and organizational literature on professional development (e.g. Abbott, 1988, Currie et al., 2012). Literature on jurisdictions tends to emphasize how vested professionals protect existing boundaries and domains, and as such block developments that form a threat to their formal position and interests (Abbott, 1988; Sanders & Harrison, 2008, Suddaby & Viale, 2011). Instead of going into these theoretical debates on professional jurisdictions, we argue that the allegedly clear legal boundaries and the defensive strategies and tactics of vested professionals do little justice to the exigencies of practice in which these and new occupations are produced, shaped and made meaningful (Barley & Kunda, 2001). While the traditional literature on professions suggests there is almost no room for new professionals to develop and get embedded in an already institutionalized setting, practice shows ample examples of PAs who work in the core of care provision in hospital settings. Therefore, we describe the efforts of new professionals carving out their *place* – as an alternative conceptualization of a role, in an institutionalized health care setting with pre-existing identities and relations of, and between, vested professionals (Centellas et al., 2014). The need to *carve out* a place in interaction with others implies that such a place is not vacant and that new professionals, such as the PA in this study, cannot simply take possession of it. The central question our research addresses is: '*How do new professionals craft their job by carving out a place in health care practice?'*

In order to analyze *how* individual PAs do carve out an occupational place in practice we draw on job crafting theory. The notion of job crafting goes well with a practice-oriented research approach on place-making activities as it sheds a light on how such processes transform not only individual jobs, but also the place for new occupations in

general. Hence, combing the notions of place and job crafting in this chapter enables us to take into account and render visible the dynamic processes of how new professionals actually create a role, conceptualized here as a place, through processes of job crafting.

This chapter is organized as follows. In the next section we develop our theoretical framework on the notions of place and job crafting. In the third section, we describe the two case studies in more detail, as well as the research design and the methods used for data collection and analysis. The Results section describes job crafting practices of PAs and the consequences hereof for their place in hospital practice. In the fifth section we answer the main research question and show how this influences our conceptualization of professional boundaries in these processes. In the final section, the discussion, we reflect on our contribution to theories on place and job crafting and describe important implications for the concept of a *boundaryless hospital*.

CARVING OUT A PLACE THROUGH JOB CRAFTING

As already briefly touched upon in the Introduction we build our theoretical framework upon the notions of *place* and *job crafting*. These concepts allow for a more dynamic analysis of how occupations are constantly constructed and shaped by and within the (inter)actions of individuals in health care practice.

On carving out a place

Using the concept of place enables us to dynamically analyze how new professionals develop their occupational role which can also be conceived of as *a place*. This is more than an accumulation of separate tasks and responsibilities (Strauss et al., 1985) as it also directly relates to meaning making and identity creation. Place has both a theoretical and empirical meaning. Here we will attend to the theoretical meaning as we will use the concept in a more heuristic and empirical manner. We chose to use the concept of *place* for our analysis of occupational development for new professionals especially for two reasons:

First, the notion of *place* offers a dynamic perspective on occupational development as it does not only reflect a location, physical context or passive environment for social processes, activities and experience (Andrews & Moon, 2005). Places are not just *out there* to be discovered; they are actively produced through daily actions and the reiteration of mundane practices (Creswell, 2004). Places thus need to be constructed and are shaped into being by people (Mesman, 2009). This implies that places cannot simply be handed over or made available to others. In addition to being produced, places are in essence dynamic. Producing a place never stops as they are never completely finished or forever fixed (Barley & Kunda, 2001). Moreover, places can be something very different for different actors as their boundaries are not always clear (Oldenhof et al., 2015). Assuming that places are constantly produced through the reiteration of seemingly mundane activities on a daily basis makes them *endlessly made* (Gieryn, 2000) or *always becoming* (Creswell, 2004). In this chapter we envision places as active doings in the development of occupations. Agentic individuals are able to create or carve out such places.

Second, we argue that using place better fits with the challenge new professionals face when they are introduced in health care practice. Although new professionals can often rely on an official legal framework that defines their rights and competences, they still have to develop their occupation that is *in place* at a specific department. Having a place in a team at a specific department is all about determining who and what belongs where and when, and what is considered deviant or *out of place* by all involved actors. People's perception of *being in place* emphasizes the importance of meaning rather than envisioning place solely as linguistic label or spatial metaphor (Creswell, 2004; Ainsworth et al., 2009; Mesman, 2009, Oldenhof et al., 2015). As people make places meaningful, they become the material for creating an identity. Individual actors are crucial in these processes of creating feelings of belonging. Bolstered by the accumulation of all that has happened to an individual, they make that places are endowed with meaning and value (Tuan, 1977; Gieryn, 2000).

In short, we argue here that places are accomplishments rather than givens. Carving them out takes effort. Places are social constructs or events rather than secure ontological things. They form the product of everyday practices with their unique gathering of things, actors, meaning and values (Creswell, 2004) and we argue that individuals have the ability to carve out their place through job crafting processes (Wrzeniewski & Dutton, 2001).

On processes of job crafting

Job Crafting theory focuses on the development of occupations by individual actors in day-to-day practice. Rather than defining a new occupation by functional definitions, job crafting highlights the crucial importance of the dynamics in which people work, with whom they work, what they actually do, and how they conceptualize their identities and the collectives they are part of, for acquiring an understanding of the development of new occupations (Barley & Kunda, 2001). Job crafting theory thus enables us to dynamically study the processes of occupational development and their results in terms of occupational places in practice.

Literature on job crafting originates from critique of job design theory that has long been influential in debates on work within organizations. Job design studies analyze how individuals experience their jobs according to a list of motivating and stimulating job characteristics (Hackman & Lawler, 1971; Hackman & Oldham, 1976; 1980; Berg et al., 2010), and in doing so, it addresses mainly the structural characteristics of a job that can be enforced by managers (Miner, 1987, Campion & McClelland, 1993). This tends to deny that actual work relationships influence a certain job (Barley & Kunda, 2001). In contrast to job design theory that would assume that new occupations are simply domesticated after their introduction, job crafting theory assumes that a new occupation emerges from a certain practice instead. Job crafting is a verb, suggesting a process in which individuals put effort in shaping, molding and redefining their own job. It argues that individuals proactively make physical and cognitive changes in the task or relational boundaries and

characteristics of their own job[27] (Berg et al., 2010). Job crafting theory thus assumes that individuals are able to craft their job and its meaning at the level of the work floor. This turns a job not into a static entity but into something that is inherently changeable (Hughes, 1971b). Analyzing new occupations from a job crafting perspective therefore does justice to the agency practitioners possess, and the creativity they exhibit, in shaping and reshaping their own work with its set of work activities and work identity (Wrzesniewski & Dutton, 2001).

Literature on job crafting provides examples of *how* professionals conduct job crafting in practice, although it has no pre-established pathway (Blumer, 1966; Wrzesniewski & Dutton, 2001; Creswell, 2004). *Tasks* and *interactions* are seen as the raw materials or building blocks that can be used to craft a job as individuals can change what they do (i.e. tasks) and with whom they do it (i.e. interactions) (Wrzesniewski & Dutton, 2001; Berg et al., 2010). *Interactions* as building block become even more important as the provision of care is increasingly becoming a team effort. New forms of working may create or reduce dependencies and interactions between professionals so that *getting the work done* becomes more dependent on direct and indirect relations between professionals (Hughes, 1971a; Strauss et al., 1985; Strauss, 1993; Allen, 1997).

Professionals can craft their jobs in three ways; by changing task, cognitive or relational boundaries within their work environment (Wrzesniewski & Dutton, 2001). The first way describes how professionals make changes in the total set of tasks by setting or altering task boundaries, e.g. the number, type and scope of performed tasks (Barley & Kunda, 2001). The second way describes how professionals cognitively change the interactions between different tasks, i.e. their perception of the entire set of task. Do they see their job as a sum of different tasks or

[27] A job is by Ilgen and Hollenback (1992) defined as: "a set of task elements grouped together under one job-title and designed to be performed by a single individual" and described by Dubois and Singh (2009) as loosely coupled elements of education, training, skills, knowledge, experience, competences, tasks and responsibilities.

as a whole with a slightly different meaning? Third and finally, professionals can craft their job by changing relational boundaries, i.e. the interactions with other professionals with whom they work (Wrzesniewksi & Dutton, 2001). With this way the frequency, content, quality and amount of interactions are altered (Barley & Kunda, 2001). Taken together, these three ways of job crafting alter the design of the job and/or the environment in which the job is conducted (Barley & Kunda, 2001).

The design and environment of a job are intrinsically connected with work identity as changes in the design and environment of a job may, in turn, change the meaning of the work and a person's *work identity*. The meaning of work reflects what people consider as the purpose of their work and what they perceive is achieved through it. An attempt to conceptualize the purpose of work differently is therefore considered to be a form of job crafting (Wrzesniewksi & Dutton, 2001). Related to this is the identity that people derive from their work, i.e. how professionals define themselves at work. In explaining what their work entails, people tend to refer to claims about who they are and why what they do matters (Ashforth & Mael, 1989; Pratt et al., 2006). Individual professionals thus tend to strive to build an identity or self-view over time that they themselves, and even more importantly, others can also support, as an identity is built on feelings of both collegiality and autonomy (Clegg et al., 2011). Taken together, meaning and work identity turn job crafting into a set of meaningful actions to derive a new occupational identity from the work professionals conduct.

The importance of meaning and identity in processes of job crafting supports our approach of studying how individual professionals carve out a place in practice. Although individuals craft a job, they are not alone in their efforts as they are dependent on others within their organizational context. This interdependence of professional work has instigated increasing attention for collective forms of job crafting. For example, Leana et al. (2009) stress that processes of job crafting are extremely social and often consist of joined actions between profes-

sionals.[28] Job crafting can also be collectively performed by formal or informal groups of similar professionals (Leana et al., 2009). In addition to the work of individual agents, employees together make physical and cognitive changes in the task or relational boundaries of their work (Wrzeniewski & Dutton, 2011). So, although boundaries are often drawn around individuals, collectives of professionals may also find opportunities to alter, revise or craft jobs and as such carve out a place.

To summarize our theoretical arguments: We argue that individual PAs, as new professionals, are able to carve out a place for themselves and their occupation through processes of job crafting. In the following sections we analyze how PAs craft their job in practice by changing boundaries and by processes of meaning making. Yet we first turn to the Method section in which we also briefly provide background information on the PA as new occupation.

RESEARCH DESIGN AND EMPIRICAL SETTING

Background

The PA has been introduced as a new occupation in Dutch health care in quite a rapid pace after their role was legalized by the revision of the Individual Health Care Professions Act in 2011 (Wallenburg et al. 2014a; 2014b).[29] PAs work in the medical domain within a specific discipline (e.g. cardiology, internal medicine) and conduct a range of medical procedures that used to be preserved to medical specialists. Examples include endoscopies, injections, punctures and the prescription of certain medication. Individuals need to have a background and relevant work experience either as allied health care professional (e.g.

[28] These interactions are visible in the building block of *relations* that individuals craft as the work itself is dependent on interactional alignments. In the respective actions of arrangements of people, this form of interaction is important (Blumer, 1969).

[29] In 2012 around 600 PAs were either trained as or were working as a PA in healthcare in the Netherlands (personal communication, manager the Netherlands Association of Physician Assistants, Oct. 2014).

as a physical therapist), or as nurse to enter the training to become a PA. They follow a two-year training program on university level. These changes granted the PA the right to set diagnoses and carry out medical procedures that were previously reserved to medical specialists.

Case studies

To empirically flesh out the development of the PA we build on two case studies that are part of a broader research project on new health care professionals in the Netherlands (2012-2015).[30] For this specific research we selected two case studies in hospital care in close consultation with the association of PAs: one in emergency care and one in neonatology (Table 5.1). Selection was based on the (perceived) successfulness of the introduction of the PA as we sought to gain insights into how the role of PAs, and the places they carve out, develop in a health care setting. Although the care settings differ, they nonetheless

Table 5.1: Overview of the research settings of the two case studies

#	Case	Description
1	Neonatology	The neonatology department is an intensive care unit specialized in the care of newborns and preterm infants. Patients end up here because their lives are at serious risk due to different kind of complications linked to their delivery, congenital diseases, infections, or premature birth (after ≥ 24 weeks of pregnancy). Patients here are immunologically fragile and undergo many often complicated procedures in the course of their stay (Mesman, 2009).
2	Emergency care	At the emergency ward, the main aim is to offer first aid, to stabilize patients that come in with specific symptoms that can come from an almost unlimited range of diseases and to transfer them to other departments where further treatment is provided when applicable (Ainsworth et al., (2009). Health care professionals from various medical disciplines work at the emergency ward (e.g. surgeons, cardiologists, internal medicine specialists), next to specialized practitioners (e.g. nurses specialized in emergency care, emergency physicians).

[30] In this broader research project on new professional roles *good examples* of task reallocation in the Netherlands were analyzed in nine different case studies. The research focused on the Physician Assistant and the Nurse Specialist as new occupations (Wallenburg et al., 2014b).

show similarities: At both departments patient flows cannot be fully planned as the provided care is emergent. As a consequence, professionals cannot control the number of presentations which make the care and patients streams rather difficult to plan (Ainsworth et al., 2009). Yet the two case studies are unique and do provide a genuine opportunity to learn about crafting a new occupation in hospital settings.

In both the neonatology and the emergency care case study, the introduction of the PA started on an initiative of medical specialists and managers. In neonatology, the PA was introduced mainly to counteract the threats of a decreasing workforce capacity and to enhance the continuity of care. The emergency care department, in turn, faced the problem of rather inexperienced medical residents and increasing societal concerns about the quality of patient care (Gaakeer et al., 2013). Driven by political pressure to improve quality of emergency care, various hospitals introduced new professions such as the PA and the emergency physician to secure a higher level of specialized knowledge and skills.

Research design and data collection

In order to gain insight into the dynamic processes of job crafting in practice, we conducted an ethnographic research in which we applied a combination of situated field techniques. Throughout our time in the field, we relied on observations, shadowing techniques and in-depth formal and informal interviews as data collection methods. This combination of research methods enabled us to analyze the current work of PAs, and to reflect upon the changes the PAs' job has undergone over the years. Respondents for both case studies were personally approached after close consultations with the participating institutions. Following the practice-oriented approach, and in order to remain open for the situated practices we studied, we did not select the respondents beforehand but decided upon the selection as the research evolved (e.g. Allen, 2015).

We observed PAs during their daily activities and interviewed them about their work to analyze how they craft their job. At the neonatology department we observed and shadowed PAs for 15 days and/or nights during their work at the neonatal intensive care units (NICUs) (> 120 hours of observation).[31] PAs were shadowed while they provided and coordinated daily care to premature babies and their parents. We shadowed them while they were on call during night and weekend shifts, as they supervised nurses, during talks to parents and while they assisted medical specialists conducting certain clinical procedures. At the emergency ward we also observed and shadowed PAs during their day-to-day work (> 60 hours of observation).[32] Here, we observed how the PA treat patients with minor injuries, often picked up in and around the house, and major traumas caused by e.g. traffic accidents. In total, our empirical data comprise 180 hours of observations and shadowing which were documented in elaborate transcripts.

In addition to the observations we conducted ten semi-structured one-hour interviews with key stakeholders such as managers, physicians, PAs and nurses. Interviews were both formal and informal. Formal interviews were semi-structured, leaving room to explore new relevant topics that were posted by the interviewees, shedding light on various aspects of job crafting such as motives, outcomes, challenges and successes. The interviews also offered the opportunity to reciprocally discuss initial findings with the interviewees. While interviews were useful to analyze views, meanings and related underlying developments, they are less useful for studying actual work practices (Schön, 1983) as most work practices are so contextualized that people are seldom able to articulate –how they do what they do unless they are in the process of doing it– (Barley & Kunda, 2001). Because of this we conducted numerous informal interviews during the times we shadowed the PAs in the course of their work. By means of this *real-time interviewing* on calm

[31] Observations and interviews were conducted by the first author between October 2013 and February 2014.

[32] Observations and interviews were conducted by research assistants under supervision of the authors between April and June 2014.

moments and in between activities, in which respondents were very willing to share ideas, we were able to collect in-depth insights into the job crafting practices of these new professionals.

Interviews were tape-recorded with permission of the interviewees and transcribed verbatim. During the observations, field notes were taken which were elaborated upon in detailed observation reports shortly after together with the informal interviews. Altogether this led to thick descriptions (Geertz, 1973) of everyday work practices of PAs.

Data analysis

We conducted a cross-case analysis, meaning that we did not aim to compare both case studies to reveal similarities and differences as such, but rather to come to an in-depth understanding of job crafting and place-making activities by continuously comparing both case studies (Sanders & Harrison, 2008). Data generation and analysis proceeded concurrently after it started with a critical read of the transcripts to identify accounts on job crafting from the perspective of the PAs and with a focus on their interactions with other health care practitioners such as physicians, nurses and medical residents, and patients. We used the analysis method of abduction to identify themes and patterns (Lipscomb, 2012). This implies that we coded our material inductively, yet constantly comparing codes with the concepts of job crafting and place. Further analysis consisted of a repeated process of interrogating the data with the use of theory. The abduction analysis approach (Tavory & Timmermans, 2014) provided situational and theoretically based generalizations of our findings. In the following Results section we provide the results of the analysis in a comprehensive manner and illustrate them by interview quotes and fragments from our field notes.

RESULTS

PAs need to insert themselves into existing organizations and practices, carving out and creating a place next to other professionals such nurses,

medical residents and medical specialists. In practice, PAs face all kinds of problems when they start working in a particular setting:

> *"When I'd just started I didn't receive a Christmas gift. The first month I didn't have a salary because nobody knew where I belonged…So I did not receive any salary, yet this has been solved now…[…]…Apparently this is very complicated…It's about all these details you run into." (PA, neonatology department, 04-02-2014)*

Although this interview fragment may describe a seemingly mundane issue, it shows that PAs are not fully incorporated in the organization the moment they take up their job. They still had to carve out their place. In this Results section we will analyze how the PAs managed to do so. We explain first how individual PAs craft their jobs by changing their set of tasks and their work relations after which we will go into how individuals craft their job by attaching meaning to it and by deriving an identity from it.

Crafting a job through changing tasks and relations

At the neonatology department the PAs served at the wards, taking care of the premature infants under supervision of the neonatologists. PAs conducted tasks that were previously carried out by medical residents or interns, e.g. administrative work, making drip lines, supervising MRIs and interpreting lab results. Although PAs received additional training and were legally allowed to perform these and other procedures, a precise set of their skills, competences and tasks was not given. In fact, PAs actively influenced their set of tasks, and how that changed over time:

> *"Gradually we were allowed to do things that are routine tasks for neonatologists. I mean making venous lines, administrating drugs through arteries, conducting ultrasounds of the brains and supervising transports. Those are examples of tasks that are certainly not delegated to medical residents, but that we are allowed to perform. So we developed from doing resident stuff to taking over tasks that formerly were reserved to the medical specialists." (PA, neonatology department 28-01-2014)*

Tasks

Following legal requirement, organizations must specify the tasks PAs are allowed to perform. We observed however, how these agreements changed over time, both formally and informally. The actual distribution of tasks and responsibilities gradually got shape. PAs needed time to gain experience in certain procedures in order to present themselves as intelligible, skilled and trustworthy practitioners. By gaining trust among the medical specialists, they were allowed to perform more complicated procedures, such as intubating newborns. Another important turnaround in the work of the PAs in neonatology was the shift to on-call work. At first, PAs only worked at day time. Yet, when PAs proved their skills, knowledge and trustworthiness they were also allowed to work in nightshifts:

> *"I really wanted to do nightshifts, because I mean…Being on call means you are challenged way more than at daytime. You have to make much more decisions on your own, and you learn a lot more and faster. During the day there's always someone around who gives you advice or suggestions about what to do. When you are here at night, you do not want to call a specialist for every trifle that comes up." (PA, neonatology department 04-02-2014)*

PAs considered the night shifts as a new phase and achievement in their professional development. It also meant a relief to the 24 hours on-call duty of the neonatologists. Being able to work the nightshift, and doing so in a satisfying way, contributed to the PAs' position and status within the medical team.

Also in emergency care PAs gradually developed a more autonomous role in the course of time. Here, the work of PAs particularly focused on routine skills and tasks. PAs conduct physical examinations of self-referred patients (i.e. who visited the department on their own account) set diagnoses and take care of the minor traumas and relatively simple physical inconveniences. This means they mainly treat minor fractures, tendons, repositions and sutures. By deliberately focusing on what we may term *routine care*, they captured their own field of

expertise. Within this field, PAs achieved a high level of independence and got recognized for it by the medical specialists:

> *"Partly because of their background as a nurse, PAs have more experience in dealing with things like sutures, tendons, and repositions. These tasks are really their thing. They perform those tasks often even better than we do." (Emergency physician, emergency department, 14-05-2014)*

PAs crafted their jobs in term of tasks and responsibilities by gaining competence in specific skills and procedures (the neonatology case), and by conducting specific sets of routine work (the emergency care case). This specific focus enabled them to change and develop their place in care provision at both departments. Other health care practitioners acted upon this. For instance, we observed how medical specialists consulted PAs in particular patient cases. This strengthened the PAs self-confidence, as they felt respected for the knowledge they possessed, and it contributed to their feeling of being "in place".

In addition to specialization, PAs crafted their jobs in terms of tasks in yet another way. Initially they worked in the clinic only, yet they gradually developed a role outside direct patient. They participated in several work groups and discussion forums on topics, varying from organization's policy on making drip lines, special nutrition, the use of needles, the development of new evacuation protocols and the expansion plans of the hospital. PAs contributed to these discussions from their own experience and perspective. PAs also started to take part in scientific research by co-authoring scientific publications and educating nurses and medical students on specific research and care related topics. This brief overview of non-care related tasks illustrates how the nature of PAs' tasks has shifted from care-oriented to more organization-oriented aspects of clinical work. Although opinions differed on these additional activities—some considered them a burden in time while others appreciated these additional responsibilities—PAs generally enjoyed them as they contributed to their feeling of belonging and doing meaningful work.

Notably, this *carving out* a place through specialization and expanding tasks exceeds the individual role. The PA who happened to be the first working at the neonatology department felt it to be her personal responsibility to make her work a success; not just for herself but also for the PA as an occupation in the hospital organization she was working:

> *"Yes, I mean that really felt as an enormous pressure. If I don't succeed in this than it [the function of the PA at this department] is over. That's why I worked so incredibly hard during my first year. I wanted to make sure that I wasn't the one who ruined the chances of the other PAs here. That was my biggest fear back then. I felt the pressure of the PAs that were not even here…" (PA, neonatology department, 04-02-2014).*

The PA in this extract explains how she felt that the work she does also influences the future position, role and work of other PAs. This indicates that carving out a place exceeds the individual. Crafting a job in term of tasks influences the place for PAs also in a more general sense as future PAs may profit, or suffer, from the work of the first PAs.

Relations

As outlined above, *carving out* a place does not happen automatically, or in a predictable and linear order. Just as the PAs had to insert themselves in the human resource system of the organization, as the example in the beginning of this section pointed out, they also had to give shape to their role within the clinical team. PAs had to develop a place within a team of vested occupational groups such as the medical specialists, nurses and medical residents. Hence, job crafting also entails the work that is needed to weave the PA in a (changing) professional context.

All PAs in our study had a nursing background and had worked as a nurse at the department prior to their PA training.[33] When qualified

[33] This was also found in other research (Wallenburg et al., 2014b). This finding implies that PAs are not automatically introduced and embedded in health care practices. Work of individuals and trust between professionals is required for this to happen. It shows that it is

as a PA, they had to move out of the team of nurses and develop a new occupational identity. Although we expected this to cause some tension among the PAs and the nurses, the nurses mainly emphasized the benefits of working with a PA at the department. The fact that the nurses knew the PAs personally enabled them to have brief exchanges in case of minor questions or problems they faced in the course of their work. Nurses also appreciated the PAs because of their approachability. PAs, however, experienced more difficulties when they turned from a nursing role into a PA. Instead of being a colleague, they now had to accept a role as supervisor. This shift in hierarchical relations was not always visible in practice. We observed PAs doing nursing tasks when nurses had a busy shift. The inside knowledge of nursing work enabled the PAs to temporarily move into the nursing domain to *get the job done* at the ward (Allen, 1997). Although PAs mainly worked in the medical domain, clear boundaries between them and the nurses did not seem to exist at these specific instances. However, at other times boundaries were made much more explicit. For example, a neonatology PA told a story about a conflict she had with a nurse who had accused her of not doing a certain procedure on a newborn patient. The PA had made clear to the nurse that the particular procedure was typically something nurses had to do, not a PA. This brief story reveals that also *not* doing something affects and defines the occupational role and position. In this case, it had made the PA realize that explicit boundaries between the nurses and the PAs are needed to establish an occupational place.

In addition to positioning themselves toward the nursing profession, PAs had to conduct work to position themselves in a medical team. Although PAs conduct medical work, they are seen as different. Medical specialists often referred to the differences in how they approach clinical problems compared to PAs:

> *"Let's assume there is a patient that has trouble breathing, what to do? In general, PAs learn a list of steps: first you increase breathing*

important who the first new professionals at a specific department are and supports our argument about the need to carve out a place.

support, second you make an X-ray of the thorax, third you look for obstructions in the airway and if the problem is not solved by then, you call someone who knows what to do…Sometimes it's simply not enough to follow these steps, you need to have broader medical expertise to set the proper diagnosis." (Neonatologist, neonatology department 27-02-2014)

The neonatologist quoted here points at the complexity and uncertainty that is sometimes inherent to clinical work. He doubts whether a PA is able to deal with the kind of clinical reasoning that goes beyond the medical textbook. The PAs in our case studies acknowledged this as, according to them the most relevant question is how they can function with their *own* repertoire of knowledge and expertise. In emergency care, the distance between medical specialists and PAs was expanded through the introduction of the emergency physician, a new medical role in acute medicine. The emergency physicians, who were introduced to enhance quality and continuity of emergency medicine (Gaakeer et al., 2013, Schothorst et al., 2015), were positioned between the PAs and the medical specialists. We observed how the PAs and the emergency physicians functioned next to each other, an example:

The results of a CT scan of a man with chest pain are available. It is still unclear what the man suffers from. The PA decides to ask the emergency physician for his view on this and explains that he performed all the regular examinations but that these show no deviations. (Observation notes emergency department, 07-04-2014)

Emergency physician and PA closely worked together. We also observed how emergency physicians checked upon the PAs, supervising and controlling their work. The PAs, however, did not consider this hierarchy to be a problem as they pointed out that it also safeguarded their position as non-physicians; emergency patients are often vulnerable and clinically instable. Hence, practitioners constantly need to deal with situations in which there is high clinical uncertainty. Setting an initial diagnosis is of the utmost importance to determining what kind of care is needed, and hence puts a substantial responsibility on the

shoulders of the PA. PAs argued that the emergency physicians added to their clinical knowledge and experience and, as such, secured the PAs' clinical role and responsibility. This interaction between the PAs and the emergency physician in emergency care illustrates that carving out a place is a highly interactive process and is about safeguarding a role just as much as it is about pursuing its expansion.

The interactions between PAs and medical specialists that we describe here raise questions about the boundaries of the place of the PAs. During our fieldwork, we observed that the boundaries between the work of the medical specialists and the PAs were often not that strict. It turned out to be not so easy to determine where these boundaries were precisely located, and also our respondents found it difficult to point them out to us. In the emergency care case, for example, we observed how emergency physicians allowed PAs to transfer patients to medical specialists sometimes when they were too busy to step in. A fragment from our observations at the neonatology department illustrates the duality of the professional and occupational boundaries, which seem not to be present at one point in time and rather strict at another:

> *When asked after the boundaries between professionals, usually some general rules were formulated. At the neonatology department it was explained that it was a general rule that when an infant below 30 weeks of pregnancy was about to be born, a neonatologist had to be present to supervise childbirth. Yet, as one of the PA points out this was more a rule of thumb than strict regulation: "Sometimes we go alone, even below that threshold of 30 weeks. That is very much dependent on the situation at the department. Sometimes an extra pair of hands is needed and in the end it comes down to the question whether you are able to account for your actions. We always say if you are competent that you have the authority to do so, I believe that is even the way how the law is formulated. Where that ends? I don't know." (Observation notes neonatology department, 04-02-2014)*

This fragment of our field notes shows that PAs provide care to the extent that they and other professionals feel they are competent, and that assessing this level of competence is rather context-specific. Individual practitioners must assess their own competences in judging whether they can or cannot perform a certain procedure or task. The examples above may suggest there are no clear decision criteria or rules. Yet at other times these rules appeared to be very strict and almost tangible. In emergency care, for example, we observed situations in which boundaries suddenly became very explicit:

> *A patient at the emergency department is referred to the surgeon but a PA decides to take care of this patient right away without waiting for the permission of the surgeons. "I'll just check upon this patient and maybe I can put in a request for X-ray or run a blood test already. I know what to do and this saves time for the surgeons". After a while a trauma surgeon enters the room, looking highly agitated. He asks the patient to tell the story again as he does not fully trust upon the initial diagnosis set by the PA (Observation notes-, emergency department, 30-03-14).*

What matters for the argument made here is, that the examples from both case studies show that boundaries between the work of medical specialists and the PAs do exist, yet they are not explicit all the time. Boundaries are situated and constructed in everyday practices. Moreover, they may differ between individual practitioners. For example, a neonatologist can be more willing to leave the care for a child to one PA and not to another. Boundaries may also shift over time as individual professionals develop themselves over time. As a consequence, PAs must continuously estimate what the boundaries of their acknowledged field of expertise are. The focus on the enactment of the boundaries and the uncertainty related to it, requires an embodied effort of PAs to continuously decide upon their room to act in order to avoid conflicts with medical specialists while also acting in the best interest of the patient. The fluidity of boundaries makes it also almost impossible to clearly define occupational boundaries in protocols. Instead, boundaries between professionals seem situational and constantly constructed

and negotiated in daily practice (always becoming) by the individuals involved in a particular situations.

In this first part of the this section we have demonstrated how carving out a place involves job crafting in the sense that work activities and interactions are shaped, adapted and reshaped in the course of daily practice, and how in doing so, PAs relate themselves to other health care practitioners. After having discussed changes in the design of the job (tasks) and environment in which PA perform their job (relations), we now turn to the topics of meaning and identity which are also crucial to the understanding of how PAs carve out a place.

Crafting a job through attaching meaning and deriving an identity

Job crafting is also about giving meaning to the work that is conducted and deriving an identity from it (Berg et al. 2010). Individual professionals shape their identity by *coloring in* their work and relationships in a certain way, and as such construct meaning and professional identity claims.[34]

The way the PAs talked about their job shows that they frame the meaning of their work differently than when they worked as a nurse:

> *"Originally I'm a nurse and up to this moment I had to enroll in a new training or educational program every five years to keep updated and also motivated. But now, as a PA, I see everything changing in my day-to-day work. Partly because the care itself is changing. We now take care of babies born after only 24 weeks of pregnancy. I know we need some years to develop care to this specific category as not everything is crystallized out yet for this specific group. We don't know exactly what is best for them at the moment. Therefore, I need to keep developing myself in this job as I feel partly responsible for their care." (PA, neonatology department 04-02-2014)*

[34] In this chapter job crafting is analysed from the perspective of the PA. As a consequence we analyse how PAs themselves attach meaning to and make sense of their work and occupational identity, we did not directly analyzed how others see the identity of the PA.

This PA explains that she feels responsible for something bigger than her own work. Her job has become more meaningful to her as she now sees herself as part of a professional challenge to develop care for a very specific and highly fragile group of patients. She considers her work as more challenging now as she does more than just performing a list of tasks. This illustrates that in order to understand how individual PAs attach meaning to their work, one has to look beyond the performance of tasks. One PA in the emergency case explained that what mattered most to him in developing his role were not the tasks but the additional responsibilities he has as a PA.

> *"Everyone expects more of a PA. I believe a PA has some sort of management function as we need to be in charge of a team of nurses […] We are concerned with stuff that exceeds the execution of clearly defined tasks. With this job comes an additional responsibility to keep developing the care as well as yourself […] as a PA you are, more than a nurse, busy with issues that stay on your to-do list the entire day." (PA, emergency department 31-03-2014).*

This interview extract illustrates that meaning is something that individuals attach to what they do in their work. In this example, the PA derives meaning and value from his job as a PA through the additional clinical and management responsibilities he has obtained, not through a list of tasks. The additional responsibilities that come with the job and the fact that they are entrusted to take these up are making the work as a PA meaningful.

Hence, crafting a job is about changing tasks, creating new relations with others and about taking up additional responsibilities, act accordingly and attach meaning to it. This last step is a rather personal turnaround that individual practitioners need to make. The above has shown how individual PAs find meaning in their role and how they convince others that they are capable of acting according to these new responsibilities. However, job crafting is also about trusting yourself as a PA to take up new responsibilities. You have to change your work identity, i.e. to change how you see yourself and how others see you

as an individual within a team. These shifts not only determine how PAs attach meaning to their own work, but also how their occupational identity is constituted. At the neonatology department, for example, seeing patients back after a few years together with their (seemingly) proud parents reminded the PAs of what their work really is about. It made PAs feel a vital part of the medical team that made this possible. However, PAs also articulated that it was not an easy endeavor to frame a new role and identity:

> *"What I believe is complex is that you have to know what is going on with all of the patients and be able to act immediately when required. You are responsible for three times 8 intensive care beds, eight high-care patients, 15 medium care patients, and for the admission of new babies from the midwifery. It is complex to oversee that all and to make the right decisions on your own…I really felt this responsibility as a burden in the beginning; it takes a lot of your energy and it isn't about a procedure or technical skill. Those you can learn if you practice enough, dealing with the increased responsibility and making medical decisions about treatment plans is something you need to make part of your own…of yourself…[..]…The difficult cases remind me of this difficult responsibility." (PA, neonatology department 28-01-2014).*

Individual PAs find meaning in additional responsibilities and, as part of this process, create a new occupational identity. Creating this new identity at the workplace is not something PAs have to do all by themselves, as other PAs in the organization face similar challenges. We observed how carving out a place also involves collective work, although this causes new tensions to arise. Collective identity work done by a group of PAs may emphasize the need to clearly define what kind of tasks and responsibilities are being embraced and where responsibilities stop:

> *One of the PAs describes a situation in which he discovered that what PAs do at his neonatology department is not generally accepted among PAs. In his role as a contact person for the parents of patients, he supervises situations in which babies pass away. During a meeting*

with PAs from other hospitals he asked a detailed question about one of the forms he has to fill out in such situations. The other PA were stunned by the question and responded immediately by advising him that that he, as a PA, should keep himself out of such situations because this is not something a PA should do (Observation notes, neonatology department, 04-02-2014).

This brief episode reflects two quite contrasting issues. First, it shows the variety in the ways the role of the PAs is enacted in organizations. Apparently, the exact role of a PA is situated and thus differs across hospital organizations. Second, it reveals that a professional place transcends the own work place as there is a common idea or belief what a PA should and should not do. This means that the professional identity exceeds the situated practice of a single department or hospital which becomes clear when PAs interact with others from other departments and organizations.

Carving out a place potentially exceeds the own organization, although the PAs in our study claimed they focus mainly on what they could achieve in their own work and at their own departments. We, however, did observe examples of collective job crafting as well. PAs indicated that collective action served their interest best. For example in discussions about reimbursement for additional vocational training and in salary negotiations with the hospital management, the PAs explained that they were only able to arrange this in their favor when they joined efforts with PAs from other departments. In neonatology, for example, PAs took the initiative in founding an internal professional association for PAs to support them in these efforts. The foundation was considered very useful, if not for the actual effects of changing salary and education, then for 'knowing that as a PA you are not alone in your struggles'. The advantages of collective job crafting on the one hand, and the individual privileges some PA experience on the other, reflect a certain tension between individual and collective forms of job crafting in practice.

As places are *endlessly made* (Creswell, 2004) crafting a job does never come to a definite end. In both case studies it was fiercely debated how the PA's role should be developed further in the (near) future. It was for example discussed whether it would be a good idea to let the PAs specialize in a certain sub-field as a next step in their development. During the negotiations about further role development, another tension came to the fore: the tension between *pioneering* and *specifying*. On the one hand, PAs felt the desire to develop clear-cut descriptions of what their job is about so that their carefully carved out place cannot easily be disrupted. However, on the other hand they did not want to pinpoint their work and position themselves to allow for further development. PAs thus wanted to remain a pioneer while they also wished for more clarity and protection of their role. They argued that having a list of competences protected them from being pushed to their limits as the precisely defined qualifications and tasks gave them something to hold on to in negotiations about what (not) to do in practice.

Both the desire to protect the position of the PAs and the desire to develop this position further illustrate that carving out a place for new professionals involves *tinkering* with pioneering and specifying. Being flexible and creative enables to expand work space, yet specifying tasks, competences and qualifications enables protection of the carved out place from disruption and overload. PAs, as a new occupation, need to pursue both these, actually conflicting, purposes to establish certain boundaries but must also create flexibility within these boundaries to leave room for a more fluid or even *boundaryless* development.

CONCLUSIONS

Hospitals are staffed by an increasing variation of health care practitioners, and boundaries between them are fading. In this chapter we have demonstrated how a new occupation, the PA, carves out a place in a health care arena with vested professionals. In contrast to traditional literature on new professionals that stresses the battle for occupational domains and the obduracy of vested professional jurisdictions, we have

shown how PAs carve out their place in practice through specializing themselves in, and contributing to, particular parts of health service provision. PAs develop their own expertise and routines in particular clinical tasks that are of added value to both the quality of care and to the existing skill sets of medical specialists and nurses. For example, according to our study, PAs in neonatology have developed themselves in carrying out specific medical procedures such as intubating infants, and gradually became more competent in this particular, yet crucial, procedure than the neonatologists. This made that they, rather than specialists, perform the intubations. The emergency PAs, in turn, focused on patients suffering from minor traumas and gradually became experts with newly developed routines in treating this group of patients, something that is also recognized and appreciated by the medical specialists.

As a new occupation the PAs thus had to position themselves in relation to other professionals and had to take on a new identity. We have shown that PAs had to let go of their former nurse identity in creating a new role as supervisor of the nurses. PAs moved in and out the nursing domain depending on their valuation of the situation at hand; they sometimes took over nurses' tasks to relief their work pressure while at other times they explicitly dissociated themselves from them by pointing out the differences in competence and hierarchy between them. In addition to these tasks and relations, PAs carved out a place through attaching new meanings to their expertise and acknowledged set of skills. Becoming an inherent part of the medical team made them feel more closely related to the care that was provided and PAs increasingly considered it as their personal responsibility to clinically contribute to the development of care for specific groups of patients. In this very process PAs make a personal turnaround as they need to believe that they are capable of contributing to clinical care and need to be acknowledged for this by other professionals. Carving out a place is thus also about relating oneself to others in a meaningful way and thereby creating and defining a new socially accepted work identity. It is this new identity that turns the PA into an intrinsic part of the medical team.

PAs not only craft their own job in these processes; they also carve out a place for the occupation of a PA in general. The first PAs acted as pioneers as their work also determined how professionals from other departments and organizations valued the PA's role. This entailed both individual and collective work. Sometimes PAs within a single organization joined efforts in negotiating about their work conditions such as salary or additional training opportunities. Yet, what we have described is just a snapshot of the place of the PA. The place of the PA as a new occupation is and never will be fixed as it is always becoming. In interaction with others, PAs will continue to develop this place further. We have shown here that it requires a lot of work to weave in a new occupation into the changing socio-fabric of daily life in health care practice.

Our analysis has revealed some interesting insights into the creation and role of professional boundaries, which—we believe—is also productive to the theoretical conceptualization of the notion of the boundaryless hospital. Carving out a place is both about creating and crossing boundaries. The boundaries of a place for a new occupation remain implicit, invisible or permeable most of the time and as such allow for easy collaboration and smooth processes of health care delivery in situated practices. At specific moments boundaries hamper the actual execution of tasks. Yet, at other times these boundaries become rather explicit, fixed and rigid and actually help to get the work done as they allow for smooth interdisciplinary work. At these instances boundaries seem to delineate a space that can be protected and that helps to present oneself as an authority. The moment that boundaries become explicit is, as our study has illustrated, not case-specific but rather situational. It depends on the (perceived) competences of a PA, the circumstances at hand (e.g. whether it is busy at the ward or not), the PA's eagerness and self-confidence, the willingness of an individual physician to leave a patient to a PA as well as on individual actions, ambitions and beliefs of and trust between those involved. The difference between individuals also accentuates the ambivalence of boundaries as there is a constant tension between what an individual PA and the group of PAs is allowed to do. This implies that it may be that one

experienced PA is allowed in a specific situation to conduct a certain procedure while it is not incorporated in standard policy that is valid for all PAs. We argue that boundaries are the outcomes of mundane actions and interactions between professionals; they are blurred social objects that are malleable to some extent (Oldenhof et al., 2015). Always thought of as important to understand how professionals develop over time, professional boundaries are neither fixed nor clearly defined but highly situational and thus specific for a certain location, time and the present actors.

DISCUSSION

The findings in this chapter add to both theory and practice. Our study contributes to theory on job crafting by providing descriptions of how PAs, as professionals who fulfill a new occupation, succeeded in carving out a place in particular health care settings. As the job of new professionals has not been settled yet, we were able to analyze not only how individuals actively *change* their job—suggesting that there is an established *job* already as is common in the majority of studies on job crafting, but also how they actively shape a new job and the meaning of it by creating boundaries.

We could have included the role and perceptions of other actors such as the residents, nurses and medical specialists, who also constantly craft their own job in relation to that of the PA. In this chapter we described the interactions with these professionals from the perspective of the PAs. However, as place making is a collective process, future research could focus on these interactions from the perspective of other actor's and their behavior. Another direction, which we touched upon but which could be used for further exploration, is the relationship between the micro job crafting processes in practice that we described and the macro, societal and institutional context in which these processes are embedded. This may add additional insights to the possible contribution of new occupations to care delivery in general.

Our findings on how new professionals carve out a place have important implications for both policy and practice on the development of new occupations. First, continuously negotiated boundaries that are sometimes explicit and sometimes seemingly non-existent render it difficult to account for the outcomes of care provision as it is not always clear who is doing what exactly in the course of daily practice. Second, our results indicate that workforce or human resource management should be organized in a situated manner as we have demonstrated how professional occupations are enacted in practice. As both flexibility and rigidity are desirable and undesirable at the same time, new professional occupations are determined by the meaning people assign to it. This makes it relevant for managers to focus on the management of this meaning in a way that goes beyond influencing conditions that merely cultivate the diffusion of clear-cut roles. The way new professional roles arise out of the interweaving of multiple processes, as a result of the continuous work of developing, adapting, implementing and translating job boundaries, asks for a context-specific discussion about how individuals and groups of actors contribute to the development of their profession, especially in a general movement toward a more *boundaryless organization*.

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CHAPTER 6

Innovation programs as performative accomplishments: A process analysis of how programs work in practice

This chapter submitted to the Journal of Responsible Innovation:
Janssen, M., Breedveld, E. J., Putters, K. (2015). Innovation Programs as Performative Accomplishments. A Process Analysis of how Programs Work in Practice.

ABSTRACT

Given the commonly accepted idea that a programmatic approach brings about innovative practices, governments traditionally implement innovation programs as policy instrument for innovation. However, the scientific grounds that substantiate the use of programs, and knowledge of how they work, are limited. Aiming to enhance the understanding of innovations programs, our study sought to answer the question: 'How do innovation programs foster and govern healthcare innovations, analyzed in terms of their processes and performative effects?' For our study we draw upon process theory and data from two evaluations of innovation programs in Dutch healthcare. Results show that, conceptualized as performative accomplishments, innovation programs have performative effects on practice. Not their design but management determines their effects on practice through the processes of facilitation, legitimation and prioritization. We show that programs are not normatively neutral policy instruments and argue that this finding has major implications for both innovation policy and practice.

INNOVATION PROGRAMS AND THEIR EVALUATION

"I would like to start with a question: why does innovation not come naturally in our sector?" (Chairman, program committee, rehabilitation innovation program, 16-03-2012)

Ever since the foundation of innovation sciences, scholars from various disciplines have puzzled over the origins of innovation. Meanwhile, many have attempted to develop sound policies to promote innovation. A large body of literature on how to foster, maintain and organize innovation has backed a common practice among policy makers to stimulate and promote innovation with collaborative, often sector-wide programs (Sørensen & Torfing, 2011). Although innovation programs may differ in their guiding principles, they are often designed to aid both development and implementation of innovations. Programs often make financial means available for practice and form 'collaborative spaces' or 'communities of practice' for new ideas to emerge and develop in a safe environment; i.e. protected from fierce competition in a too-early stage (Samford, 2014). These programs find their legitimation in research that has repeatedly shown how collaborative networks can successfully overcome problems, such as the sharing of costs and risks, that stifle innovation (Sørensen & Torfing, 2011). Underlying the popularity of these programs is the idea that innovation is seldom the result of individual actors. Rather, innovations represent interactive processes in which actors bring about innovations together (Csikszentmihalyi, 1996; Edquist, 1997; Janssen & Moors, 2013; Sørensen & Torfing, 2011). National governments, the OECD and the European Union see programs as suitable instruments to enhance innovation as they potentially not only benefit the economy but also contribute to tackling complex problems in sectors where significant public interests and values are at stake, such as in healthcare (Maatta & Eriksson, 2014; Newman et al., 2011). To date, a wide range of innovation programs have seen the light of day. They vary from large scale initiatives, e.g. aimed at tax benefits for innovative companies, to small-scale learning communities for targeted organizations and individuals in specific sectors.

Because significant amounts of public money and high hopes are pinned onto innovation programs, they are also widely evaluated in studies '*that seek to determine the relevance, efficiency and effect of an activity in terms of its objectives'* (Papaconstantinou & Polt, 1997: 10). Used to support further policy making on innovation, a vast body of literature describes evidence-based evaluation methods and approaches that vary in design (qualitative or quantitative) and the tools and methods used (cost-benefit ratios, surveys, interviews). It is questionable, however, whether these evaluations have brought about convincing evidence for the overall effectiveness of innovation programs (Weggelaar, 2015) or insights into how they work and what approach works best in sectors such as healthcare (Meyer-Kramer & Montigny, 1989; Papaconstantinou & Polt, 1997; Sørensen & Torfing, 2011). Evaluations take many forms even if all share the aim to measure a program's effectiveness in realizing certain policy goals (Meyer-Kramer & Montigny, 1989). Although exact reasons to conduct an evaluation may differ – e.g. to enhance legitimation for political decision-making or to correct for so-called system failures – the desire to attain an indication of a program's success is prominent and understandable seen against a background of fierce political debates between advocates and opponents of spending public resources on innovation programs. Although there are some exceptions as to how evaluation studies are conducted – some analyze the underlying assumptions while others analyze processes with a preset list of criteria – the most common approach for evaluation that has established itself over the course of 50 years, is to quantitatively measure a program's output, outcome or effect (Leeuw, 2003; Parlett & Hamilton, 1972). This outcome-oriented approach is characterized by ample analytical attention for the diffusion of innovations, as scholars tend to study goals and ambitions for their achievement and fulfillment in order to come up with lists of success factors (Leeuw, 2003; Parlett & Hamilton, 1972). Although valuable work has contributed to developing such 'traditional' approaches, we problematize their usefulness in this paper as we consider valuing outcomes over processes to be too restricted in scope and as it represents a false belief in measured outputs (Kloet et al., 2013; Papaconstantinou

& Polt, 1997; Roessner, 1989; Wardenaar, 2015). Moreover, traditional evaluations support a static view of the programs under study while these are in essence highly volatile, dynamic entities (Abma, 2001; Dixon-Woods et al., 2011; Hernes, 2014; Kuipers et al., 2014). Tending to take criteria from the idealized world of policy as points of reference and evaluating goals and ambitions in terms of achievement and fulfillment, traditional studies tend to adopt a management bias and a naïve sense of rationality (Bozeman & Sarewitz, 2011; Kloet et al., 2013; Meyer-Kramer & Montigny, 1989). Vital, however, is that traditional evaluations do not enhance our understanding of the way programs work in terms of the processes that constitute them (Bozeman & Sarewitz, 2011; Dixon-Woods et al., 2011; Kloet et al., 2013; May, 2013; Mcmaster & Wastell, 2005). We argue that these traditional approaches tend to neglect the politics in innovation processes as well as the performativity of innovation programs while we consider both essential in understanding innovation.

In this paper, we do not aim to improve upon or repair traditional approaches but rather develop and adopt an alternative, complementary approach based upon process theory. Traditional evaluations leave unarticulated the questions as to *how* and to *whom* innovation programs work (Bozeman & Sarewitz, 2011; Dixon-Woods et al., 2011; Langley & Denis, 2011; Leeuw, 2003; Sørensen & Torfing, 2011). We aim at obtaining a more detailed understanding of *how* innovation programs work and for *whom* in terms of their practices, their social and behavioral dynamics and their performativity. To our knowledge, process theory has not been applied to evaluate innovation programs in sectors such as healthcare, since related approaches are mostly known for studies in other public sectors (Sørensen & Torfing ,2011). For example, using process theory to analyze innovation programs shows similarities with other evaluation methods which are based on other theoretical frameworks: 'program theory' (Dixon-Woods et al., 2011; Leeuw, 2003); 'responsive evaluation' (Abma, 2005) and 'illuminative evaluation' (Parlett & Hamilton, 1972). These methods offer alternatives to what is described as the 'hypothetical-deductive methodology' in traditional evaluation studies. Rather than measuring the extent to which

programs work, we analyze *how* they work in practice and what they actually do, i.e. we focus on their performative effects. The following research question guides this research: *How do innovation programs foster and govern innovations in a healthcare context analyzed in terms of their processes and their performative effects?*

Our study draws on a twofold ethnographic study into two innovation programs in Dutch healthcare: (1) the Neighborhood Governance and Innovation Program, aimed at creating a learning community in long-term care and (2) the Innovation Program in Rehabilitation Care, mostly aimed at facilitating specific promising innovative projects. We draw on process theory to analyze the workings and performative effects of two programs work in terms of micro-scale social processes (Dixon-Woods et al., 2011). The process-inspired focus contributes to innovation science and the science of improvement by providing empirical insights into the performativity of innovation programs (Greenhalgh et al., 2011; Hernes, 2014; Ovretveit & Gustafson, 2002; Stoopendaal and Bal, 2013; Zuiderent-Jerak et al., 2009). This view also contributes to evaluation theory and practice as it takes currently under-researched themes such as atypical results, unintended effects and the social or public value of innovation programs as the focal point of analysis (Bate & Robert, 2002; Bozeman & Sarewitz, 2011; Roessner, 1989). Finally, we aim to contribute to policy making as well as the insights gained can be used to prevent irrelevant public expenses on future innovation programs based upon ill-advised conclusions from traditional studies (Broer et al., 2010; Leeuw, 2003; Nelson et al., 2014).

The next section develops a theoretical framework based on process theory. The Method section describes the research design, data collection and analysis plus the two case studies. The Results section describes how programs, influenced by the actions and decisions of management, are performative as they facilitate, legitimize and prioritize innovation practices. The paper ends by discussing the implications for research, policy and practice.

PERFORMATIVITY IN INNOVATION PROGRAMS

Process theory, known for its ability to complexify taken-for-granted assumptions, stems from an ontological perspective that considers processes as the basic element of organizing (Hernes, 2014). Process scholars argue that an object of study has no existence apart from its relation to other things, together forming an ever-dynamic context (Parlett & Hamilton, 1972). This does not imply that states or entities are non-existing; it shows that upon analysis these would appear to consist of sequences of activities. Process studies reason from a processual nature of things and are therefore different from a study of processes. Whereas studies *of* processes see programs as progressions of discrete events, as an orderly accumulation of steps, a study *from* a process perspective sees the events and acts as processes and thus as constantly changing and emerging in time. All that is analyzed is considered to be constantly made, remade and unmade in relation to other things in the flow of time (Hernes, 2014).

Adopting process theory as the fundament of the theoretical framework in this study leads to another conceptualization of innovation programs: instead of seeing them as clear-cut policy instruments that await implementation, a process view sees programs as series of overlapping, sometimes conflicting social practices. Innovation programs are considered dynamic in essence; complex and unpredictable phenomena that are enacted in practice and thus formed along the way. This indicates that a program – comprising the projects enrolled in it, the problems it addresses, its purposes and content, and even its underlying assumptions –undergoes multiple modifications and non-trivial changes over time (Roessner, 1989). The constituents are by no means fully established when the program starts which implies that outcome measures cannot be preordained (Abma, 2005; Dixon-Woods et al., 2011). As innovation programs are dynamic processes whose elements get constantly constructed and reconstructed, actors continually need to adjust their plans in interaction with other actors and contexts (Abma, 2005). Programs are always in the process of becoming and are thus constantly created and sustained through actions and events.

To put it stronger, the situated sequence of activities and processes unfolding over time constitutes an innovation program (McMaster, 1997). Hence, from a process view innovation programs are perceived as emergent accomplishments (Hernes, 2014). Instead of focusing on outcomes, measured performance or realized targets as objective outputs, processual conceptualization of innovation programs asks for research that scrutinizes social processes occurring in terms of experiences, activities and (inter)actions of and between the actors involved (Kuipers et al., 2014; Zuiderent-Jerak et al., 2009). Understanding *how* programs work then comes from analyzing how the constituent processes simultaneously create, change and develop the program (Broer et al., 2010; Hernes, 2014; Langley & Denis, 2011; Ovretveit & Gustafson, 2002; Stoopendaal & Bal, 2013; Van Loon et al., 2014).

As touched upon above, we argue that innovation programs are performative accomplishments, meaning that they possess performativity and thus, by definition *do* things (Garud et al., 2014; Mackenzie et al., 2007). Ascribing performativity to innovation programs implies that their usage and actual implementation as policy instruments have an impact on innovation practice (Mackenzie et al., 2007). Programs do more than merely offer a context for innovation; they possess performativity in the sense that they exert an effect on practice and hence, always exert an influence on the processes they describe. The meaning a program has for practice reveals itself solely through the acts and events that constitute it and thus meaning cannot be decided a priori or in hindsight but emerges through the ways in which the various elements happen (Hernes, 2014). This view also implies that practice would be different if these programs did not exist, a thought that has inspired quasi-experimental studies that analyze what would have happened if a specific program had never existed (Roessner, 1989). This view on the performativity of programs implies that it is not enough to merely describe a program. It needs an analysis of the role of performativity in the implementation of the innovation program, and how that is influenced by the actions and decisions of program management. Therefore, this paper analyzes what innovation programs do, and what the effects are of what they do. Process theory is used to accommodate

the analysis by looking into processes that are both influenced by and constitute a program.

DOING PROCESS RESEARCH

Applying a process perspective on evaluating innovation programs has implications for the research design, the case studies, and data collection and analysis.

Research design & case studies

Applying process theory implies using a flexible methodology to observe, inquire and explain practice (Parlett & Hamilton, 1972). In this paper, we build upon qualitative case studies as these are capable of integrating different interpretations of innovation programs as social phenomena and thus deliver insights into how they work (Sørensen & Torfing, 2011). Two one-year innovation programs in Dutch healthcare form the contexts of our case studies: (1) a Neighborhood Governance and Innovation Program in long-term care and (2) an Innovation Program in Rehabilitation Care. As both programs show far from common dynamics or patterns of behavior – they differ fundamentally in history, duration, budget, design and aims – we did not compare the two but conducted a cross-case analysis of the underlying dynamics. This approach enabled us to learn how these programs were *done.* Indeed, the very differences between the two programs offered us sufficient learning grounds for interpretations of their development and the way they work (Ciborra & Hanseth, 2001; McGivern et al., 2015).

We entered those settings where the programs were formed and observed what happened in the course of their existence, instead of merely analyzing their formal descriptions (Mesman, 2009). We engaged in the processes under investigation to obtain quality descriptions and theoretical understanding (Dixon-Woods et al., 2011; Papaconstantinou & Polt, 1997; Zuiderent-Jerak et al., 2009). For example, in the Neighborhood Governance Program we were on the management team and took active part in decision-making. This active,

Table 6.1: Summary of innovation programs studied

Program	Some figures	Objectives
Neighborhood Governance and Innovation in Long-term Care (2011)	Budget: €1 million # of projects: 10 Duration: 1 year	Developing promising initiatives; work on system requirements; operationalize the neighborhood care concept and strengthen the innovative capacity
Innovation Program in Rehabilitation Care (2012)	Budget: €6 million # of projects: 48 Duration: 1 year	Identify, translate, and develop promising innovations; work on diffusion of successful innovations; prepare organizations for sector-wide changes and improving the innovation capacity

multi-sited form of study (Nicolini, 2009; Parlett & Hamilton, 1972) and the engaged fieldwork associated with it, enables us as researchers to capture the lessons learned. 'Being engaged' allows for analysis of how the program functions and interacts dynamically with its projects (Greenhalgh et al., 2011). Table 6.1 provides a summary of the programs and their projects which are also described below.

(1) The Neighborhood Governance and Innovation Program (2010-2012): This program in long-term care, a sector facing rising demands with ever-decreasing resources, is just one of many attempts to improve the sector's sustainability. It was primarily designed to work on the 'neighborhood-based approach' and close the gap between ideas and practice by bringing organizations with different kinds of expertise together. In the new learning environment, people were expected to work together on developments with transformation potential for the sector (Jukema et al., 2015; Stoopendaal & Bal, 2013). The program had four major aims: further developing promising initiatives by facilitating learning; operationalizing the concept of neighborhood care; strengthening the sector's innovative capacity; and working on system requirements for neighborhood care (Oldenhof & Janssen, 2012). Eggers and Sing (2009) describe these aims as 'cultivation' and 'networking' – to facilitate collaboration between various participants so that they can exchange, develop and actually test new ideas. A management team, including program managers, researchers and representatives of three branch organizations, controlled the execution of the program (Olden-

hof & Janssen, 2012). The ten participating projects all aimed to realize systemic transitions by delivering neighborhood-based services (e.g. working with self-steering teams and neighborhoods nurses). The ten project leaders committed to a one-year program with several training days and other kinds of meetings. Our empirical study probed the program manager and participating project leaders in detail. Findings were immediately discussed with program leaders so that they received feedback during the course of the analysis. Program managers appreciated this as it gave the results leverage, i.e. contributing to improving the conduct, quality and responsiveness of the program while it was being executed (Papaconstantinou & Polt, 1997).

(2) The Innovation Program in Rehabilitation Care (2011-2013): This large one-year innovation program was financed by the Dutch Ministry of Health and implemented by two professional branch organizations in rehabilitation care. The main aim was to prepare rehabilitation organizations, including specialist centers and academic hospitals, for sector-wide, structural changes in the financing system by further developing their lasting capacity to innovate (Janssen & Moors, 2013). In addition to 'cultivation', this program was mainly aimed at 'replication', i.e. fostering collaborative relationships with other public agencies to identify, translate, adapt and implement their best and most successful innovations (Eggers & Singh, 2009). The entire sector was expected to profit from this program so projects were expected to sustain far beyond the program's lifespan. Overall, 13 implementation projects (aimed at up scaling developed innovations) and 35 innovation projects (aimed at developing innovations) were selected for participation. An online platform for knowledge exchange was developed as program management considered this a key element in the infrastructure required for innovation (Janssen & Moors, 2013). Participating organizations, branch organizations, knowledge institutes and representatives of rehabilitation patients were all closely involved in executing the program. Our study analyzed the work of both program managers and project leaders. Our findings were expected to deliver input for future policy initiatives for innovation in rehabilitation care.

Data collection & analysis

Ethnographic methods were used for data collection as these are particularly suited to analyze innovation processes (Agar, 2006; Stoopendaal & Bal, 2013). Because of the active role we played in the programs, we drew mainly upon participant observation, and open and semi-structured interviews for data collection, complemented by observations, a small qualitative survey and document analyses in both programs.

As researchers, we immersed ourselves in the programs and decided upon the exact combination of research methods as the research evolved. Although the design was similar in key dimensions to enable comparison, we used slightly different combinations of methods in each case study. During the observations, we built a continuous record of ongoing events and informal remarks. The interviews were crucial to learning about the participant's views. Because innovations do not arise unheralded – they are preceded by minutes, proposals, plans and reports (Parlett & Hamilton, 1972) – we also conducted document analyses. Using a flexible ethnographic research design implied that we actively looked for suitable times, places and people for observations and interviews to increase the chance of being present at relevant activities. Doing this enabled us to analyze the management of the two programs and the innovation processes, also because we analyzed some of the participating projects, their project leader(s) and practitioners.

Formal interviews were tape-recorded and transcribed for the analysis. Informal interviews and observations were transcribed in great detail as 'thick transcriptions' (Geertz, 1973) shortly after data collection. Analysis initially consisted of close reading, after which we used open coding in the second reading of our transcripts. Based on this initial inductive coding, we developed a general framework for selective coding in the third, deductive reading of data, in the coding process known as 'abduction' to bring further detail into our analysis (Peirce, 1996; Tavory & Timmermans, 2014). To aggregate studies of fundamentally comparable cases, we developed a common orientation (McGivern et

al., 2015) which resulted in situational and theoretically based generalizations, described below.

PERFORMATIVITY OF INNOVATION PROGRAMS IN PRACTICE

This research reveals that innovation programs have performative effects as they facilitate, legitimize and prioritize practice. These effects make that the programs have a meaning beyond their design. We describe how the programs did this, and how program managers influenced the effects by their actions and decisions in the course of a program.

Programs facilitate innovation

That programs facilitate innovation is self-evident as often they are designed to provide projects with such means as time, money, knowledge, human resources and opportunities to broaden or scale up innovation. Although opinions differ as to whether financial means or subsidies are the main driver for project leaders to apply for participation in a program, both aspects are important:

> *"A program should not pay for everything, that is not an option because then everything stops when the money runs out. But, we certainly should not underestimate its influence as it provides opportunities for working on a project." (Project leader, project A, Rehabilitation Program, 23-08-2012)*

As this quote shows, subsidies allow project leaders to work on their projects as these additional funds can be allocated to human resources. Although money is important in that it ensures professionals can spend time on the projects, other aspects, such as the interactions between project leaders, appear to be even more important in explaining how programs facilitate innovative practices:

Project leader: *"The extra funds enabled me to pursue certain strategies, such as making a brochure and a movie on my project. In addition, the personal contacts, the network and training really helped me…[..]…the most valuable element, without doubt, was the formation of the network. Sharing knowledge and ideas and personal contacts with other project leaders contributed to my motivation and effectiveness and also meant our organization could keep on learning."*

Interviewer: *Looking back, what aspect of the program did you value most, and why?*

Project leader: *"That would be the meetings. The program also helped us set deadlines for our own progress. Inspiring each other is what we have to keep doing…[..]…The chosen formula helped us share ideas, experiences and our passion for the neighborhood care concept….[..]…This all helped create an extremely valuable network." (Project leader, F – Neighborhood Governance Program, questionnaire)*

In this interview excerpt, a project leader explains that the additional funds served as a catalyst for his project and the interactions between projects and project leaders also added value. Project leaders appreciated face-to-face interaction and collective activities the most as these facilitated the exchange of ideas, mutual learning, and instigated joint action between actors with different resources and expertise. Project leaders indicated that the strong learning community and network enabled them to have fruitful discussions with peers, provided them with opportunities to exchange more tacit knowledge, allowed learning opportunities to be explored and exploited, and gave them practical tools to work with. The facilitative effect of the program was not just practical; it also presented an inspiring environment for project leaders to work on their competences and learn new skills. Project leaders indicated that the monitoring and intervision meetings and their associated deadlines gave them the opportunity to talk about their beliefs and values with respect to neighborhood-based care so that they felt coached in further developing their projects. Moreover, project leaders

saw personal benefits in that the program served as source of inspiration or as an escape from their hectic day-to-day practices. In sum, through their participation they managed to develop their projects and become, according to their own saying, better project leaders.

The facilitative effects we described were exactly what the management of the Neighborhood Governance Program aimed to achieve through the design and implementation. They put much effort in organizing these peer encounters, as they believed that physical proximity in discussions is needed to successfully exchange knowledge and create room for mutual understanding between people with different ideas and values (Cook & Wills, 1999; Langley & Denis, 2011). These efforts influenced the way the innovation program facilitated the participating projects as much as the way program management selected the participants.

Deciding who to grant a subsidy and thus who is allowed to participate in a program raises the difficult question whether program management prefers a set of either diverse or similar projects to create an inspiring learning environment. Whether differences increase or decrease the learning potential of the program is difficult to determine; theory does not provide a clear answer (e.g. Cantellas et al., 2014; Dixon-Woods et al., 2011). One could argue that differences between participating projects complicate the joint effort in working on neighborhood-based care as big differences imply that the problems and challenges of the project leaders are probably also different. This would leave room to discuss general issues only would diminish opportunities to discuss an individual project's content. One could, however, also argue that overly similar projects also diminish the learning potential of collaboratives. Similarity holds the risk that projects work from a shared logic and draws attention away from working on the broader structural system requirements or from the potential benefits of incorporating outsiders (Chandy & Tellis, 2000). As both options, i.e. either maximizing or minimizing the participants' differences, seem to have their (dis)advantages, the program managers had to find practical solutions to participant selection. In the Neighborhood Governance Program, management

chose to appreciate the differences rather than potentially diminish them. They selected relatively different projects (in size, location, target population, number of organizations involved, development phase, and motivation, style and aims) and made these differences the topic of debate at initial program meetings. Management was convinced that when differences are recognized explicitly, the program meetings could serve as a way to let day-to-day negotiations and alignments emerge: they believed that the greatest progress is made when key stakeholders come together in uneasy dialogue "to form a cacophony of perspectives" as speaking each other's language, albeit imperfectly, is helpful in trying to understand where others come from (Greenhalgh et al., 2011: 555). To ensure this would happen, project leaders were selected based on their willingness to cooperate in the learning community that the program management had in mind. To guarantee participant heterogeneity enhancing rather than reducing the generative potential of the program, management looked for this commitment in their evaluation and final selection of the applicants.

So far, we have shown that innovation programs facilitate innovative practices literally and figuratively. Even though we encountered subtle differences in the experiences of individual project leaders, participation in the programs facilitated their projects as it gave them the space, time, means, complementary assets, resources and skills to work on their innovations projects while gaining the opportunity to reflect upon their projects along the way (Cook & Wills, 1999). Crucial in *how* the program exerted this facilitative effect was the way it was organized in terms of meetings and activities, bolstered by the quality of the community of participants. An inspiring work environment for project leaders hinges on the actions and decisions of program managers, in how they organize the exchange of ideas and collaboratives and in participant selection. The question is 'how to select participants such that both internal learning potential and external effects are taken seriously and both profit?' The way program management deals with this question is not neutral as this decision determines how the program is experienced by its participants who in turn adjust their actions upon their appreciation of this decision and the composition of the group of

participants. Therefore, programs possess performativity as, influenced by the actions and decisions of program management, they facilitate practices.

Programs legitimize innovation

Innovation programs also provide innovative projects with legitimacy although this is fragile, under constant criticism and a topic of fierce debates. As the following quotes illustrate, program participation can be crucial in organizing support that is hard to achieve individually,

> *"Having the label of the Neighborhood Governance Program made it a great deal easier to bring our project to the attention of other internal and external actors. It boosted our chance of exposure."... [..]…"Right after the program started, or even better, right after we announced our participation, we saw an increase in political and societal support from within and outside our own organization." (Program leader E and project leader B, respectively, Neighborhood Governance Program, questionnaire)*

Both quotes show that the program legitimizes participating projects within *and* beyond their organizations. Once projects were accepted, their leaders were able to create exposure by labeling their project 'innovative'. A direct benefit of program participation is that it turns an experiment into a legitimate project. Key to this legitimacy is the fact that both the innovation programs in this study were supported by national professional organizations. Their involvement gave the participating projects status, authority and legitimacy, which are crucial in rehabilitation care, a sector that our respondents characterize as very competitive.

> *"The various centers in rehabilitation don't really trust one another and don't grant others much leeway. In this case, having the label (of the national association of rehabilitation care) helps…[...]…Now the sector now accepts us as the main initiator and knowledge center for this development. We could never achieve that status or legitimacy*

without that involvement." (Project leader project A, Rehabilitation Program, 05-09-2012)

This quote shows how the program label provided the project with status and both cross-organizational and cross-disciplinary legitimacy. It was no longer regarded as a 'new trick by certain professionals' but as an interesting development that exceeded the interest of a single discipline. As participants, project leaders were able to enroll other organizations and professionals in their project and thus work on a much larger scale. Strengthened by the 'sense of urgency' the program created for some, participation eased gaining the support of professionals from various disciplines and the enrollment of other stakeholders such as management, municipalities and healthcare insurers.

This legitimizing effect reveals the performativity of an innovation program as it gives participating projects several forms of legitimacy. However, program management also expected something in return from the project leaders. The program is performative also because it includes ideas on the reciprocity of the program: what is asked from the participants in return for what it offers them? While project leaders expect to get something out of their participation (e.g. funds, knowledge or legitimacy) they are also expected to invest in the program (e.g. time or knowledge) to be a legitimate participant. In the Neighborhood Governance Program, project leaders were expected to actively participate in all program meetings. Asked to assess this reciprocity, project leaders distinguished between how they experienced and how they valued it:

"I'm not entirely positive if I look back. The aims of the program are good; but we had to make huge investments, especially in the light of how my project profited from participation."…[..]…"We feel we invested more than we got out of our participation. However we don't regret participating…[..]…Even though the program was intensive, it gave us experience and learning possibilities, insightful input and new energy. So for me it wasn't too intensive." (Program leader A and Program leader C, respectively, Neighborhood Governance Program)

Project leaders and program managers both felt they invested more (in time and energy) than they got out of their participation. Not all disliked this, however. What both actor groups appreciated most – the face-to-face meetings and its facilitative effects (see Section 4.1.) – is also what they criticized most with respect to reciprocity. Underlying the opposing views on reciprocity are differences in the aims and expectations of project leaders and program managers with respect to the program:

> *"… As for the program, I expected more expertise on the projects' contents because of the official description of the program and the involvement of the professional organizations, I guess. I expected more but this seemed to be a misunderstanding." (Project leader D – Neighborhood Governance Program, questionnaire)*

This quote illustrates that the project is the main point of concern for its leader. They expect the program to provide them with opportunities and customized support to work on their project, rather than seeing it as something that imposes and enforces specific requirements (Wardenaar, 2015). Program managers, however, organized 'monitoring' meetings to draw explicit attention to sharing lessons learned, for which project leaders were expected to deliver inputs. To project leaders in both programs, the main point of concern was the program and its effects beyond the individual projects. For example, the program managers in the rehabilitation program mainly strived to improve rehabilitation care while project leaders wanted to safeguard the implementation of their innovations. In the neighborhood program, management was more concerned with getting neighborhood-based care onto the public/political agenda than on assisting individual projects. Overall, we observed how legitimacy played a role in program reciprocity. Project leaders expect practical and clear-cut solutions to challenges and problems they face – e.g. legitimacy for their projects – while program managers expect legitimizing investments from the project leaders to participate in a program aimed at sorting out more general effects, such as creating beneficial conditions and acquiring political support.

Part of the performative effects of a program is thus explained by how its execution deals with reciprocity as this directly influences the behavior of participants and determines how they value the entire program. Management has an influence on how performative effects play out by deciding on the conditions of reciprocity. First, the management of both programs were very clear about their expectations with respect to sharing knowledge. In the rehabilitation program, for example, they not only promoted sharing knowledge online but also made it obligatory. Although the means to enforce this obligation were somewhat restricted, it did help ensure that others could profit from experiences and knowledge from specific projects. Second, we observed program management asking for commitment beforehand, thus creating a form of 'obligational relational contracting' (Buckley & Chapman, 1998: 370). By asking the project's higher management for commitment on paper or by investing half of the required budget, program leaders tried to ensure that project leaders would both contribute and profit from their participation. Both elements are key to making a program work. Third, the way management deals with the potential failure of projects determines how reciprocity (or gaining legitimacy as project leader and for the project) works in practice. Although it is known that many innovative projects fail somewhere in the course of their development, it is rather difficult for involved actors to accept this possibility. Boosted by the efforts and energy that project leaders put into the program, and by the legitimacy they gain from their participation, failure does not seem to be a real option that actors need take into account. Although the risk of failure is inherently connected to innovation – e.g. Callon (2010) describes 'misfires' as an essential part of the innovation process – it seems difficult for project leaders to accept this. Program managers, however, need to accept and deal with it instead of trying to avoid it. For example, those responsible for a particular project in the innovation program in rehabilitation care stopped it after a while. No procedures were in place that ensured that others could learn from this project, although many would have liked this. The project's owners were able to keep their knowledge and technology private even though its development was partly financed by public money. A manager in

the Neighborhood Governance Program, explained that dealing with failure demands a change of attitude:

> *"We need to look at what they [project leaders] have done, not what came out of that. Are they doing things differently in practice? Then it becomes irrelevant if those attempts fail. We have to keep a grip on their activities, not their results." (Program manager, Neighborhood Governance Program, 08-12-2011)*

According to this program leader, to deal with failure one must look for activities and processes not dependent on a project's outcome. Together, these three examples (i.e. on issues with respect to legitimacy, reciprocity and failure) make that the program has performative effects as they show how the actions and decisions of program management influence the way reciprocity plays out in the course of a program. How project leaders experience this reciprocity influences their behavior and thus also how they profit from their participation (in terms of acquired legitimacy) and contribute to the program (required efforts to gain legitimacy as program participant).

Programs prioritize innovation

Besides their facilitative and legitimizing impact on practice, innovation programs also have prioritizing effects. Programs prioritize practice, influenced by the selection and presentation of participants. In the Innovation Program in Rehabilitation Care, an expert committee selected applicants according to such criteria as scientific quality, relevance for the sector, innovativeness and their assessment of the applicant's chance of success. In making this selection, the expert committee felt restricted in their opportunity to steer the sector as they depended on applications received for the content of the projects and thus also of the program:

> *"Maybe we should be clearer and play a greater role in this in the future. We can of course select certain themes we want to include instead of aiming for a very wide palette of initiatives. I mean, we*

could do that but we didn't, not this time around." (Management team member, Rehabilitation Program, 25-01-2012)

This interview excerpt shows how program managers often had strong ideas about how the sector should develop, yet felt limited in their ability to have any real influence on this. That is why they argued for a more direct approach in future programs so that a project on e.g. e-health, self-management, games, social security and domotics – which they considered promising initiatives – would be better represented in a total set of applications. We argue, however, that even if the managers felt they had little influence on the content, the program still had a performative effect, exerted by their selection and presentation of the participants.

For example, granting a subsidy indicates that the project represents valuable and desirable direction and that it is considered legitimate to spend public money on its development. The mere attribution of a subsidy to a particular project comes with a statement on its desirability for outsiders, even if this remains implicit. It has a performative effect, as isomorphic pressures make selected projects get seen as the 'right' way of doing something and may cause other organizations to adopt similar practices (Dixon-Woods et al., 2011). Furthermore, the selection of a project not just expresses that it is valuable but also that it is entitled to programmatic support even if this may lead to debates on supporting particular projects with public funds. For example, we observed how some respondents claimed that developing protocols should never be granted a subsidy in an innovation program as this is an inherent aspect of professional work. Hence, in this instance, practice is prioritized not by the content of the project but the decision of accepting it for participation. These effects ascribe more meaning to the rather simple act of granting a subsidy than to its effects on practice. To act – decide to grant a subsidy – is to say something – make a claim on the desirability of the project and its programmatic support.

In addition to participant selection, the presentation of projects also directly influences the sector (Dixon-Woods et al., 2011). Participating

projects, usually representing just a fraction of the total number of similar projects, can either be presented as 'best practices' (or 'leaders' or 'trendsetters') or just as 'good examples' (or 'beacons' or 'showcases'). The main difference would be that in the latter form others tend to see the projects as sources of inspiration without feeling that they are forced upon them as the new standards (which would be the case when presented as best practices). This may seem a trivial detail or just a semantics, but it proves important as the way projects are presented and talked about, is performative in itself and thus has an effect on the sector. The style of communication and choice of language can serve as triggers for action, for projects both within and outside of a program. Being too outspoken about the status of selected projects – as if they are the *best* – can make outsiders regard the selected projects as something they cannot miss out on. It would be unacceptable, maybe even damaging for them not to work in similar ways. Meanwhile, it also makes it harder to convince others to become a 'follower' (Dixon-Woods et al., 2011). Labeling a project as 'good', also labels the projects that were not selected as the exact opposite: as 'not good' or at least as ignorable for valuable developments. For example, in the Neighborhood Governance Program, program managers and project leaders held different views on the status of the projects in relation to the neighborhood care movement. Where project leaders had the habit of presenting their projects as *the* new best practice, program management was more reserved and described the projects as experiments with only potentially valuable lessons for others. This illustrates how important communication style and language is in deciding how to enable project leaders to show the value of their projects without losing sight of the bigger picture. Presentation has an influence on the image outsiders have of selected projects and thus may influence their behavior directly.

CONCLUSION

Informed by process theory, we demonstrated the performativity of innovation programs. Innovation programs are not normatively neu-

tral policy instruments that, following evaluation, lead to lists of do's and don'ts. They are performative as they facilitate, legitimatize and prioritize innovation projects. They are thus more than just a pile of money that needs to be divided fairly. Programs facilitate innovation by offering time, money, the advantages of scale and room for reflection, and also legitimize and prioritize innovation practices. Legitimization comes from giving projects the label of the program and means that project leaders have to legitimize their position as participant in the program. Selecting certain projects for participation and promoting these in a certain way determines which projects can use the program label to increase their legitimacy. Additionally, programs prioritize practice by making both implicit and explicit claims about the desirability of innovative projects and their underlying developments. Through the selection mechanisms and communications style, an innovation program (in)directly puts forward ideas on what good care is. Including, and thus by definition also excluding other projects, the program sets priorities and makes claims about what is and is not considered meaningful innovation (Maatta & Eriksson, 2014). Thus they not only endorse specific projects but also carry specific assumptions about what legitimate action is and who has the (moral) obligation to act.

We also showed that it is not the design but the way a program is enacted that determines whether and how a program exerts its performative effects. The way an innovative program is managed determines the way its performativity (its facilitative, legitimization and prioritization effects) works out in practice. The performativity we ascribe to innovation programs has its roots in the action of program management on topics such as selection, communication style and the management of failure. Specific management decisions influence not only how participants experience a program but also how its performative effects come into being and play out in a multi-actor context (Ciborra & Hanseth, 2001; Van Loon, 2015). Prompted by differences of opinion between individuals on what is appropriate action for innovation in healthcare, program managers need to make difficult decisions not only in the design of a program but more often once a program has already started and evolves (Langley & Denis, 2011; Wardenaar, 2015). Program man-

agers, for example, need to find proper ways to organize activities within the program, to present and talk about the participants and to manage the expectations about reciprocity and failure. Taken together, it is through the processes of facilitation, legitimation and prioritization that innovation programs gain meaning for practice. Programs are thus 'performative accomplishments' as they influence and steer practices directly, bolstered by the expectations of the involved actors and influenced by actions and decisions of program management and the conditions they set.

DISCUSSION

This paper showed how the value of an innovation program is not determined by its output but rather by how it creates and facilitates reflexivity and collective sense making. We used process theory to analyze how programs work out in practice. Process theory provided us with the vocabulary to describe the dynamics of innovation programs and discuss the enactment of their performative effects, influenced by the actions and decisions of program management. We will now turn to this study's contribution, limitations and implications.

Our contribution to theory on innovation and innovation programs is that a process-inspired analysis of innovation programs will not result in a quantifiable measurements of a program's effectiveness but rather it reveals that innovation programs are by definition value laden, affected and enacted by actions and decisions of managers. Neither the amount of money invested, nor the design of an innovation program is determinate for its effect. The interactions between programs and projects, and the actions and decisions of program managers and project leaders who govern these very programs and projects are. This brings us back to the question at the start of this paper, why does innovation not come naturally? In this paper we approached this question by taking a first step in developing and applying an alternative framework for understanding and evaluating innovation programs based on process theory. We believe this approach can complement

extant perspectives as it comes with an alternative terminology and opens the door to different 'lessons learned' on the use of programs as policy instruments for innovation. To fully accept the idea that programs are – as we showed in this paper – enacted in practice and have performative effects through the actions and decisions of program management is difficult from a business management logic that has its roots in the concept of control. The effects of innovation programs do not come naturally but are enacted in practice; it takes work to develop an innovation and make an innovation program work. This contrasts with scholars who argue that it is best that strong management works toward a clear-cut mission from the start in a programmatic context (Kloet et al., 2013). To truly understand an innovation program one has to analyze the managerial actions and decisions and their impacts on the processes of facilitation, legitimation and prioritization. The simple answer to the starting question would then be that innovation and its effects on practice are *enacted in practice* and that room must be given to allow for that enactment (Janssen et al., 2015). Therefore, even in a programmatic context, innovation takes effort and does not come naturally. Individuals are able, through their actions on a micro-level, to change the content, meaning and effects of a program for the sector in general. Taken together, this study's main contribution is that it shows that adopting a process approach offers a new vocabulary and new insights into innovation that are potentially valuable for innovation, evaluation and policy sciences.

In describing the contribution of this study, we argue that although we conducted just two in-depth case studies in our research, we believe the results are both theoretically and heuristically generalizable. The situatedness of our case studies, furnished with case -specific results, may contribute to achieving improved theoretical understanding of the governance of innovation through programs. Heuristically, this study's result can sharpen the vocabulary of both researchers and policy makers dealing with innovation programs in different contexts (Greenhalgh et al., 2011). Therefore, we believe that our study's results have major implications for innovation policy, practice and research with respect to the design, execution and evaluation of innovation programs.

First, innovation programs posit a world that asks that their performativity, and the influence of program management on it, be considered in both practice and policy. It should be acknowledged that the ability to manage an innovation program successfully resides in the management's capacity to take action and make decisions in the course of the program while recognizing their influence on the performativity of the program. This implies that there is no single best design for programs that will work in all thinkable contexts. To increase the chance that an innovation program realizes its potential value, managers and policy makers need to acknowledge the importance of management and actively deal with its impact on the way innovation programs exert performative effects. Although we described the three performative effects – facilitation, legitimation and prioritization – separately in three separate sections for reasons of clarity, these effects are intertwined in the actual actions and decisions of program management as they have their origin in the same practice. For example, as we showed, the participant selection method has a prioritizing effect but also determines which projects are legitimized and facilitated by the program.

Second, to stop mechanisms of innovation practices escaping scrutiny, we argue for more process-inspired evaluations of innovation programs as we believe a process approach is potentially able to consolidate the policy foundations of innovation programs. More insights into innovation processes is just as valuable as knowing exactly which intervention is most (cost)effective (Langley & Denis, 2011). To achieve these insights, future process-inspired evaluations of innovation programs should be conducted in the course of the program that is under evaluation and with a built-in flexibility. In this way, processes can be analyzed as they happen and the design, methods and time frame of these evaluations can be adapted to the project's nature and expectations of those involved (Meyer-Kramer & Montigny, 1989; Roessner, 1989).

We end this paper by arguing for future research to deliver additional insights into the dynamic enactment of innovation programs as processual understanding could further improve the use of innovation pro-

grams as policy instruments and link them more closely to discussions on the governance of innovation in general.

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CHAPTER 7

Conclusion: innovation and governance; a tricky combination?

"In social life…we constantly encounter the unintended consequences of our best intentions. Over and over again the deeds and works of individual people, woven into the social net, take on an appearance that was not premeditated: Again and again therefore, people stand before the outcome of their actions like the apprentice magician before the spirits he has conjured up and which, once at large, are no longer in his power. They look with astonishment at the convolutions and the formations of the historical flow which they themselves constitute but do not control" (Elias 2001: 62 in Garud et al., 2015).

INNOVATION AND GOVERNANCE; A TRICKY COMBINATION?

Innovation is to me a concept equally fascinating and complex and well worth studying. There are enormous expectations of what innovation could mean for care provision and the quality, accessibility and affordability of our healthcare systems. The results are already there. The use of novel technologies improves our well-being; diagnostic tests detect severe diseases at an early stage; treatments are now available for diseases that were long thought incurable and several social innovations improve health outcomes while decreasing the demand for care and the pressure on the workforce. Hence, innovation has already brought much to healthcare. Nevertheless, innovative developments also come with disappointments. For example, changes sometimes remain marginal. Even while many attempts are made to enhance, stimulate and organize innovation, many promising technologies and innovations fail or do not (yet) translate into useful treatments and products.

The Introduction of this study described how these promises and disappointments related to innovation raise questions on the notion of governance of innovation in healthcare. The seemingly paradoxical relation between the notions of innovation and governance was described in terms of a desire to steer innovation processes, even though it is known that innovations often evolve unpredictably. This desire finds its origin in the need to relate innovation dynamics to public interests in healthcare so that potentially valuable innovation is facilitated and room for experimentation and innovation is provided while, at the same time, avoiding unnecessary or harmful innovations from a public interest point of view (Mulgan et al., 2007; Dixon-woods et al., 2011). The 'governance struggle of healthcare innovation' was described as an attempt to achieve a certain amount of control over complex innovation processes in an even more complex world:

> *"Many things are happening at once; practices, forms, and technologies are changing and poorly understood; preferences, identities, rules and perceptions are indeterminate and changing; problems, solutions, opportunities, ideas, situations, people, and outcomes are*

> *mixed together in ways that make their interpretation uncertain and their connections unclear…[..]…and solutions seem to have only modest connection to problems" (March, 1994: 177).*

In this complex world, March argues that policy makers are confronted with questions on how much control is required so that public value can be monitored while ensuring the necessary freedom for innovation. As such, the paradoxical relation between governance and innovation and the struggle that it puts forward raises questions on governance. It raises the issue of how configurations of processes and ways of organizing are expected to help realize the goals of innovation in healthcare, a sector with both strong public and private interests (Putters, 2009). In order to contribute to a way out of the paradoxical relation between governance and innovation and find answers to this struggle, this study focused on answering the following main research question:

How are healthcare innovations enacted in practice, and what can be learned from such an understanding about the governance of processes of innovation?

This question shows that this study began exploring the relation between governance and innovation by taking a step back as it argues that a lasting understanding of the governance of healthcare innovation is most likely to arise out of an enhanced understanding of actual innovation practices. Therefore, this study took a practice-oriented approach and focused on three fundamental questions on innovation first. Five case studies into actual healthcare innovation practices were conducted to analyze what healthcare innovation is, how innovation processes evolve and how value for innovation is created in such processes. This chapter conducts a cross-case analysis of their results to develop an understanding of innovation and draw conclusions on the governance of innovation based upon that understanding. Two main conclusions are drawn: (1) a conceptualization of innovation as 'situated novelty' and (2) an alternative perspective on the governance of innovation, introduced under the same name: 'the situated novelty approach'. Both are described below.

Innovation as situated novelty

This study shows that innovation processes are situated. They are by definition local. Instead of being defined as merely something new, innovation is described as processes of work, a strategic label, a symbol, an opportunity or a struggle. This shows that the meaning of innovation varies over time and space (Tsoukas, 2002). This study also shows that innovations get enacted in specific practices. Innovations are not fully determined by their design but are the result of practices in which many actors use and further develop an innovation, sometimes in unexpected ways (Pols & Willems, 2011). It is through these interactive processes that the value of an innovation – both for the actors involved and for healthcare in general – is constructed. These insights show that the way innovation processes evolve, can only be understood from within the context of specific practices (Pols & Willems, 2011). The conclusion that innovations are situated makes them representative for unique sets of local actions, interactions and dynamics. What exactly an innovation is, is socially constructed in a specific context. It is in processes of work that an innovation and the value it represents, is created. Taken together, these insights on the nature of innovation show that innovations, in essence, are not always new. Novelty is just a matter of perspective. This makes innovation best described as 'situated novelty'. Conceptualizing innovation as such directly impacts the other aim of this study, i.e. to learn lessons for the governance of healthcare innovation.

The situated novelty approach to the governance of healthcare innovation

The emphasis on situatedness in the understanding of innovation has a meaning beyond its mere conceptualization. Insights into innovation that lead to the description of innovation as situated novelty also provide the building blocks for developing an alternative view on the governance of healthcare innovation. Based on insights into what innovation is, how innovation processes evolve, how value is created – and the conceptualization of innovation as 'situated novelty' that follows from these insights – this study introduces a theoretically and empirically inspired approach to the governance of healthcare innovation under the same name: the 'situated novelty approach'. This consists of four

building blocks, each of which describes the conceptualization of one of the key concepts of the situated novelty approach: i.e. 'innovation', 'innovation processes', 'normativity & value' and 'doing governance'. Taken together, the situated novelty approach describes how innovation – as it emerges from contextualized, and interactional processes – rhymes with the desire to influence, steer, and organize innovation processes. Doing governance according to the situated novelty approach is about supporting, shaping, and modulating a field rather than trying to organize, steer or supervise and control it. It describes how governance is about influencing and enhancing an emergent, fluid and mostly unforeseen process which requires continuous reflections by actors on the normative effects that are enacted over time.

Having briefly described the main conclusions of this study, the remaining part of this chapter describes this study's results in more detail, explaining how the conclusions were drawn from the cross-case analysis of the five qualitative and ethnographic case studies. First, four separate sections will deal with the various grounds of the situated novelty approach. They describe how the conceptualization of innovation as 'situated novelty' arises out of the insights into innovation, innovation processes and the value of innovation. Together with a section on 'doing governance', they form the building blocks of the situated novelty approach. Second, after a brief recap and overview of the situated novelty approach, this chapter provides a brief reflection on used theory and methodology. It describes how the variety theoretical paradigms and research methodologies both complicated and yet contributed to this study. Third, as an important aim of this study was to learn lessons on the governance of healthcare innovation, the chapter closes with this study's implications for practice, policy and research, rounding off with a few final remarks on the study's potential contribution.

WHAT HEALTHCARE INNOVATION IS

The first question of this study – *What is healthcare innovation considered from actual practices of innovation?* – focused on the concept

of innovation to find out what healthcare innovation is in practice. Many theoretical definitions have a common element in the notion of 'novelty'. The case study in Chapter 2, however, shows that arguing that something is new or novel is based on mainly subjective perceptions. Something that is experienced as novel often receives the label 'innovative' (van Linge, 2006). The apparent simplicity of definitions of innovation with their focus on novelty, should, however, not cloud the perception of innovation. This study shows that it is actually more complex to precisely define innovation in a single comprehensive definition.

The first thing this study showed is that 'novelty' – the most common element in conceptualizations and definitions of innovation – is problematic or sometimes non-existent in practice. The example at the start of Chapter 2 taken from the observations notes of an experience at an innovation fair clearly illustrates this. It describes how a treatment device, presented as the newest development in rehabilitation care, was seen by insiders as just an updated version of an already well-known device. As the ones presenting the device had no experience with the old device it was beyond their living memory. This made that they could easily consider it to be a radically new development. Others, however, who had encountered earlier versions of this device before saw the same device as just a creative reinterpretation of something they already knew (Mulgan et al., 2007). While the innovation, in this case a new device, is new to some, it is not new to others. This example illustrates that what is considered to be an innovation in terms of something novel is just a matter of perspective. Innovations can also be described as a (re)combination of existing elements in other contexts or forms: as *neue kombinationen* (Schumpeter, 1934). This makes the conceptualization of innovation as something new at least questionable.

When 'time' is considered – in terms of the past and the future of an innovation – the novelty element in definitions of innovation becomes even more problematic. When innovations consist of already existing parts, they can be seen as historical structures, as entities which incorporate or represent the past. Humans tend to get an understanding of

an innovation by seeing them as representatives of categories of known elements, or at least by relating them to known elements. This was for example observed in the study of the development of new professional roles. In order to understand the nature, meaning and specifics of the new professional roles – that of the nurse practitioner and physician assistant in Chapters 4 and 5 – actors actively compared it to known elements taken from established professional roles and earlier versions of these new roles. The innovative professional roles were thus made sense of by contrasting them with what is, and what was before. Even though innovations are often analyzed in themselves, the development of new professional roles serves as an illustration here that history matters in understanding the emergence and development of an innovation.

Just as the history, the future of an innovation also makes the novelty element problematic in its definition. At some point in time, an innovation will no longer be known as or referred to as innovative. Someday the innovations – e.g. innovative treatments, roles, devices or technical innovations – will either no longer exist or will not be considered new anymore, when they are taken fully for granted and have become business as usual (Reay et al., 2006). For example, new professional roles will probably not be referred to as innovative at some future moment. They will either be accepted and taken for granted in a team of professional care providers, or they will cease to exist if it is decided not to work with physician assistants and nurse practitioners any more. In both these scenarios, people will no longer think or talk about these roles as an innovative development. Both the history and the future of an innovation thus make the novelty element problematic. In that view, an innovation represents a temporary apparently stable state of affairs which is slightly separated from the tangled maze the world is (Hernes, 2014). Both the fact that innovation sometimes consist of existing elements and the fact that time makes 'novelty' as such problematic, legitimizes this study's claim to conceptualize innovation as situated novelty.

In addition to showing that 'novelty' is problematic with respect to defining innovation, this study also concludes that what is thought of, seen as or considered to be a stable innovation is similarly problematic. An innovation never exists in a final state but is actually always in a state of becoming. Tangible innovations then become merely abstractions of processes. Two of the treatments in rehabilitation care that were studied in Chapter 2 serve as examples here. Both treatments – Acceptance & Commitment Therapy for patients with chronic pain (ACT) and the Communication Training for Partners of patients with aphasia (PACT) were constantly 'under construction' during the research. The ones responsible for these treatments were constantly working on developing the treatment, without knowing exactly where that would lead to. This shows how innovations are not always the direct result of pre-established goals, but are enacted in practice (Mutch et al., 2006). This is also why project leaders struggled to explain what the treatments were about exactly; what they described as *the* treatment could be seen as an abstraction or ideal type as it represented only a temporary situation.[35] The innovative treatments actually represented processes of continuous development. The case study on new professional roles showed similar results. These roles have a certain degree of stability in them as they represent relatively stable hierarchical divisions of work that outlast the presence of particular persons. Roles do not automatically change when people come and go. However, in practice the roles were also never finished and constantly under construction while they were enacted in practice. As roles do not exist without people fulfilling them – and because every individual comes with its unique set of experiences, beliefs and dispositions – the roles themselves are also dynamic (Hernes, 2014). This makes innovative roles actually highly dependent on the actual situational practice within an organization and thus, in essence, far from stable over time and space.

[35] This does not make these descriptions useless. On the contrary, they are sometimes very useful. Not because they are descriptively accurate – they will never be able to describe all attributes and work in a single description – but because they are easy to communicate a shared understanding of an innovation (Barley & Kunda, 2001).

To sum up the arguments so far, it is argued that to come to a conceptualization of innovation it cannot be analyzed separately from processes. Processes have to be an integral part of the conceptualization of innovation, even while it is human disposition to see the world as a composition of things (Hernes, 2014). In conclusion, innovations – in being different from what was done before and in gaining other meanings in practice because of that – may seem stable entities but they are in essence never completely finished and are not always new. They are always in a state of becoming.

The moment it is acknowledged that novelty is a matter of perspective and up to the judgment of people instead of an external feature of a certain development and that innovations never exist in a final state, the question then remains: what is an innovation? This study concludes that there is no single best definition of innovation that captures its full practical meaning. As innovations are socially constructed, it is defined in practice by people what an innovation is, what meaning it has and how it is judged (Tantchou, 2013). Nevertheless, the cross-case analysis of this study's cases results in a multiple answer to the question on what innovation is. In practice, innovation appears to be five things:

(1) Innovation is **work.** If one looks beyond an innovation as something new that awaits implementation, one can see the work that needs to be done. In everyday practice, innovations consist of work. Work that is needed to develop and use innovations in practice (Rathenau, 2009). As innovations are so deeply tied up to the work needed to construct them, it is argued here that they can be considered work themselves. This means that concrete activities of actors constitute what is seen as the innovation in practice (Barley & Kunda, 2001). The analysis of innovative treatments in rehabilitation care in Chapter 2 shows that work – in the form of developing instruments, recommendations and tools – was needed to translate the innovations so that professionals would actually use the innovation in practice. Slowly, that work became what was seen as the innovation, even while originally it was only seen as required to 'implement' innovations. For example, in the case of a guideline for cerebral palsy, the practical tools and instruments that

were developed were not just ways to implement the guideline, but were considered essential in conceptualizing what the innovation – the guideline – and its value for practice was. Seeing innovation as work also implies that innovations will not find their way to practice automatically. Work is needed for that. Conceptually, this means that innovations are enacted in practice, rather than given. Taken together this leads us to conclude that the importance of work goes beyond increasing the applicability of an innovation as it actually changes what the innovation *is*. Innovations always involve processes of work. Hence, innovation is work.

(2) Innovation is a **label**. Many project leaders and managers of the studied innovative projects indicated that they did not consider their own projects to be really innovative, even though they sometimes participated in an innovation program with it. Rather, they saw their projects either as self-evident improvements of work practices or as 'business as usual'. However, the same project leaders sometimes used the word 'innovation' deliberately to describe their projects. In these cases 'innovation' was used as a label, one they could use strategically to their own advantage based on their assessment of the dominant rhetoric or discourse in specific circumstances.[36] Sometimes the label was used to obtain access to funds within an innovation program, while in other circumstances they actively downplayed or ignored the innovativeness of their projects when facing opponents. Describing an innovation as such means it is a label, a name, and not per se an activity. Hence, innovation is as a strategic label.

(3) Innovation is a **symbol**. In some cases an innovation is the tangible representation of a more fundamental change. What is seen as *the* innovation is representative of a desired change in practice, which turns the innovation from a goal into a means to an end. The five case studies contain several examples of this symbolic meaning of innovation. In the

[36] Bozeman and Sarewitz (2011) describe this strategic use as the 'phrenology problem': i.e. if governments ever provided funding for phrenology research, many would probably find ways to call themselves phrenologists.

study on rehabilitation care it was observed how two innovative treatments were considered symbols of more fundamental and potentially far-reaching changes. Whereas the ACT treatment tries to get patients to think and act differently with respect to their suffering from chronic pain, the PACT treatment tries to create a change of paradigm in treating patients with aphasia as it argues for the inclusion of partners in the treatment. For both projects, it was of the utmost importance that a behavioral change was achieved in actual care provision; the exact details about what the treatment looked like or how it was implemented locally was of less importance. What is seen as the innovation in these projects represents a more fundamental change or change of paradigm in treatment practice. Hence, an innovation is a symbol.

(4) Innovation is an **opportunity.** Many of the respondents in this study explained that they saw innovation in general or a specific innovation mainly as an opportunity, either for individuals or for healthcare in general. For example, an e-health tool that was analyzed in Chapter 2 was valued most for serving as a platform for new opportunities. It was appreciated because its use would provide significant amounts of data on how this treatment affects patients. That data could be used to improve care provision in the future. Additionally, healthcare innovations offer opportunities for individual healthcare practitioners. In the case of the development of new professional roles, the innovation itself is about creating career opportunities for individual healthcare practitioners. In other case studies the innovation projects offered opportunities to individuals. They, for example, offered a welcome distraction from daily work but also enabled them to make a career move. They could grow in terms of both responsibilities and salary, in a different way than taking the traditional step of accepting a position in management. Hence, innovation is an opportunity.

(5) Innovation is a **struggle**. To be innovative, to develop an innovation and to get it used in practice is not easy. One reason for this is that innovations are never introduced into empty spaces. Innovations try to make change happen in practices where contexts, norms, interests, values and positions are already present and sometimes even fiercely

defended. As a consequence, every innovation has an inherent risk of turning into a major conflict of interests that can cause delay or hamper the innovative development. An example can be found in the chapters on the development of professional roles. For the new professionals we studied, it was not enough to deliver good work to get established as a professional. Instead, they had to 'carve out' a place for themselves in an arena of vested occupational domains and apparently clear jurisdictions. They had to negotiate with, prove themselves to and enter into discussions with vested professionals about the boundaries and pros and cons of their work. Not only these conflicts of interests make innovation a struggle, a clash of values can do the same. As innovations hold ideas on 'what ought to be', they are often built on assumptions about how care should be improved. This means that innovations need to be justified and legitimized in practice (see also the conclusions on normativity and value below). In an innovation project, one has to deal with different interests and values that can turn innovation in a power struggle. Hence, innovation is a struggle.

Answering research question 1

The main conclusion with respect to first research question, on the conceptualization of innovation – *What is healthcare innovation considered from practices of innovation?* – is that using the notion of innovation as a noun is problematic. Innovation is not as just something novel such as a new technology, service, treatment or technique. Novelty is a matter of perspective. This means that innovations are neither only novel things, nor are they fixed or stable entities. Alternative conceptualizations of innovation prove to be more coherent with the practice of innovation processes. Instead of seeing innovations as nouns, seeing them as work, labels, symbols, opportunities or struggles does more justice to their practical meaning. So, what an innovation is exactly is therefore situated, contextual and socially constructed.

These conclusions on the conceptual understanding of innovation have major implications. They show how the concept of 'innovation' has no real meaning in isolation from the practices in which it is enacted. This implies that an innovation itself can be seen as a process. A clear distinction between an innovation and the process in which it is devel-

oped is then less strict or even obsolete. Finally, they also show that innovations are ambidextrous; somewhat stable or consistent in terms of the basic idea or fundamental change they represent and simultaneously flexible in their appearance or application.

In sum, the first building block of the situated novelty approach to the governance of healthcare innovation deals with the conceptualization of innovation. It describes how innovations are ongoing practices of work that gain different meanings in practice. The next section focuses on the enactment of innovation by analyzing in detail how innovations come into being; how they are made and remade and thus how innovation is actually *done.*

HOW INNOVATION TAKES PLACE IN PRACTICE

In attempting to answer the second research question – *How do innovation processes evolve and what role do actors play in such processes?* – the analysis draws strongly on process studies and institutional theory. Not taking innovation for granted and assuming that innovations can be different things in practice, as explained in the previous section, directly influences the perspective on how innovations come about and on what role actors play in such processes. Both are discussed below.

Ongoing and situated processes

With respect to the conceptualization of innovation processes and in accordance with Pols (2012) and Barley and Kunda (2001), this study concludes that innovations are situated and creative rather than deliberative practices:

> *"Consequential change comes about as streams of related events, not dictated or planned by supreme decision makers, but through contingencies that are partially intended and partially emergent" (Hernes, 2014: 159).*

How innovations emerge in and out of practice as a result of deliberate, but often unintentional actions, was analyzed in five case studies. Chapter 3, on entrepreneurial strategies, showed that entrepreneurs felt they had only limited control over their interactions with the system context of their innovation. However, they considered these interactions crucially important for the output and effect of their innovations. So, even while the entrepreneurs deliberately applied certain strategies, they were not in full control of their innovative projects – sometimes they referred to pure luck to explain their successes for example. In the innovative practices analyzed in the case study in Chapter 2, this interplay between individuals' actions and organizational elements such as available money, time, energy, material, enthusiasm and involvement proved determinate for whether and how ideas are turned into successful innovative practices. All these projects show that innovations do not come naturally. The local setting and the interplay of actors and other elements determines how innovations develop in specific contexts.

An emergent innovation process never fully comes to an end. Innovations are constantly under construction; they are constantly produced, reproduced, reformulated, and sometimes rejected by the settings that work with them (Tantchou, 2013). Developing an innovation and making it have an impact on practice is about delivering continuous effort. As the implementation of an innovation goes hand in hand with its development, it should not be described as a separate phase in processes of innovation. Seeing innovation processes as ongoing shifts the gaze from innovation as a separate and identifiable process, to a process that takes place in the passing of time (Hernes, 2014). To develop and implement an innovation are both inherent parts of the same process in which actual work needs to be done in practice. The development of new professional roles – analyzed and described in Chapters 4 and 5 – specifically illustrates this conclusion. The new professionals themselves, as well as others in the organizations, were constantly negotiating, experimenting and further developing the new professional's role in a very specific practice. This process was ongoing. Not only because expectations of what these new roles could contrib-

ute changed, but also because maintaining or keeping the role as it was requires continuous effort. In some organizational practices the new professional roles disappeared after a while. Not for the reason that actors failed to see or feel that new professionals were needed or important, but because energy and commitment tends *"to fizzle out around a course of action when it is not constantly re-created"* (Hernes, 2014: 169). In cases where new professionals remained active, the processes of innovation never really came to an end, even though some crucial moments – a new head of department or a changing regulation for example – could be identified retrospectively. In practice, actors were constantly engaged in recognizing and creating opportunities to further develop the innovation and with it trying to prove its value in established systems and within vested ways of working.

All the project leaders in Chapter 2, the entrepreneurs in Chapter 3, the new professionals in Chapters 4 and 5 and the project and program managers in Chapter 6 were continuously working on creating legitimacy for their innovations. In interaction with the dynamic contexts in which they operated and for example the regulations and others actors' interests that come with it, they aimed to get the innovations taken for granted at some point in future (Reay et al., 2006).

The analysis in this section shows how innovations are emergent from practice and are ongoing and never finished. They get developed through the work of actors. Conceptually, this means that innovation processes evolve in a situational way. Let me borrow a metaphor from Latour (1987: 104) to further explain this understanding of innovation:

> *"If no player takes up the ball [an innovation], it simply sits on the grass. To have it move again you need an action, for someone to seize and throw it; but the throw in turn depends on the hostility, speed, deftness, or tactics of the others. At any point, the trajectory of the ball may be interrupted, deflected or diverted by the other team – playing here the role of the dissenters – and interrupted, deflected or diverted by the players of your own team. The total movement of the ball (...) will depend to some extent on your action but to a much*

greater extent on that of a crowd over which you have little control. (...) [Innovation], like a game of rugby, is thus a collective process."

This metaphor supports the conclusion that an innovation – whether conceptualized as work, a label, symbol, opportunity, or struggle – is always in a state of becoming as all kind of actors are constantly in the process of developing it further in specific contexts. This also makes the 'scaling up' of an innovation problematic. Rather than as an end result, an innovation rather prove to be a starting point of a process in which a practice is continuously developed further (Landry et al., 2002).

The role of actors

Describing innovation in the metaphor of a rugby game underlines the important role actors play in processes of innovation. Actors determine whether and how an innovation has an effect on practice as they are the ones who consider, develop, interpret and use an innovation. Actors do the work out of which innovations emerge. During the case studies many different actors were observed and interviewed: e.g. professionals, nurses, research assistants, paramedical professionals, other researchers, project leaders and managers, executives, entrepreneurs, program managers, politicians and administrative staff. Ensuring that an innovation has an impact on practice is about enrolling these actors and facilitating the work they have to do. Although human actors play an important role, this research showed how non-human entities – such as the innovation programs in Chapter 6 – can also be seen as actors. Programs *do* things in practice, they act. Four groups of actors are discussed below as they formed the main actors in the case studies in this particular study: entrepreneurs, project leaders or managers, professionals and innovation programs.

The case study in Chapter 3 analyzed entrepreneurs for their innovation strategies. Traditionally, entrepreneurs are seen as an important source of innovation as they take the risk of bringing an innovative idea into actual practice. The analysis and fourfold typology of entrepreneurs ('isolated', 'innovative', 'evolutionary' and 'revolutionary') show that they can develop innovations with potentially public value. It also

showed that they do so by reconciling the economic goals with a contribution to the transition toward a more sustainable healthcare system. The entrepreneurs, however, thought differently about their role as an entrepreneur in creating a more sustainable healthcare system. Some saw the development of innovations as not just the responsibility of a single person. This legitimizes the decision to look in more detail at the role of other actors.

In this study, project leaders and project managers were involved in almost all the innovation projects. Often it are project leaders who hold end responsibility for an innovation project and as such, have an important role to play. A role that comes with both organizational and personal challenges. They have to cope with resistance and also need to continuously develop themselves and their management skills and capabilities. Examples include patience and perseverance and being able to build a valuable network, but also other personal skills such as being able to inspire people and create an environment in which managers can complain every now and then. Project leaders are also the pre-eminent actors to actively create legitimacy for their innovations in practice. Together with other actors, they feel primarily responsible for creating this legitimacy. They could do this, for example, by creating a good narrative on the need and benefits of their innovation, by developing practical tools and materials for practice, and by organizing demonstration projects. All managerial decisions in these projects and programs are performative as they have a direct impact on practice, in both the short and long term. Many project leaders acknowledge this and explained that managing an innovation project is about learning on the job and improvising to develop and implement an innovation at the same time (Stoopendaal & Bal, 2013; Essén & Lindblad, 2013).

As the innovation processes in this study were all healthcare innovations, they had to deal with or at some point had an impact on healthcare professionals. Professionals are not only the source of many healthcare innovations, even though the ideas for the innovations in this research mainly came from practitioners who saw an opportunity to improve their work or its outcomes. Professionals are, however, also often the

actors who define, create and get innovations working. Chapters 4 and 5 explicitly studied the role of professionals in terms of the agency they possess in inducing and creating change in institutionalized practices. Results showed how professionals performed meaningful actions in the course of their work in order to develop their innovations, rather than developing and implementing rational strategies for this. Often, meaning was attributed to their own actions in retrospect (Hernes, 2014). Sometimes they explained that the meaning of earlier actions in the development of the innovations was not premeditated or expected, but emergent in practice. Through reflection – often together with the researchers – they arrived at conceptualizations of their actions and their effects.[37] The cross-case analysis in this study shows that through purposeful actions in practice, over time, large scale changes may be achieved. A changed practice – such as establishing a new professional role – is the result of the work of new professionals who asked for new responsibilities, proved their trustworthiness or were allowed to conduct certain activities. In this way, professionals use their embeddedness to make change happen in healthcare practice (Reay et al., 2006).

The above mentioned actor groups often work in close interaction with other actors, sometimes in the context of an innovation program. Although programs are often used as instrument to create and further develop innovations, Chapter 6 showed how they develop over time, how they interact with participating projects and how they influence these projects both directly and indirectly. In so doing, these programs not only form a context for innovation, they actually *do* things and thus can be seen as an actor in themselves. Innovation programs are performative as they facilitate, legitimize and prioritize practice. It is in these performative effects – also including effects such as the creation of a feeling of 'we' among a diverse and otherwise unrelated set of actors – that participants see the value of the programs. Theoretically, performativity means that saying something produces the effects that

[37] As such, the analysis of professionals showed how strategic aims behind behavior may only be deciphered by outsiders such as researchers, in retrospect and in interaction with the once conducting the act.

it names; i.e. saying something is an act and not just a representation of reality (Butler, 2011). Applied to innovation programs it means that actions taken to organize or influence innovation such as the development of innovation programs have an importance in themselves, whatever the achieved outputs may be (Bovaird & Löffler, 2009). That is because the programs also offer a space to collectively search for goals that were of interest to all participants, even with the risk of certain conflicts of interests. The analysis in Chapter 6 illustrates that an innovation program's value lies in its existence and the way it is executed. That is because programs have performative and discursive qualities. They enable managers to facilitate knowledge sharing and align dispersed interests and they induce others to get involved and assist management in fostering consensus and mobilizing commitment for certain innovations (Tsoukas, 2002; Stoopendaal & Bal, 2013). Program managers thus have an important role in how innovation programs work as their decisions directly influence the way programs, and the projects enrolled in it, evolve over time. Their decisions and actions determine how value for an innovation project is created, something they have to realize in fulfilling their role. More on the role of actors in processes of innovation is described in the section on implications.

Answering research question 2

There are multiple answers to the second research question – *How do innovation processes evolve and what role do actors play in such processes?* First, innovations are enacted in situated practices of ongoing change. Innovation processes are situated as they are enacted, produced, reproduced, reformulated or sometimes resisted, influenced by the behavior of local actors in different, historical, cultural and social contexts (Tantchou, 2013). The emphasis on situatedness means that *what* happens, *how* it happens, *why* it happens, *who* is making it happen and *what* results it may lead to is in essence highly dependent on *where* and *when* it happens in a contextualized, situated and temporary practice (Pettigrew, 1997; de Laet & Mol; 2000; Mol 2002; Much et al 2006; Smets & Jazbrowski, 2013). It also means that the context of an innovation is more than a frame of reference or collection of external stimulants and barriers; the context is enshrined in both the

very empirical and theoretical understanding of innovation (Kuipers et al., 2014). As such, innovations cannot be analyzed in separation from the practices in which they are constructed.

Second, in addition to being situated, innovation processes are ongoing. This makes it somewhat misleading to define a clear beginning and an end to an innovation process. Actors such as entrepreneurs, professionals, policy makers and managers play important roles in these ongoing processes, by themselves and in interaction. This makes that the work and behavior of actors from which innovations emerge – and through which they are enacted – is also important in understanding innovation processes.

In sum, the second building block of the situated novelty approach to the governance of healthcare innovation describes how innovation processes are ongoing and situated. Interaction between many actors influence what an innovation is and what value it represents as both the innovation and its value are enacted in practice. The next section describes the construction of this value in more detail.

HOW VALUE FOR AN INNOVATION IS CONSTRUCTED

The third research question – *How does an innovation's value gets constructed in practice?* – discusses the idea that the value of an innovation comes into being over time. Although an emphasis on its apparent inherent goodness makes it almost impossible to be against innovation, this study describes how value for an innovation gets constructed or is used strategically. Instead of stereotyping innovation as always positive, this study analyzed *how* value gets constructed, also in order to understand what is considered 'good' innovation.

A first important conclusion of this study is that an innovation's value actually gets or needs to get constructed. Determining the value of an innovation is by Bozeman and Sarewitz (2011) described as "*a complex and broad assessment of an object's appreciation in terms of both cog-*

nitive and emotional elements and an either concrete, psychological or socially constructed combination of these elements." This implies that the value of an innovation is not pre-eminent but comes into being over time. Different actors – even when they are involved in the same innovation process - may differ in how they value an innovation and as a consequence hold different ideas on its value. To understand how an innovation is appreciated one needs to gain insights into who profits from the innovation, how they do so and how this is determined and appreciated by those involved. As was observed in the cases of the entrepreneurs (Chapter 3) and the new professionals (Chapters 4 and 5), actors tend to value an innovation rather differently, in a way that is often understandable from their own positions and interests in a specific situation.

Besides actors, the normativity of innovations is also important in establishing an idea of the value of an innovation. Innovations are never neutral in a normative sense, even though sometimes this normativity remains implicit. All the innovation processes studied in this research were directly linked to a vision, values and opinions of the actors involved on how healthcare can be improved. Each healthcare innovation – how minor or incremental it may seem – finds its legitimation in ideas on what good care is, what should be changed and why. Therefore, every innovation will raise normative questions. This is of theoretical importance for understanding innovation and is also relevant from a more practical viewpoint. As an innovation entails ideas about what is seen as good care and about how the innovation could potentially contribute to this, the innovations become normative entities themselves. They directly relate to a range of values about healtcare. This normativity needs to be taken into account as innovations may challenge or change the way the basic values of the healthcare system – quality, affordability and accessibility – are dealt with or are given shape to. Working on the development of new treatments for rehabilitation patients (see Chapter 2), new technologies or instruments for care provision (see Chapter 3) or new professional roles (see Chapters 4 and 5) also contains and expresses ideas on how these innovations potentially contribute to what is by some actors seen as better care. Innovations

are built on ideas as to how care can be improved, or how problems in current care provision can be solved. For example, the project analyzed in Chapter 2 on the guideline for a specific disease finds its legitimation in the lack of consistency and great variety in outcomes of current treatments for that disease. This makes the way innovations are developed infused with normative claims and values. It shows that although innovation is primarily seen in a positive light, it is never a priori 'good'. What is seen as good needs to be created in practices where this value is constantly negotiated and (re)constructed.

In addition to determining that innovations are normative entities and that actors play a crucial role in determining an innovation's value – value lies in the meaning other people ascribe to it and not in the innovation itself (Hernes, 2014) – the value of an innovation comes into being over time. In addition to the innovation itself, also the value it represents is constructed in practice. Although the legitimation of an innovation often comes from the potential value it holds for care – as envisioned and advertised by the initiator – it is not up to an individual to define what is considered good or valuable. Rather, what is considered good is something accomplished in multi-actor practices (Korica, 2015). Either consciously or not, actors determine collectively what an innovation's value is. This value is not static as there are only practical and temporal understandings of what is considered 'good' innovation. Chapter 6 specifically illustrated this collective construction of value by describing the interaction between innovative projects and the innovation programs they participated in. It showed how project leaders used the label of the program to build credibility and legitimacy for their innovation and used the other participants to learn how to further build on the value and legitimacy of their own projects. Project leaders did not just used any inherent goodness of their innovations but used the program to construct their value and convince others of it. These project leaders were very much aware of the fact that they were able to construct value, even if that is subject to change as behavior, experiences and attitudes of actors are also expected to change (Bozeman, & Sarewitz, 2011; Mowles 2013). In the experience of everyday practice there is often no clear beginning or end to an innovation project, which

leaves the value of an innovation open for change. An implication of this view on value is that innovations are not just 'good' or 'best practices' but rather 'improvable ideas' that others can use and further develop (Essén & Lindblad, 2013).

Answering research question 3

With respect to the third research question – *How does an innovation's value gets constructed in practice?* – this study argues that claims on the novelty of an innovation do not say anything about its value. This also works the other way around as things or practices are no less valuable simply because they already exist (Mesman, 2009). By arguing that the novelty element is not decisive in defining innovation or determining its value, the situated novelty approach shifts attention back to normativity in discussions and understanding of innovations (Mensink, 2011). Acknowledging that an innovation's value needs to be constructed means that innovation should not be considered a goal in itself. Arguing whether or not something is an innovation in terms of novelty alone becomes problematic. Although it may hold some symbolic or practical value to present something as innovative in terms of novelty (Rathenau, 2009), it distracts from relevant questions on how this value comes into being or gets constructed. Instead of claiming that every innovation holds a certain degree of fixed value, this study showed that the work needed to create this value is ongoing. Professionals and managers continuously work to develop and prove the value of their innovations. What is considered 'good' can only emerge out of practice (Pols & Willems, 2011).

As shown, innovations are normative by definition. Not only because they require the development and use of new criteria to judge the appropriateness and value of an innovation (Turnheim et al., 2015), but also because the way they are enacted potentially changes the type of problems, ways of addressing these and the values that actors pursue to do good (Pols, 2012). Therefore, normative considerations are important to understand how and why innovation processes evolve as they do, especially in sectors such as healthcare where the ends do not always justify the means and where the public interest or value is not

always unequivocal. Questions on an innovation's value are in essence empirical ones that need to be asked over and over again. Only in very specific situations can one analyze how an innovation is developed, and how and whether its use leads to potential beneficial outcomes. The value of an innovation is by definition a situational construct. This implies that what an innovation is, how innovation processes evolve, and how value is constructed, are all highly related issues. The implications of this conclusion are discussed further down in this chapter.

In sum, the third building block of the situated novelty approach deals with the conceptualization of an innovation's value. It stresses the idea that value needs to get constructed and emphasizes the importance of the notions of 'normativity' and 'performativity'. It suggests that these aspects are taken into account in the current understanding of and discussions on the notion of innovation and its governance, especially in sectors such as healthcare.

DOING GOVERNANCE

The three previous sections describe how this study's results led to the three building blocks of the situated novelty approach that was briefly introduced at the beginning of this chapter. In addition to the building blocks of innovation, innovation processes and an innovation's value, this section describes the fourth and last building block, 'doing governance'.

According to the situated novelty approach, the notion of governance should not be confined to one solid definition. Therefore, I describe here what governance is about, what it looks like, and how it can be conducted in practice with respect to healthcare innovation. The situated novelty approach does not reason from the extreme views on governance – direct top-down steering vs. ultimate freedom – but from the gray in between. It acknowledges the paradoxical relation between governance and innovation, without degrading it to either one of these extremes. Here, the governance of healthcare innovation is seen as the

active modulation of ongoing processes rather than as steering with the expectation to achieve specific and predetermined goals (Rip & Joly, 2012). This also implies that policy makers are concerned more with supporting, shaping, and modulating a field than trying to organize, steer or supervise and control it (Stoopendaal & van de Bovenkamp, 2015; Turnheim et al., 2015).

Governance is open and reflexive and is about making efforts aimed at ensuring that activities of actors in the public realm result in beneficial outcomes for the stakeholders involved (Bovaird & Löffler, 2009). Instead of exercising direct control and trusting upon top-down steering – in the form of setting boundary conditions – governance is about being flexible and reflexive. Adaptive coordination and a multitude of steering mechanisms and problem-solving methods can be used to continuously coordinate the behavior of actors in a field. For example, getting informed about the ongoing innovation process, informing all stakeholders about developments, facilitating the work that needs to be conducted and organizing reflexivity in practice is a way to do governance that differs from steering by end-goals and predetermined targets. In line with recent literature on tentative and experimentalist governance, this implies that situated novelty approach to the governance of healthcare innovation appreciates complexity, uncertainty and asymmetries in innovation and tries to find ways to stimulate publicly valuable innovation given those characteristics (Sabel & Zeitlin, 2012; Turnheim et al., 2015). A description of governance borrowed from Turnheim et al. (2015: 25) characterizes this study's views on governance:

> *"It [governance] is more complex, requires greater unpacking of uncertainties, debate, less precision and more learning-by-doing. It hence departs from the 'command-and-control' or public management styles often favored by policymakers of the 'illusion of control' that they carry."*

Even in this view, governance of healthcare innovation is, and will always be, far from an easy endeavor. Doing governance is both a mod-

est and an ambitious undertaking. Modest because of the somewhat limited possibility for actors such as policy makers to make a real difference and ambitious in its belief that it is possible to influence a dynamic innovation processes in a multi-actor context such as healthcare (Rip & Joly, 2012). However, characterized by the description above, the situated novelty approach primarily offers an alternative perspective on the governance of healthcare innovation. One that is designed to supplement – and not replace – the literature on governance that is encumbered with factors that allegedly support, shape and modulate innovation processes (Turnheim et al., 2015). Conceptually it can be positioned somewhere in the middle of a continuum with non-predictable, emergent innovation processes and management and policy at a distance on the one end, and predictable innovation processes characterized by deliberate management and policy activities on the other (Greenhalgh et al., 2004; Essén & Lindblad, 2013).

Finally, in the concrete act of doing governance is learned and enacted what constitutes as good, both for the innovation processes that are governed and for the process of governance itself (Korica, 2015). Governance itself is thus also an activity that asks for reflection. It rests on good quality conversations in actual innovation processes. This also implies that it is impossible to 'fix' governance by 'fixing', or creating new structures' only and once and for all (Korica, 2015). Rather and just as with innovation, the governance of innovation is also a continuous process that needs to be worked out - and reflected upon - in practice. It is worth to learn from literature on experimentalist and tentative governance in working this out in further studies on innovation (Kuhlmann et al., 2012; Sabel & Zeitlin, 2012).

This description of doing governance in terms of the situated novelty approach explains all the building blocks of the situated novelty approach in detail. Table 7.1 below contains an overview of the situated novelty approach as developed and described in this chapter.

Table 7.1: The situated novelty approach

#	Building Block	Description
1	Innovation	What an innovation exactly is, is situated and both contextually and socially constructed. An innovation is not just something novel; it represents a process. Innovations are ambidextrous – i.e. they are stable in terms of the basic idea or fundamental change they represent and flexible in terms of their exact appearance. What is seen as the innovation is created in continuous processes of work.
2	Innovation processes	Situated, ongoing processes of work determine and potentially change what an innovation is in practice. What happens, how it happens, why it happens, who is making it happen and to what results it leads all depend on where and when it happens. Innovation is a situated practice. Innovations are enacted, produced, reproduced, reformulated or sometimes resisted under the influence of local actors behaving in various historical, cultural, social and economic contexts. As innovations represent ongoing processes, it is misleading to define a clear beginning and end to innovation processes or to see them as separately planned processes.
3	Normativity & value	Novelty is not decisive in determining an innovation's value. A healthcare innovation finds its legitimation in ideas on what good care is or ought to be. This normativity is important in understanding how innovation processes evolve, especially in sectors such as healthcare where the public interest is not always unequivocal. The performativity of innovations and innovation policy makes that value deserve renewed attention. Actions taken to organize or influence innovation processes are important in themselves, whatever the achieved outputs eventually are.
4	Doing governance	Governance is about influencing and enhancing an emergent, temporary, fluid and mostly unforeseen innovation process. It is about modulating ongoing processes rather than top-down steering and exercising control, expecting to achieve predetermined goals. While acknowledging the paradoxical relation between governance and innovation, doing governance is about finding ways to support, shape, and modulate a field rather than trying to organize, steer or supervise and control it. In the concrete act of governance it is learned and enacted what constitutes as good, therefore doing governance rests for a large part on the facilitation of good quality conversations in practice.

In developing the situated novelty approach as summarized in Table 7.1 this study achieved its main aims of gaining an enhanced understanding of innovation and learning lessons on the governance of healthcare innovation. In presenting the situated novelty approach to the governance of healthcare innovation, this study also argues that governance of innovation is possible, even though it may seem as if the notions of governance and innovation are paradoxically related or at odds with each other. Innovations do not simply happen, they are the works of man. No matter how intangible or imponderable they may seem, this means that they can be influenced by man as well (Smits, 2002). How this approach impacts on practice, policy making and research on innovation is described further down this chapter in the section on implications. First, a brief reflection on this study's practical and multidisciplinary design is provided.

THEORETICAL AND METHODOLOGICAL REFLECTION

The multidisciplinary theoretical framework and ethnographic research design helped me conduct this study and enabled me to 'catch reality in flight' (Pettigrew, 1997). Different theoretical paradigms and associated bodies of literature – innovation studies, process studies, institutional theory and science & technology studies – were used to empirically unravel innovation practices in various subfields of healthcare. Below, I provide a brief reflection on the used theories and this methodology.

The field of *innovation studies* was used for its insights into the nature of innovation and innovation processes in sectors such as healthcare. Insights from *process studies* offered an alternative perspective on the nature of innovations. It enabled me to describe the processual nature of innovation; i.e. how processes make an innovation rather than assuming that an innovation exists prior to the processes it is involved in. As such, process theory showed that the very object of study in innovation studies – innovation – is in essence fluid and more dynamic than theoretically assumed. Throughout this research, *institutional theory* was used mainly because it offered valuable insights into the

role of the institutional context and actors in processes of innovation. It enabled me to show that contexts – and the regulative, normative and cognitive institutions within it – influence innovation practices, but also that actors can do work to influence, change and modify these same contexts. The analysis of actor's agency showed that actors can influence innovation processes, although often less intentionally and directly than is theoretically assumed. As such, institutional theory added insights into the contextual embeddedness of innovation theory. Finally, this study drew on *science & technology studies* to embed the analysis socially. STS proved to be essential in showing that innovations are not neutral entities as they actually do things in and to practice. It enabled me to show that an innovation's value is constructed in a multi-actor, institutionalized context. It also proved useful to demonstrate how innovation, policy instruments for innovation, and actors' actions are performative and cannot be developed and implemented with relative ease. In sum, STS added insights into the nature and effects of innovation.

The combination of these theoretical approaches enabled this study to take advantage of the strengths of each of these disciplines and deliver a theoretically robust analysis of healthcare innovation processes (Wynne, 1992; Turnheim et al., 2015). Only by combining them I was able to develop the characterization of innovation as situated novelty and the specifics of the situated novelty approach to the governance of healthcare innovation.

In addition to theory, the study design was essential for drawing empirically inspired conclusions. I believe this study illustrates how an alternative understanding of innovation can come from a practice-oriented research design. As a researcher I was part of processes where innovations were thought of, enacted, created and implemented. This allowed me to analyze what happens when an idea, a passionate person, or a technology interacts with a healthcare context to enact something innovative. The five case studies were selected as illustrative examples of potentially valuable innovations that change healthcare significantly. By selecting similar innovation practices as case studies

it is by no means argued that the healthcare sector is homogenous, or that these cases are representative for the full range of available technological and non-technological healthcare innovations. They do however allow for a theoretically and empirically inspired analysis of innovation processes in a way that exceeds the individual innovations as such. Together with the multidisciplinary approach these innovation practices were considered crucial to further the understanding of innovation. The approach taken in this study however comes with methodological challenges as well. First, it is challenging to comprehensively capture the ongoing experiences of individuals as they happen. Researchers needed to be aware of the fact that respondents tend to frame their actions as belonging to a plan, not as unexpectedly emerging or undesirable events (Hernes, 2014). Second, the need to be both within and outside of the practice under study also forms a methodological challenge (Mesman, 2009). Individuals' actions often remain unarticulated, which means that researchers have to be present when they occur to not leave them unnoticed. Innovation practices exist 'in the wild' and do not require a research project to define a beginning or end (Pols, 2012). Consequently, a researcher also has to be outside the practice under study to make sense of what is observed and analyzed. This distance is required as researchers also have an impact on practice, even when they claim to have an 'objective' lens on reality (Zuiderent-Jerak et al., 2009; Mensink, 2011; Pols, 2012).

The brief reflections above show the methodological challenges of this study and the theoretical contribution of the situated novelty approach. However, this study also has a practical significance. To put this study's insights to use and further flesh out the situated novelty approach, the next section discusses the implications of this study's findings for management, policy and research.

IMPLICATIONS OF THE SITUATED NOVELTY APPROACH

The legitimate question that comes with every newly introduced concept or approach is what is gained by its introduction? It is important

to be clear about what theoretical concepts say, but also about what they do (Tsoukas, 2002; Pols & Willems, 2011). This pragmatic view says that theoretical concepts not only represent the world as it allegedly is. They also offer tools for doing things. For example, they offer alternative vocabularies and discourses, draw attention to certain issues and invite people to understand the world in particular ways (Tsoukas, 2002). The situated novelty approach as developed in this study is not only a theoretical exercise. It also has implications for the way innovations are developed, promoted, monitored, checked upon, evaluated and studied. Below, three reflections describe the meaning of this study's findings for innovation management, innovation policy and for research on innovation. Together they provide some of the means to put the situated novelty approach to use, even though it is primarily up to the actors involved in innovation processes to give an interpretation to the lessons learned and act accordingly.

Implications for the management and organization of innovation

As the realms of governance and management are related but not quite the same (Bovaird & Löffler, 2009), this study on innovation and its governance has important implications for the management of innovation. The core of these implications would be that it is possible for management to actively influence innovation processes and the involved dynamics in practice without turning it in a routine. The founder of Apple and Pixar, Steve Jobs (1955–2011), once answered a question on how innovation can be turned into a routine with the simple but clear words: "You simply don't!"

But what can you do as a manager of innovation? According to the situated novelty approach, innovation management consists of processes of continuous coordination in emergent and situated processes of change. In these processes, the actions of those who manage are performative. Therefore, managers – a term used here for those who manage, which includes not only managers but also professionals who manage – should realize, reflect upon, and consider that their actions directly and indirectly influence the way innovation projects develop in practice over time. Their actions influence not only how innovations are

designed and used, but also whether and how the individuals involved in innovation process are provided or equipped with tools that are useful beyond the lifespan of a specific project. The situated novelty approach as developed in this study provides those who manage with an alternative vocabulary to fulfill their managerial role. With it, they can speak of innovation and what they do to facilitate, organize, stimulate or sometimes kill it as the management of situated novelties that need to be nurtured by individuals in the specific context they are working in (Grit & Meurs, 2005; Rip, 2012). As such, the situated novelty approach potentially changes the mind-set and perspective managers use in managing innovation projects.

As innovation processes are situated, managers could focus their efforts on the management of meaning creation in a way that goes beyond setting conditions that merely cultivate novelty or only aim to enhance the diffusion of clear-cut innovations. The way innovations arise out of the interweaving of multiple processes as a result of the continuous work of developing, adapting, implementing and translating innovations asks for context-specific discussion on what people can do to enhance innovation. The language managers use will have a direct impact on the practices they try to organize (Austin, 1978). The situated novelty approach offers managers an alternative language to talk about the innovation projects in which they play an important role. In addition to this vocabulary, two other notions are important in discussing the implications for the management of innovation: 'work' and 'normativity'.

With respect to 'work', management could focus its efforts on the work that is inherent in innovation. To facilitate work is something entirely different from setting the conditions so that innovations can develop and diffuse with relative ease. The ability or capacity to innovate depends not on the ability to set the conditions right once and for all, but on the ability to continuously facilitate this work. The situated novelty approach shifts attention from planned innovation to processes of experimentation and development. Managers need to ask themselves how such processes can be facilitated or enhanced, and how

this facilitation could be turned into a topic of intensive conversation. Rather than focusing on identifying organizational or financial barriers for innovation, managers should ask themselves how they believe they facilitate the work in innovation. These ideas on the importance of work translate to practice in several ways. First, innovation should be seen as something that needs continuous effort from all kinds of actors. It is not a special activity, aside from business as usual, neither is it a separate phase in the life cycle of an organization. The situated novelty approach challenges managers to see innovation as an integral part of the ordinary business of any organization (Castellacci et al., 2005). Second, seeing innovation as work also has practical implications. As innovations and their value are both enacted in situated practices, management could, for example, actively appreciate and stimulate that continuous adjustments are made to the innovation. Managers should try to resist the tendency to decide too soon on the faith of an innovative project and could even encourage people to keep redesigning the innovation. The pursuit of multiple courses of action could be encouraged so that the form or exact details of an innovation can be open to adjustment, while the basic idea, value proposition and essence of an innovation remain intact. These actions would turn management into a process of monitoring whether the innovations are robust enough to not get 'lost in translation' but also flexible enough to encompass new knowledge in order to be credible (Aldrich & Fiol, 1994). Managers are then the facilitators of ongoing change and at the same time guardians of an innovation's essence.

With respect to 'normativity' it is important to realize that innovations are by definition value laden and thus normative. This should encourage managers to actually organize and facilitate reflection on this normativity in practice. This could be done in multiple ways, but starts with actively turning the normativity of an innovation into a topic of debate, for example by posing questions on normativity to those involved and actively stimulating discussions on this topic. In that way the innovations and the values they stand for are topics of debate with both internal and external stakeholders (Mensink, 2011). Managers are the pre-eminent actor to organize these processes so that users and

end-users of an innovation are included in the development process. Through these processes of reflection managers contribute to the creation of legitimacy and value of an innovation as both are directly related to the personal and professional ideas and values that people attach to an innovation. This line of reasoning also shows that the justification of an innovation should not be seen as a mechanistic screening process of measuring an innovation's value, but as a continuous learning process in which intentions, understandings and appreciations of an innovation intermingle. Enhancing reflexivity means that dialogue, discussions and room to experiment are facilitated within the organization, even if this goes against the hierarchical organizational structures or traditional boundaries (Tsoukas, 2002).

A consequence of this line of reasoning on the normativity of innovation is that innovation should not be seen as the sole responsibility of management. Other actors such as doctors and fellow professionals should be included as well to deal with an innovation's inherent uncertainty (Grit & Meurs, 2005; Witman et al., 2011). Innovation – as this study argues – is a relational notion. This means that managers could facilitate innovation by including others in this 'organized reflexivity' in practice to facilitate ongoing practical learning in an innovation process (Faber & Jorna, 2010). Playing an active role in this facilitation of reflexivity also enables managers to develop their own management skills. It could be part of how managers create a supportive working environment for themselves, one able to both support and inspire them. Organized reflexivity in interaction with others could consist of experimenting with communication about innovation processes in terms of intermediate results, risks, successes and failures. Also organizing reflexive spaces, moral deliberations on innovations and their value, stimulating interactions among selected stakeholders and encouraging learning and accountability among professionals in ongoing processes of change – for example by exploring methods such as narrative accountability (Jerak-Zuiderent, 2015; Ubels, 2015) - are ways to put this need for normative reflexivity to practice. They could be explored for their usefulness with respect to this topic of normativity. Additional empirical research could also contribute to further the understanding of how reflexivity could

be included in innovation management practices. The situated novelty approach argues that reflexivity deserves more attention in innovation management, without specifying the way in which this should be done. It is however believed helpful in identifying the essence and desirability of innovation processes in practice (Van Loon, 2015).

In sum, the implications of the situated novelty approach potentially change the language, perspective and the activities of those who manage innovation in practice.

Implications for policy on innovation

Although this study's results do not directly make the governance of healthcare innovation easy, they provide insights into what can be done at a policy level to facilitate and boost practice-driven innovation processes. It is argued here that governments – either national, regional or local, have a role to play in innovation processes. In developing innovation policy they can influence whether and how innovation contributes to better, safer or more affordable care (Rathenau, 2009). The main implication of this study is that governments do more than just 'set the stage' for innovation in terms of boundaries and conditions when they develop policies and instruments for the healthcare sector and its actors (Mensink, 2011). Innovation policy deals with questions that go beyond the mere facilitation of innovation, in terms of providing funds for example (Dolphin & Nash, 2012). In addition to their ability to set the rules of the game and create infrastructures for innovation, governments also have another role that is legitimized by the expectations and high stakes connected to healthcare innovation.

Although governments may hold different views on their role and responsibility with respect to innovation, there are many possibilities to flesh out this active role in practice. A few are listed below. Governments can behave more like an entrepreneurial state rather than as a passive fixer of market or system failures (Martin, 2012; Moors, 2013). There are many options for this: they can become a clear strategist; a contract authority in tender procedures; a lead investor that takes the lead in risky developments before other organizations do; they

could take account of (technological) trends; they can involve other stakeholders in making innovation policy; they can develop strategic directions for what are considered valuable innovations or set clear priorities, for example by facilitating certain kinds of healthcare entrepreneurs; they can hold on to a long-term vision in the decisions on granting subsidies and they can develop reflexive and process-inspired innovation programs as policy instrument. These examples illustrate the vast range of possibilities governments have to fulfill a role that is more than setting conditions as a mere facilitator of change or guardians of an equal playing field.

According to the situated novelty approach, innovation and the way it is stimulated, facilitated and/or organized is a shared responsibility. This means that all kinds of interdependent semi-public, private and public-private organizations together bear responsibility for the functioning of the sector and the role of innovation in it (Putters et al., 2007). This does not acquit the government from their own responsibility. Rather, it argues for an active role of government even though they need partnerships with other actors, such as professionals, entrepreneurs, healthcare practitioners and research scholars, to fulfill this role (Bijker et al., 2009; Mensink, 2011; Moors, 2013). An active role for governments is more in line with both the public value and the characteristics of actual innovation processes in healthcare. Governments should be aware of two aspects in particular when fulfilling this role: (1) the normativity and performativity of policy and policy instruments and (2) the need for a long-term vision on innovation.

First, policy always contains assumptions on the subjects it is designed for. Expecting that innovation policy leads to an enhanced innovative capacity, and in turn to an enhanced service provision, is not a normatively neutral assumption but entails ideas on the desirability of those effects (Mensink, 2011; Van Lente, 2012). Acknowledging that innovation policy is normative is a radically different idea than believing that policies just set the framework or conditions for practice without interfering with that same practice (Dix, 2010; Mensink, 2011; Cuijpers & Van Lente, 2015). Reasoning from this idea of the performativity of

policy instruments differs from a belief in exerting direct control over any practice. It turns deciding *what* and *how* to organize and fund practice from a merely technical decision into essentially a political one. Although objective criteria may give the impression of normative neutrality in these decisions, policy makers could realize and act upon this normativity and performativity in designing policy instruments and in communicating about them (Bozeman, & Sarewitz 2011). Practically speaking, this would mean that policy makers need to be aware of and communicative about, for example, the legitimizing and prioritizing effects of their to-be-developed innovation programs. They should actively justify and legitimize not only the existence of an innovation program, but could also communicate the more value laden, normative ideas of its design and execution to other stakeholders. Rather than criticizing the whole idea of innovation programs – mainly for it not leading to real innovation - this shows that situated novelty approach argues for a change in *how* innovation programs are designed and managed.

Second, the situated novelty approach also asks for long-term commitments in innovation policy. Conceptualized as work, innovation processes ask from policy makers that they focus not only on the creation of innovations but also on the ability to further develop them. Although policy makers tend to conceptualize innovation policy in terms of causal relations and clear instruments, it is more important to hold on to a general vision that is in line with the dynamics of innovation processes over time (Turnheim et al., 2015). This long-term vision should translate into an attitude, systems, structures and instruments that focus on monitoring, making sense of and supporting practice-driven innovations rather than initiating and imposing grand changes by design (Propp & Moors, 2009; Essén, & Lindblad, 2013). A practical example of innovation policy that could be in line with this role, with the normativity of innovation and with the need for a long-term vision is the use of innovation programs. The specific implications of this study's findings for their design and use are briefly described below.

Innovation programs – also described in the literature on tentative governance (Kuhlmann et al., 2012; Kuhlmann & Rip, 2014) – can be useful and valuable instruments to facilitate and stimulate public innovation (Greenhalgh et al., 2011). Innovation programs potentially align with the idea that many stakeholders together bear the responsibility for innovation; they are congruent with the dynamic character of innovation processes and able to grant government the ability to play the role of guardian of public values. The most important implication of this study for the design, execution and evaluation of an innovation program is that these programs do not just form contexts for innovation. Rather, these programs posit a world with all kinds of actors, activities, norms, interests and developments that are not normatively neutral but have performative effects that need to be taken into account.

There is no single best design for multi-actor innovation programs that works in all contexts. Therefore programs should not be seen as planning instruments but as ongoing learning communities that kindle ongoing reflexivity and serve as a place where innovation can be enacted through collaborative processes between actors that would probably not have met outside the context of the program (Rathenau, 2009; Mensink, 2011; Rip, & Joly, 2012). Actively communicating that innovation programs are learning communities rather than a mere source of funds changes the way programs are seen and evaluated. Innovation programs can respect the situatedness of innovation and the work it represents by organizing the communal meeting and learning of the actors involved. This would also imply that program managers realize that innovations cannot be standardized and will not travel automatically beyond the scope of any program. The innovations will be retained to a certain extent within the group of people that appreciates, understands and uses it. This would open up possibilities to further develop innovations given the local competences, needs and circumstances (Tsoukas, 2002). Hence, programs should focus not on developing new best practices, but on facilitating learning processes and reflecting on the results of innovative practices with the involved actors. Importantly, to make that happen, these programs should be in line with the expectations of participants. When possible they should

resonate with their interests. This would argue for including actors already in the design of the programs. While in progress, the programs should focus on organizing the time and place to work on and reflect upon the innovations, for example by organizing work meetings with all participants.

If seen and organized as such, programs not only serve as a 'place' where actors, but also governments, can learn how to organize for innovation (Rip & Joly, 2012). Programs then offer governments the possibility to react to practice through policy, based on ongoing evaluations of what comes out of the projects in a program. Thus programs can serve as places where innovations develop, and where it is ensured that innovations contribute to public values and interests which are also made visible and discussed in these programs (Rathenau, 2009). This makes innovation programs ideal places to experiment with new policy as well. Hence, innovation programs potentially enable governments to facilitate innovation over a long period of time and allow for the combination of the necessary agreement with conflict, dissent and playfulness that is essential to create valuable new innovations (Tsoukas, 2002). This more pragmatic approach to innovation policy and innovation programs also enables policy makers to learn about the effects of innovation policies (Dolphin & Nash, 2012). As innovation benefits from ongoing learning rather than fixed and specific implementation plans, innovation programs are an interesting instrument to implement a more experimental approach toward policy. An approach that tries and evaluates new kinds of polices in order to improve the understanding of which innovation policy works and which does not (Dolphin & Nash, 2012). In this way the governance of innovation consists of policy experiments. To make this approach resonate with the interests of other stakeholders, one should remember that the development of this experimental approach to innovation policy should go hand in hand with building its political case (Dolphin & Nash, 2012).

In sum, the main implication of this study's findings for innovation policy is that governments play an active role in the governance of innovation. In fulfilling that role, and in developing policy instruments

such as innovation programs, they need to be aware of the normativity and performativity of innovations and policy instruments. These implications together represent a change of register from an innovation logic that builds on great promises to a view based upon the lessons learned in local and ever evolving innovative practices, within and beyond the contexts of organizations and innovation programs (Pols & Willems, 2011).

Implications for further research

The key topics of this study into healthcare innovation and its governance deserve further exploration. For example by further developing the situated novelty approach based on research that applies it to other kinds of technological and non-technological innovations within and outside of healthcare. This study's results can also be used to develop an outline of a research agenda for the future. The situated novelty approach can be the starting point for rapid theoretical development on the governance of innovation in hybrid sectors such as healthcare. In addition to offering practical ways forward (see implications for practice and policy), it may stimulate actors to keep on asking questions on governance and the nature of innovation. There is still much theoretical and empirical work to be done on innovation processes in diverse empirical contexts (Tsoukas, 2002). Three directions for further research are highlighted below: research into the normativity and value of innovation, into failed innovation projects, and into stability rather than change.

First, the observation that the value of an innovation is constructed over time in a specific context asks for more research into the concept of value, both public and practical (March & Olsen, 2004; Taebi et al., 2014). Research into the moral acceptability of new technology and innovation for example, could be useful as further studies into highly contextual processes of value creation could enhance our understanding of the variety of 'goodness' that is associated with innovation (Wright, 1972; van den Hoven, 2014). At the same time, these studies could increase our understanding of situations where innovation has a negative connotation and where it led to negative or even harmful out-

comes. Research into this more negative aspects of innovation could position itself as studies into the 'dark side' of innovation, creativity and experimentation. Apart from few exceptions – e.g. Gravier & Swartz (2009); Cropley et al. (2010); Noordhoff et al. (2011) and Linstead et al. (2014) – this currently is a rather unexplored field, especially with respect to healthcare innovation and innovation in other hybrid sectors.

Turning an innovation's value into a topic worth analyzing has another effect as well: it prevents an overemphasis on measurements and quantitative evaluations of innovations. This study has shown that to understand the value of an innovation or an innovation policy instrument, scholars have to look beyond their mere purpose. Future evaluations could focus on processes just as much as on outcomes in order to determine the impact of an innovation process, not only in economic terms, but also in terms of its effects on individual and collective welfare (Castellacci et al., 2005). This could deliver just as valuable insights as cost-effectives studies and could rigorously improve our understanding of innovation processes in hybrid sectors such as healthcare (Langley & Denis, 2011). To be successful in this, these evaluations have to take place in the course of the process they are evaluating rather than afterwards. Also, they need a built-in flexibility so that the specific design, methods and time frame can be adapted to the specific context, projects and expectations of those involved in the course of the evaluation (Roessner, 1989; Meyer-Kramer, 1989).

A second direction for further research could be the study of failed innovation projects. Although it seems contradictory to speak of 'failed innovation', scholars tend to learn for the most part from successful projects only. But why are almost all lessons on innovation drawn from research in successful projects with overly skillful actors? Maybe there is far more to be learned from those who failed or try to become innovative. I believe that a focus on failure would take innovation studies another step beyond best practice thinking. The potential for this is huge as there is an enormous 'graveyard of failed innovations'. Innovations that did not succeed in becoming an established or institutionalized practice represent a great learning potential, however, it requires

courage to learn from failures more than from successes (Aldrich, & Fiol, 1994; Dixon-woods et al., 2011).

Third and finally, it is argued that our understanding of innovation could be enhanced by analyzing situations in which innovation is not taking place, i.e. research into stability instead of innovation. The continuity of things such as established ways of working, technologies or treatments does not happen automatically. Continuity needs to be constructed constantly and thus requires work. To keep things as they are, to not innovate, may even demand more creativity than commonly assumed (Pettigrew, 1997; Hernes, 2014). With respect to innovation this implies that stability needs explanation, not change. It may be interesting to understand better how stability is achieved, rather than focus the research efforts on how innovations – which often are the exception rather than the rule – are developed[38] (Tsoukas, 2002). Although possibly counterintuitive, a better understanding of the ongoing dynamics and everyday practice of continuity, rather than stability, and thus of why things do not change, can potentially further our understanding of innovation as well (Hernes, 2014). An enhanced understanding of how innovations are enacted then follows from understanding how the old disappears, not of how the new emerges. Consequently, studies into stability may shed a new light on the understanding of how innovation policy works and may assist in distinguishing what kinds of policies work in the systemic context of healthcare and which do not (Dolphin & Nash, 2012). In sum, a focus on stability offers a potentially groundbreaking shift of focus in current studies of innovation and innovation processes.

To conclude this reflection on this study's implications for further research I call upon other scholars with an interest in innovation and governance to use this study's theoretical and empirical insights and apply them to further studies. The situated novelty approach represents an exciting direction for future studies as it points them into alternative,

[38] Tsoukas (2002) takes this one step further as he argues that organizations that fail with respect to innovation are actually rather successful in creating stability.

interesting directions as it potentially opens up spaces for conversations on the governance of innovation in healthcare and beyond (Gawer & Philips, 2013). Future studies on innovation's governance could profit from close cooperation with scholars from disciplines such as anthropology, political science and psychology as more multidisciplinary research potentially improves the understanding of innovation. The field of innovation theory always has been – and probably still is – 'theory in the making'. Therefore, it could profit from additional research that further modifies innovation theory and elaborates on its basic ideas and assumptions (Rip, 2012). These future attempts can also form the next step in bridging the gap between theory and practice on the governance of innovation in sectors such as healthcare (Aldrich & Fiol, 1994; Castellacci et al., 2005).

CONCLUDING REMARKS ON THIS STUDY'S CONTRIBUTION

The previous section on implications offered practical insights for those involved in innovation practice, policy and research. Although discussed separately, in actual innovation practices actors from these fields often interact. This implies that there is a need for ongoing and interactive interaction between all involved and concerned with healthcare innovation. Based upon an analysis of innovations and of what is being done and happens in actual innovation practices, the situated novelty approach offers an alternative perspective on the governance of healthcare innovation. Some final remarks below clarify what I hope is achieved by introducing the situated novelty approach in this study.

The situated novelty approach could be used to see innovation and its governance in a different light. It should be read as an alternative way of thinking about, and looking at, questions on healthcare innovation and its governance. I hope that it will be able to aid scholars to construct theoretical insights by providing a vocabulary to understand and express fresh ideas on these topics. It may prove itself in practice, but only when others adopt this alternative perspective and think through

what it means for their role and day-to-day activities in their specific work contexts.

In developing this approach to the governance of innovation I by no means claim that it is the definitive solution for the paradoxical relation between 'governance' and 'innovation'. Both in the near and far future uncertainties inherently related to innovation, including the vested interest of actors, immense political, professional and patient-led desires and a continual lack of financial resources in healthcare, will potentially keep the struggle of the governance of healthcare innovation a complicated issue to deal with. Although it is not the single recipe for success, the situated novelty approach does offer valuable suggestions and food for thought on healthcare innovation and its governance. I believe the main strength of it is that it reasons from the idea that there is no single best answer to questions on governance of healthcare innovation. Following upon the efforts of many scholars who have devoted their efforts to finding answers to these kinds of questions, the situated novelty approach is a genuine attempt at striving for a better understanding of healthcare innovation and its governance. With its focus on practice and its acceptance of the inherent complexity of innovation I hope that it may assist in moving societal and political debates beyond traditional representations of innovation. As such, it could inspire the search for yet-to-be-found solutions for the paradoxical relation between 'governance' and 'innovation' in sectors such as healthcare.

In sum, the situated novelty approach developed in this study describes how the governance of healthcare innovation is, in essence, about influencing and enhancing an emergent, temporary and fluid process that requires continuous reflection by actors on the normative effects that are enacted over time. I hope that this view on the governance of healthcare innovation will prove to be the start of an approach that curbs our abilities to govern innovation just as it may enhance them.

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SUMMARY

SITUATED NOVELTY

A STUDY ON HEALTHCARE INNOVATION AND ITS GOVERNANCE

Healthcare innovation and questions on governance

There are enormous expectations of what innovation could mean for care provision and the quality, accessibility and affordability of our healthcare systems. The results are already here. Novel technologies are improving our well-being, diagnostic technologies detect severe diseases in an early stage, treatments are available for diseases that were long thought incurable and several social innovations are improving health outcomes. Even though innovation has already brought much to healthcare, what is known as the 'innovation logic' – a collection of assumptions on innovation – currently limits our understanding of innovation processes. This innovation logic dominates current thinking about and understanding of healthcare innovation practices and policy. It has three main aspects: (1) it shows a strong preference and overrepresentation for technological innovation, (2) it claims that innovation is inherently good and uniformly positive, and (3) it reasons from a basic idea of linearity in processes of innovation.

These ideas on innovation have led to high hopes and enormous expectations of what innovation could bring in terms of solutions for many of the great challenges our societies and healthcare systems currently face. Linear thinking leads to clear distinctions between phases of development and a general idea of 'optimal implementation processes' with clear-cut guidelines. Practice-oriented research has, however, shown a different reality. It describes innovation as an inherently complex process. Though valuable for some innovation practices, these characteristic have negative effects as well. With its emphasis on radical – mostly technological – innovation, its smooth implementation and somewhat unproblematic nature, the innovation logic tends

to leave unnoticed or unarticulated certain innovations, potential risks and downsides of innovation and the normativity of innovation.

The dominance of the innovation logic in public and scientific debates raises questions on how to manage innovation and organize it in practice. On the one hand there seems to be a strong desire to stimulate and enhance innovation practices by providing room for creativity, novelty and experimentation. On the other hand, however, there is a great desire to get a grip on or control over the same innovative developments. This dual desire raises questions on the governance of healthcare innovation, a topic of key importance in this study.

Governance, as discussed in relation to innovation in this study, refers to the collection of ways we use to stimulate innovation and to attempts to monitor, influence and intervene in the way innovations contribute to public values such as the quality, affordability and accessibility of care. This study sees the notions of 'governance' and 'innovation' as paradoxically related, in what is described as the 'governance struggle of healthcare innovation'. Paradoxically because it relates to the dual desire related to innovation in a sector such as healthcare. On the one hand there is the strong desire and collection of attempts by governments, healthcare insurers and managers etc. to organize, structure, steer and enhance innovation processes through programs, procedures and structures; and on the other hand there is the knowledge that innovation processes are often messy, unpredictable, uncertain, and chaotic. This study further explores this inherent paradoxical relation between innovation and governance. Based upon lessons learned in case studies of innovation practices, this study develops an alternative perspective to governance in answering the following research question:

How are healthcare innovations enacted in practice, and what can be learned from such an understanding about the governance of processes of innovation?

Instead of defining innovation beforehand, it is analyzed what the notion of innovation entails and means for practice. To learn lessons for the governance of innovation, this study makes the way innovations emerge, come about or are enacted in practice the specific subject of study. To gain an enhanced understanding of an innovation's normativity and engage with this topic directly, this study focuses on how value for an innovation comes into being, is created or enacted, negotiated and agreed upon in processes of innovation. This study's sources of data collection and analysis are five case studies and four theoretical paradigms.

Theoretical framework

Theoretically, this study builds strongly on **innovation studies,** a field nowadays recognized as a distinct scientific discipline. Positioned at the crossroads of sociological, technological, economic and policy studies, the literature in this field contains valuable insights into innovation and innovation processes. Besides defining innovation as novel technologies or artifacts, this literature also describes how innovation processes evolve. Descriptions vary from linear explanations that describe innovation as a rather straightforward process from invention to implementation and diffusion, to more systemic approaches that describe innovation as interactional and contextual processes. Lately the field has focused on social and interactive processes of change with respect to innovation. It has also been criticized for that it tends to underemphasize social, contextual, ethical, managerial and institutional elements of innovation processes. Partly because of this, this study builds on and adds insights to innovation studies by incorporating insights from three other theoretical fields.

Process theory is used to unravel what innovation is in practice. This field rests on a relational ontology and sees process as constitutive of the world. It does not deny the existence of concrete states, events, and entities, but insists on unpacking them so that the processes that contribute to their constitution are revealed. Considered from a process perspective, it implies that an innovation is never just a thing, technology or object, per se. Rather, it is conceptualized as something

that embodies numerous processes and encounters between actors in ongoing processes. In this study, process theory is helpful in achieving a better understanding of processes of innovation.

The field of **institutional theory** is used to explain how innovations do not emerge out of nothing but are developed within highly institutionalized contexts. It helps in analyzing the role of actors as it contains descriptions of how actors can escape the so-called 'paradox of embedded agency': how actors, constrained by their institutional context, act to change that same context. In this study, agency-centered views on institutions are used to describe how institutions are both constitutive of the structure and context for innovation, just as they are the product of agents' interactive behavior. As such, institutional theory enables the analysis of actor's roles in innovation as it elucidates the interactions between an institutional context and the everyday practice and experiences of actors.

This study also builds on **science & technology studies**. This broad body of literature is used to describe that talking about 'the diffusion of innovations' is somewhat misleading as it neglects the role of work and materiality in innovation processes. As such, STS sheds a light on why innovations do not come naturally. It also offers a vocabulary and discourse to discuss the material, symbolic and social aspects of innovation processes.

Taken together these theoretical paradigms pave the way for the analysis of innovation processes in this study. The different streams of literature complement each other. A focus on analyzing innovations and identifying conditions for their development in innovation studies is supplemented with insights into how innovations are 'enacted' and 'come into being' in processes of work from the field of process studies. Whereas institutional theory emphasizes the role of individuals in achieving change in practice and takes the interactive context in which innovations emerge seriously, STS emphasizes that political, cultural and social-technical aspects of innovation matter as well – for example

in showing the role of values, materiality and performativity in innovation processes.

Case studies and their results

Empirically, this study consists of five case studies into different healthcare innovation practices. The case studies and their main results are briefly described below.

In **Chapter 2**, the one-year innovation program in rehabilitation care forms the setting for the analysis of four innovation practices. Based on data collected in the form of observations and interviews with a variety of actors this chapter shows how people assign other meanings to innovation than 'novelty'; how innovation usually entails extensive work and how both innovation and its value are constructed in practice. Based upon these results, an alternative ontological conceptualization of innovation is introduced, as 'situated novelty'. This conceptualization extents current understandings of innovation and has major implications for the management of innovation in organizational practice.

In **Chapter 3**, innovation processes are analyzed by looking into entrepreneurial strategies. The focus on healthcare entrepreneurs finds its legitimation in the fact that entrepreneurs are often an important source of innovation as they are often the ones responsible for introducing them in practice. An analysis of the interaction between entrepreneurs and the context in which they operate delivers insights into the role of individuals in innovation processes that take place in institutionalized settings. Results of the conducted interviews show that entrepreneurs experience the interaction with the healthcare system context in various ways and act accordingly. Identifying this interaction in terms of influences and strategies led to a fourfold typology of healthcare entrepreneurs. The entrepreneurial types in this typology differ in terms of behavior and their beliefs as to if and how individuals can contribute to achieving structural change in healthcare.

Chapters 4 and 5 both analyze the development of a particular kind of healthcare innovation, i.e. new professional roles. These roles are

worth studying as the reconfiguration of human resources for health is considered a promising innovative development with respect to threats to the sustainability of the healthcare system. **Chapter 4** focuses on how the roles of professionals are constantly shaped and reshaped and how new professional roles get institutionalized in and beyond organizational environments. Results – coming from three studies in different clinical settings – show how new professional roles are institutionalized through the work of individuals in the organizational, professional and patient domain. This chapter shows the importance of daily work in institutional processes. **Chapter 5** dives into the individual level, focusing on actors that constitute the innovation. Based on the theoretical notions of place and job crafting this chapter describes how new professionals actively create their own role in practice. Results from a study in two different practices point at the fluidity of the place for new professionals. Experience, routines, specializations and trust between new professionals and other staff members are important and enable professionals to gradually expand their role. It is concluded that new professionals add specific meanings to their role both individually and collectively and as such create a new work identity and place for themselves.

Chapter 6 explicitly discusses policy for innovation as it studies the design and functioning of two innovation programs in Dutch healthcare, one in long-term care and one in rehabilitation care. Results on how the programs work and what they do describe how programs are not merely a context for innovation. They appear to influence innovation practices directly through processes of facilitation, legitimation and prioritization. In conceptualizing them as performative accomplishments, it is argued that not their design but the way they are managed determines these programs' effects.

Main conclusions of this study

An elaborate cross-case analysis of the five case studies results in two main conclusions for this study: (1) a conceptualization of innovation as situated novelty and (2) an alternative perspective on the governance

of innovation introduced and described as 'the situated novelty approach'.

Innovation as situated novelty

Insights into the nature of innovation from this study show that innovations are not always considered new. Novelty is a matter of perspective. What an innovation exactly is, is constructed in a social context. Instead of being defined as merely something new, innovation is described as processes of work, a strategic label, a symbol, an opportunity or a struggle. These meanings can vary over time and space. That is why innovation is best described as 'situated novelty'. Innovation processes are situated; they are local by definition. Innovations get enacted in specific practices; they are not fully determined by their design but are the result of practices in which many actors use and further develop an innovation, sometimes in unexpected ways. It is through these interactive processes that the value of an innovation is constructed – both for the actors involved and for healthcare in general. This implies that an innovation is not good in itself, but rather has a direct relation to a range of values. Additionally, it shows that the way innovation processes evolve can only be understood from within the context of those specific practices. The conclusion that innovations are situated makes them representative for unique sets of local actions, interactions and dynamics. Because an innovation is best described as a situated practice of ongoing work, it is conceptualized as situated novelty. This conceptualization directly impacts the other aim of this study, i.e. to learn lessons for the governance of healthcare innovation.

The situated novelty approach to the governance of healthcare innovation

The emphasis on situatedness in the understanding of innovation has a meaning beyond its mere conceptualization. This broader meaning is enshrined in an alternative approach to the governance of healthcare innovation that this study developed. Insights into innovation and innovation processes have provided the building blocks of the theoretically and empirically inspired situated novelty approach to the governance of healthcare innovation. This approach describes how innovation – as it emerges from contextualized, interactional and time-dependent

processes – is open and reflexive and rhymes with the desire to influence, steer, and organize innovation processes in complex contexts. It describes how doing governance according to the situated novelty approach is about supporting, shaping, and modulating a field rather than trying to organize, steer or supervise and control it. This approach concludes that the governance of healthcare innovation is, in essence, about influencing and enhancing an emergent, temporary, fluid and mostly unforeseen process which requires reflection on the normative effects that are enacted over time. An overview of the situated novelty approach is presented below (Table S1).

Table S1: The situated novelty approach

#	Building Blocks	Description
1	Innovation	What an innovation exactly is, is situated and both contextually and socially constructed. An innovation is not just something novel; it represents a process. Innovations are ambidextrous – i.e. they are stable in terms of the basic idea or fundamental change they represent and flexible in terms of their exact appearance. What is seen as the innovation is created in continuous processes of work.
2	Innovation processes	Situated and ongoing processes of work determine and potentially change what an innovation is in practice. What happens, how it happens, why it happens, who is making it happen and to what results it leads depends on where and when it happens. Innovation is a situated practice. Innovations are enacted, produced, reproduced, reformulated or sometimes resisted under the influence of local behavior of actors in different, historical, cultural, social and economic contexts. As innovations represent ongoing processes, it is misleading to define a clear beginning and end to an innovation process or to see them as separately planned processes.
3	Normativity & value	Novelty is not decisive in determining an innovation's value. A healthcare innovation finds its legitimation in ideas on what good care is or ought to be. This normativity is important in the understanding of how innovation processes evolve, especially in sectors such as healthcare where the public interest is not always unequivocal. Also the performativity of innovations and innovation policy makes that value deserves renewed attention. Actions taken to organize or influence innovation processes have an importance in themselves, whatever the achieved outputs eventually are.

Table S1: The situated novelty approach (continued)

#	Building Blocks	Description
4	Doing governance	Governance is about influencing and enhancing an emergent, temporary, fluid and mostly unforeseen innovation process. It is about the modulation of ongoing processes rather than top-down steering and exercising control expecting to achieve predetermined goals. While acknowledging the paradoxical relation between governance and innovation, doing governance is about finding ways to support, shape, and modulate a field rather than trying to organize, steer or supervise and control it. In the concrete act of governance it is learned and enacted what constitutes 'good', therefore doing governance rests for a large part on the facilitation of good quality conversations in practice.

Implications for management, policy and research

The situated novelty approach to the governance of healthcare innovation has potentially major implications for innovation management, policy and research in healthcare and beyond.

The main implication of this study's findings for innovation **management** is that management can actively influence innovation processes and the involved dynamics, but only when it consists of processes of continuous coordination in emergent and situated processes of change. In this way, the management of innovation goes beyond setting conditions that merely cultivate novelty. Two topics are of particular importance: 'work' and 'normativity'. Management could focus its efforts on facilitating the work inherent to innovation as this would enhance the organization's innovative capacity. The normativity of innovation asks managers to organize reflexivity and reflection in practice in order to create legitimacy and value for their innovations. In sum, 'organized reflexivity' could help in discussions on innovations, their normativity and the work that is required.

The main implication of this study's findings for innovation **policy** is that governments play an active role in the governance of innovation. In fulfilling this role, governments should be aware of the normativity and performativity of innovations and the policy instruments they

develop. This awareness has potentially huge implications for how innovation programs – often referred to as the pre-eminent instrument for innovation – are designed and implemented. The situated novelty approach shows how programs are not standardized instruments that lead to uniform innovative applications. Programs are performative accomplishments which require flexibility to be successful as a reflexive space.

The main implication for **research** is that the topic of healthcare innovation and its governance deserves further exploration in several ways as there is still much theoretical and empirical work to be done. For example, more research into the contextual processes of value creation could enhance understanding of the variety of 'goodness' that is associated with innovation. Although possibly counterintuitive, more research into the negative outcomes of innovation, into 'failed' innovations and into stability or situations in which no innovation is taking place, could also increase our understanding of innovation and processes of innovation. As innovation theory is still theory in the making, our understanding of innovation could profit from more multidisciplinary research that further modifies theories of innovation.

Taken together, these implications represent a change of register from an innovation logic that builds on great promises to a view based on lessons learned in innovative practices. The situated novelty approach this study developed offers an alternative perspective on the governance of healthcare innovation and should be read as an alternative way of thinking about, and looking at, healthcare innovation and its governance. It may offer partial solutions for the paradoxical relation between governance and innovation. I hope that situated novelty will prove to be the start of an approach that curbs our abilities to govern innovation just as it may enhance them.

SAMENVATTING

SITUATED NOVELTY

EEN STUDIE NAAR INNOVATIE EN DE GOVERNANCE VAN INNOVATIE IN DE ZORGPRAKTIJK

Over zorginnovatie en governance

Verwachtingen over wat innovatie kan betekenen voor de kwaliteit, toegankelijkheid en betaalbaarheid van de zorg zijn enorm. Resultaten zijn er ook al. Nieuwe technologieën verbeteren onze gezondheid, diagnostische instrumenten ontdekken ernstige ziekten in een vroeg stadium, behandelingen zijn beschikbaar voor ziekten waarvan lang werd gedacht dat deze ongeneesbaar waren, en verschillende sociale innovaties verbeteren de uitkomsten van zorg. Hoewel innovatie de zorg al veel heeft gebracht, is er in het denken over innovatie een innovatielogica te onderscheiden die ons begrip van processen van innovatie belemmert. Deze innovatielogica – een geheel aan veronderstellingen over innovatie – domineert het denken over innovatie, zowel in de praktijk als in beleid. Zij bestaat uit drie aspecten: een sterke voorkeur voor technologische innovaties; de neiging om innovatie als inherent goed te zien en een dominant lineair denken over het verloop van innovatieprocessen.

Een gevolg van deze innovatielogica is dat er erg hoge verwachtingen zijn over wat innovatie kan betekenen voor de samenleving en de grote uitdagingen waar de gezondheidszorg voor staat. De innovatielogica leidt tot beschrijvingen van optimale implementatieprocessen van innovatie terwijl praktijkonderzoek vaak een andere werkelijkheid zien. Een werkelijkheid waarin innovatie complex is, soms negatieve uitkomsten heeft, en waarin innovatie lang niet altijd lineair verloopt. Hiermee zorgt de innovatielogica er ook voor dat bepaalde innovaties, de potentiele risico's en nadelen van innovatie en de normativiteit van innovatie onopgemerkt of onbesproken blijven.

De innovatielogica roept vragen op over hoe innovatie in de praktijk gemanaged en georganiseerd kan worden. Aan de ene kant is er een sterke behoefte om innovatie te stimuleren door bijvoorbeeld ruimte te creëren voor creativiteit en experimenten, terwijl er aan de andere kant een grote behoefte is om juist grip te krijgen op innovatie. Deze dubbele behoefte met betrekking tot innovatie roept vragen op over de governance van zorginnovatie, het onderwerp van studie in dit onderzoek.

Het begrip governance wordt in deze studie gebruikt in relatie tot innovatie en gaat over het geheel aan manieren waarop innovatie wordt gestimuleerd en beïnvloed zodat innovatieprocessen bijdragen aan de publieke waarden van kwaliteit, betaalbaarheid en toegankelijkheid van zorg. Deze studie focust op de relatie tussen de concepten van 'governance' en 'innovatie'. Het ziet de relatie tussen deze begrippen als ogenschijnlijk paradoxaal omdat het gaat over het doel om innovatie te organiseren, beïnvloeden en sturen rekening houdend met de onvoorspelbaarheid van innovatieprocessen. Op basis van kwalitatief onderzoek in verschillende zorgpraktijken ontwikkelt deze studie een alternatief perspectief op de governance van zorginnovatie, aan de hand van de volgende onderzoeksvraag:

Hoe worden zorginnovaties geconstrueerd en vormgegeven in de praktijk, en wat kunnen we daarvan leren over de governance van innovatieprocessen in de zorg?

In plaats van op voorhand innovatie te definiëren, is in deze studie onderzocht wat innovatie betekent in de praktijken waarin innovatie wordt gecreëerd. Om lessen te trekken over governance is ook onderzocht hoe innovatie tot stand komt en hoe, in een innovatieproces, de waarde van een innovatie wordt gecreëerd. In deze studie zijn inzichten uit vier theoretische stromingen gebruikt om resultaten uit vijf casestudies te analyseren.

Theoretisch kader

Theoretisch leunt deze studie sterk op de **innovatiewetenschappen**. De innovatiewetenschap wordt gezien als een wetenschappelijke discipline op de snijvlakken van de sociologie, economie en de bestuurskunde en biedt waardevolle inzichten in innovatie en het verloop van innovatieprocessen. Alhoewel de innovatiewetenschappen zich in de tijd meer is gaan richten op het analyseren van de sociale en interactieve kant van innovatieprocessen, wordt het ook bekritiseerd omdat het sociale, contextuele, ethische, en institutionele aspecten van innovatie zou onderwaarderen. Mede vanwege deze kritiek worden inzichten uit de innovatiewetenschappen in deze studie aangevuld met inzichten uit drie andere theoretische stromingen.

Om in de praktijk te kunnen ontrafelen wat innovatie is, wordt in deze studie **procestheorie** gebruikt. Deze theoretische stroming ziet processen als de bouwstenen van de werkelijkheid. Dit betekent dat concrete gebeurtenissen, dingen of entiteiten wel zichtbaar zijn, maar dat na analyse duidelijk wordt dat deze bestaan uit verschillende onderliggende processen. Vanuit een procesperspectief is een innovatie dus nooit een object op zich, maar iets dat bestaat uit interactieve processen. Deze inzichten zijn in deze studie gebruikt om de aard van innovatie en innovatieprocessen beter te kunnen duiden.

Innovatie ontstaat niet vanuit het niets. Om te kunnen begrijpen hoe innovatie wordt geconstrueerd in een sterk geïnstitutionaliseerde context wordt in deze studie gebruik gemaakt van **institutionele theorie.** Deze theoretische stroming maakt het mogelijk om de rol van actoren in innovatieprocessen te analyseren. Het biedt inzichten in de mogelijkheden die actoren hebben om de context waarin zij actief zijn – en waarvan zij invloed ondervinden – te veranderen. Door gebruik te maken van institutionele theorie is deze studie in staat om te laten zien hoe instituties – zoals bijvoorbeeld regelgeving, routines en gebruiken in een veld – tegelijkertijd het resultaat zijn van acties van actoren en de context vormen waarin deze acties plaatsvinden.

Tot slot, deze studie is ook sterk gebaseerd op **wetenschap en technologie studies** (STS). Deze theoretische stroming maakt het mogelijk om te beschrijven dat het denken over de diffusie van innovaties misleidend is, omdat bijvoorbeeld materialiteiten, werk en normativiteit ook een rol spelen. Deze literatuur laat daarmee zien dat innovatie niet vanzelf komt. Het biedt de taal en mogelijkheden om de materiële, symbolische en sociale aspecten van innovatie te analyseren.

Omdat deze theorieën complementair zijn aan elkaar worden zij in deze studie in combinatie gebruikt. Inzichten in de aard van en condities voor innovatie vanuit de innovatietheorie worden aangevuld met inzichten over hoe innovaties worden geconstrueerd in de dagelijkse werkpraktijk vanuit de procestheorie. Waar institutionele theorie de rol van individuen en context in innovatieprocessen benadrukt, zorgt STS literatuur ervoor dat ook politieke, sociale en culturele aspecten van innovatie worden meegenomen in de analyse van innovatie en haar governance in deze studie.

De vijf casestudies en de belangrijkste resultaten

Deze studie bestaat uit vijf onafhankelijk uitgevoerde casestudies naar verschillende zorginnovatiepraktijken.

In **hoofdstuk twee** vormt een eenjarig innovatieprogramma in de revalidatiezorg de setting voor een analyse van verschillende innovatieprojecten. Gebaseerd op dataverzameling uit observaties en interviews met vele soorten actoren worden traditionele ideeën over innovatie besproken en van kritiek voorzien. De resultaten laten zien hoe mensen andere betekenissen dan enkel nieuwigheid aan innovatie toekennen, bijvoorbeeld omdat innovatie ook gezien kan worden als vorm van werk. De resultaten laten ook zien hoe innovatie en de waarde die deze vertegenwoordigt in de praktijk vorm krijgt. Deze resultaten leiden ertoe dat in dit hoofdstuk een nieuw concept wordt geïntroduceerd om innovatie te beschrijven: 'situated novelty'. Dit concept heeft vergaande gevolgen voor het begrip van innovatie en voor het management en de organisatie van innovatie in de praktijk.

In **hoofdstuk drie** worden innovatieprocessen geanalyseerd in de vorm van strategieën van ondernemers. Ondernemers worden vaak gezien als bron van innovatie omdat zij innovaties in de praktijk brengen. Een analyse van de interactie tussen ondernemers en de context waarin zij opereren levert in dit hoofdstuk inzichten op over de rol van individuen in innovatieprocessen. Resultaten illustreren hoe verschillend ondernemers deze interactie zien en mede daarom hoe strategisch verschillend zij daarin handelen. De analyse leidt tot een viervoudige typologie van ondernemers waarin de types verschillen in hun ideeën over welke rol zij spelen in het creëren van structurele verandering.

Zowel **hoofdstuk vier** als **vijf** analyseert de ontwikkeling van een specifiek soort zorginnovatie, die van nieuwe professionele rollen. Deze rollen worden beschouwd als een interessant voorbeeld van innovatie, zeker gezien dit soort HR-innovaties steeds vaker worden ingezet om een antwoord te vinden op de bedreigingen voor de duurzaamheid van ons zorgsysteem. Hoofdstuk *vier* onderzoekt hoe de rollen van nieuwe professionals zich ontwikkelen in de praktijk van een organisatie. Hiermee wordt duidelijk hoe deze rollen geïnstitutionaliseerd raken, ook over de grenzen van een organisatie heen. Het werk van individuen op de domeinen van de organisatie, het professionele team en de patiënt, blijken hierin van doorslaggevend belang. Hoofdstuk *vijf* duikt in het individuele niveau van institutionele verandering door in te zoomen op individuele nieuwe professionals. Gebaseerd op de theoretische concepten van 'place' en 'job-crafting' beschrijft dit hoofdstuk hoe nieuwe professionals actief een nieuwe rol creëren in de praktijk van zorgverlening. Resultaten uit onderzoek in twee verschillende zorgpraktijken laten zien hoe lokaal en veranderlijk de plaats van nieuwe professionals in de praktijk is. Ervaring, routines, expertise en vertrouwen tussen de nieuwe professionals en andere leden van het medisch team zijn belangrijk en bepalend voor hoe nieuwe professionals langzaam hun rol ontwikkelen. Dit doen zij onder andere door zowel individueel als collectief betekenissen toe te kennen aan hun rol en zo gezamenlijk een nieuwe professionele identiteit creëren.

Hoofdstuk zes focust op innovatiebeleid door de ontwikkeling en uitvoering van twee innovatieprogramma's in zorg te onderzoeken. Resultaten uit onderzoek naar programma's in de langdurende zorg en in de revalidatiezorg laten zien hoe innovatieprogramma's werken en wat ze doen. Innovatieprogramma's zijn niet alleen contexten voor innovatie. Ze beïnvloeden innovatiepraktijken direct door deze te faciliteren, te legitimeren en te prioriteren. Door innovatieprogramma's te beschrijven als instrumenten die gaandeweg vormkrijgen, wordt beargumenteerd dat het niet het ontwerp maar de manier waarop deze programma's worden gemanaged bepalend is voor welke effecten deze programma's hebben voor de praktijk.

Belangrijkste conclusies van deze studie

Een uitgebreide analyse van de resultaten uit deze vijf casestudies resulteert in twee belangrijke conclusies van dit onderzoek: (1) een beschrijving van innovatie als 'situated novelty' en (2) een alternatief perspectief op de governance van innovatie in de gezondheidszorg; geïntroduceerd als het 'situated novelty perspectief'.

Innovatie als situated novelty

Inzichten over de aard van innovatie laten zien dat innovatie niet altijd gezien wordt als iets nieuws. Nieuwigheid is namelijk sterk afhankelijk van het gekozen perspectief. Dit maakt dat innovatie iets is, dat enkel in lokale praktijken wordt gecreëerd. Het krijgt lokaal vorm. Innovatie is daarmee niet goed in zichzelf. Een innovatie verhoudt zich altijd tot een range van publieke en private waarden. Omdat innovatie lokaal verschillende betekenissen krijgt – zoals werk, een label, een symbool, een kans of een strijd – wordt innovatie in deze studie beschreven als 'situated novelty'. Dit concept beschrijft hoe innovatie kan worden gezien als het resultaat van praktijken waarin vele verschillende betrokkenen een rol spelen. Innovaties worden vaak niet worden ontworpen in hun uiteindelijke vorm. In lokale praktijken wordt namelijk vormgegeven aan de innovatie zelf en aan de waarde die deze vertegenwoordigt voor zowel direct betrokkenen als voor de gezondheidszorg in het algemeen. Innovaties staan hiermee symbool voor een complex geheel en een unieke set van lokale acties, interacties en dynamische processen. De

beschrijving van innovatie als 'situated novelty' heeft direct gevolgen voor het tweede doel van dit onderzoek, namelijk het leren van lessen over de governance van zorginnovatie.

Het situated novelty perspectief op de governance van zorginnovatie

De nadruk op het lokale karakter van innovatie heeft een betekenis die verder reikt dan enkel de manier waarop innovatie zelf wordt gezien. Deze bredere betekenis is hier beschreven in de ontwikkeling van een nieuw perspectief op de governance van zorginnovatie; het 'situated novelty perspectief'. De theoretische en empirische inzichten in innovatie uit deze studie vormen de bouwstenen van dit perspectief. Het perspectief beschrijft hoe innovatieprocessen – hoe lokaal, interactief en dynamisch deze ook mogen zijn – rijmen met de wens om innovatie te beïnvloeden, sturen en organiseren in een complexe zorgcontext. Het beschrijft hoe het doen van governance gaat over het ondersteunen van, en tegelijkertijd het vormgeven aan, innovatie, in plaats van over pogingen om innovatie strak te organiseren, sturen en controleren. Governance gaat daarmee over het beïnvloeden en stimuleren van een deels onvoorspelbaar proces. Mede vanwege deze onvoorspelbaarheid is reflectie op de normatieve eigenschappen en effecten van innovatie hierin noodzakelijk. Een overzicht van het 'situated novelty perspectief' wordt hieronder weergegeven.

Tabel S1: Het situated novelty perspectief

#	Onderdeel	Beschrijving
1	Innovatie	Wat een innovatie is, wordt lokaal bepaald. Innovaties worden lokaal en sociaal geconstrueerd wat maakt dat ze situationeel zijn. Een innovatie is niet zomaar iets nieuws, het representeert een proces. Daarin zijn innovaties 'ambidextrious': zij zijn stabiel in termen van het basis idee en de fundamentele verandering waar ze voor staan, maar tegelijkertijd flexibel in hun verschijningsvorm. Dat wat wordt gezien als de innovatie, wordt in werkelijkheid gemaakt in processen van continu werk.

Tabel S1: Het situated novelty perspectief *(vervolgd)*

#	Onderdeel	Beschrijving
2	Innovatieprocessen	Het feit dat gesitueerde processen van werk bepalen wat een innovatie is, maakt ook dat wat er gebeurt, hoe het gebeurt, waarom het gebeurt, wie ervoor zorgt dat het gebeurt, en tot welke resultaten het leidt, afhankelijk is van waar en wanneer het gebeurt. Innovatie is gesitueerd omdat innovaties worden geconstrueerd onder invloed van het gedrag van actoren in verschillende historische, culturele, sociale en economische contexten. Daar innovatie continue veranderingen representeren, is het misleidend om een duidelijk begin en eind van een innovatieproces te definiëren of om het te zien als geïsoleerd proces los van de dagelijkse werkpraktijk.
3	Normativiteit & waarde	Nieuwigheid is niet bepalend voor het bepalen van de waarde van een innovatie. Daarentegen wordt een innovatie gelegitimeerd door ideeën over hoe goede zorg eruit ziet. Deze normativiteit is belangrijk in ons begrip van innovatie, zeker in sectoren als de gezondheidszorg waar het publieke belang niet altijd duidelijk is. Ook de performativiteit van innovatie(beleid) maakt dat 'waarde' meer aandacht verdient. Pogingen om innovatie te organiseren of te beïnvloeden zijn in zichzelf al belangrijk, los van de resultaten die ermee worden bereikt.
4	Governance doen	Governance van innovatie gaat over het beïnvloeden en stimuleren van een emergent, tijdelijk en voor een groot deel onvoorspelbaar proces. Het gaat over het gaandeweg aanpassen en bijsturen van innovatieprocessen, meer dan dat het gaat over top-down sturingsmodellen of het uitoefenen van macht en controle om bepaalde verwachte doelen te bereiken. In plaats van pogingen om innovatie strikt te organiseren, sturen of controleren, vraagt het 'situated novelty perspectief' om het ondersteunen en gelijkelijk vormgeven van innovatie. Tijdens een innovatieproces kan worden geleerd wat telt als 'goed', zowel voor de innovatie als voor governance. Het faciliteren van reflectie in de praktijk is hierin cruciaal.

Implicaties voor management, beleid en onderzoek

Het 'situated novelty perspectief' op de governance van innovatie in de gezondheidszorg heeft belangrijke implicaties voor management, beleid en onderzoek op het gebied van innovatie en de zorg.

De belangrijkste implicatie van dit onderzoek voor **innovatiemanagement** is dat het mogelijk is voor management om actief innovatieprocessen te beïnvloeden. Management moet dan wel worden gezien als een proces van continue coördinatie in een gesitueerd proces van verandering. Dit gaat verder dan het organiseren van de juiste condities voor innovatie. Twee onderwerpen zijn specifiek van belang voor managers van innovatie: werk en normativiteit. Management dient zich te focussen op het faciliteren van het werk dat inherent is aan innovatie. Dit helpt niet alleen het innovatieproces, maar kan ook de innovatiekracht van de organisatie blijvend versterken. Daarnaast vraagt de normativiteit van innovatie van managers dat zij actief reflectie organiseren in de praktijk. Dit helpt niet alleen in het vormgeven van de innovatie maar ook in het creëren van legitimatie en waarde voor de innovatie.

De belangrijkste implicatie van dit onderzoek voor **innovatiebeleid** is dat overheden een actieve rol spelen in innovatieprocessen en de governance daarvan. In het vervullen van deze rol zouden overheden zich meer dan nu bewust kunnen zijn van de normativiteit van innovaties en van de performativitet van het beleid dat zij ontwikkelen. Dit zou bijvoorbeeld het gebruik van innovatieprogramma's – een veelgebruikt instrument om innovatie te stimuleren – wezenlijk veranderen. Volgens het 'situated novelty perspectief' zijn programma's geen gestandaardiseerde instrumenten die tot opschaalbare innovaties leiden. Programma's vragen vanwege hun effecten op de praktijk om flexibiliteit en reflectie om als reflexieve ruimte voor innovatie te kunnen functioneren.

De belangrijkste aanbeveling voor **onderzoek** is dat de governance van innovatie meer aandacht verdient in wetenschappelijk- en praktijkgericht onderzoek. Er is nog veel empirisch en theoretisch werk te doen. Meer onderzoek naar de processen van waardecreatie zou bijvoorbeeld meer inzicht kunnen opleveren in wat wordt gezien als 'goede' innovatie. Hoewel het misschien contra-intuïtief aanvoelt zou meer onderzoek naar de negatieve uitkomsten van innovatie – bijvoorbeeld in de vorm van gefaalde innovaties of in situaties waar geen innovaties worden

ontwikkeld – ons begrip van innovatie kunnen vergroten. Daarnaast kan ons begrip van innovatie sterk profiteren van meer multidisciplinair en praktijkgericht wetenschappelijk onderzoek.

Deze implicaties vertegenwoordigen samen een verandering van de algemene visie op innovatie. Van een die is gebaseerd op hoge verwachtingen en hoop naar een meer realistisch perspectief gebaseerd op in de praktijk geleerde lessen. Het 'situated novelty perspectief' zoals het in deze studie ontwikkeld is, biedt een alternatief perspectief op de governance van zorginnovatie. Het weerspiegelt een andere manier van denken over en kijken naar het verloop en de organisatie van innovatie in de zorg. Op deze manier biedt het mogelijk de start van of delen van een oplossing voor de paradoxale relatie tussen governance en innovatie. Ik sluit af met de hoop dat 'situated novelty' zichzelf kan bewijzen als perspectief dat onze mogelijkheden om innovatie te organiseren en te managen zowel weet te veranderen als te verrijken.

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wat eigenlijk echt belangrijk is in het werk en het leven. Erg leuk dat je nu samen met Jelle onderdeel bent van het Utrechtse. Ik vind het bijzonder fijn dat je altijd figuurlijk, en tijdens mijn promotie ook letterlijk, achter me staat. Dank je wel! *Jesper*, met jou ietwat vroege komst in de zomer van 2014 raakte mijn onderzoek opeens erg direct aan het echte leven. Vertrouwde je mijn onderzoeksresultaten niet en wilde je de afdeling neonatologie zelf maar even van heel dichtbij bekijken? Je hebt ons daarmee niet alleen laten schrikken, maar je hebt in de vorm van een heuse membercheck daarmee ook nog een bijdrage geleverd aan mijn onderzoek. Als trotse oom vind ik het schitterend om te zien hoe jij, na het ziekenhuis, nu de rest van de wereld aan het ontdekken bent. Ik beloof mijn best te doen om dat onderzoekende in je te blijven stimuleren.

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CURRICULUM VITAE

PHD PORTFOLIO

Author details

Name:	Maarten Janssen
Department:	Institute of Health Policy and Management (iBMG)
PhD period:	2010-2016
Promoter:	Prof. Dr. K. (Kim) Putters
Copromotoren:	Dr. E. J. (Elly) Breedveld
	Dr. I. (Iris) Wallenburg

Courses

Introductory course in didactics	2010
Microsoft Office 2010 UK	2010
Atlas-ti for beginners	2010
Ready in four years	2011
Academic Writing in English	2012
Teaching Study Skills to students	2012
Introduction to vision on teaching	2013
Active Academic Learning Skills	2013
Workshop personal branding for PhD's	2013
Media training for PhD's	2013
Workshop on Shadowing	2014
Theater skills for academic teaching	2015

Presentations at conferences, master classes and symposia

EHMA (European Health Management Ass.) conferences in Bern / Birmingham	2012 & 2014
PROS (Process Organization Studies) conferences at Crete and Kos	2013 & 2015
NIG (Netherlands Institute of Governance) work conference in Delft	2014
EGOS (European Group of Organization Studies) conference in Rotterdam	2014
IRSPM (Int. Research Society for Public Management) conference in Birmingham	2015
Conference on neighborhood-based Care organized by Viatore	2012
Presentation at strategy day for BMC, a consultancy firm for the public sector	2012
Master class neighborhood-based care, together with Lieke Oldenhof	2013
Two multiple days workshops in Amsterdam and Rome for MUNROS	2014
Presentation on new professionals at conference of the 'UMCU'	2015

Teaching activities

Supervising and co-evaluating Bachelor's and Master's theses	2009 - 2015
Policy Sciences	2009 - 2011
Policy & Administrative Sciences	2012 - 2015
Qualitative Research Methods to bachelor, pre-master and master	2009 - 2015
Lecture on innovation in course Healthcare entrepreneurship	2012 & 2013
Lecture on healthcare innovation in the SIM program	2012
Lecture on social support act in minor on Public Health	2013
Introduction to Health Sciences	2014
Mentorship for bachelor-1 students	2014
Supervisor of internships bachelor-1 students	2014
Lecture on policy evaluation in course Policy & Administrative Sciences	2015

Research projects

Project on obesity for the 'RIVM'	2009
Project on the new social support act for the French Ministry of Health	2010
Project on supervision and innovation for the 'Regieraad'	2010
Project on healthcare innovation for the Clingendael European Health Forum	2011
Project on e-health for the Clingendael European Health Forum	2012
Project on neighborhood-based care for Viatore and the ministry of 'VWS'	2012
Project on innovation program for 'ZonMw' and 'Revalidatie Nederland'	2012
Project on new professional roles for ministry of Health, Welfare and Sport	2014
Project on new professional roles for the European MUNROS project	2014

Articles and peer reviewed publications (not included as chapter)

Janssen, M., Grit, K., Putters, K., Tjadens, F. (2011) 'La loi sur le soutien social aux Pays-Bas: changement de paradigme ou réduction de l'aide a domicile aux personnes âgées?' *Revue de Droit Sanitair et Social*, 3, p. 465.

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de Bont, A., van Exel, J., Coretti, S., Zvonickova, M., Zander, B., Janssen, M., Ludwicki, T., Güldem Ökem, Z., Lofthus, K., Bond, C., Wallenburg, I., MUNROS team (2015). A case-based comparative study explaining the increasingly diverse composition of health care teams across Europe. Under review at *BMC health services research*.

Non-peer reviewed publications and research reports (Dutch & English)

Janssen, M., Putters, K., Dwarswaard, J., Egmond, S. (2009) 'Over Gewicht – Een analyse van de overheidsaanpak van preventie van overgewicht en de rol van de organisatie van de OGZ daarbij'.

Putters, K., Grit, K., Janssen, M., Schmidt, D., Meurs, P. (2010) 'Governance of local care & social service – an evaluation of the implementation of the Wmo in the Netherlands'. ISBN-nummer: 978-94-90420-13-0.

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Wallenburg, I., Janssen, M., de Bont, A. (2015) De rol van de verpleegkundig specialist en de physician assistant in de zorg; Een praktijkonderzoek naar taakherschikking in de tweede- en derdelijnszorg.

'MUNROS' report: Health Care Reform: the iMpact on practice, oUtcomes and costs of New roles for health pROfeSsionals (MUNROS). Deliverable 3.2. Country Case Reports (2015).

'MUNROS' report: Health Care Reform: the iMpact on practice, oUtcomes and costs of New roles for health pROfeSsionals (MUNROS). Deliverable 3.3. New professional roles in the health services of Europe: results of a preliminary study (2015).

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Janssen, M., Putters, K., Grit, K., Schmidt, D. (2010) 'De Wmo: een rituele dans of strategische kans'. Artikel verschenen in *Zorgvisie*, jaargang 40, nummer 8.

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Janssen, Oldenhof & Putters (2012) 'Wijkgericht werken zonder fratsen'. Artikel in *Zorgvisie* oktober 2012.

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Putters, Janssen & Pijnappel-Clark (2012) 'Voor zorgvernieuwing is geen stelselwijziging nodig'. Artikel verschenen in *Financieel Dagblad* 9 oktober 2012.

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Wallenburg, Janssen & de Bont (2015) 'Taakherschikking vraagt maatwerk' – Medisch Contact 10, Jaargang 71 – verschenen op 10 maart 2016.

ABOUT THE AUTHOR

Maarten Janssen was born in Woerden on October 30, 1985. After finishing secondary school he studied Science & Innovation Management at Utrecht University and obtained a Research Master (with honors) in the same field in the spring of 2009. While writing his Master's thesis on entrepreneurial strategies, he became intrigued by innovation and the governance of innovation processes in the care sector. At the end of 2009 he gained the opportunity to work as a junior researcher at the Institute of Health Policy and Management (iBMG) of the Erasmus University Rotterdam (EUR) on a one-year research project on the New Social Support Act. From 2010 onwards, he continued to pursue his interest in innovation and governance by doing a PhD at iBMG on innovation processes in healthcare. Maarten Janssen has published academically in national and international peer reviewed journals and has written various research reports and articles based upon his research. In addition to his research activities, he taught various courses at the Institute of Health Policy and Management, including qualitative methods and policy sciences. Besides his work at the university, Maarten was closely involved in the development of a network for young healthcare innovators in Europe. In his spare time he enjoys volleyball, and has played at a semi-professional level for over six years. Maarten is currently working as program manager and researcher at the Erasmus Centre for Health Care Management in Rotterdam.

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SITUATED NOVELTY

Healthcare innovation is a hot topic among policy makers, researchers and professionals, attracted to the longstanding public debate by high expectations of the potential benefits. Putting innovation into practice, however, is often more complex than expected, and the results are sometimes even disappointing. This book delivers in-depth insights into healthcare innovation processes, based on the lessons learned in five case studies of innovation practices. The book introduces a multidisciplinary approach to the governance of healthcare innovation: 'Situated Novelty'. In the Situated Novelty approach, innovation is not just about novelty. It emerges from contextualized, interactional and time-dependent processes and has different meanings in practice. Situated Novelty emphasizes the importance of never-ending processes that construct innovations and their value. In this view, the governance of innovation consist of attempts made to influence emergent, temporary and fluid processes of change. Situated Novelty has major implications for innovation practice, management and policy as it has the potential to change current attitudes to innovation and opens up new possibilities to act. Overall, the Situated Novelty approach argues for deeper practical and theoretical reflection on the essence and meaning of innovation. This book will interest all concerned with the management, organization and governance of innovation in healthcare practice and beyond.