



WHY DO SOME INNOVATIONS FAIL AND OTHERS SUCCEED?

OBSTACLES AND DRIVERS FOR PATIENT-CENTRED INNOVATION

**Master Thesis | Thomas Hendriks | September 2014 | Research Master in Public
Administration and Organizational Science | Utrecht School of Governance | Universiteit
Utrecht**

Why do some innovations fail and others succeed?
obstacles and drivers for patient-centred innovation

Thomas Hendrixx
Utrecht School of Governance

Abstract

Healthcare innovation occurs in the context of high stakes; a changing societal and institutional landscape leads to challenges that force care providers to reinvent themselves. These challenges are new, as is the organizational setting that has to adopt change in order to stay afloat. Also new is the approach of patient-centred innovation as practiced by Radboudumc, a hospital at which the patient is made a partner in his own treatment. This study takes a closer look at the embodiment of patient-centred innovation in three online-communities for different patient-groups at university medical centre Radboudumc. From a perspective of organizational routines, an explorative and qualitative approach provides answers to the question why some of these innovations fail and others succeed, and provides several concrete recommendations for making future innovations succeed.

Keywords

Healthcare, innovation, patient-centred, organizational routines

Thomas Hendrixx
3234231

Master thesis

Defense: September 26th, 2014, Utrecht School of Governance, Utrecht

Research master in Public Administration and Organizational Science
Utrecht University, Erasmus University Rotterdam & Tilburg University

First supervisor: Prof. dr. Mirko Noordegraaf (Utrecht University)

Second supervisor: Prof. dr. Kim Putters (Erasmus University Rotterdam and the Netherlands Institute for Social Research)



Universiteit Utrecht

PREFACE

A master thesis is an apotheosis in many ways. Not only is it the technical finalization of a master's degree, it is also a demonstration of scientific aptitude. Symbolizing the formal start to continue climbing the professional ladder, be that in science or elsewhere. A thesis marks the accomplishment of a period of learning, of research and developing skills that are essential to making the most of the opportunities that we are given. All through obtaining scientific craftsmanship.

A thesis is an individual project, yet largely dependent on others. As such, this thesis would not have come about without the indispensable help and support of several people. First and foremost, I would like to thank prof. dr. Mirko Noordegraaf. For his professional guidance, effective coaching and endless patience with my efforts in balancing a full-time job and finishing this research. He has carefully helped me shape this thesis in what it has become today. In addition, I want to thank prof. dr. Kim Putters, watching over me from a distance and providing me with constructive feedback at crucial moments. I want to thank prof. dr. Jan Kremer, who allowed me to delve into hospital life at his Radboudumc, enthusiastically connecting me to whoever I needed to speak to and giving me all the time and resources I needed. My family, who have observed me over the past two years with feelings of both amazement and despair, but nevertheless did and do support me in everything I undertake. And last but not least, Sanne, thank you for keeping up with me throughout the years. I could not have done this without you.

Where does this leave me? Thankful and wiser. Thankful for having been given the opportunity to learn from my respondents, who were willing to dedicate time and energy in openly sharing their experiences and feelings with me. Wiser, by having now learnt how to complete the full cycle of research and delve deeper into the fascinating world of healthcare. For it is by curiosity and questioning the world as we know it that we learn and improve. Never by accepting that world as it is.

Thomas Hendrikx
September 2014

EXECUTIVE SUMMARY

Dutch healthcare is under considerable pressure. The combination of rising expenditures and stagnating economic growth makes it the figurative cuckoo in the budgetary nest, necessitating cutbacks in other areas and leading to pressure on quality, accessibility and affordability of care. But that is not all; trends like increasing population health, ageing, technological developments and market-based incentives lead to –amongst others- increased competition between care providers, a need for organizational profiling and strain on both professional and organizational logics that together require healthcare organizations to change. As such, healthcare innovation occurs in the context of high stakes; a changing societal and institutional landscape leads to challenges that force care providers to reinvent themselves. These challenges are new, as is the organizational setting that has to adopt change in order to stay afloat.

One way to change is through innovation. Such innovation can be either product or service oriented, be incremental or radical, is sustaining or disruptive but always requires new ways of thinking and interacting to occur. Change that is not always easy, as it meets resistance in the form of existing organizational routines. These routines are present in every organization, and embody both formal procedures (explicit knowledge) and individual experiences (tacit knowledge). In their presence, they are both ostensive (the rule) and performative (deviation from the rule). As such, innovation is hard to implement without accounting for the influence of routines. Therefore, managing innovation is, in fact, managing routines. These routines in turn, require managing two different logics: organizational and professional, each with their own characteristics. These logics interact, and at times of troublesome innovation show a disconnect between the two. This disconnect must be solved, in order for new routines to be created in a sustainable manner. Only then is innovation truly successful.

Radboudumc is a large and ambitious Dutch university medical centre that wants to innovate in a way that is patient-centred, in order to become a hospital at which the patient is made a partner in his own treatment. In doing so, online-communities were set-up for various patient groups in an attempt to more intensely involve patients in the process of care. Some of these communities are seen as successful, and some are not. This study takes a closer look at three such online-communities. From a perspective of organizational routines, an explorative and qualitative approach answers the question as to why some of these innovations fail and others succeed.

This study finds that indeed, organizational routines influence implementation of innovation, and in the Radboudumc, are firm and therefore hard to change; the organization is inherently conservative and inert. That is an asset for delivering high quality care, but an inhibitor for change. The aforementioned disconnect exists, and further inhibits organizational routines to develop. As such, sustainably changing the way of working proves difficult.

Following these results, several recommendations can be made. First of all, do not rely on the leading power of a common goal if this goal is perceived differently by the people involved. Also, it is important to carry out thorough research into the wants and needs of the population

the innovation affects, and to adapt the innovation accordingly. But managerial involvement is important too, and must be limited to settling disputes and propagating the common goal. In addition, departmental enthusiasm must be corrected for financial incentives, so that commitment is rewarded instead of outcome. Furthermore, it is important to increase the number of quarter masters in order to overcome unnecessary organizational inertia. And last but not least, allow time for routines to develop and generate both organizational and professional competency.

CONTENTS

	page:
1. Chapter 1: Introduction	8
a. Falling from the cuckoo's nest	8
b. Innovation and routines	9
c. Patient-centred innovation	11
d. Research approach	12
e. Outline of thesis	14
2. Chapter 2: Developments in Dutch healthcare and the changing role of patients	15
a. Dutch healthcare in motion	15
b. Towards patient-centred healthcare	21
c. Assumptions	24
3. Chapter 3: Innovation and organizational routines	27
a. Theory on innovation	27
b. Theory on organizational routines	32
c. Managing innovation is managing routines	34
d. Theoretical framework	36
4. Chapter 4: Research design	38
a. Research approach: explorative and qualitative	38
b. Operationalization	40
c. Case background and selection	44
d. Research phases	46
e. Methodological evaluation	49
5. Chapter 5: Results	51
a. Radboudumc and innovation	51
b. Patient-centred innovation	53
c. The role of routines	55

d. Implementation of innovation	56
6. Chapter 6: Conclusions	69
a. Conclusions to sub-questions	69
b. Conclusion to main research question	71
c. Practical implications and recommendations	77
References	80
Appendix : Organizational structure Radboudumc	87

CHAPTER 1: Introduction

“The new doctor operates from India” (Elsevier, 2014). Under this heading, Dutch newspaper Elsevier recently published an article about new technological developments radically changing the nature of healthcare delivery. The article further describes the practice of intensive care specialist Karthi Raj (37), who sees thirteen patients simultaneously in three different hospitals in India, 500 kilometres apart from each other. All from behind a desk in a small office in Chennai. Raj works for INTeleICU, a company providing remote monitoring of intensive care units around the globe, thereby assisting doctors and nurses “in the field”. His monitors show real-time images of patients in hospital beds, ECG’s and vital functions. He can remotely operate a camera, and communicates with the on-site medical team using his headset (Elsevier, 2014).

Technology like the type Raj uses is not new, but the range of applications is. Boosting development is the ever lower cost and increasing quality of global communication, opening new markets and connecting companies all over the world. Physical distance becomes ever less of an issue. As such, in the United States, already five intensive care units work with INTeleICU. Later this year, Dutch medical technology giant Philips starts working in a joint venture with the same company to experiment at intensive care units in the United Kingdom. More and more often, innovations become available with useful applications in medical science. At ever lower cost. Motives for implementation may vary; whereas Western healthcare providers may want to lower labour costs, benefiting from low-wage countries like India, others may see quality improvements as the most important rationale for change (Elsevier, 2014).

A. Falling from the cuckoo’s nest

But change is not always a choice. Sometimes, change is outright necessary. In the Netherlands, this situation presents itself in the form of growing healthcare expenditures. As such, Dutch healthcare is –without intervention- in the long-run steadily moving towards the brink of the budgetary cliffs; per capita costs grow exponentially, leaving the nation with an ever larger bill to foot. This means that choices have to be made that have direct and inevitable consequences for the accessibility, availability and quality of care. Currently, one can observe a classic tale of a cuckoo’s nest; growing healthcare expenses necessitate limiting expenses in other areas. And it is also a tale of a nest that shrinks as the economic recession progresses; overall expenses must be curbed. At the same time, society at large and healthcare in particular are subject to several other trends, such as a larger influence of patients and health insurers on care itself. Exogenous trends like ageing (and a shrinking workforce) and technological development result in higher expenditures. Money that is most likely well-spent, but eventually negatively affects citizens’ purchasing power, as an ever larger share of their income will be spent on healthcare (CPB, 2011).

As such, change is needed but stark, top-down interventions are surrounded by uncertainties. Such measures are politically hard to sell. They require answers to difficult questions. Do we

delay access, limit availability or lower quality? None of these questions are easy, and therefore they are best avoided by policy makers who do not want to directly call on the wrath of the general public. For example, in 2012 the Dutch Healthcare Institute (the former CVZ) uttered doubts about the effectiveness of specialized medication for rare diseases Pompe and Fabry in relation to their relatively high costs, and subsequently suggested no longer including them in the basic coverage. Public pressure quickly mounted, ultimately resulting in the minister for healthcare having to reassure Parliament that denying coverage to these patients was not a question. This incident illustrates the flammability of the public debate. New supply (e.g. medicines, techniques) creates new demand (i.e. patients that could not be treated before, suddenly can), which is not easy to reverse. Patients are also voters, and every measure taken at the macro level to curb supply will meet ever larger resistance from citizens that receive healthcare they could not have before. On the one hand, this may to some be an indication of a prosperous, wealthy nation that becomes ever more healthy. On the other hand, it has shown to paralyze subsequent administrations to act and carry out change that may hurt but be outright necessary to maintain the system in the long-run. What results is a mixture of regulatory measures that generally address mostly symptoms instead of providing a real cure. An example is the trend to report thousands of process and quality indicators at the healthcare organizational level in an attempt to curb costs at the macro level. The administrative burden aside, this has not yet led to controlling costs. And perhaps not surprisingly so, since reimbursement is not based on process and quality, but on quantity. In this way, indecisiveness does not imply maintaining the status quo, but may well lead to a system bursting at the seams.

Footing this bill is not only every tax payer, but also patients themselves. Patients who are kept in the hospital for observation and thereby generate revenue, while in many cases they could have been treated at home, with their relatives close by. Patients who undergo expensive diagnostics while the added value of it may be questionable. Or are given more expensive medication than necessary. All of these actions are financially rewarding for healthcare providers. However, they may lead to patients receiving suboptimal value for money.

B. Innovation and routines

Luckily, it is not all doom and gloom in Dutch healthcare. Change is at hand, and innovation is what seems to drive it. Innovation that centres around the patient, addressing the question of creating higher patient value (Thakur, Hsu, & Fontenot, 2012). But before delving into patient-centred innovation, it is useful to see why innovation in general can be useful to face the problems at hand.

Innovation we can see as change not on the macro, but on the micro level. Think not in terms of systemic interventions but on the organizational level, closest to the location at which patient value is created. It is perhaps at this small scale that a large sum of interventions can lead to changing the system as a whole. For example, the practice of INTeleICU may lead directly to better quality (e.g. a more experienced doctor) against lower costs (e.g. the

experienced doctor is very efficient) for every patient. Innovation we can see as change to improve on the existing situation. Of course, it is important to define when such innovation is successful. Is that when costs are curbed at the micro or macro level? Is it when quality is improved, but at what cost? Or is it when patient value is increased¹? Apart from any such concerns, it can possibly be an alternative to more system-wide interventions that alter the architecture of healthcare itself.

But implementing innovations in healthcare settings may not be easy, because of the nature of healthcare, the relationship between the actors that provide it and because of the organizational nature of these actors. First of all theoretically, unconstrained markets are often well capable of finding the most optimal combinations of high value against low costs. But healthcare is in practice not naturally one of them, because it produces no ordinary good. And the healthcare market is no ordinary market with products that patients can individually inform themselves about and consume endlessly. As such, critical heart operations are no free choice of buying, and saving a life is priceless. And even if it were to be priced, it would be a price that we want both low and high incomes to be able to pay. Finally, when quality is bad it does not only lead to lower demand, but causes irreversible death. Unnecessary mortality that modern day societies would not accept. Therefore, tight regulation on quality, availability and accessibility is by many deemed a bare necessity, as is helping the patient making informed decisions. That is, if the patient is able to decide about his specific healthcare needs at all. So much for market economics in healthcare.

Secondly, the relationship between actors operating in the healthcare market has complex characteristics. Most importantly, the current way of financing Dutch healthcare is one based on quantity rather than quality. Since the 2006 reform, care providers are reimbursed for their work through various forms of care products; sets of specific care activities bundled to treat pre-defined medical conditions. At the core of this system is the assumption that generally, patients with diagnosis X need care activities Y and Z. And within these care products, different gradations exist for easy and more difficult treatments. In short, the more activities are carried out, the higher is the reimbursement. Total costs are nationally curbed in a so-called macro budget, which may only grow with a set percentage every year. But at the micro level, in the interaction between patient and doctor where care is actually delivered, the volume incentive remains. An incentive that leads to a quicker reward on the micro level but may cause a penalty in the long run when on a macro level the budget is exceeded. Not surprisingly, this leads to concrete free rider problems; profit maximization on the micro level leads to cost sharing on the macro level. For the free rider, what results is a net profit. Interestingly so, quality is no part of the financial equation, but is monitored by the national healthcare authority.

This may create a barrier for innovation. Because financial incentives are strong. And reimbursement based on existing ways of working leaves little room for doing things differently. In this way, reimbursement based on quantity does not directly reward quality. In

¹ Patient value in this research is defined as the result of quality divided by costs, after the work of Porter and Teisberg (2006). In practice, this means that increasing quality at all cost does not lead to greater value, nor does lowering costs at the expense of quality.

addition, quality comes about by repetition; ways of working incorporated in organizational routines, some of them as old as organized healthcare itself. This makes the system complex, the result of which is manifested in tiresome negotiations between healthcare insurers and providers, and forced changes in the way of working naturally going against the very essence of the craft (Plomp, Schut, & Varkevisser, 2013; Van de Poel, 2013; Het Financieele Dagblad, 2014). As health insurers gain an ever larger say in the contracting of care of health services for their customers, many a doctor's drive for quality is faced with insurers' rationale of price times quantity. His routine-like way of working is challenged by an outsider. It has yet to become clear if this results in (yet to be defined) "better care".

Thirdly, healthcare providers are no usual service providers. Curing a patient is not similar to repairing a car, and operating on a heart not like replacing a broken clutch. Therefore, quality requirements are as strict as airplane regulations, in which improvisation is usually the exception to the rule. And just like pilots learn by repetition and protocol, so do doctors. As the saying goes: "practice makes perfect". This practice roots in routine ways of working. It appears as habits, protocols, working arrangements and specialisation. All these are back-up systems for quality, and are in their very nature resistant to change, as that is what provides its added value in the first place. Therefore, radical change –how much needed it may sometimes be- in such an organization implies disrupting the very routines it is based on. And as always with swimming against the tide, pressure rises. This pressure arises at different fronts, resulting from the different stakes that exist within healthcare organizations, and which we will discuss more elaborately in a later stage. Alas, these challenges may well prove to be a blessing in disguise, forcing innovation that can change our healthcare system for the better (Christensen C. M., 2009).

C. Patient-centred innovation

Innovation can be carried out in different ways, depending on what is the goal of the innovation in the first place. At Dutch academic hospital Radboudumc, it is the patient that is the focal point of attention. In this hospital, they have come to realize for themselves that improving on value for patients must be their main driver for change, exogenous influences put aside. As such, in all innovations they implement, an increasing number of decisions made is influenced by input from patients themselves.

One of their organization's projects involves the implementation of online communities, in which specific patient populations are invited to enrol in a digital platform or forum, on which they can exchange information with medical staff and fellow patients. Online communities are set up for various patient groups and patients are provided with information on how to access them. In addition, staff are requested to make an effort in supplying community blogs and participating in online patient discussions. As such, the online communities must become a durable element of the organization's routines; a non-questionable determinant for high quality care. In fact, they must become one of the distinctive features of medical care at Radboudumc, harnessing the patient-centred approach of the organization. However, use of these communities falls short on expectations. While some communities seem successful,

others are less used or in some cases not at all. The online communities are, at a glance, far from incorporated in daily organizational routines. The question is why, as to what are obstacles and drivers for the successful implementation of such innovation.

D. Research approach

The goal of this study is to trace missing pieces of the puzzle that retain us from successfully innovating in hospital settings, with the implementation of the aforementioned online communities as our locus. To discover why it is that innovations that seem successful on paper can be hard to implement in practical large-scale hospital settings. Settings of organizations that are rooted in routine ways of working and face several both endogenous and exogenous challenges. The question asked is why some hospital innovations fail and others succeed, and to find ways to maximize innovating potential. The focus guiding this research is theory on organizational routines.

As such, the main research question can be formulated as follows:

How do organizational routines affect the implementation of patient-centred innovation?

In addition, the following eight sub-questions will be used to structure this research and generate separate answers that together will comprise an answer to the main research question:

i. What is patient-centred innovation?

Before being able to analyse specific processes and actions within the individual units of the case, patient-centred innovation must be defined and the context of the case must be explored, as it will to a large extent affect the actions within the units themselves. As such, this question allows us to gain more insight into what patient-centred innovation is and which paradigm-shift has brought about the recent undertakings of Radboudumc in this direction.

ii. What are organizational routines?

The focus in this study is based on the concept of organizational routines, which encompasses the determinants of the way of working in large scale hospital settings. It may provide answers to the question as to what extent are actions performed by staff the result of their own consent, versus the influence of existing routines. In addition, it can shed light on the development of organizational routines in practice, and unveil the factors that affect this development.

iii. Why do organizational routines affect change in general and innovation in particular?

Having defined patient-centred innovation and examined the existence of organizational routines, it is useful to explicitly look into the reason why these two are interrelated. This

provides a necessary starting point for analysis of any interaction between the two and sense-making about the way in which that interaction can be put to use in making innovation work.

- iv. *How do organizational routines affect change in general and innovation in particular?*

Before being able to delve into the several units of the case (the actual innovations themselves) the theoretical relationship between organizational routines and change or innovation must be explored. Before delving into the case, it must be clear how organizational routines and change or innovation are theoretically interrelated.

- v. *What is patient-centred innovation like in the Radboudumc?*

Having defined patient-centred innovation, this question allows us to determine the way it takes shape in the hospital case-study at hand.

- vi. *What are organizational routines like in the Radboudumc?*

In this question, empirical findings from the Radboudumc are linked to theoretical concepts. The aim is to discover whether theory matches practice, and if so, in what way.

- vii. *How do organizational routines practically affect patient-centred innovation?*

Having examined the role of the organizational routines in relation to patient-centred innovation, a thorough analysis of the individual innovations may provide the answer to this question. Consequently, the reasons for failure of some and success of other innovations may be translated to barriers and triggers respectively, as well as be generalized to innovations in general. The answer to this question will show whether meaningful statements can be made concerning innovations in large hospital environments.

- viii. *What are theoretical and practical implications?*

Following an evaluation of barriers and triggers for successful innovation, come implications for theory and practice. This question allows for possible improvements on current epistemology and may lead to practical recommendations.

Before being able to answer the questions above, we must first take a close look at what currently happens in healthcare, before delving into literature on both innovation and organizational routines in general. These two components will lay the foundation on which a theoretical framework is built, which will be elaborated on later. Subsequently, the above questions are answered through an explorative and qualitative approach. Explorative, because of the novel focus that is applied to the healthcare sector. And qualitative, in part as a result of the descriptive and explanatory nature of the questions asked above. We will elaborate on these concepts later.

E. Outline of thesis

This thesis first sets out exploring the current state of Dutch healthcare by discussing both general societal trends as well as trends that are specific to healthcare. In doing so, I will show in chapter 2 to what extent both the sector as well as organizations within it, undergo several societal trends and trends that are healthcare-specific. In turn, this leads to identification of several challenges and thereby sets the stage for introducing patient-centred care, as a way for hospitals to adapt to changing circumstances. Finally, this chapter touches on some important assumptions.

Chapter 3 then evaluates existing theory on organizational routines themselves, in addition to reviewing theory on innovation in general. Whereas this chapter does not yet go into the specifics of the case studied, it introduces the focus of this research: managing innovation as managing routines. As such, it debouches into the theoretical framework that further guides this thesis towards a conclusion.

But first, chapter 4 elaborates on the research design, and justifies the research approach and phases, choices made during case selection, and operationalizes the variables as laid out in the theoretical framework presented earlier. Thereby looking for ways in which successful implementation can be recognized. This chapter also contains background information on the case-study itself, and evaluates this methodology.

Second to last, results are presented in chapter 5 in four sections: Radboudumc and innovation in general, patient-centred innovation, the role of routines and implementation of innovation. As such, this chapter shows analysis of data obtained, and structures it according to the variables identified and operationalized before.

Finally, chapter 6 draws conclusions to both sub-questions and the main research questions. Not only concerning innovation in relation to organizational routines in general, but also with regard to Radboudumc specifically. This is followed by both theoretical and practical recommendations, and completed with concrete practical implications and recommendations that are of direct use to stakeholders involved in the case studied.

The very final pages contain a full list of references used throughout the research. Also, the appendix provides a detailed organizational structure of Radboudumc that may further aid understanding of the findings presented and conclusions drawn.

CHAPTER 2: developments in Dutch healthcare and the changing role of patients

“In their role as *phronesis*, the social sciences are strongest where the natural sciences are weakest”, notes Bent Flyvbjerg in his book “Making social science matter” (2010). *Phronesis*, or prudential sense-making, is a value that social science can add in complex settings where natural science falls short. Examples are situations in which multiple contextual factors play a role and patterns are described and interpreted to make sense of observed phenomena. In healthcare, complexity is eminent. This chapter aims to throw some light on the changes that occur. As such, this research bears relevance from both a societal and healthcare perspective. From both points of view, recent developments have led to various challenges, which will be briefly discussed here.

A. Dutch healthcare in motion

Societal trends

It is important to distinguish clearly the role of healthcare in society from a historical perspective. This will enable us to better understand modern day developments. As such, fundamentally, healthcare strives to cure the sick, in an effort to increase people’s health. In turn, being healthy increases quality of life and generally positively affects a country’s wealth by allowing people to increase their contribution to the nation’s workforce (Swift, 2011). The common benefit that a population receives from available and accessible healthcare and the shared need for such care, have turned it into a commodity, or public good. Consequentially, its very nature has justified increasing public provision, and –in the Netherlands- is currently under pressure of incorporating market-derived incentives of competition on quality and costs.

However, before healthcare becoming widely accepted as a public good, it used to be a strictly private matter; its roots lie in centuries of professional authority gained first by medicine men, medieval surgeons to individually operating doctors in 18th century France. Doctors were held in high esteem, belonging to societies’ upper class citizens, together with judges, lawyers and governors. With the art of medicine traditionally came a high degree of respect, influence and money. Doctors were privileged citizens, and the high quality of their work was largely implicit (Ham & Alberti, 2002). Entering into this elite was done by becoming an apprentice and being introduced to the medical tradecraft. The sector was largely self-regulated and doctors long operated from the confinements of their homes. In practice, this meant that patients had to judge by the reputation of the doctor whether they were in good hands.

As such, it was in 1776 that in France, the *Société Royale de Médecine* organized regulated medical education, in response to growing societal unease about the widely varying degrees of quality of the nation’s doctors. Since then, the Aristotelian *techne* of superb technical skills

and knowledge has guided many countries' medical education around the world (Foucault, 1973).

In the Netherlands, the 2006 healthcare reform act has shifted the institutional landscape towards a more market-oriented system. Whereas healthcare providers were long public, the 2006 reform has seen the coming about of ever more private providers. This is characterized by the emergence of many small scale newcomers, like private specialized clinics and primary care physicians joining forces in local areas. Competing with the vested interests of large scale medical all-rounders, larger hospitals are being forced to improve on their business in terms of costs and quality to deliver high value care.

Following this shift from public to private healthcare, countries in which healthcare is a public provision have seen related expenses rising, mainly due to the effects of societal ageing and technological advances (De Meijer, Koopmanschap, O'Donnell, & Van Doorslaer, 2012). In illustrating this point, taking a glance at the below figure 1 illustrates the rise in cost (OECD, 2013).

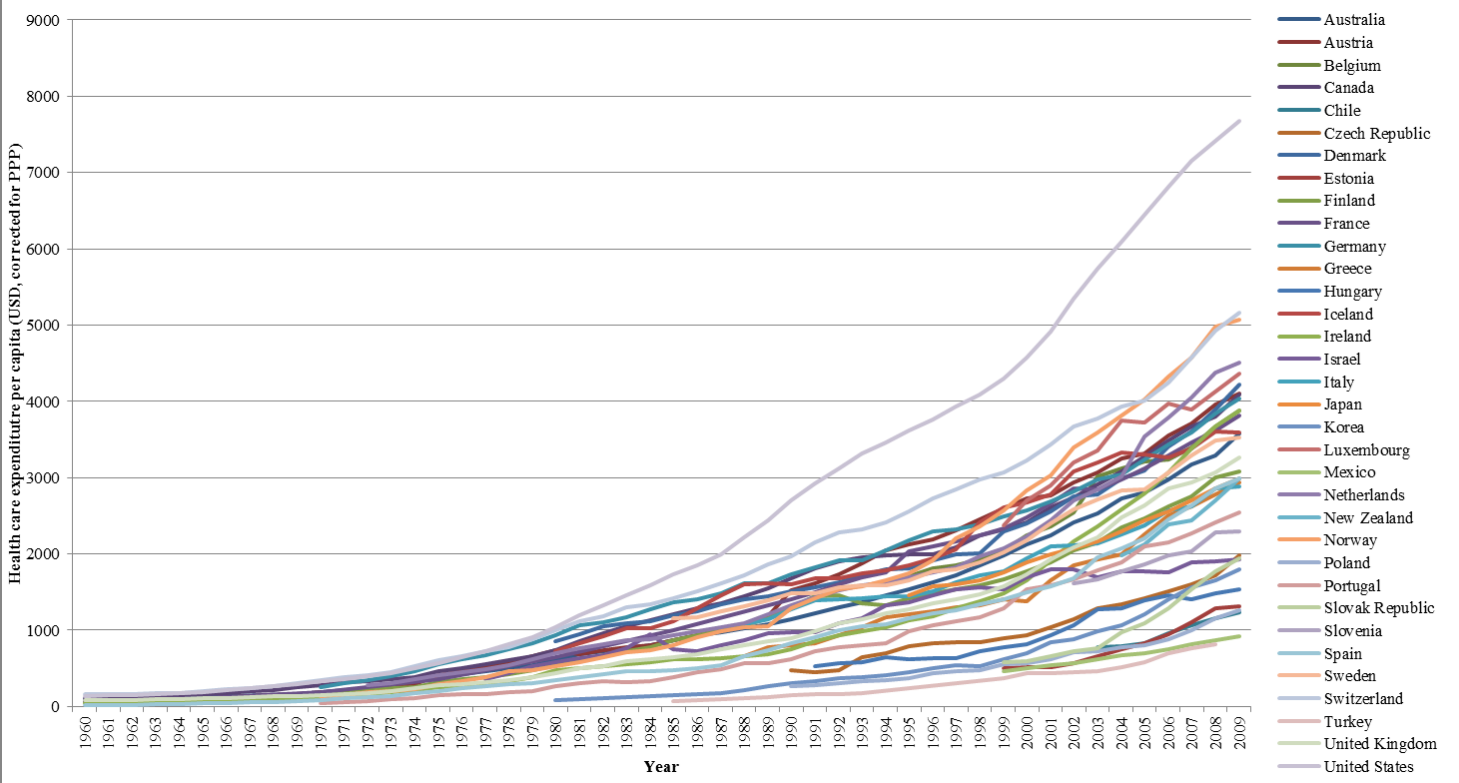


Figure 1: trends in total healthcare expenditures country per capita in USD, indexed for purchasing power parity (OECD, 2013).

The above figure 1 shows the rapid rise in healthcare cost per capita for the various OECD-countries. According to the same dataset, OECD-countries in 2010 spent on average 9,7% of GDP on healthcare. Among this group, the Netherlands scores second to top, with 12% of GDP spent. The relatively largest spender in 2010 were the United States, with 17,6% of GDP spent on healthcare (OECD, 2013).

In addition to these rising costs, the Dutch healthcare sector shows several other relevant trends: the role of the government, financing and demography. Firstly, the traditionally dominant role of the national government has seen a gradual decrease since the implementation of the 2006 healthcare reform act, which stipulates that private health insurers provide a compulsory and standardized basic coverage. In addition, health insurers may opt to sell additional coverage against competitive prices. Accordingly, health insurers have been given both the societal position and incentive to compete for clients on the basis of both quality and costs, thereby to a large extent reducing government influence to quality control and competition regulations. Also, increased European regulatory interference has, in combination with larger patient influence (through the healthcare reform act), led to more consciousness among healthcare providers of the risk of losing market share. Finally, these developments constitute a trend of more transparent and more demand-driven healthcare.

As a result, the healthcare sector has seen a shift from a bureaucratic (after Weber) logic to the a more market oriented logic. Three developments account for this; a new market structure, a financing shift from budget- to volume based delivery and a changing demand for care. Firstly, the healthcare market can be perceived as consisting of three different markets, delimited by patients, health insurers and care providers involved: a health insurance market, a care delivery market and a market of purchasing care. The below figure 2 shows how these actors and markets are interrelated. As such, patients contract health insurers for an insurance package. In turn, health insurers negotiate contracts with care providers to deliver care, based on both quality and costs. Finally, patients and care providers meet in the process of delivering care; the common interaction between patients and medical staff.

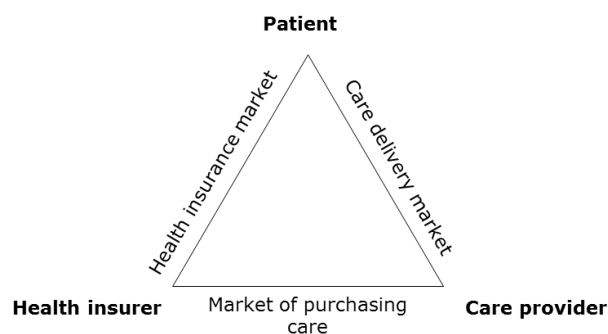


Figure 2: structure of the Dutch healthcare system, distinguishing three markets (adopted from Van der Kraan, 2006)

Secondly, Dutch healthcare has seen a shift from budget-based to volume-based financing. As such, medical professionals are no longer financed in bulk but driven by the number and type of the various activities they perform through so-called “care products”. In determining the amount of funding, care activities performed by doctors are digitally aggregated in care products by an external (nation-wide) “grouper”, based on which the hospital is refunded costs per care product, which is in turn based on the yearly negotiated price set between the hospital and health insurers.

Thirdly, demographic trends have far-reaching effects on the demand for healthcare. As such, the ageing population will reach its peak around the year 2040, when the size of the

population which is 65 years and older will constitute 43% of the Dutch potential labour force (Alders, Maarten, 2012). This development leads to an increasing number of care-needing elderly and places additional budgetary pressure on the shrinking labour force. In addition, a steadily increasing life-expectancy increases the chance of contracting illnesses, leading to additional rise in demand in the long-run. These changes in demand are facilitated by both health care insurers and providers. In the various markets, arrangements adapt to changing circumstances, generally without government intervention.

Healthcare trends

In addition to the above trends that are to a large extent influenced by societal changes, there are also several trends that are more healthcare specific, like technological developments, changing organization of care, increasing influence of insurers and patients, a changing position of the doctor (professional, organizational and financial) and increasing managerial professionalization.

Firstly, technology being in continuous rapid development, pressure on hospitals is increased to adopt new and naturally expensive methods and equipment. In practice, this can lead to conflict between hospitals and healthcare insurers. For example, a hospital buying a (specialist-incentivised) million-costing advanced operating-robot for treatment of prostate cancer, may have to amortise this equipment within several years. Depending on the total number of patients treated with the machine, the health insurer is faced with a change in costs. In case these costs receive an unacceptably high level (i.e. are not agreeably cost-effective), the insurer and the hospital management may disagree over who is to take the burden.

Secondly, the organization of care undergoes several changes. Especially in university medical centres (UMCs), organizational dynamics form a complex whole, in line with the tripartite mission of delivering top-clinical care, research and education. Driven by the abovementioned exogenous developments, many UMCs are “shifting from management through divisions (larger clinical and research groupings of several departments) toward management through departments (smaller groups typically based around medical specialties)” (Davies, Tawfik-Shukor, & De Jonge, 2010). In addition, the in 2006 ratified healthcare reform act has indirectly led to an increase in administrative burden for many medical professionals, leading to a rise of hospital-wide data-warehouses and complex IT-projects.

Thirdly, the situation in which the patient is at the doctor’s mercy is gradually evolving towards a more level interplay between doctor, insurer and patient. As such, in line with the 2006 reform act, insurers increasingly make use of their positions as selectors of high quality care against competitive prices. In addition, the rise of the Internet and education has led to patients’ increasing consciousness of their ability to choose between different care-deliverers. These two trends have had their impact on hospital-supplied care (CPB, 2011).

Fourthly, the position of the doctor within the hospital undergoes professional, organizational and financial developments. As such, the increasing adoption of the seven-competency CanMEDs-model in Dutch UMCs signifies increased need for multi-competent medical doctors (Borleffs J. , 2012 & Croiset & Daelmans, 2012 & Ten Cate, 2012). Whereas the traditional Aristotelean *techne* was educationally perceived of as the largest virtue, the CanMEDs-model includes additional competencies to meet the earlier described exogenous trends. The model's seven competencies enable doctors to be communicators, collaborators, managers, health advocates, scholars and professionals at once (Frank & Danoff, 2007). In addition, organizational developments affect the doctor through the continued need for aligning both doctors' and hospitals' values and demands. This process is characterized by a limited perception of doctors' responsibility for their respective hospital's sustainability, and increasingly leads to a tension between doctors and hospital management over strategic issues (Van der Pennen, Berden, Castelijns, Vreeman, & Camps, 2010). Also, Noordegraaf (2007) recognizes a transition from "pure" to "hybrid" professionalism, in which medical professionals have moved from "highly-educated and white-coat workers who have learned to apply abstract, general, or esoteric knowledge to specific, individual cases and problems" to professionals operating in "organized, interdisciplinary settings that cannot be organized easily". Finally, the traditional divide between salaried and self-employed doctors in specialty-specific partnerships is –in light of increasing budgetary pressures- shifting towards healthcare organizations in which all doctors receive a monthly salary. The accompanying perceived loss of financial independence may lead to ever more discussions over strategy, funding and overall responsibility for care.

Fifthly, increasing specialisation of clinics and hospitals to so-called super-specialisations (expertise in an area within the traditional specialisations) may lead to a more pressing need for smooth care organization. Namely, the already existent limited interdisciplinary practice among current specialisations may come to rely on smoother transmission of patient-data and sharing of knowledge among doctors of different specialties.

Sixthly, and at the other end of the chasm, healthcare managers have increasingly professionalized. The constitution of several professional associations enables managers to enrol in professional-specific educational programmes and define codes of conduct. Nevertheless, heterogeneity in managerial schools-of-thought is present throughout the sector (Noordegraaf & Van der Meulen, 2008).

The above societal and healthcare trends show that the Dutch healthcare system is and will in the future be heavily influenced by both exogenous and endogenous trends. From the perspective of healthcare organizations, both trends lie outside their sphere of influence; exogenous trends like ageing are not solely affecting healthcare, and also endogenous trends are hard to alter as an organization individually. As such, both cannot be easily changed and each lead to challenges that have to be faced. More specifically, the abovementioned challenges may be divided into three levels: macro, meso and micro.

Firstly, on a macro-level, the interplay between doctors, insurers and patients poses challenges for competition between care providers based on quality and costs of care. Arming themselves

against external scrutiny by insurers, hospitals struggle to create transparency on costs and quality, notwithstanding the ever-continuing debate among their doctors on how to define such quality. Meanwhile, society brings about new paradigms, ranging from an increasingly political consensus of primary care as the country's most valuable asset to the emergence of integrated care (e.g. for diabetes, COPD and asthma).

Secondly, on a meso-level, exogenous trends lead to issues of coordination faced by managers to handle. With increasing competition, care organizations are forced to make the move from being generalists to becoming super-specialists, excelling and profiling the organization in a limited number of areas. One of the consequences of such deliberations is an increasing number of mergers and bankruptcies, let alone internal power struggles between medical specialists and managers. One example of such profiling is found in UMCs differentiating their profiles, such as the Radboudumc in proclaiming their patient-as-partner-approach. Nevertheless, such normative profiling occurs independently of hospitals' governing structures, as observed by Davies et al. (2010) in their coining of "mimetic isomorphism"; the gradual convergence of organizational models by Dutch UMCs.

Thirdly, on a micro-level, the interaction between doctors and patients is affected through limited time for consultation (due to increased administrative pressure) and higher demand for patient-centred care (due to increased patient-autonomy). The situation provides a challenge for doctors to accommodate this trend, in which they rely both on their professional capacities and organizational support. Another development taking place on the organizational level is the gradual appearance of privately funded hospitals and outpatient clinics. With the implementation of the 2006 reform act, hospitals yearly negotiate deals with health insurers to secure funds for treatment price, quantity and quality. This has allowed for a slow inflow of entrepreneurs, taking over hospitals in financial despair. For outpatient clinics, private initiatives arise mainly in the area of uninsured care. Both trends have in common that they fundamentally shift the organizations' hierarchies; managers in some cases become true owners and doctors consequently must surrender part of their autonomy. Nevertheless, this development to some is at odds with the public role that hospitals and clinics fulfil in society. Healthcare organizations stand by in anticipation of treating patients, and are subsequently relied on by all of us. This implies that a hospital about to go bust (and thereby cease to exist) will cause turmoil in the area (is our access to healthcare at risk?) and may be considered too important to fail.

In conclusion, we find that each individual trend leads to challenges on its own. Challenges that must be faced by the organizations they affect, and can be expected to greatly start influencing the current ways of working at different points in time and in different gradations. In general, this creates insecurity, increasing the chance of lagging investment decisions, lay-offs and overall unrest within healthcare organizations. All of these effects are undesirable, as they may lead to stressful episodes, increases in sick leave, lower trust and overall worse value of care. Table 1 attempts to summarize these findings.

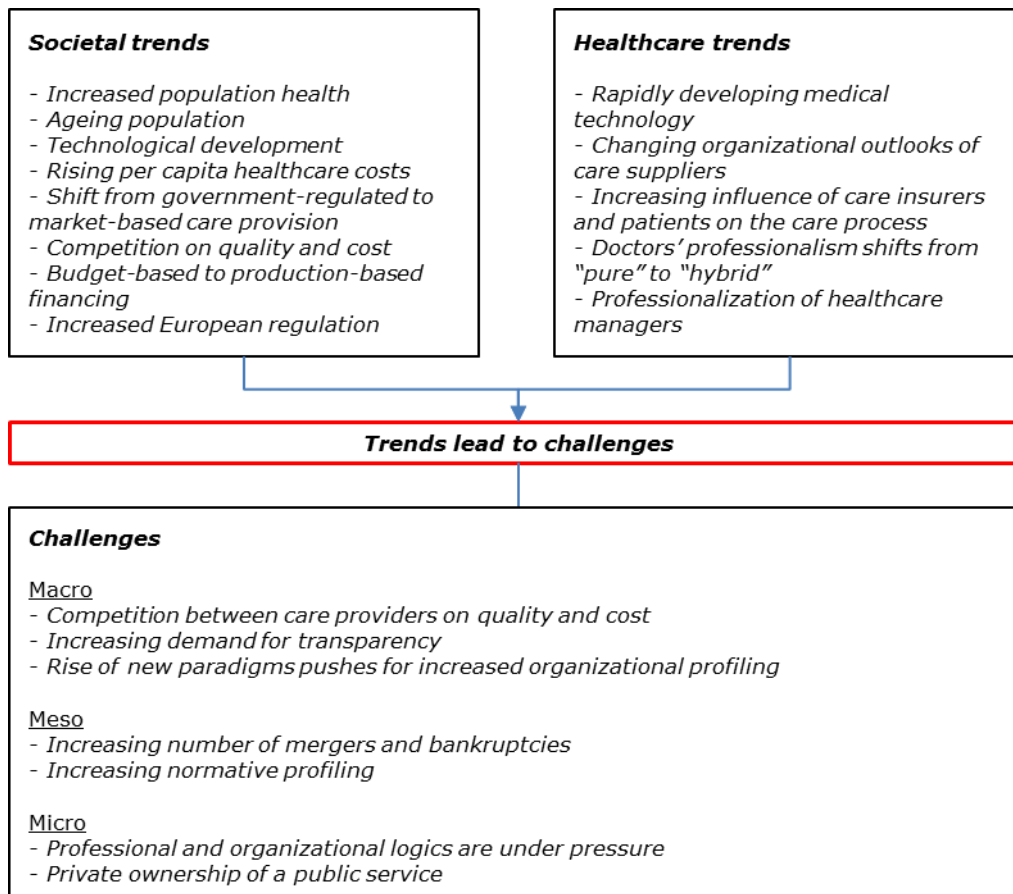


Table 1: summary of societal (exogenous) trends, healthcare (endogenous) trends and derived challenges

B. Towards patient-centred healthcare

As shown, trends lead to challenges and ask for change. In addition, as we have already briefly touched upon, change in healthcare is difficult. We will discuss this in greater detail later. One type of change is innovation. In particular, innovation is known as one of the prerequisites to thriving business. Market forces have proven this a fact in private *and* public organizations, their increase in strength leading to public organizations having shifted gears in answer to increasing competition. Among these reforming public organizations, hospitals struggle to take on a tack where patients become more involved in their treatments: patient-centred care.

This struggle is both puzzling and understandable. On the one hand, if care is about treating patients, why would putting that to practice be a problem? On the other hand, it is our perception of healthcare that may hold us back from seeing that healthcare is not about white coats in huge buildings, but concerns the very interaction between a patient and his doctor. In order to understand this, consider the role that healthcare has in our lives. It is true that most people are faced with decisions about their health on a day-to-day basis; what do we eat, how much do we drink and when do we exercise? Nevertheless, when someone contracts an illness, he or she becomes a patient, and mostly involuntarily enters a system of protocolled medical practice. It is in this medical practice that the patient is often denied the self-

management of their lives. Indeed, it is generally the doctor and his staff who decide upon the treatment you will receive, depending on your age, weight, blood group and medical condition.

However, these observations do not imply structurally unhappy patients in exclusively authoritative hospital environments. After all, matters of life and death do not easily allow for careful deliberation of temporary restrictions of freedom. Rather, it describes a situation in which doctors are visitors in their patients' lives, guardians of peoples' temporary incapacity to solve their medical problems on their own. It is from this perspective that patient-centredness is increasingly believed to change medical care for the better. Examples of increasing patient-centredness can be found in involving the patient in decisions surrounding his or her treatment, asking for feedback and allowing the patient to have their fair share of responsibility. Especially for chronic conditions, small changes may have prolonged effects on patients' perceptions of healthcare and increase the quality of life that results from it. Examples of such influences can be found in the relative risk associated with different surgeries; irrespective of the doctor's professional opinion, the degree to which patients prefer to endure such risks unavoidably varies.

Contributing to the quest for quality, the American Institute of Medicine released a 2001 report titled *Crossing the quality chasm*. This report identified the patient as "a source of control" and recommends the health system "should be able to accommodate differences in patient preferences and encourage shared decision making" (Institute of Medicine, 2001). Their interest in involving the patient as a partner in the care process is drawn from empirical research, which shows that involvement of patients in the decision-making processes surrounding their treatment yields promising results in terms of cost containment as well as improvements in quality of care and patient satisfaction. As such, the use of patient-decision aids (PtDAs) has already been found to "improve decision quality and prevent overuse of options that informed patients do not value", concerning choices between several more conservative and more aggressive forms of surgery (O'Connor, Llewellyn-Thomas, & Flood, 2004).

However, patient-centred innovation is easier said than done. Assuming a desire to make the patient a partner in the process of care, both professionals and health organizations have to shift gears and not carry on with business as usual in order to make such innovation a reality. Several of these changes have already been identified in academic literature. We will briefly touch upon them here. Firstly, it must be defined what can be considered as high quality care and, accordingly, which results can be regarded as "good outcomes" (Guyatt, Montori, Devereaux, Schunemann, & Bhandari, 2004). Secondly, any attempts at reform should take into account the "patient-centeredness of patients (and their families), clinicians and health systems" (Epstein & Street, 2007, 2011 and Epstein, Fiscella, Lesser, & Stange, 2010). Thirdly, education of doctors must be shifted towards accommodating the patient-centred approach through training of professional capacities (Epstein & Street, 2011). Fourthly, infrastructural adjustments need to create an organization that facilitates this work (Epstein, Fiscella, Lesser, & Stange, 2010). Fifthly, it must be taken into account that achieving patient-centred care implies taking the hurdle of correctly measuring outcomes. Indeed, a doctor

asking the patient “Any questions?” after the consultation will receive different feedback than a doctor asking the following:

“I want to make sure that I’ve helped you understand everything you need to understand about your illness. Patients usually have questions because it can be complicated. Could you tell me what you understand, and then I can help clarify?” (Epstein & Street, 2011).

These aspects of patient-centred care are closely related to the societal and healthcare trends as described before. For example, a definition of what good quality care is, is at the moment not financially viable; Dutch insurers and providers are rewarded mostly for quantity. In addition, our ageing population implies changing of living arrangements and informal care provision. As such, what can be seen as patient-centred now may not be sufficient in several years’ time. Also, the aforementioned healthcare trends and requirement of professional patient-centred training and infrastructural adjustments are no easy feat at times when professional and organizational capacities are under pressure and already changing. As such, requirements of patient-centred care can be said to be a complicating factor in the organization of care; already having to face the challenges as summarized in Table 1 before, the ambition to be patient-centred leads to greater complexity, increasing the need for fitting solutions.

One example of a hospital fighting this battle is the Radboudumc in Nijmegen. This academic hospital is currently making a name for itself in the Netherlands as one of the key advocates of patient-centred care. As such, its two projects *ParkinsonNet* and *MijnZorgnet* revolve around online communities for patients, carers and doctors alike. In addition, the hospital has formulated the ambition to bring the innovative capabilities of the organization to greater heights by an organizational climate that facilitates such innovation. We will elaborate on their specific actions later.

It is worth noting at this point that research has been done on the *MijnZorgnet*-communities before. Namely, Vennik et. al (2014), conclude that patients “perceive professional information as authoritative and therefore more reliable, but at the same time too limited”. In addition, “peer information may be less reliable, but nonetheless relevant to the individual situation” (Vennik, Adams, Faber, & Putters, 2014). As such, the study argues that most of all combining information from both professionals and patients is essentially the added value of such communities (Vennik, Adams, Faber, & Putters, 2014). A second study takes a different angle, and concludes that communities “lead to improvements in both the organization of care and the care experience” (Aarts, et al., 2014). Combined, the conclusions of these two studies suggest that catering to patients’ needs is achieved; the concept itself seems to be of added value. If this effect is strong, it would suggest that involving patients is relatively easy. But can patients unlock this added value to themselves in a way that allows them to make full use of it? We will come back to this later.

C. Assumptions

Before coming to a workable research question, some terms that have been used above require clarification. In doing so, and because of this research' focus on organizational routines, we will refrain from defining the ever hotly debated “quality” of care that such innovations are thought to increase. The reason for doing so is that a uniform agreement as to what constitutes high quality care, does not yet exist. Of course, endless lists of process and quality indicators do, but to determine whether the patient has received good value care, costs have to be taken into account too. At this moment, Dutch healthcare organizations have not yet adopted a uniform (and thereby meaningful) way of measuring this. And even if they had, the factual improvement on quality can be offset by the perceived improvement on quality; if quality shows on paper but is not accepted by staff involved, its use is only symbolic. Instead, it will be assumed that there is a positive relationship between patient-centeredness and quality of care. For now, we will first come to a definition of what an organizational routine is, followed by developing criteria for success and failure of patient-centred innovation.

Secondly, the aforementioned changes that organizations are presumed to undergo in order to create innovation, rest on the assumption that success and failure of such innovations can be made measurable. Of course, a clear distinction between success and failure may not be black-and-white in practice. Alternatively, we may perceive of the success of a particular innovation as the degree to which it succeeds in creating more patient-centeredness. After all, it is the aim of achieving a higher degree of patient-centeredness that drives such innovations, with the underlying promise of increasing quality of care in doing so. The extent to which patient-centeredness is achieved, is therefore reflected by the observable effect of a particular innovation on this concept. Subsequently, in order to make the concept of patient-centeredness tangible, it must be broken down to several indicators; what exactly is meant by patient-centredness?

In its aforementioned 2001 publication *Crossing the quality chasm*, the American Institute of Medicine established six aims for a 21st-century healthcare system: safe, effective, timely, efficient, equitable and patient-centred (Institute of Medicine, 2001). In doing so, patient-centeredness was defined as follows:

“Patient-centred care is care that is provided in a way that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions” (Institute of Medicine, 2001).

Patient-centred care in this sense, refers to the process of providing care from the perspective of virtue theory: patient-centredness judged by observed behaviour, rather than premise or result.

Following this definition, patient-centredness must show in the doing itself. In search of how it can be recognized, six dimensions can be described (Gerteis, Edgman-Levitan, & Daley, 1993 and Institute of Medicine, 2001). This research will only make use of these dimensions in the selection of cases available for analysis of organizational climate. In doing so, the following indicators were derived from each of the five dimensions. These criteria will be

used to judge available cases on their incorporation in this research, as adapted from the Institution of Medicine’s 2001 report. To this end, table 2 below provides a practical scorecard.

<i>Dimension 1: Respect for values, preferences and needs of patients</i>
Opportunities are provided to patients to be involved and informed in decision-making processes surrounding their treatment, and caregivers are guided and supported to attend to the patients’ physical and emotional needs.
<i>Dimension 2: Coordination and integration of care</i>
Patients are involved in the transition between different care-settings (e.g. from extramural to intramural care).
<i>Dimension 3: Information, communication and education</i>
Patients receive full and understandable information concerning their treatment (i.e. diagnosis, prognosis and options), and have flexible and low-level access to this information.
<i>Dimension 4: Physical comfort</i>
Patients receive timely, tailored and expert management of pain symptoms.
<i>Dimension 5: Emotional support</i>
Patients receive timely and tailored emotional support.
<i>Dimension 6: Involvement of family and friends</i>
Family and friends are involved in the care process, supported as caregivers and made welcome and comfortable in the setting of care-delivery.

Table 2: derivation of observable indicators for success of patient-centred innovation as defined by Institute of Medicine (2001) and Gerteis, Edgman-Levitan, & Daley (1993).

Finally, case selection through application of these criteria will be elaborated on in the research design section of this paper. Accordingly, cases can be evaluated as having high, partial or no effect on each of these indicators and accordingly be considered either a highly successful, partially successful or non-successful innovation in terms of patient-centeredness.

In summary, this section has laid-out various societal and healthcare trends that lead to pressing challenges for organizations active in the healthcare sector. Not all trends develop at the same pace, but change is imperative for organizations to last. The challenges occur at different levels. As such, on the macro level, there is a divide between quality and cost, an increasing demand for transparency and a market-incentivized requirement to build a public profile. This leads to friction on the meso-level, where individual organizations must compete,

either join forces or go bankrupt and start branding themselves. But also the micro level, where actual healthcare is delivered, experiences pressures from outside; professional and organizational logics are under pressure and the conflicting interests of private entrepreneurship and public goods become apparent. One way of coping with these challenges is moving towards more patient-centred healthcare. Healthcare in which the interests of the patient is leading the way healthcare is organized. Driven by the need to change. This development is no less than a paradigm shift. Making it work requires insight in how to change, or innovate.

In conclusion, this chapter has shown that pressure within the healthcare sector is rising. Not only because of budgetary limitations and other societal trends, but also as a result of long-term trends specific to the healthcare sector itself. As we have seen, this pressure is mounting, and thereby affects healthcare organizations through challenges on different levels, each for their own reasons. In search for a way to stay afloat in their changing environment, change is needed. And patient-centred innovation is one way to go about such change. But that is in no way easy, as healthcare is no ordinary good and patients are no ordinary customers. Care organizations struggle to implement such change and face the challenges they need to. These problems should be taken seriously, as they threaten values of quality, accessibility and affordability of care that today's western societies hold in high esteem. Failing to meet these challenges should therefore be avoided. The next chapter will develop a theoretical framework that allows us to analyse current gridlocks and find the key to the successful innovation needed.

CHAPTER 3: innovation and organizational routines

Innovation is at the core of many a thriving business, and is inherent to adding value to existing providers. Companies that add the highest value can gain the largest share of the market. Doing so successfully are several companies residing in the so-called “Asian tigers”, countries like South-Korea, Taiwan and Singapore that have brought about thriving businesses. As such, when talking about innovation, it proves useful to take a look over the fence at our Asian counterparts, who are in a race to catch up with years of growing Western economies. For instance, take the well-renowned Professor Emeritus Ikujiro Nonaka at the Japanese Hitotsubashi University Graduate School of Corporate Strategy. Having experienced World War II, professor Nonaka lived to see the Japanese resurrection (post 1945), when Honda, Canon, NEC and Sharp matured in his backyard. In a well-cited publication from 1991, Nonaka regards innovation as the root-cause of these companies’ success, and defines innovation as “re-creating the world according to a particular vision or ideal” (Nonaka, 1991). He further elaborates in Japanese management philosophy of organizations as living organisms rather than Western counterparts as information processors, and describes both the importance and difficulty of translating tacit (informal) knowledge to explicit (formal) knowledge.

However, we may well say that innovation takes place in all organizations, and may be the cause or consequence of a deviation from the status quo (Peyton Young, 2011). In addition to this technical definition, it can be considered actions that lead to a more desirable way of working; innovations are generally considered successful if they are beneficial to the organization’s results. As such, innovation is the creation of additional value that stems from successful adoption of a concept or plan (Koen, Bertels, & Kleinschmidt, 2014). Additional value may once be measured financially, but sometimes appears as a technological advancement, new managerial practice, etc. Also, service innovations put not the organization at first, but the customer itself (Bettencourt, Brown, & Sirianni, 2013). And apart from telling one flavour apart from another, innovations do not come about in a uniform manner (Burns & Stalker, 1994).

A. Theory on innovation

In some lines of business, innovations occur on a daily basis. Take the microchip manufacturing industry. World-leading manufacturers like the American company IBM and the Taiwanese company TSMC are in a race against the clock to deliver more advanced technology on a daily basis. In fact, technological innovation lies at the base of their business models; without continuing innovation, the race to the top cannot be won (Tushman & O’Reilly, 2013). The upside of this is that breakthroughs are quickly translated to increasing volumes of chips sold, aiding the attempts of expressing its additional value in monetary terms. Following from this necessity, such technological companies are geared towards making a profit based on technological innovation (Tushman & O’Reilly, 2013).

Another line of business in which innovation is dominant, are pharmaceutical companies. With their billion-costing research and development departments and very long lead times, new drugs must be sold against the highest possible price to be able to finance other products in the long run. In this sector, successful innovation translates to a higher turnover, albeit the time lag of several years. But still, is innovation simply a successful improvement, expressed in any unit of choice?

How preventing scurvy took 264 years to become common practice

One example of an innovation which was long not even recognized as such, is the finding of the remedy against scurvy by Captain James Lancaster. During the 15th century, the time and age of Vasco da Gama's three historical voyages, scurvy was still a very common disease. Deficiency of Vitamin C would, amongst other symptoms, cause sailors' gums to turn soft, teeth to fall out and eventually be the cause of death of many a poor sailor. As such, it was commonly accepted that more than half of the men on long voyages would not reach port due to this very affection. However, Captain James Lancaster was the first to start experimenting with lemon juice in 1601, forcing his men to swallow three tea-spoons of lemon juice a day, as long as the voyage would last (Berwick, 2003). The results were remarkable; compared to hundreds of deaths on competing voyages, his ship lost none of its sailors (Kodicek & Young, 1969). This would seem to be the end of scurvy altogether; avoid Vitamin C deficiency and the problem is solved. Nevertheless, it took the sailing business another 264 years to adopt a British navy-wide policy providing Vitamin C to all of their sailors, an astonishing amount of time.

Innovator-by-heart Donald Berwick, former administrator of the centres for Medicare and Medicaid services and former head of the US Institute for Healthcare Improvement, compares the pace by which the remedy against scurvy became common practice with the way innovation disseminates in healthcare: "even when an evidence-based innovation is implemented successfully in one part of a hospital or clinic, it may spread slowly or not at all to other parts of the organization. These organizations and staff act more like the British Navy" (Berwick, 2003). As such, we have now seen that diffusion of innovations may not be straightforward. At the same time, we could imagine that this depends for a great deal on the innovation in question, more specifically its nature. Do different types of innovation exist?

Types of innovation

No two innovations are similar, but common denominators have been pointed out in literature, and perceive of innovations in different dimensions. As such, one dimension of innovations is characterized by a split between product and service innovations. Whereas product innovations are of a technical nature (in healthcare terms referring to new diagnostics and therapies), service innovations span a range of innovations in which the patient is the primary subject to which value is added directly. The thinking between product and service

innovations is relatively new, and is gradually replacing the dominant paradigm of products and systems (Nijssen, Hillebrand, Vermeulen, & Kemp, 2006). Nijssen et al. (2006) accredit the following characteristics to service innovations as causing the divide between the two types: intangibility, result of a co-production with 'customers', simultaneity, heterogeneity and perishability. In attempting to describe companies' willingness to change, indicators of so-called "willingness-to-cannibalize" or willingness as to "the extent to which firms are prepared to reduce the actual or potential value of their investments for creating and introducing new products and services", boil down to: current sales, prior investments and organizational routines (Nijssen, Hillebrand, Vermeulen, & Kemp, 2006). It is here that an organization's willingness-to-cannibalize or propensity to innovate is rooted.

A second possible dimension of innovations is the range from incremental to radical innovations. Irrelevant to the innovation being product or service oriented, incremental innovations develop step by step, whereas radical innovation creates a shockwave throughout the particular (part of the) organization affected. The advantage of perceiving of innovations in this way, is that both extremities refer to both advantages and disadvantages that may suit one organization better than the other. Nevertheless, Dewar and Dutton (1986) already described the difficulty of strictly defining both concepts; the radicalness (or incrementality) can be measured either in units of time taken for an innovation to be implemented, the risk associated with implementing it, the knowledge component associated with it and their moment in history. As such, in addition to the two existing extremes, there exists a continuum between the two (Hage, 1980; Dewar & Dutton, 1986). Indicators of this dimension are roughly the way in which knowledge is distributed throughout the organization, "managerial attitudes" and the "centralization of authority" (Dewar & Dutton, 1986).

Thirdly, it is possible to perceive of innovations as being either sustaining or disruptive. As such, sustaining innovations are innovations that improve on an existing product or service, by making it smarter, faster, cheaper, more easily accessible, etc. Think of cars in which new equipment enhances the "driving experience" and generally makes driving more comfortable. Pharmaceutical companies generally do the same, by improving on existing medication to sustain their business and generate higher revenue. It is only occasionally that they introduce new products after years of expensive research. These are disruptive innovations, which "create an entirely new market through the introduction of a new kind of product or service, one that's actually worse, initially, as judged by the performance metrics that mainstream customers value" (Christensen & Overdorf, 2000). Christensen & Overdorf (2000) further develop the consequences of this definition and conclude that organizations which want to implement disruptive change, new professional capabilities can be acquired in one of the following three ways: create new organizational structures within existing corporate boundaries, create a separate and independent organization with the new capabilities required or acquire a different organization similar to the capabilities desired (Christensen & Overdorf, 2000). In line with this observation it is found that such competencies and innovation are inextricably linked (Freel & De Jong, 2009). We will elaborate on these findings later.

Fourthly, innovations can be seen in terms of a creative process that does not necessarily evolve in sync with the formal process of implementation. Academic literature addressing this

dimension is of a pluriform nature, ranging from “combinatoric innovation” in which intellectual capital from different sources enters a creative process (Iske, 2013) to an account of the process by which creativity proceeds implementation, in which predominantly the integrative aspect of group processes is deemed important (West, 2002). Similarly, innovation requires interaction and collaboration between organizations involved in both processes (Dias & Escoval, 2012), especially in terms of knowledge (Tödtling, Lehner, & Kaufmann, 2009). As such, the denominator of much of the academic literature is the shared belief of the relevance of both the creative process as the process of implementation.

It is important to note here that, despite of the four dominant types as described above (see table 3 below), many variations on the theme exist and are in daily use by different industries. This is to say that the typology of innovation presented in this paper, must not in any way attempt to capture the wide range of innovations that exist, and nor does it need to; innovation as a social construction may appear in different forms depending on the observer’s point of view.

Types of innovations	References
Innovations... ... are either <u>product</u> or <u>service</u> oriented, ... can be <u>incremental</u> or <u>radical</u> , ... are either <u>sustaining</u> or <u>disruptive</u> , ... and require <u>new ways of thinking and interacting</u> in any case.	(Nijssen, Hillebrand, Vermeulen, & Kemp, 2006) (Dewar & Dutton, 1986; Hage, 1980) (Christensen & Overdorf, 2000; Freel & De Jong, 2009) (Dias & Escoval, 2012; Iske, 2013; Tödtling, Lehner, & Kaufmann, 2009; West, 2002)

Table 3: summary of four typologies of innovation

How and where innovation takes place

According to Christensen, Grossman and Hwang (2008), hospitals currently function in the sense that they will do “everything for everybody”, while the nature of current-day healthcare is significantly different, in the sense that some patients arrive with a request for diagnostics (what is the problem?) and others need specialized care (now I know what the problem is, can you fix it?). The very intermingling of these two different *business models* has created organizations that are “most managerially intractable” (Christensen, Grossman, & Hwang, 2009).

In general, innovation can take place on different levels: institutional, sector, organisational and technological (Den Breejen, 2011). Whereas institutional- and sector-level innovations are all-encompassing horizontal, technological innovation applies to those who implement the new technology and organisational innovation refers to innovation in hospitals themselves. One of the reasons for making this divide is that some innovations are successfully implemented on one level, but fail in the other (e.g. a best practice that works for an integrated team of specialists may not necessarily spread to teams in other hospitals). This paper will focus only on the organisational level of innovation.

In addition, it is important to realize in what ways hospitals are different from other lines of business. Whereas regular business attracts customers, hospitals serve patients that arrive voluntarily but (presumably) because they have no choice. Patients who generally do not know what they suffer from, let alone how to treat it. Patients who do not know what the price is of the care they receive, and if they did, possibly could not pay for it on the spot. Patients who experience a permanent lack of information in relation to the doctor who treats them. So much for buying bread at the bakery, where we know exactly what we want, when we want it and what we need to pay to obtain it. But the most striking difference: bread does not usually get you killed, where medical error does. Hospitals, in other words, are unique locations that accommodate the interaction between patients and doctors, providing a supporting environment to treat the patient successfully. And although not everyone may take the same view as Christensen, Grossman and Hwang in the sense of their business model-view, consensus exists over at least the complexity of these organizations, which for one we require to deliver state-of-the-art healthcare. For this, innovation logically is a bare necessity, but how does this work out in the complex nature of these organizations?

At large, secondary healthcare providers largely come in either of three forms: academic hospital, peripheral hospital and outpatient clinic. The difference between the three stems from the different services they provide. As such, outpatient clinics are mostly privately funded, small-scale organizations that specialise in one particular area of medicine. Staff working at these clinics at times also works in larger hospitals. Next, peripheral hospitals deliver general healthcare, providing a wide range of treatments for a larger population. These hospitals are mostly publicly funded, mid-sized organisations and in public ownership. Finally, academic hospitals are the largest of all clinics and deliver so-called top-clinical care, to patients who require the most advanced care and cannot be treated elsewhere. These latter organizations are always publicly funded, enjoy close ties with universities and receive additional funding for complicated treatments and medical research. They also function as educational institutes, and are generally home to an array of medical professors. It is these hospitals that set the stage for this research.

We must note that such academic hospitals are a type of its own. Whereas we saw earlier that Christensen et al. (2008) pledged for a clear divide between two different business models (diagnostics vs. specialized care), academic hospitals are large, internationally renowned institutes, providing employment to a large workforce. Their multiple functions (top-clinical care, research and education) have led to complex organizational structures, although their very scale leads to important advantages in terms of capacity, expertise and financial leeway. However, at the same time, the size of these organizations may inhibit innovation in various ways. For one, the sheer number of employees makes it hard to alter existing value networks. These networks are present throughout the organization and are unique to the various residing departments.

From the perspective of innovations, this poses several issues, as argued by Berwick (2003). Imagine an innovation that was successfully initiated in one department, let it be a checklist ensuring more hygienic treatment. The department head that has developed the checklist notes it is a strong breach with the “old” way of working, does not rely on past experience and

makes it proverbial child's play to avoid bacterial infections or the spread of germs. After initial hesitation among departmental colleagues, the list was slightly improved and altered to meet individual's wishes, practices and experiences, but has meanwhile become standard inventory. As a result, the number of bacterial infections dramatically dropped at the department, and the hospital's medical director comes down to see with his own eyes what miracle has caused this. Finding out about the checklist, he announces to spread the miraculous innovation throughout the hospital; after all, who could oppose such an easy-to-use and proven concept?

In fact, this is where complications may arise. What to some may seem as a logical and easy step from A (using the checklist at one department) to B (using the checklist at all departments) is subject to so-called "dominant value networks". These networks are formed by routine knowledge, beliefs and a general "the way we do things around here" (Berwick, 2003). When new innovation sprouts, its successful diffusion through other or competing value networks depends on three factors: people's perceptions of the innovation, individual characteristics of the people who will need to implement the innovation and a collection of contextual and managerial factors within the organization itself (Berwick, 2003). This view is shared by Christensen et al. (2008), who distinguish innovational diffusion both horizontally and vertically. Predicting inhibiting factors for the successful diffusion or adoption of innovation arise at three levels. First, the complexity of the innovation plays a role. Complex innovations requiring cumbersome implementations, limited compatibility and observability can be expected to be less attractive than innovations that know easy and swift implementation, are quickly compatible and provide tangible results. A second and underlying level is influenced by the individual values, beliefs, past history and current needs of stakeholders. In addition to the innovation's complexity, these factors can be either enforced or disregarded depending on the individual who has to deal with the innovation. Third and finally, if the innovation's perceived benefit to the respective stakeholder is high, innovations are believed to spread quickly. This benefit, however, is relative; what may be advantageous to one, can be unfavourable to another. As such, successfully implementing complex innovations in large organizations depends on a certain critical mass of stakeholders embracing the innovation, whereby they gradually build a new dominant value network fitting to the innovation in question.

B. Theory on organizational routines

"To understand routines is to understand organizations" (Becker, 2008). With this citation, professor Markus Becker from the University of Southern Denmark kicks off his analysis of the role of routines in determining the ins and outs of organizations. Becker argues that resistance against change to a large extent roots in daily practice; routines that define a particular way of working and are the backdrop against which this research is carried out. The episteme on routines is large, but involves several definitions. One relatively elaborate definition is provided by Feldman and Pentland (2003), who perceive of a routine as consisting of two parts: structure and agency. Whereas structure "embodies the abstract idea

of the routine”, they argue that agency “consists of the actual performances of the routine by specific people, at specific times, in specific places” (Feldman & Pentland, 2003). It must be noted that in contrast to the scholars who consider routines a conservative force in organizations, Feldman and Pentland argue that it is quite the opposite: a driver for change (and innovation). Routines can be found in every organization, and “generate organizational competency” (Feldman & Pentland, 2003) as they embody everything from formal procedures (explicit knowledge) to individual experiences (tacit knowledge). The interpretation of what routines actually are may therefore be subject to interpretation. Some may perceive of routines as fixed objects (e.g. operating procedures or individual habits), while others may see it as a source of power, based on both organizational and professional capabilities. Certain is that routines are functional; they can either minimize (best case) or maximize (worst case) costs and/ or affect managerial control and actual performance.

In terms of innovation, routines may be seen as having both an ostensive and performative aspect (after Feldman & Pentland, 2003). As such, some routines easily catch the eye, such as a judge’s toga and conduct during a trial, the accountant’s ordering of the accounts or referral protocol your general practitioner engages in when referring you to another (secondary) caregiver. These routines, or formal arrangements, are carried out independent of the customer or patient present. What meets the eye is a procedure that is identical every single time, simply because that is the way it was arranged. But in practice, professionals at points resist the ostensive aspect of the routine, and deviate from the track. This performative aspect of routines reveals what is beneath the explicit, and is determined by a combination of the individual’s past experience, preferences and agreement with the ostensive aspect as provided. Any disconformity with the latter therefore results in modification of the routine. Returning to our example of the referring GP, this would resemble the GP adding an extra (non-required) line of information to the referral letter because he believes it relevant for the specialist. Or it may resemble the accountant demanding another checking of the books and more detailed accounts of the financial whereabouts of the firm. Feldman & Pentland (2003) recognize this as endogenous change, by which routines (gradually) develop. Exogenous change can also occur, but is in this theory limited to the ostensive aspect of the routine. Implementing an innovation by changing the guideline or revamping the work-environment is possible but does not guarantee change of the routine itself. The question that remains is how to effectively accomplish change of routine in both the ostensive and performative dimension.

Insight in the role of organizational routines within teams and communities is provided by Becker (2008). He remarks that in the compliance with existing routines (i.e. little resistance to the routine in question), the “creation and distribution of knowledge appear to be inherently and principally linked to the distribution of power and of conflicts of interests” (Becker, 2008). As such, Becker refers to individuals having different “stakes” in the compliance with routines, and the routine thereby becomes subject to power.

This is in line with the concept of “agency” (referring to the performative dimension) of Feldman & Pentland (2003). That insight has dire consequences for the direction of endogenous development of the organizational routine, as it involves –amongst others- the distribution of knowledge as an influencer of motivation and inherent relationships of power.

It implies that “inequalities in the distribution of information are no longer so much considered to be the origin of the mechanisms of governance, but rather the stakes which the dynamics of the creation and distribution of knowledge reveals” (Becker, 2008). As such, failure to recognize the effects of the performative aspect of routines (thereby merely relying on the ostensive aspect) may result in underestimating the role of knowledge, authority, cognitive abilities and professional and organizational competencies in realizing the innovation desired. Crucial in our understanding of innovation is the notion that routines cannot be “exogenously given, but should emerge and evolve in the very process of interaction” (Becker, 2008). This process can be steered, but only when acknowledging the role of communities as denominators to change.

In applying the above insights to studying the adoption of innovations in settings where both the ostensive and performative aspect are explicitly present (as we have seen, healthcare and the judicial system make for compelling examples), the importance of innovation as partly an endogenous process involves recognizing innovation as daily practice. Namely, when innovation is indeed perceived as an intrinsic part of daily work (especially in knowledge-intensive organizations), it should be the organization that optimally enables employees to use their professional competencies and flexibility to organize their working processes in a way that gives rise to *their* innovation. The consequence is that both the innovators themselves as well as the people affected by the innovation must feel that they are partial owners² of the innovation in question, and may assume that they can affect the respective changing routine. Understandably, this presents difficulties to large organizations who wish to unroll a successful best-practice in one department to the organization as a whole; as discussed before, uniformity is difficult to maintain. Think of a judge who wants to deviate from earlier jurisprudence because of the particular context of the case, and fails to convince his colleagues that he is doing the right thing. He may carry on as an independent actor and judge as he wishes, but must then keep in mind the risk of his colleagues not following suit; the verdict may be withdrawn in a higher court and make his effort to innovate jurisprudence fruitless. Overall, organizational routines are complex phenomena that are serious factors in determining the course of organizations (Feldman & Pentland, 2003; Becker, 2008).

C. Managing innovation means managing routines

The above theoretical exposition shows us at least two things: 1) innovation requires change in terms of thinking, interacting and doing and 2) routines to a large extent carry power as solidified interests, and are hard to change due to their multifaceted characteristics. Following from this, theoretically, innovation seems hard to implement when not accounting for the influence of routines. Going about implementation without gauging the influence of routines will not be advantageous to its progress. In other words, managing innovation means managing routines.

² Ownership here is defined as the ability to have a say in or influence on the innovation, in a way that answers to the stakeholders’ perception of what the innovation must reach or should become.

As such, viewing innovation as a practice may provide a largely exhaustive theory of arriving at successful innovation; explicitly recognizing that change in organizational routine (ergo: innovation) depends on both successful ostensive as well as performative change. Either two aspects can be influenced with different tools and presumably thrive well in different situations. In the complexity of intertwined organizational structures are known to possess, finding a solution to this challenge is of vital importance for the organization to be able to achieve its goals. This disposition in itself is not novel. For example, research on perceived inertia in Japanese technological companies already showed that routines can be either a driver (if constructed favourably relative to the innovation in question) or a barrier (e.g. when the innovation is so radical that a change of routine is necessary) to successful implementation of innovation (Collinson & Wilson, 2006). Collinson and Wilson (2006) found that routines in Japanese organizations are believed to traditionally safeguard their function as role models for many a Western company; many management best-practices originate from Japan. However, at times of “highly turbulent environments”, these routines become “rigidities” that do no longer serve the good of the company but create resistance. Indeed, the more deeply rooted the routine, the higher the resistance at times when high flexibility was required. In addition, the larger the number of latent routines (i.e. routines that become active when developed) is relative to the number of active routines (i.e. existing routines), the more “adaptable” the organization becomes (Collinson & Wilson, 2006).

In addition, managing routines must take into account the difference in perception of relevance of the innovation among different staff. This builds on the assumption that perception of strategic decisions and apprehension of risk provides the manager with a different, more nuanced view of which innovation helps the company develop. This compared to lower level staff, who may not see the bigger picture and hence fail to apprehend the value of the project for the company itself (Hotho & Champion, 2011). What may follow is friction between management and operational staff, in which the failure in intrinsic motivation for the latter results in tighter control from the former. Imaginable is that for larger scale organizations in which communication is slower, this mismatch is only resolved in a later stage or not at all. Hotho and Champion (2011) voice this as follows: “senior team members frequent references to misjudgements of resource capabilities, of timing and readiness, occasional them-us polarisations and a seeming tendency to increase levels of control rather than to seek more consultative resolutions to local conflicts signalled a distancing from employees rather than a will to re-examine the creative context of the organisation”. As such, managing innovation depends not only on managing routines in terms of drivers and barriers, but also must take into account differences in perspective between managerial and operational staff.

Figure 3 below provides a theoretical framework, providing a road map for analysis of the case described in chapter 4.

D. Theoretical framework

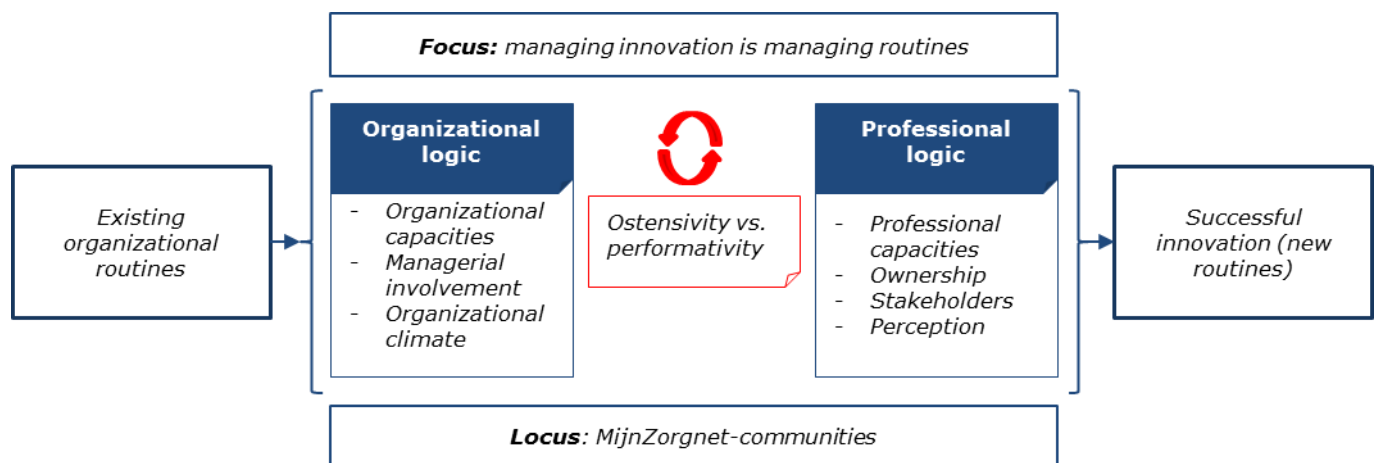


Figure 3: theoretical framework

The above theoretical framework (figure 3) attempts to capture the relevant concepts as discussed so far, and relates them to their relevance in successfully changing the way of working as rooted in organizational routines. As the above figure shows, successful innovation is regarded as routines that have sustainably changed. In achieving this, routines have to be managed in order to manage innovation (the focus of this study).

But managing routines is managing two different logics; one being an organizational logic and the other a professional logic. Understanding these two logics requires delving deeper into several variables (determined by artefacts³). As such, the organizational logic consists of organizational capacities, involves management and is defined by the organizational climate. On the other side, the professional logic entails professional capacities, the sense of ownership experienced, stakeholders and stakeholders' perception of the innovation. This logic is in its essence not unique to medical professionals, and can exist in any organization. But in healthcare, we expect it to be strongly apparent as a result of the aforementioned dominance of the medical profession itself. However, the expectation of a strong presence of the professional logic in healthcare organizations, does not rule out that it may take on different forms in other (non-healthcare) organizations. In the theoretical framework as laid out above, both logics exist separately but interact, together shaping innovation durably. At time of unsuccessful innovation, there appears to be a disconnect between the two. For example, the organization itself may want to innovate but does not manage to get the professionals on the same page. The disconnect shows as the organizational logic produces protocols, management starts to interfere and additional personnel is hired to support. But this may be contrary to the professional logic; professionals may perceive of the innovation as a harmful and alien interference with their institutionalized way of working.

³ Artefacts are used in this study to describe "manifestations of culture", both physical and behavioural, after (Berlin & Carlstrom, 2010; Davies, Nutley, & Mannion, 2000). In healthcare, they can come in the form of, for example, "dress codes, standard ways of running services, reliance on professional capacities", etc. (Davies, Nutley, & Mannion, 2000).

The disconnect can be measured, first through scoring on the different variables defined. Second, through determining the degree to which professionals act according to how the organization believes they should (ostensive vs. performative). As such, successful innovation is reached when both logics interact meaningfully to produce a situation in which routines are highly ostensive and little performative. Locus of this research are the online MijnZorgnet-communities mentioned in chapter 2.

In summary, this chapter can be seen as the fundamental theoretical pillar on which this thesis further builds. First, it shows how innovation is at the core of many a thriving business, although some innovations may take a longer time to implement than others. A staggering example of this is the prevention of scurvy which, since its discovery, took no less than 264 years to spread across the ships of the British Navy and beyond. This shows us that even when innovation may be a clear improvement on the status quo, its spread can be excruciatingly slow. Second, we have seen how healthcare shows resemblance to that British Navy in the sense that innovation is no easy task. Healthcare is no ordinary business, as it has multiple functions and complex organizational structures. But more importantly, hospital organizations accommodate organizational routines. These routines embody everything from formal procedures to individual experiences. They are of such great influence that they can either make or break innovation. We can say that the interaction between organizational routines and innovation is to be taken into close account when innovating. Therefore, acknowledging their nature is a key issue, and learning to manage innovation must be seen as managing routines. However, managing routines is no easy task, as it requires managing two different logics. These logics, organizational and professional, each consist of different variables that have to be addressed in order to make implementation of innovation work.

In conclusion, as this chapter delves into theory on innovation and organizational routines, it appears that the two are closely linked. Innovation appears in most healthy organizations, but lagging implementation or failing to do so at all is not easily understood. Organizational routines provide new insight, and appear to be especially common and strong in organizations that rely on, briefly summarized, formal procedures to be successful. One such type of organizations are hospitals. For these organizations, what is their strength may also be their flaw. Namely, carefully crafted best-practices turn into organizational routines that reinforce them. Changing these is difficult, and requires a thorough understanding of the two logics that are at work. At times of lagging implementation, theory suggests that there is a disconnect between these two logics. Solving this disconnect appears to be the key to successful innovation. The next chapter will design a methodology that allows us to put this theory to the test.

In short, having now discussed both the embedment of this research in the changing landscape of healthcare in general and the development of patient-centred healthcare in specific, this chapter has provided us with a focus; in order to manage innovation one needs to manage routines. In the following chapter, we will lay out this study's research design, paying attention to the research approach, operationalization of the framework above, case background and selection and the various research phases.

CHAPTER 4: Research design

This chapter formulates working hypotheses and lays out the research design (including the various steps that it comprises of). Furthermore, selected cases will be briefly described and the outline of the thesis is listed.

In answering the research questions as listed in chapter 1, this paper has set out first to describe the applicable theoretical framework, providing a frame of reference from the perspective of the organizational climate. In addressing this framework, literature on healthcare innovation was discussed extensively. Consequently, we will now elaborate on the justification of methodology and research set-up, after which results are mapped in chapter 5 and subsequently used to derive several conclusions and recommendations in chapter 6.

A. Research approach: explorative and qualitative

“Philosophers of science have differing views on what constitutes explanation. Yet there is one point on which there exists agreement: namely, that if all those factors which comprise a theory remain unchanged while the resulting activity, i.e. the activity to be explained by the factors, varies, then the theory has not provided a comprehensive explanation of the relevant behaviour.” (Flyvbjerg, 2010) Although presumably common knowledge to any researcher, it gives rise to problems for researchers in the social sciences, whose examined contexts change during the course of their research. As such, situations never occur twice within the same setting. Research design, therefore, determines to a great extent the validity and reliability of our work.

This research is of an explorative nature. Explorative, because of the novel focus that is applied within the healthcare sector, and consequently has not been applied yet by academics. Although the aforementioned theoretical background illustrates the extensiveness of literature on innovation in general and healthcare innovation in specific, the conceptual framework that combines relevant aspects of previous work into viewing innovation as practice, leads to a new view on innovation by itself. In addition, our research questions themselves are of an explorative nature; how come that these brand-new online communities are not all successful? What is happening that we do not know of? One of the consequences of this approach is that no hypotheses can be definitely confirmed nor rejected, as this would require additional descriptive and causal research. Nevertheless, it does allow for modest conclusions and recommendations based on the observations made (Boeije, 2010).

“The view that one cannot generalize on the basis of a single case is usually considered to be devastating to the case study as a scientific method. This misunderstanding about the case study is typical among proponents of the natural science ideal within the social sciences.” (Flyvbjerg, 2010). With this observation, Flyvbjerg kicks off his pledge for a revival of social science methodology. He presents case-study design as suiting Aristotle’s *techné*, fitting right in between its departure from the body of knowledge or *epistémé* and, subsequently, interpretation as *phronésis*. Flyvbjerg’s defense of the case-study design rests on the strength

of the method when carried out both correctly and at the right occasion. In his view, the social sciences can fill in the gap “where natural science is weak and social science strong”, at the point of making use of “the power of example” (Flyvbjerg, 2010). As such, Flyvbjerg argues that scientists must be aware of their position as either providers of an overview of available knowledge (*episteme*), carrying out the technical case-study itself (*techne*) or interpreting values found (*phronesis*). This three-stage approach is what this study aims to do. But is the *techne* of a case-study design the right approach for this research question?

Baxter and Jack (2008), as well as Yin (2003), discern four main reasons to embark on case-study research, namely when:

1. Descriptive and explanatory questions need to be answered;
2. The behaviour of participants in the study is an independent variable;
3. Context is deemed important to make sense of the case examined;
4. The boundaries between context and case are not clear.

The above four points suggest that a case study of any form is indeed the preferred method to be employed in this research. Namely, the aforementioned research questions are indeed of both a descriptive and explorative nature, the participants (they will be further elaborated on) cannot be controlled, context is expected to be an important determinant in the success or failure of innovation (as discussed earlier) and the distinction between context and case is not yet guaranteed clear.

In addition, the question at hand concerns “patient-centred innovations” specifically in “academic hospitals”, thereby drawing a direct link between the topic of study itself and the context it is a part of. Therefore, the choice for a case-study as such allows for a more holistic approach, in which the answer to the research question gains in meaning resulting from its very context. Seawright and Gerring (2008), formulate this consideration aptly: “Consider that most case studies seek to elucidate the features of a broader population. They are about something larger than the case itself, even if the resulting generalization is issued in a tentative fashion” (Seawright & Gerring, 2008).

Nevertheless, these same authors realize that “there is a need for methodological justification of small-N case-selection in addition to pragmatic considerations” (Seawright & Gerring, 2008). As such, they provide two main methodological concerns, which are 1) the need for a representative sample, and 2) the need for useful variation in the dimension of theoretical interest. From this starting point, they sketch the outline of two opposing strategies; looking for either *most similar* or *most different* cases. In this research, it was opted to take on the former approach, wherein among cases, most independent variables are similar, except for the independent variable of interest. In addition, the cases can differ in outcome (Seawright & Gerring, 2008; Baxter & Jack, 2008). Gerring (2007) argues that most-similar selection is considered stronger for causal inference than most-different selection. An overview of the scoring of cases in this study is provided later in Table 5, providing additional rationale for the choice for a most-similar case-study.

Maximizing both internal and external validity is of importance to any researcher. They are both closely related, in the sense that “internal validity asks whether the study investigates what it is meant to, whereas external validity asks in what contexts the findings can be applied” (Malterud, 2001). In this research, internal validity is addressed by supporting both conceptual framework and its operationalization, including references to academic literature. Subsequently, the topic of external validity is addressed by opting for the aforementioned most similar approach, by which subunits of a larger case-study are used to be able to generalize findings to the level of the case-study itself. Therefore, this study does not so much pretend to influence healthcare innovation in general, but may yield fruitful results for innovation in larger academic hospital settings, but then still only when the new context shows sufficient overlap with the case discussed here. Furthermore, the analysis must take into account the influence of reflexivity; the researcher’s influence on his surroundings. One of the measures taken against too high an influence of reflexivity is the extensive literature review and the process of triangulation. Another measure against high reflexivity is the conscious looking for competing conclusions (Malterud, 2001). In the section on conclusions, we will therefore reflect critically on both researcher bias and consequential influence on data collected.

B. Operationalization

The main variables as incorporated in the theoretical framework are further operationalized and accounted for below, thereby briefly referencing to earlier mentions in this study. In discussing these variables, it is important to note that they all constitute parts of the focus of this study as managing routines in order to manage successful innovation. As discussed in earlier chapters, each variable loads onto this concept individually, but must be regarded in light of the other variables in order to provide meaning.

Organizational logic

As laid out in the theoretical framework, the organizational logic consists of three variables: organizational capacities, managerial involvement and organizational climate. Each of these is individually operationalized below.

i. Organizational capacities

Firstly, stakeholders function within or outside from the organization in which the innovation takes place, and are affected by its actual capacities. Operationalization of this variable draws on a critic on the aforementioned work of Christensen; Henderson (2006) recognizes that Christensen’s widely resonating observations (i.e. placing senior teams central to innovation) can only be seen in perspective of the organization as a whole. Operationalization is possible by determining the by stakeholders experienced presence of sufficient collective competency within the organization to fulfil its goals.

ii. Managerial involvement

In addition, management plays an important role in initiating, guiding and finalizing innovation. In this sense, management is involved in many, if not all of an organization's activities. Its effects on innovation are widely recognized (positive and negative) (Kraus, Pohjola, & Koponen, 2011; Shu, Page, Gao, & Jiang, 2012; Wynen, Verhoest, Ongaro, & Van Thiel, 2013). Wynen et al. (2013) operationalize managerial involvement in two types: concerning personnel and financially. In this research, these have been combined into one general measure of managerial involvement with the case-units analysed. Indicators of managerial involvement can be internal communiques about the innovation, perceived influence by stakeholders on staffing, specific financial support and variations of moral backing.

iii. Organizational climate

Thirdly, the overall organizational climate influences the chance of successful innovation by providing either fertile or poor soil for new routines to take root. It is defined as the extent to which the organization provides a climate that aids its pursued goals (as will be elaborated on in the case description later). As such, it relates to patient-centred innovation in providing a climate in which innovation takes place successfully, thereby supporting the innovation process itself (Denison, 1996; Gerteis, Edgman-Levitan, & Daley, 1993).

James & Jones (1974) and Forehand & Gilmer (1964) provide the following definition of organizational climate: "a set of characteristics that describe an organization and that (a) distinguish the organization from other organizations, (b) are relatively enduring over time, and (c) influence the behaviour of people in the organization".

Although this definition is concrete, the application of organizational climate to healthcare settings appears novel. There is the occasional quantitative variation on the theme (see also Clarke, Sloane, & Aiken, 2002 for measuring organizational climate in relation to needlestick injuries to nurses) and a recorded "climate intervention" tailored specifically to increasing handwashing and decreasing nosocomial infections (Larson, Early, Cloonan, Sugrue, & Parides, 2010). Finally, Schein (1992) analyses the psychological background to organizational change, describing different types of learning and what he calls "managing the anxieties of change" (Schein, 1993)

Drawing on the limited episteme on organizational climate, this research identifies and operationalizes organizational climate in two dimensions: 1) respondents feeling safe and free to explore and make mistakes and 2) the existence of opportunities to do so. In practice, this can be identified by asking different stakeholders about their perceived freedom and their perception of opportunities. Although this is no factual way of determining safety, freedom and opportunities, in practice it is the perception of these factors that alters stakeholders' actions, and not their factual presence. In other words, if opportunities abound but are not recognized as such, they are of little use.

Professional logic

In addition to the organizational logic, the changing of routines also involves a professional logic, as laid out before in the theoretical framework. This professional logic consists of four variables: professional capacities, a sense of ownership over the innovation, the stakeholders involved and their perception of the innovation in question. Each of these is individually operationalized below.

iv. Professional capacities

Fourthly, some of the stakeholders involved in innovation can be expected to possess professional capacities that encompass their skills and experience in performing various ranges of tasks. As such, aiding organizational competency are professional or individual capacities; the knowledge and competencies needed for patient-centred innovation. This variable is operationalized as observed behaviour and skills associated with patient-centred innovation.

v. Ownership

Fifthly, factual actions corrected by perception are still no guarantee that actual ownership is experienced. Ownership indicates a sense of commitment (either out of fear for judgement or out of a desire to be rewarded). The concept of ownership (as the extent to which people can influence processes they have a stake in) is closely related to both professional capacities and organizational competencies; ownership cannot be experienced when arising opportunities to do so are withheld by falling short of either capacities or competencies. Stakeholder ownership as prerequisite to achieving change has been recognized (amongst others by the World Bank (2011), who measure it with checklists of desirable practices), but in healthcare innovation is fairly novel (albeit being buzzed by McKinsey's Groves et al. (2013)). In this research, ownership is measured as the extent to which stakeholders can and appear to want to influence the innovation if so desired.

vi. Stakeholders

In addition, a variable that we have to take into account is the position of stakeholders concerned with the innovation. Operationalization of this variable entails an inventory of the number and types of stakeholders involved in each unit of the case. Innovation involves multiple stakeholders, if only to make an individual change of working a business-wide practice (Christensen, Grossman, & Hwang, 2009). The variable therefore discerns stakeholders by roles, responsibilities and formal functions within the hospital related to the case or its units.

It is worth highlighting at this point that the patient perspective is treated just like any other stakeholders' perspective. For patient-centeredness is embodied by the online communities that are this study's locus. It is therefore not patient-centred care that is studied, but the communities themselves.

vii. Perception

Finally however, factual capacities and actions can be perceived differently by the stakeholders involved. In other words, what is perceived as successful by one stakeholder, may be perceived as failure by another. Especially when determining the quality of an innovation and analysing the way it was brought about, various perspectives may help shed new light on existing suppositions. This is where inclusion of this variable may prove useful. In fact, its use has been widely recognized, also for healthcare specifically (Lewis, Young, Mathiassen, Rai, & Welke, 2007; Parker, Desborough, & Forrest, 2012; Porter & Teisberg, 2006; Berwick, 2003). Measuring perception is no exact science, but can be done accountably by asking similar, open questions to the various stakeholders and ensuring sufficiently rich context to be able to draw meaningful conclusions later.

Focus: managing innovation is managing routines

As argued before, organizational routines can change in various ways, but are unlikely to change radically overnight. Nevertheless, innovation implies change. And for change to last, routines must be adjusted. Widely regarded a rather complex phenomenon, there appears not to be a best-practice for measuring changing of routines (Feldman & Pentland, 2003; Becker, 2008). Issues abound, such as the complexity of routines changing at different places with different stakeholders simultaneously and the changes being incremental and at different levels within the routine (Becker, 2008). As such, getting a proper grasp of change that we expect to be slow requires more intensive and mainly longer analysis than what appeared possible within the practical boundaries of this research. As such, changing organizational routines were measured by specifically asking for them in the interviews conducted. As such, data collection was limited to perceived change recognizable and understandable for respondents, rather than observed change by the researcher.

Table 4 summarizes aforementioned operationalization of concepts, in preparation for outlining the methods and techniques used in the different phases of research. These will be elaborated on further in this chapter.

	Concept	Operationalization	Indicators	Academic support, a.o.
Organizational logic	Organizational capacities	The capacity of the organization in realizing innovation: knowledge and competencies. Techniques: document analysis and interviews.	The organization houses knowledge and competencies relevant to patient-centred innovation. Communication is swift and resources are readily available.	(Henderson, 2006) (Christensen, Grossman, & Hwang, 2009) (Epstein & Street, 2011)
	Managerial involvement	The extent to which management at different levels is involved in the coming about of innovations. Techniques: document analysis and interviews.	Number and type of actions undertaken and communication expressed by management to relevant stakeholders and vice versa.	(Kraus, Pohjola, & Koponen, 2011) (Shu, Page, Gao, & Jiang, 2012) (Wynen, Verhoest, Ongaro, & Van Thiel, 2013)
	Organizational climate	The extent to which the organization provides a fruitful climate that aids its pursued goals. Technique: interviews.	Respondents say to feel safe and free to explore and make mistakes. In addition, factual opportunities to do as such, abound.	(Denison, 1996) (Gerteis, Edgman-Levitan, & Daley, 1993) (Institute of Medicine, 2001) (James & Jones, 1974)
Professional logic	Professional capacities	The capacity of professionals in realizing innovation: knowledge and competencies. Techniques: document analysis and interviews.	Behaviour and skills associated with patient-centred innovation (e.g. listening to patients and acting upon their preferences, focus on outcome, etc.)	(Epstein & Street, 2007) (Epstein, Fiscella, Lesser, & Stange, 2010)
	Ownership	The extent to which stakeholders experience ownership of the innovation. Technique: interviews.	The extent to which stakeholders can and will influence the innovation if so desired, judging by them expressing this ability and desire.	(Berwick, 2003) (World Bank Institute, 2011) (Poutsma, Blasi, & Kruse, 2012) (Groves, Kayyali, Knott, & Van Kuiken, 2013)
	Stakeholders	Stocktaking of stakeholders involved with the innovations. Techniques: document analysis and interviews.	Stakeholders are discerned by different roles, responsibilities and formal functions.	(Christensen, Grossman, & Hwang, 2009)
	Perception	Perception of stakeholders of the innovation about the quality and use of the innovation. Technique: interviews.	The way in which quality and use of innovations are perceived by relevant stakeholders: successful, lagging or failed.	(Lewis, Young, Mathiassen, Rai, & Welke, 2007) (Parker, Desborough, & Forrest, 2012) (Porter & Teisberg, 2006) (Berwick, 2003)

Table 4: summary of operationalizing relevant concepts, including academic support

C. Case background and selection

The case in question can be regarded as a single case with embedded units, after Baxter & Jack (2008) and Yin (2003). This study revolves around the academic medical centre of Radboudumc, which has in 2009 brought to life the commercial spin-off MijnZorgnet.nl, which provides online communities as a platform for easy, fast and accessible communication between patients and care practitioners. This fits in with the hospital's mission "gedreven door kennis, bewogen door mensen", freely translated as "driven by knowledge, moved by people".

The choice for an academic hospital stems from both its perceived status as the only Dutch hospital currently innovating in such a patient-centred manner and on this large a scale (providing rich data) and the fact that an academic hospital accommodates a different type of stakeholders than a general hospital. With some of its core tasks being education and research, it houses teachers and researchers. In addition, Dutch academic hospitals are of generally larger size than their general counterparts, making for a presumably less clear playing field on which innovation takes place.

In order to be able to evaluate the implementation of the digital polyclinics from the perspective of innovation as practice, it was decided to limit the number of cases to the evaluation of three subunits within the case at large. In order to improve on the study's design, the aforementioned *most similar* approach resulted in the selection of subunits with different outcomes: successful, intermediate and unsuccessful. The main selection criteria involved the number of active participants participating in digital polyclinic and stakeholders' perceptions of the respective polyclinic's success. Table 5 provides an overview of the subunits involved in the case.

Units of case: Radboudumc	X ₁ : indicators of innovation as practice	X ₂ : contextual factors	Y: outcome (successful/failed)	Communal activity		
				No. of members	No. of blog posts	General stakeholders' perception
Community Cleft	<i>Different</i>	<i>Similar</i>	<i>Different</i>	<i>High: 144</i>	<i>High: 19</i>	<i>Positive</i>
Community Breast cancer				<i>Intermediate: 40</i>	<i>Intermediate: 8</i>	<i>Intermediate</i>
Community Lung cancer				<i>Low: 9</i>	<i>Low: 2</i>	<i>Negative</i>

Table 5: scoring of a selection of case-subunits on the independent (X₁ and X₂) and dependent (Y) variables, resulting in a choice for most similar analysis. Includes number of active participants and general stakeholders' perceptions (MijnZorgnet, 2013).

Within these communities, it was decided to attempt to speak to all stakeholders representing a different perspective. As such, per case, the following stakeholders were selected: main implementer, doctor, nurse (practitioner), patient and –if available- related informal caregiver. In this way, the available factual knowledge about the case and its subunits can be effectively combined with possibly varying stakeholders' perspectives on the matter, and thereby be corrected in case a mismatch arises. It is important to note here that the reason for not including more patients was twofold.

First, patients are not of larger importance than other stakeholders in terms of organizational routines (this study's focus)⁴. Second, getting in touch with patients proved cumbersome, especially for communities with intermediate to low communal activity. As such, in total 18 interviews were held.

As mentioned before, an additional document review can be used to aid evaluation of the aforementioned case-study. Judging from the earlier described literature on innovation, it is of importance to distinguish between the (perceived) type of innovation and determine which barriers and drivers are associated with them.

D. Research phases

This section outlines the various research phases that will have to be carried out in conducting this research. In addition to meeting standards of good academic conduct, they serve to fulfil the research's goal; exhaustive and exploratory research on innovation in a large hospital setting, seen from the perspective of innovation as practice. The set-up of this research is therefore aimed at achieving both a multi-angled and sound analysis of the case in question, and arrive at both meaningful and relevant conclusions and recommendations. The research phases are intended to bridge aforementioned research questions and results, thereby maximizing reliability and internal- and external validity.

1. Preparation

Before embarking on a full-blown case-study, preparations were made by carrying out a preliminary desk research exploring the background of hospital innovation and conceptual approaches. In addition, explorative interviews were carried out at the hospital in question (Radboudumc), exploring their specific need, informational breadth and available facilities. Also in this phase, a theoretical framework was developed, fitting the formulated research questions. The conceptual framework that followed was largely rooted in the theoretical background as laid out before. Finally, this phase was used to develop a research protocol in order to increase reliability of the study. This will be elaborated on later.

2. Data collection

The preparation phase was followed by a phase of data collection, involving two steps: collection of both general and case-specific data. As such, collection of general data involved an extensive literature review, focusing first on societal and healthcare trends of influence to healthcare innovation, and later elaborating on healthcare innovation in specific. In addition, case-specific data were collected through semi-structured, in-depth interviews with selected stakeholders and collection of relevant documents (memo's, user-data, newsletters, etc.).

⁴ Although patient-centeredness is the ambition of the Radboudumc as an organization, it is the MijnZorgnet-communities that are the locus of this study. These communities have been set up with the aim of achieving patient-centred care, which they embody. It is therefore that we study not patient-centeredness itself or the extent to which such care is achieved, but the actual implementation of the communities studied.

Critique on qualitative interviewing abounds. Walford (2007) for one, distinguishes four problems in which participants may behave differently in an interview setting with the researcher than in their natural setting: misinformation, evasion, lies and fronts (Walford, 2007; Roulston, 2010). In order to avoid lower reliability due to these concerns, Roulston (2010) and Kvale (1996) develop six indicators of high quality, which have been used as guidance (see Table 6).

<p><i>Six indicators of high quality qualitative interviews:</i></p> <ol style="list-style-type: none"> 1. <i>The extent of spontaneous, rich, specific and relevant answers from the interviewee;</i> 2. <i>Short interviewer's questions and long subject's answers;</i> 3. <i>The degree to which the interviewer follows up and clarifies the meanings of the relevant aspects of the answers;</i> 4. <i>The ideal interview is to a large extent interpreted throughout the interview;</i> 5. <i>The interviewer attempts to verify his or her interpretations of the subjects' answers in the course of the interview;</i> 6. <i>The interview is "self-communicating" – it is a story contained in itself that hardly requires much extra descriptions and explanations.</i>

Table 6: six indicators of high quality qualitative interviews (Kvale, 1996; Roulston, 2010).

In attaining this quality, Roulston (2010) requires four questions to be answered: 1) does the method of interviewing fit the research question?, 2) did the interview generate “quality” data, 3) is this quality addressed in all stages of research? and 4) are methodologies rooted in the theoretical background to the study? (Roulston, 2010).

Answers to the question of fitting case-study to an interviewing approach can be found in, amongst others, the work of Flyvbjerg (2010), who develops Aristotle’s perception of *phronesis* to answering questions of “how” and “why”, involving both understanding and explanation. Therefore, this research assumes stakeholders have “an active role in the construction of social reality and that research methods that can capture this process of social construction are required” (Boeije, 2010). Language in general and conversation in specific was believed to optimally bring across knowledge and perceptions of stakeholders to the case in question. Semi-structured interviews, therefore, were believed to capture meaning-making by the people involved, rather than being a source of merely factual data. Especially in this study of an explorative nature, semi-structured interviews provided the required flexibility to adjust both collection and analysis to emerging findings (Boeije, 2010).

3. Analysis

The process of data collection was followed by careful analysis. This was first done by transcribing the sound recordings of the interviews and organizing the data using software package NVivo. Organization of the data was done first by so-called open coding, by which the transcribed interviews were split into parts and labelled (i.e. coded) in summarizing terms. Secondly, axial coding was applied by which the open codes were linked to overarching categories. Thirdly, the interviews were selectively coded in reference to the conceptual framework, to the so-called involved “core categories” (Boeije, 2010). Results of these three steps of coding are shown below in the below Table 7.

	Category	Item
Managing innovation is managing routines	Managerial involvement	-Action to stakeholders and vice versa -Type of action to stakeholders and vice versa -Communication to stakeholders and vice versa
	Organizational climate	-Safe climate -Climate enhances exploration -Opportunity to explore
	Organizational competencies	-Knowledge related to patient-centred innovation -Competency related to patient-centred innovation
	Organizational routine	-Change in routine
	Ownership	-Stakeholder can influence innovation if so desired -Stakeholder will influence innovation if so desired
	Perception	-Innovation is successful -Innovation is lagging -Innovation has failed
	Professional capacities	-Behaviour associated with patient-centred innovation -Skills associated with patient-centred innovation
	Stakeholders	-Actor fitting either of three criteria; distinguished role, distinguished responsibility or distinguished formal function

Table 7: code tree

During the process of data analysis, six quality indicators of Seale (1999) and Boeije (2010) were used as guidance (see Table 8).

<p><i>Six indicators of high quality qualitative data analysis:</i></p> <ol style="list-style-type: none"> 1. <i>Reference made to accepted procedures for analysis;</i> 2. <i>Analysis is systematic;</i> 3. <i>Adequate discussion of themes, concepts and categories derived from the data;</i> 4. <i>Adequate discussion of the evidence both for and against the researcher's arguments;</i> 5. <i>Measures have been taken to test the validity of the findings;</i> 6. <i>Steps have been taken to see whether the analysis would be comprehensible to the participants, if this is possible and relevant.</i>

Table 8: six indicators of high quality qualitative data analysis (Seale, 1999; Boeije, 2010).

In addition, to ensure quality and rigour of the analysis, use was made of triangulation, by which several sources of data were used to test for common denominators. As such, triangulation is not about demarcating the differences that arise from various sources. In this research specifically, triangulation is at the very core of the analysis, not only in making use of different documentation, but also by interviewing different stakeholders about the same healthcare innovation. As such, claims and hints made during one interview could be verified in the next. This technique can also be referred to as the “spiral of analysis” (Boeije, 2010). Also, the analysis took into account the importance of thick description, whereby the data are presented in a coherent and exhaustive way, such as that actions are accounted of as detailed as possible, without losing relevance (Bryman, 2008).

Particular to exploratory research (classified as a thematic survey by Sandelowski & Barroso (2003)), is that concepts from the literature are used to organize the data (Sandelowski & Barroso, 2003; Boeije, 2010). As such, the analysis of the data in this research were based on this principle.

4. Conclusions and recommendations

Finally, conclusions and recommendations were drawn from the analysis carried out. These were then related to both the conceptual model as well as to earlier scholarly work. During this step also, it becomes clear whether the conceptual framework functions well or is in need of adaptation. The recommendations were checked with relevant stakeholders to ensure applicability.

As discussed in this chapter, this research entails in-depth analysis of several cases in an attempt to extrapolate the findings to larger scale settings. This section below will now briefly evaluate the methodological choices made and list several theoretical and practical implications.

E. Methodological evaluation

“The view that one cannot generalize on the basis of a case is usually considered devastating to the case study as a scientific method.” (Flyvbjerg, 2010). Flyvbjerg (2010) calls this a typical misunderstanding. For one, this study has tried to prove such critics wrong. I have therefore tried to strike the balance between the existing episteme and this paper’s attempt at phronesis; it is in between these points that the use of case-study research is maximized.

The research process as laid out in chapter 4 worked out as planned. However, the methodology was subject to some limitations. First and foremost, the research has not made use of a questionnaire. Although the in-depth analysis and document review provided a large amount of rich data, a questionnaire could have provided a correction to potential researcher bias. In addition, it might have enlarged the population of respondents and could have provided them with an opportunity to anonymously report answers which they may have refrained from in the one on one-interviews. The reason for not carrying out a questionnaire laid in the time constraint; developing, dispersing, collecting and checking the questionnaire was not a possibility in that respect. In addition, the organization appeared to be undergoing a fairly intense and demanding period for employees; medical staff noticeably made trade-offs between their work and participating in this research. Carrying out a questionnaire would have provided an additional burden.

Secondly, the number of interviews was limited to 18 respondents. Although the interviews provided rich data, I did not succeed in getting in touch with all stakeholders. This was mainly due to the fact that respondents did not always follow-up on emails, or because agendas did not provide any possibility within a few weeks’ time. In addition, the overview of stakeholders was primarily based on the round of preparatory interviews. It is possible therefore, that other potential stakeholders have been overlooked. One example of such

stakeholders involved earlier on in innovation processes within the organization, or IT-consultants developing the technical dimension of the online communities. The reason for not exploring these stakeholders' views laid in their to the researcher limited relevance to the research questions and focus of this research; their contribution had already finished, and would be limited to either a marginal influence (e.g. people involved in previous different innovations) or be of limited effect to other stakeholders (e.g. IT-consultants).

Thirdly, attention was paid to potential researcher bias. With a background in healthcare organizations and literature (on both organizational as well as health economic aspects), it was a bare necessity to correct for any potential bias. Although this did not visibly manifest itself, additional attention was paid to avoid leading questions in the interviews and let the citations in the results section speak for themselves (i.e. interpretation was deliberately limited).

Fourthly, although this research has attempted to embrace and note all previous literature relevant to the theoretical and conceptual frameworks, it is not mutually exclusive nor is it collectively exhaustive. The episteme on innovation in general and healthcare innovation in specific is large. Many volumes have been filled with what their authors claim to be the one best technique to innovate. Unfortunately, an exhaustively summarizing text could not be found. This means that choices had to be made, based on relevance to the focus of this research and the number of citations.

In summary, this chapter has laid out the research design for this study, by operationalizing the theoretical framework from the previous chapter and sharing considerations concerning case background and selection. As such, the research is explorative through its new focus of managing innovation as managing routines. In addition, it is qualitative through making use of semi-structured, in-depth interviews. During these interviews, attention will be paid to several indicators following operationalization of seven core concepts within two different logics, as outlined in the theoretical framework in chapter three. The interviews will be conducted among stakeholders to MijnZorgnet-communities at academic medical centre Radboudumc. These communities have been set-up to let patients participate and interact more with medical staff, but with varying degrees of success. Subsequently, through four general research phases, this research methodology will aim to provide answers to the aforementioned research questions.

In conclusion, whereas the previous chapters showed the sense of urgency to change, the ways in which some hospitals want to do so and the theoretical framework to solve the issues that prevent them to, this chapter designed a methodology to put our theory to the test that managing innovation is indeed managing routines. As such, we are now at a point where the theoretical framework is operationalized and research phases are laid out. This chapter has provided the necessary tools to investigate the case-study mentioned in an explorative and qualitative manner. Following the steps discussed, the next chapter further extends on the results that this research produced.

CHAPTER 5: Results

“We operate in a very academic world, one of hypotheses and confirming them. My approach is to start right away, and we’ll see how it works out in practice. It will always be different than you had imagined.”

With these words, one of the respondents voiced his perception of the hassle of innovating in the academic environment that Radboudumc is. An educational institute, a top-notch research environment and also the place where patients must feel comfortable at the most vulnerable moments in their lives. An organization in which not only staff but mainly patients must thrive. With the help of a profession that exists of routines, yet needs innovation to remain state-of-the-art and thereby relevant. It is the foundations of these discords that this chapter will try to lay bare. Discords that may appear as disconnects between the two different logics as described: organizational and professional.

Whereas the next chapter will answer the sub-questions as listed in chapter 1 individually, this chapter first discusses the results in a framework of four pillars: Radboudumc and innovation in general, patient-centred innovation in specific (including its rise, development, features and types), the role of organizational routines and implementation of innovation in relation to these routines. This final pillar will involve the two logics (organizational and professional, as incorporated in the theoretical framework).

1. Radboudumc and innovation

It seems imperative that organizations which conduct research and educate their students about the latest developments in their discipline, will use their own practice and experience as a testing ground and incorporate their own findings in their daily routine. Over the past few years, Radboudumc has visibly given more attention to showcasing this trait, for instance by setting up a “reshape centre”, which selects existing or initiates innovations to give them a 30-day booster. It seems the hospital’s workshop for change, where only people with required expertise are temporarily assembled in a former and now revamped operating theatre to deliver (after thirty days) either a ready-to-implement product or give a negative verdict on the project in question. To them, different shades between success and failure do not exist.

Nevertheless, these are innovations from within the organization, to which also the reshape centre may be counted. Other structures are in place to support departments who want to change or innovate, such as the advisory group on process improvement and innovation. This is an internal department consisting of consultants from different backgrounds who both give unsolicited advice and can be hired on an hourly basis to solve recognized issues. Funding takes place via a system of internal clearance, by one respondent called “the useful moving around of money”.

But before we can make meaning of the way in which Radboudumc innovates, it is important to take one step back and consider the goal that they aim to achieve. As such, the organization

has formulated three points of focus, aimed at sustaining the internationally leading position of the organization:

1. Providing more insight in proven, distinctive quality of care;
2. Achieving a higher degree of patient-centred medicine (involving patient as a partner in care processes);
3. Increasing expediency of work- and care processes.

Consequently, an internal document called “Together better by innovation”, recognizes four main themes (UMC St. Radboud, 2012):

1. Increasing tension between rising demand for care and diminishing financial room and staff;
2. More competition on demonstrable quality;
3. Rise of TIFKAP’s (i.e. The Individuals Formerly Known as Patients);
4. Opportunities through technological innovations.

Furthermore, the document formulizes the hospital’s ambition as follows: “The active patient moves towards the centre of healthcare organization. This will change the entire sector. The winners are those, who are capable to change aptly and quickly towards a patient-centred system on all fronts” and “The goal is strengthening of the climate of innovation, on the one hand by providing strategic and tactical advice to the board of directors, directors, heads of department and managers, and on the other hand driving and supporting several concrete activities” (UMC St. Radboud, 2012). The “concrete activities” further hatch as “grand rounds”, “MijnDossier”, “innovation education”, “network cooperation”, “innovation research”, “innovation ambassadors”, “innovation lab and cafes” and “digital policlinics”. It is this last activity that is the locus of this study. Its description reads as follows:

“Digital policlinics: through the platform of MijnZorgnet, communities will be set-up of treatment teams and their patients. The implementation of this innovative form of communication with patients is an important prerequisite for better patient participation. The goal is to start a minimum of 50 digital policlinics within a year, in cooperation with PVI and MijnZorgnet”. (UMC St. Radboud, 2012)

The reference to PVI indicates a role for the internal department for process improvement and innovation (“Procesverbetering en innovatie”), charged with the development of the digital policlinics. An evaluation in the same document (dating August 2012) mentions successful starting of the fifty digital policlinics in question, but does not make mention of their respective functioning. We will later see that several stakeholders can indeed confirm the successful starting but question their functioning.

Finally, the hospital’s board of directors decides to increase pressure to work towards the three aforementioned goals, and in the beginning of September 2012 invites all heads of departments and directors to come up with business plans which answer to these goals. In drafting these plans, it was of importance that they reflect a true desire and willingness of departments to innovate. In addition, for the board of directors to be able to proliferate its role

as facilitator, the plans had to come about on the basis of a mutual understanding and acknowledgement of shared interests (UMC St. Radboud, 2012).

As such, there are structures in place to support innovation, but it is by far not experienced as a merit to everyone. One of the respondents voiced the way the organization innovates as follows:

“We have stopped listening, and make stuff no one wants. Picture a professor who gets off his bike one morning, thinks “this is the holy grail”, starts producing and concludes four years later that not a single person wants to use it.”

On the one hand, the above statement appears to do injustice to what is actually happening at the hospital to genuinely improve patient care but also as a bare necessity to stay ahead of competitors. On the other hand, it may carry an unwelcome truth that the opportunity of innovation is not fully utilized. Overall, the hospital by its communicative outings seems to at least want to be innovative. Although it did not lie within the scope of this research to make an inventory of all innovation taking place within the hospital, issues of defining innovation in such a broad sense may have made it a fruitless effort.

Namely, when asking respondents about the innovations that take place in the hospital, it becomes clear that innovation is no uniform concept. To some, innovation is all change that occurs (not necessarily related to patients), whereas to others innovation has a clear beginning and end. Used in managerial communications and by the organization’s known (because named) innovators, respondents seem to associate the term not with their daily work but rather experience it as an exogenous factor; innovation is not at the core of daily business but is an action that is emphasized from time to time, and then takes shape as concrete sets of activities. We will examine such perceptions more closely when discussing definitions of patient-centred innovation.

2. Patient-centred innovation

In describing innovation at Radboudumc in general, the type of innovation studied here is patient-centred innovation. However, from the preparatory conversations with various stakeholders within the organization, it became clear that patient-centred innovation as such is a term that is open to interpretation and therefore needs defining. As such, when respondents were asked to define for themselves what patient-centred innovation meant to them, their replies differed. To several respondents, patient-centred innovation can be defined as follows:

“When patients indicate from their own experience what they need.”

“Everything that is an improvement for patients and has positive effects for patients.”

“Innovation that directly leads to improvements for the patient. It must be related to the patient.”

If these citations suggest anything, it is that patient-centred innovation is an ambiguous term. To one, it seems to be simply the act of patients indicating what they need. The next respondent describes it as everything that has a positive effect on patients, without relating it to healthcare specifically. Another concludes by saying that at least it has to be related to the patient. This opposed to the organization itself, which through the board of directors indirectly describes patient-centeredness as the patient as part of the healthcare team or as being a partner within it. One respondent adds a judgement to his definition of patient-centred innovation:

“This is nothing new: it is similar to customer-oriented innovation. What are we talking about? The sad thing is that we even find ourselves trendy.”

In the interviews, it did not appear that any other respondent felt this way about the Radboudumc-agenda of patient-centred innovation. In fact, respondents collectively regarded patient-centred innovation as the next big thing or at least acknowledged that major faces of the organization regard it as such, partly judging from the fact that all respondents immediately seemed to recognize the term.

However, thinking to share a common language appears not to equal actually speaking that single language. Namely, when asking respondents for their perceived goals of patient-centred innovation, different objectives were given:

“It is important that patient-centred innovation yields results. Anything will do, as long as progress is made.”

“All stakeholders have different goals and have to eventually recognize success on these fronts as the implementation progresses.”

As such, “yielding results”, “success” and “progress” were central interests to the stakeholders interviewed. These were not related specifically to patient-centeredness. It therefore appeared as if tangible improvement in any area was to be preferred over no improvement at all, irrespective of the area in which such improvement is made. What these citations may show is that there is a wide gap first between what stakeholders understand to be “patient-centred innovation”, and an equally wide gap between the expectations that arise from it, or the goals that are set.

It is important to note here that, despite the apparent disagreement as to what defines patient-centeredness and what are its goals, the online communities were by all respondents regarded patient-centred innovations. Some respondents could mention several other innovations which they thought would qualify as patient-centred, from laminated checklists for patients so that they would remember the topics they should discuss during consultation with their doctor, to a patient follow-up system operating behind closed doors. As such, it appears that the paradigm shift of patient-centeredness as discussed in the theoretical section of this research, has become dominant, to the extent that some stakeholders appear to see more patient-centred innovations among all innovations that take place, than are actually happening.

3. *The role of routines*

Sustainability stems from permanent change in routines. As discussed before, this routine change must last long enough to become reinforcing the innovation in question. In examining the online communities, organizational routines appeared to play an important role in their coming about. Routines are an organizational anchor for quality in healthcare organizations, but thereby naturally resist change. One non-medical respondent recognized this:

“We operate in a very academic world, a world of hypotheses and confirming them. My approach is to start right away, and we’ll see how it works out in practice; it will always be different than you had imagined.”

Interestingly, another respondent mentions a specific value system that hives the organization’s epistemology but also includes conservativeness. It appears that organizational routines can be both altered and are unstoppable or at least characteristic to the organization:

“Changing situations is an organic process.”

“Innovation is like a perpetuum mobile.”

Although working with hypotheses and confirming them is a way of experimentation, it is a scientific and fixed way of approaching problems. Science depends in part on other researchers being able to repeat and verify the steps carried out in previous experiments. It is experimenting by relying on specific routines. But in healthcare, a specific value system appears to add a second dimension:

“Healthcare rests on a specific value system, based on developing knowledge but also including a specific bias or conservativeness.”

Although perhaps one of its merits, the conservative nature of healthcare is also an inherent resistor to change, and thereby an inhibitor to innovation. One of the respondents confirms this:

“9 out of 10 people who join a new project have nothing to add, and only join to conserve things as they are.”

The implications of this statement are relevant. If it is true for an organization in which most people have several meetings a day, sloppy formation of project teams can be an important source for bringing changing routines to a halt. In addition, it suggests that the person assembling the team must first of all be in the right position (in terms of both managerial backing and hierarchy) and have sufficient professional capacities (in terms of knowing which skills, characters and communicative styles to combine) to carry out the task. Unfortunately, evaluating this claim was not part of this research.

Nevertheless, the above citations appear to indicate that large organizations like the Radboudumc (and especially it being an organization in healthcare) is inherently resistant to change. Any change occurring will be slow and therefore hard to measure. Because this

research provides static data and did not measure at intervals, no comments can be made on the progress of a changing routine. However, with several online communities having been successfully up and running for months on end, the case-study suggests that routines at Radboudumc are changing durably.

4. Implementation of innovation

In light of these observed differences in terminology and understanding of what patient-centred innovation entails, interesting is the question whether a lack of common ground hampers actual successful implementation of innovation. As discussed before, this may be the result of a disconnect between an organizational logic on the one hand, and a professional logic on the other in sustainably shaping new routines. Therefore, we will now consecutively take a look at the variables that affect such implementation within these two logics.

Organizational logic

In terms of organizational logic, three variables are of interest: organizational capacities, managerial involvement and organizational climate. As becomes apparent from the theoretical section of this research, the three together delineate the perspective of the organization towards innovation.

1. Organizational capacities

Firstly, the concept of organizational capacities was explored to the extent of the organization housing knowledge and competencies relevant to patient-centred innovation. During the interviews, no unequivocal image appeared. Quite the contrary; depending on the situation at hand, different knowledge and competencies seem to be desirable. It is in this professional agility and organizational flexibility that appeared to house sufficient organizational competencies for successful patient-centred innovation. For example, when senior staff did not know how to post a blog or paste a link from Twitter, they would call on the help of a more junior staff member. As such, there did not appear to be any shortcomings in the organization's capacity to match knowledge and competency to individual demand.

As mentioned before, the organizational structure has recently flattened. Whereas before, it consisted of sub-boards steering several departments, it is currently the board of directors managing the organization by bilateral meetings (also see appendix 2 for a more detailed organizational outlook). A shared service centre was set up, by which organizational components that originally were spread out over several departments are now brought together. The philosophy behind this transformation was that departmental transcending cooperation for product groups would become possible.

During the interviews, it became apparent that the Radboudumc makes use of disruptive forces from within the organization by experimenting with a bureau of improvement and

innovation, a so-called “Reshape centre”. Simultaneously, the organization embeds quartermasters throughout the organization at the same time. As such, the organization as a whole seems to house sufficient knowledge and competencies to innovate, as long as stakeholders know how to tap into them. On the one hand, the organization hereby seems to wager that one of these approaches will work, increasing its chances by providing different opportunities at the same time. On the other hand, stakeholders seem to be confused at times about the possibilities and resources available to innovate. In addition, some of these “disruptive innovators” show doubts about the effectiveness of their own roles. The below selection of citations may illustrate this observation:

“I have to acquire my own jobs within the organization, visiting every manager to sell my plan. Subsequently, they have to pay me for a certain number of hours. Internally therefore, I work on an hourly basis.”

“Sub-boards have much more feeling in terms of what a department needs, compared to the current situation in which the board of directors has fifty bilateral meetings and is under much more pressure.”

The above citations suggest that what seemed a flatter and easier communicating organization on paper, has encountered a bottleneck in time available by the board. In addition, the statement by one of the employees responsible for aiding departments in the implementation of innovations, suggests that working on a fee-for-service hourly basis is a common way of working. This may in turn be challenging for implementation processes that take more time than expected.

2. Managerial involvement

Nevertheless, the flatter organizational structure seems to increase the involvement of the board of directors. This was reflected in the statements made about the role the board plays in workplace innovations. Managerial involvement appears to be a major factor in the success or failure of innovation in general and patient-centred innovation in particular. Many experiences were positive:

“It really helps when the board of directors and figureheads back and propagate a plan. The innovation wouldn’t have been possible without backing from the board.”

“It is imperative the board keeps emitting the same signal: we are an innovative hospital, this is what we want, and if you want to be part of the hospital you need to embrace our approach.”

“We had the board of directors saying: this is what we are going to do. Freedom of choice for departments was equal to zero. This has been very important for the success of this project, because there was a lot of resistance at first.”

As such, organizational “figureheads” convince others by propagating the online communities. They are determined and seem to have both a formal and informal authority to

decide. Judging by the statements from the above two respondents, such backing was imperative for the success of the innovation. This may either refer to a necessity to overturn organizational inertia (irrespective of the innovation) or be required to compensate for problems with the innovation itself (e.g. it being force-fed to departments, its quality being questioned, etc.). In addition, the latter respondent refers directly to “a lot of resistance at first”, and another suggests that deserters are no longer “part of the hospital” when they will not comply at the end of the day. Remarks by other respondents, not explicitly positive nor negative, may lead us to the root causes of this resistance:

“I have no reason to complain. But it would help when the board of directors could determine more clearly the direction each department is heading.”

“I hope that the board of directors will make clearer choices, so that every department knows the direction in which it should be heading. Departments currently are in turf wars with each other.”

“It is nice to have managerial backing, but it can also work against you; projects can be smothered to death.”

The above respondents seem to (still) trust the added value of the use of managerial involvement in innovations, but do provide suggestions for improvement. As such, they hint at a strategic agenda, daring to make clear choices and being careful of not pushing too far. Which does not appear to guarantee that this will convince all stakeholders. Some respondents seemed to have made up their mind about managerial involvement with the online communities and are unmistakably negative:

“It is not like we thought there was a lot of commitment for the online community. It was more or less the board of directors who demanded us to participate. The time we had to discuss and decide was too limited.”

The respondent above refers to one of the online communities that lags behind on several others. In this citation, this stakeholder admits not to have had faith in the community to begin with, and complains having too little time to “discuss and decide”. Here, it may be just as important to note what is not said in addition to what is. Namely, not mentioning “investigating demand” for the online community suggests that although there might have been no commitment, there is no doubt about the desirability of implementing an online community for this patient group in the first place. Another respondent is even more outspoken:

“We didn’t think there was much zest for a community to begin with. Frankly, it was the board of directors who foisted us the community.”

“Foisting” is synonym to unwelcomingly imposing a community. It suggests that there was no room at all for arguing the reasons for implementation. This can be the result of several factors, such as the board being under time pressure stemming from the flatter organization, to

these respondents lacking time, to there being troubled personal relationships between the two parties. This did not become clear from the interviews.

The above positive, undecided and negative statements picture mixed effects of managerial involvement on implementation of the online communities. They indicate that managerial involvement can have both a positive and negative effect. Whereas one respondent might remark that there is “no reason to complain”, another asks for “clearer choices” or warns for projects that can be “smothered to death” in abundance of managerial interference.

3. *Organizational climate*

In terms of organizational climate, the interviews focused on the, by respondents, perceived room for and risk of exploring and making mistakes. In addition, the interviews explored whether such opportunities are actually present, or exist only in theory. In bringing up these topics with respondents, it became apparent that they perceive the question in different ways; either problematizing it from their own experience or using the possibility to express their criticism on a range of topics. In addition, experiences ranged from people stating that there is only little room for own initiative to people who seem able to create their own innovative climate (or at least seem able to influence their environment in such a way that feels conducive to their goals).

One of the issues experienced by respondents when trying to innovate, is the general sluggishness that seems inherent to a large scale organization like the Radboudumc. In addition, and possibly resulting from its very nature as an academic healthcare institute, respondents describe the absence of radical innovators:

“Healthcare professionals mainly focus on their specific expertise or drown in care, research or education. They have the drive, but simply can’t find the time or room to do it.”

The above respondent pictures healthcare professionals in a traditional academic setting; expertise-oriented and occupied with care for patients, advanced research and education of students. This respondent pictures them as busy people; willing to do more, but without time on their hands to put innovation into practice. This in contrast to the respondent below, who feels that “self-purifying capacity” is a rare but necessary trait for innovators:

“The main problem is that only few people have the ability to show some self-purifying capacity. The reason is that people are in their own microcosm, in which they are surrounded by people who agree with them. When someone shows doubt, he doesn’t even make it to the door anymore. Innovation, you can’t be against it, right?”

The above citation indicates that, in this organization, people organize themselves in groups of likeminded colleagues. However, this is a symptom, resulting from the lack of “self-purifying capacity” that innovators seem to need. Innovation thereby depends on people having this capacity, and is not aided by creating likeminded “microcosms”. In addition, the respondent suggests that innovation is commonly accepted (“you can’t be against it”) but is at the same time not really taking place. This, in turn, leads to assuming that professionals either

fool themselves into believing that they innovate or that they keep up the appearance of innovating for someone else (e.g. managers, patients or colleagues), while actually showing conservative behaviour. Other barriers did not help, as shows the following citation:

“Doctors are generally afraid of change and IT. Some say that they are here to cure patients, not sitting in front of a computer screen.”

The above remark is illustrative for interviewed stakeholders with direct patient contact. Contact in which patients meet doctors and nurses face to face. In some cases, they are being given a phone number on which they can directly reach a nurse (and sometimes a doctor) whom they know. In their experience, patients rarely call when it is not urgent or in any other sense imperative that direct action is undertaken or advice is given. Judging from the above experience, sitting in front of a computer screen is not perceived as being related to helping patients. This may signify that several (and possibly many) processes in the hospital carried out are not beneficial to patients or at least not experienced as such. Nevertheless, the organization seems to want to reduce bureaucracy and inefficiency, in part by having reorganized and “flattening” the organization: the board of directors is more often in direct contact with departments. Although some respondents seem to recognize the benefits of easier communication and quicker decision-making, some complain. One respondent aptly voices his concerns:

“The organisation has become flatter. You would expect this to be useful, but at the same time small islands appeared, on which everyone puts their own house in order.”

This citation suggests that, in spite of the board’s attempt to improve, “small islands” erupted as closed environments, possibly resulting in exactly the climate that the board has wanted to avoid: difficult communication and slow decision-making. Coming from a situation of siloed departments with different hierarchical levels, flattening the organization seems to have led to a different arrangement of siloes, but siloes nonetheless.

In addition to the original focus on real and subjective opportunities, the interviews showed that financial concerns were an important underlying influencer of organizational climate. Financial means are to a large extent at least subjectively defining the array of possibilities to innovate, as they determine the climate in which these innovations had to take place. With the aforementioned reorganization, financial flows have changed too. One respondent voices the old situation as follows, in which departments each managed their own budget:

“If a department finances a particular innovation on its own, they feel that making the innovation applicable to other departments is like paying for their neighbours.”

In such a case as described above, an innovation that comes about with the efforts of and is financed by one department, other departments are restricted access to the innovation because they get it for free. This clearly hampers spreading of the innovation. The new situation of financing involves a third party, who’s bill is footed either by one department, several departments together, or in case of the online communities, directly by the board:

“As project lead it matters that I’m directly paid for by the board of directors. This makes my job easier, because the people I work for do not have to bleed for my costs.”

This respondent worked with the aforementioned internal department for process improvement and innovation. Financial leeway provided the respondent with manoeuvring room needed to get the job done, without having to worry too much about the money. This approach to implementation has had its expected effect:

“We decided to start because it simply costs the department a lot of money to do it ourselves at a later time.”

In the situation of the online-communities, the board had set a deadline before which departments had to decide if they would join the organization wide investment in online communities. If they did, their community would effectively be free of charge. If they did not, any cost of implementation would be reducing their budget. The organization seemed to heavily depend on financial incentives. Not only the departments themselves, but also the board:

“In quarterly meetings with the board, department heads and managers mainly discuss financial issues. 90% is about money, and 10% about innovation and the profile of the department in question.”

This implies that “getting the job done” is not discussed simultaneously to the question whether the job should be done, and whether the innovation suited the departments strategic “profile”. Even though this could mean that these questions have been answered before, in discussing progress at quarterly meetings, it indicates that in discussing lagging implementation issues of money prevail over other potential bottlenecks.

In addition to the amount of room for innovation, respondents experience a certain risk of innovation; there is a risk of non-conformation. As such, not all stakeholders experience the organizational climate in a positive way, and appear to signal a to them discomfoting way of working:

“There are ridiculous deadlines set to innovations, in which you have zero choice. Efficiency at the cost of quality.”

This respondent referred to a situation in which her team had only days to decide on adopting an online community for their group of patients. They experienced pressure set by management; if they did not decide quickly, they would have to pay for implementing the innovation itself. This seems to have created a situation in which they had to weigh cost of implementation against risk of failure. In the end, this team’s online community did not function well, despite management footing the bill.

Others accept the organizational size as a given and adapt their way of working to the environment, some in the process of which are creating their own innovative organizational climate:

“You must try to create an environment in which plans are not yet set in stone. When plans are fluid, it is much easier to get people aboard.”

“When plans are fluid” here refers to plans that are not yet ready. Plans that still can be adjusted to the environment in which they will be implemented. However, some innovations allow for more wiggling room than others. In terms of the online communities, wiggling room is relatively limited, as the added value of these communities is (as we saw earlier) in part believed to stem from its uniformity across the board.

Nevertheless, what to one is perceived as risky business to not adopt, to others is taken for granted. One respondent remarks:

“This organization is too large to implement innovation bottom-up. Innovation must therefore be rigorous. That is what I try to assist in.”

As such, this respondent regards taking a gamble as inherent to innovating in large scale organizations. When bottom-up is not sufficient, top-down must do the trick. Implementation tailored to specific situations versus radical change for all.

In summary, financial arrangements play an important role in the progress of innovations. It matters who covers which (or who’s) expenses, and when. In fact, financial means sometimes seem to be a driver for change. This is reflected also at managerial level, where according to one respondent, most time is spent talking about the financial arrangement and relatively little about the actual innovation itself. Also, there is a paradox between delimiting room for innovation by managerial steering on the one hand, and the need for flexibility to “get people aboard” on the other.

As the above results on organizational capacities, managerial involvement and organizational climate show, is that the organization itself seems to be trying to gear itself towards innovation. Management becomes involved, knowledge is shared among colleagues and the organizational climate develops.

Professional logic

In addition to an organizational logic, a professional logic is at work. This logic consists of professional capacities, a sense of ownership, stakeholders involved and the perception that these stakeholders have of the innovation at hand.

4. Professional capacities

As such, the aforementioned literature suggests that professional capacities also determine the viability of implementation of innovations. As such, this research looked at behaviour and skills associated with patient-centred innovation. During the course of the interviews, it became apparent that, in line with the different definitions of patient-centred care, perceptions of what patients want and how to act upon these needs differed too:

“I think, but don’t know, that patients want physical contact, even if you can’t do anything for them.”

“I think that patients want more information.”

These statements at least hint at a lack of knowledge about what their patients want and need. It shows an environment in which people draw from past experience to form themselves a judgement about future situations. This has implications for the extent to which completely novel behaviour by patients can be expected. It probably cannot. Both respondents making the above remarks were experienced medical professionals. These are professionals who have been working with patients for years on end, but at the same time do not exactly know what their patients want without asking them first. Therefore, not the fact that they do not know what their patients want is exemplary for a lack of professional capacity, but them not attempting or not being able to find out. Although diseases resemble each other, every patient is unique. Recognizing the cure for a disease is no synonym for understanding the needs of a patient. Failing to detect the latter is a professional omission. Other respondents acknowledge this and have seen it work:

“When we asked colleagues, we found there was quite some commitment to get started. But we did not do adequate research within our patient population to find out the specific needs of our patients.”

“When doing research, nurses and doctors alike thought there was no need to ask patients. But when we did, it turned out that our patients thought radically different about their needs.”

“If we would start asking the target group for their needs ourselves, you will find that 9 out of 10 innovations will be a success.”

The above citations suggest that the wants and needs of and perceptions by patients are not tapped into automatically. More importantly still, is the observation by some respondents that actually asking patients for their needs greatly enhances the chances of success of innovations. But their remarks also suggest that this is not always the case. This observation seems to be supported by the following citations several patients and their carers made during the interviews. Some patients are simply in no mood:

“I don’t really feel the need to work with the computer. In this situation (lung cancer, ed.), we support each other and live for the day. We simply don’t want to know how bad our situation will soon become.”

“I am certainly not in the mood for negative experiences from other patients.”

While others are satisfied with what they currently have:

“The staff is very friendly and helpful. They can and will always help me out and answer my questions in person. I don’t need a computer to do that for me. The personal contact is very comforting.”

“They provide us with mobile phone numbers of medical staff. If we have any questions, they’ll always return our call within the hour. I am very satisfied. Why would I need an online community?”

In addition to suggesting satisfied patients, it is important to note here that this state may be relative: by not being able to imagine a better situation, it can hardly be desired. Which does not mean to say that the current way of working of Radboudumc is not optimal. By hospital staff simply not having asked these questions before, the analysis of lagging online communities remains largely fact-free, making judgement calls complex endeavours. In the conducted interviews with both patients as well as other stakeholders, a sense of ‘what our patients want and need’ was always present from experience and intuition of the stakeholders themselves, but could not be confirmed by what one of the respondents calls “simple market research that every other company would have done”. However, even if demands and needs would have been known, other respondents show that technological imperfections can easily lead to non-compliance, or even (in the latter case) can be interestingly challenging:

“The online community makes use of DigiD for logging on. I am Dutch but live just across the border in Germany. The Dutch government does not disperse DigiD’s to other countries. It means that I have never been able to visit the community online.”

“I believe I am the only user of this community. I like it, but rather for fooling around with it technically than that I use it as a source of information. But I think it has great potential.”

The above citations suggest that the goal of the online communities to cater to patients’ needs is not always met. They also suggest that due to technical imperfections, not everyone can make use of them. This should be worrying for an organization that is located close to the German border, and supposedly caters to many Dutch speaking patients living in Germany. Even if these people would like to participate in an online community, they would not be able to.

In addition, professional capacities manifest at the level of communication between stakeholders within the organization. The type of communication is different per situation, defined by the character of colleagues communicated with:

“In the way I communicate to colleagues, I already anticipate on their feelings and expectations, because I want them to recognize themselves in what we do. The essence of my role (quartermaster, ed.) is translating one idea to different people. This sometimes literally comes down to formulating texts differently.”

This respondent mentions that “translating” is necessary in an organization in which everyone speaks the same language. In this, translating is used to describe the way in which the respondent “sells” ideas to others in ways that appeal to their inner drivers. This seems to be an example of a professional capacity that greatly enhances implementation of innovations, as it removes barriers that may arise when not adapting communication to different types of listeners. Similarly, it may provide a barrier to successful innovation when communication about the innovation is formulated from the perspective of the communicator and does not resonate at the receiving end. In this case, communication may fail to relay the message desired, or relay a different message than intended.

Finally, medical staff needs to be able to make use of new techniques. Several respondents indicate that in order for them to use and apply the online-communities, it is important to be familiar with social media and other online methods of communication. One respondent formulates this aptly:

“There is a colleague here who is constantly on Facebook and other online stuff. I think he doesn’t do anything but Twitter 24 hours a day. Maybe that’s a little excessive.”

“You need to have very good eyes and ears to manage the community. I think you need to spend two hours a day to keep up-to-date, post an article, Google something or react to something said in a TV- or radio-programme.”

5. Ownership

Another influencer of successful implementation is the degree of ownership of stakeholders. Who does the innovation belong to? Do stakeholders have a stake but no influence? The interviews examined the extent to which stakeholders could and would influence the innovation if so desired. As mentioned before, some respondents had the feeling that the innovation was pushed by the board of directors, while others found it a logical next step and volunteered to develop one.

One of the characteristics of the online communities is that they are technically similar. They differ only content-wise. Nevertheless, the interviews revealed that a lack of opportunities was not one of the limitations to change the situation if so desired. Mostly it concerned restrictions in time, money and expertise that withheld them from exercising their ownership. In addition, professional capacities could be improved upon. However, as this chapter has also shown, is that it is often not clear what the desirable situation is. The question of what patients want and need often remains unanswered, but at the same time is reflected by the number of users of and blog posts on the online-communities. This indicates two things: 1) it is not always clear to what extent ownership is required and 2) it is not always possible to fulfil this role of ownership if so required.

The implementation of the online-communities was carried out by project groups, headed by one of the aforementioned in-house innovators. Patients were also included. Two respondents describe why:

“If you want to implement an innovation, you must look for an intrinsic motivation with stakeholders. If you can’t find it, quit. Call on people’s internal drivers and their expertise.”

“It is nice to see a patient be able to influence an innovation directly. So that is what we try with the project groups that set-up the communities.”

Intrinsic motivation, internal drivers and own expertise as enhancers for successful implementation. This was reflected throughout the interviews. What must have become apparent at this point, is that even though this is recognized by some as essential to successful implementation, other stakeholders do not always know exactly what their patients want. This indicates necessary knowledge being present in a large organization like Radboudumc, but not spreading or at least not being present with other stakeholders in the organization. But even when patients are asked to take part, this does not always succeed because of intimidation:

“Asking patients to join the coming about of the online-communities was received differently by the various project groups. And it didn’t always work out. If you place a patient in a group you expect something from him or her. Some patients can do that really well, but others seem a little intimidated by all the white coats at the table and people with a swift chatter.”

Overall, organizational stakeholders experienced the online-community as ‘their’ community, irrespective of the genesis of these communities. Nevertheless, exercising this ownership often seemed to run aground in a combination of time- and financial issues, as well as a lack of perspective where the community should be heading (whether the result of missing out on ‘market research’ or not). As mentioned before, to fulfil ownership one must first know how and secondly be provided the means to do so.

6. Stakeholders

In addition, several people or groups of people could be distinguished as having a stake in the cases in question. As listed before, stakeholders were regarded actors with different roles, responsibilities and formal functions. Consequently, each online community had the following stakeholders in common: patients, (informal) carers⁵, doctors, nurses, project leads and directors (possibly at different levels within the organization).

Each of these stakeholders’ roles was significantly different. In all three communities, it was the doctors, patients and carers who seemed to be involved latest with the innovation. On the contrary, nurses, project leads and directors had a more defining role at the start of the project. These stakeholders could be seen as the people getting the communities up and running in the first place. Accordingly, it was theoretically up to all stakeholders (except for project leads and directors) to make the community a success.

However, in practice, maintaining and further developing the online communities was often in the hands only of the medical staff involved. They were expected to find time to make the

⁵ In Dutch, this translates as “mantelzorger”.

community a success, but had a hard time doing so. Provided reasons were threefold: too little time, too little financial means, too little interest from patients. The latter of which was most poignant to respondents when asked about the main reason for lagging or failure of the community; patients could not easily be tempted into making use of the online community. In one case to the despair and even disbelief of medical staff involved. It did not appear from the interviews or document analysis that the division of roles created any tension within teams, other than remarks about too little time or financial means, discussed elsewhere in this chapter.

7. Perception

Finally, the perception of the innovation is of importance. From the interviews, it became clear that the respondents themselves often had a feel of how the online-community was perceived top-down: successful, lagging or failed. This perception corresponded to the earlier gathered information about the user statistics of the online-community.

“Now, after six months, we have one application and three patients who are interested, but all struggle with DigiD and for whom the path to get involved is not logical.”

“Maybe twenty per cent of my patients makes use of the online community. We have some elderly patients, and for them it is more difficult. In any case, it works but the number of participants is still too low.”

Although the above statements suggest stakeholders often have a feel for the degree of success of their innovation, user statistics are not commonly known, let alone trends in use. In addition, stating that “it works, but the number of participants is still too low” may be an agreeable definition of success to one without knowing the absolute number of participants, but may be a meagre result for someone who does (i.e. there is a difference to talking about success in relative or absolute terms, subjective or objective respectively). In fact, the interviews revealed that a clear definition of successful innovation (or successful online communities) is lacking. This may not be a problem when subjectively judging success incidentally, but is bothersome when trying to measure progress; at which point is implementation in danger? Another respondent simply did away with their online community as undesirable in the first place, suggesting that failure is preferable:

“It is nice for the patient, but I doubt if it can be recouped in the check-ups. I doubt it. In any case, we don’t want patients to ask us questions all the time.”

Disconnect between the organizational logic and the professional logic

We have now seen what constitutes both the organizational and professional logic at Radboudumc, but have yet to analyse in which way they interact. In doing that, we can find clear evidence for the disconnect in the fact that different respondents provide different answers to similar questions asked. As such, the citations above express a certain amount of

friction, that comes about not only in different understandings of the concept of patient-centred care, but also through taking different viewpoints on what role management must fulfil and the way in which stakeholders in the workplace relate to their bosses. As such, they in one occasion (as we have seen above) formally commit to implementing an online community but in practice do not manage or want to make it work. As such, these stakeholders answered to requirements from the organizational logic, but failed to translate this professionally, be it because lack of time or something else. Clearly, this is an example of where ostensivity and performativity indeed are not aligned. Another example is the aforementioned citation that included the remark “ridiculous deadlines”. This shows that the organizational logic does not match the professional logic. A fundamental disconnect between the perception and abilities of the workplace and the people in charge. Such observations provide evidence for a large disconnect being present. Not only do the organizational and professional logic represent different positions of different stakeholders, there are also obvious signs of a small degree of ostensivity and correspondingly high performativity. In other words, stakeholders improvise to maintain performing their current organizational routine and experience friction by having to go against the current of a strong organizational push to change. The result of which shows in different levels of anxiety among stakeholders, through their noted citations.

In summary, these results show that a disconnect exists between the organizational and professional logic. Whereas the organizational logic appears to be geared towards and pushing for change (involving management, changing financing structures, setting the “reshape centre” to work), the professional field logic appears to be more hesitant, both in reaction to the dominance of the organizational logic, and because of a lack of an inherent belief for implementing these innovations. This disconnect creates a friction, in terms of both expectations (as to when and how care delivery is made more patient-centred) and actions (fragmented attempts at implementation with inherent contradictions between the different approaches), the result of which is no sustainable implementation of the online communities studied.

In conclusion, we might say that the theoretical framework laid out in chapter 3 can indeed be applied to the case studied and is useful in interpreting the lag of implementation of innovation at Radboudumc. As such, this chapter has provided proof for not only the correlation between lagging implementation of innovation and the disconnect between the organizational and professional logic, but has also tried to reveal a causal relationship between the two. As such, managing innovation can indeed be seen as managing routines. Managing routines, in turn, requires solving the disconnect between these two logics. The next chapter will further interpret these results, formulates conclusions and provides several concrete recommendations that can make solving the disconnect happen.

CHAPTER 6: Conclusions

As we have seen in the previous theoretical chapters and by the guidance of several excerpts and interpretations based on the interviews conducted, patient-centeredness in general and relevant innovation in specific is neither a clearly demarcated field nor is it acted upon or does it work in similar ways on different occasions. The focus of this study was to examine patient-centred innovation through the lens of innovation as practice; managing innovation is managing routines. What can be concluded about the fit of this model? This chapter attempts to find an answer to the sub-questions as discussed in chapter 1, and concludes on the main research question. Finally, recommendations are formulated to allow for improvement on the observed situation at the time of research.

A. Conclusions to sub-questions

Before being able to provide an answer to the main research question, the various sub-questions will guide us toward it. They are answered first.

1. What is patient-centred innovation?

Innovation has proven a rather broad concept that encompasses different dimensions and practices of favourable change in the workplace. Although most people will have a faint idea of what innovation is, this research has shown that it is ambiguous to many involved in this case-study. As such, patient-centred innovation can involve patients both directly and indirectly. This in turn leads to a chasm between stakeholders: disagreement on the principle leads to disagreement on the goal. Finally, it is not clear when innovation is successful, as stakeholders are not all fully informed about indicators of success and therefore judge about success either subjectively or objectively.

2. What are organizational routines?

Organizational routines are the basis of organizational practice. They provide stability, house knowledge and can –if well-functioning- enhance quality by maintaining what works well. Similarly, routines can harness wrongdoing and have a bad influence on the organization's functioning. In addition, they appear in both ostensive and performative aspects, following and deviating from formal procedure respectively. Finally, they can be changed, but are slow in doing so because of their inherent robust nature.

3. Why do organizational routines affect change in general and innovation in particular?

Having discussed the nature of patient-centred innovation and having elaborated on the appearance of organizational routines, we have found that organizational routines affect change in general and innovation in particular. They do this through their exhaustive embedment in the nature of the medical profession; high quality care is largely denominated by structure, procedure and repetition. Routine-like work is not the exception but the norm.

Changing that way of working requires changing that routine. Vice-versa, changing organizational routines brings about change, and innovation through that change.

4. *How do organizational routines affect change in general and innovation in particular?*

Innovation is changing the way of working for the better of the stakeholders involved. This means changing practice, which is to a large extent rooted in organizational routines. These routines can be either barriers to or drivers of innovation; change that is contradictory to the routine it falls within instead of following it, is obstructed by the inertia of the routine. In other words, the very power of a routine can also be its weakness; a strong routine is not necessarily desirable. That said, routines *can* allow for flexibility, depending on their nature. For example, an accountant's working habits may reduce judgement variability on one chapter of the financial accounts but do allow for improvisation when anomalies are found in other chapters. And in healthcare, doctors' experience or "gut-feeling" may make them decide to deviate from established protocol in certain cases. These forms of spontaneous experimentation are then endogenously driven and alter the routine over time. However, exogenous change may not only meet resistance of the routine itself, but also of the actor within that routine (who might have acted differently if he were to decide himself).

In order to innovate, working practice and its defining routines need to be altered. In case the innovation and routine do not align, action is needed in order to make implementation successful. Therefore, managing innovation is managing routines.

5. *What is patient-centred innovation like in the Radboudumc?*

At Radboudumc, patient-centred innovation takes place on different levels, simultaneously at different locations. One of the patient-centred innovations taking place is implementation of online-communities for specific patient groups, organized around conditions. Implementation is successful in some, but lagging in others.

6. *What are organizational routines like in the Radboudumc?*

The Radboudumc being a healthcare organization, organizational routines play a large role in day-to-day work and are of defining influence for quality. They appear in different forms, ranging from formal protocols to practical ways of working. They appear in the way medical staff treats patients, and differ between departments and between professions. They cannot always be highlighted as such by the people it concerns, as their very characteristic of "the way we do things around here" seems often to be very reason that they go unnoticed by the stakeholders themselves. Also, recognition of a routine as such, requires a framework of reference by which they can be distinguished from actions that are not. These routines are on the one hand structures that staff relies on and defends, but at the same time obstruct change. Perhaps resulting from the very nature of healthcare as a science building on repetition and conservation of knowledge. In addition, hidden agendas of participants in working groups may be to resist change rather than help the project proceed. Alas, changing of these routines proves difficult, and is hampered by conflicting stakes of the people involved, limited

organizational and professional capacities, varying success of managerial involvement, different perceptions of stakeholders, different senses of ownership and an organizational climate in which financial incentives are dominant for innovation to sustain.

7. *How do organizational routines practically affect patient-centred innovation?*

Organizational routines must be altered in order to make innovation last. And the above finding that changing of organizational routines depends on several factors, implies that successfully changing routines is no easy task; failure to assemble the right people in the right organizational structure may imply failure of the project to succeed. In this light, the conservative nature of healthcare might be both its strength and its weakness. The interaction of both logics is strong; organizational and professional artefacts are defining properties of healthcare organizations. As such, the professional logic can easily dominate the organizational logic. And in case the organization is geared towards change, while professionals are not, this can present serious problems.

In any case, changing of routines is needed, in order to be able to implement patient-centred innovation. The evaluated implementation of MijnZorgnet-communities has suffered from routines that did not change at all or are changing very slowly, resulting from the listed inhibitors above. Although measures are taken to circumvent these obstacles, such as involving a general “Reshape” department or appointing quarter masters at local departments, they have varying success. At the time of this research, the Reshape-department did not take on separate online communities as one of their projects, but focused on other –more general, hospital-wide- innovations instead.

B. Conclusion to main research question

Innovation is not easy. It disturbs daily practice, disrupts familiar routines and displaces both people and knowledge. This study is an attempt to trace missing pieces of the puzzle that retains us from successfully innovating in hospital settings. Settings of large-scale hospitals that, forced by endogenous and exogenous trends in a rapidly changing society, have to redefine and reconsider their way of working. In order to stay ahead of the game, these organizations have to innovate. Some succeed and others fail. Much is known about business innovation. But healthcare is no ordinary business. It focuses on research, education and treatment, is routine-based and houses a large body of different areas of expertise. *How does this organizational routine affect the implementation of patient-centred innovation?* This section maps out the role of organizational routines in such innovation, based on interviews with stakeholders in this case-study.

Innovation comes in different forms, and sustainable implementation is difficult

First of all, the starting point for innovation varies. Namely, the concept of innovation has proven to be rather broad and encompassing different dimensions and practices of favourable

change in the workplace. Although most people will have a faint idea of what innovation is, this research has shown that it is ambiguous to many involved in this case-study. In addition, innovations ground in daily practice; routines that consolidate a particular way of working, in forms ranging from formal procedures to common practice. These routines exist of both a structural and agency aspect. In this, structure is what the idea is behind the routine, whereas agency is the way the routine works out in practice. This relates to the difference between explicit knowledge (e.g. formal procedures) and tacit knowledge (individual actions). In the case of the online communities, think of structure as the technical aspect of these communities (i.e. the online platform, the blog posts, the number of users, the information present, etc.), and agency as the manner in which these communities are being used. In addition, routines have both an ostensive and performative dimension. Ostensive is all that relates to the routine that is formalized, such as a protocol or in the case of the online communities, the way they function and are supposed to be used. The performative dimension entails the actions with which the ostensive dimension is translated to daily practice; is the protocol followed to the letter and do we indeed sign up every new patient for the online community like we said that we would?

However, while implementing innovations is endogenous by nature and takes root in modified routines, this does not rule out radical innovation as a catalyst or driver for change, after Feldman and Pentland (2003). Although incrementalism seems indispensable, it is radical innovation that can set the changing routine in motion, either by providing the idea for the innovation itself or inspiring employees by setting the example of what can be achieved. In the Radboudumc, the online-communities are in essence service-innovations; although they are based on technical accomplishment (e.g. the online platform and DigiD-logon), the patient is the subject to which the innovation aims to add value. However, as the results show, it was not always clear whether this added value was present for all patient groups. Indeed, it were the well-functioning communities that added value to patients from the perspective of these very patients, compared to the non-functioning communities of which patients made clear that they had no desire to be enrolled.

Radboudumc pursues patient-centeredness and must deal with organizational routines in the process

Characteristic of the Radboudumc, is that the organization shows strong dominant value networks. One of these networks is the perception by employees of the patient as a partner in general and patient-centeredness in specific as the undeniable course the organization should be heading. In other words, the frame of the patient as a partner in the care process is dominant throughout the organization, as is the apparent understanding of heaving to change the way of working in order to live up to that goal. However, the definition of patient-centeredness is different to almost all respondents, leading to different goals and accordingly different actions or willingness to take these actions to reach these goals. This results in a large difference between the ostensive and performative degrees of innovation; the online communities are physically in place, but stakeholders make only little or no use of it. In this

case, structure is present and agency lacks. The difference between the ostensive and performative aspect of routines is in this case negative; routines are changed in favour of the innovation to be implemented, but never fully. The result is that only some ingredients of the innovation take root, and others do not. For example, for one community, all patients were given an information folder, but none were being followed-up.

In these routines, structure is present, but agency may lack; online communities are in place but are not being used. This may result from the fact that communities are a large change compared to the previous way of working; the period before the organization set itself the goal of working towards patient-centeredness. With the arrival of online communities, routines needed to be changed. As a catalyst, the Parkinson-community was set as one example of what a successful community would look like. Another catalyst was supposed to be the patient itself; the modern patient demanding to be a partner, would be interested in having more and more accurate information and getting in touch with fellow patients. This did not succeed in all cases, mainly because patient groups were not always consulted before the innovation was implemented. As such, while the organizational logic was geared towards patient-centred change, the professional logic may be more inert, acting like a counter weight on any attempt to innovate. This resulted in situations where the online community was in place, but the number of participants was by stakeholders perceived too low to be called a success. For these communities, consultation among relevant patient groups may result in either shutting down the online community or change it fundamentally to answer to the needs of these specific patient groups.

Subsequently, routines can be changed forcefully, when the organizational logic overrides the professional logic. Managerial interference at Radboudumc was, albeit with the best intentions, not always useful. Although the attempt by the board of directors was laudable in the sense that disputes were settled and projects were made sure not to run ashore, it also resulted in situations in which the actions of the board were misunderstood by lower hierarchical levels in the organization or simply did not fit to their needs. One important driver for departments to get on board with the online communities was the financial incentive; getting started now practically meant setting up a community for free. This has in cases led to rash decision-making.

Coming back to the difference between the ostensive and performative aspects of a routine, we can now say that this difference provides us with a degree of friction during the modification of the routine itself. Successful innovation results in small friction; innovation is implemented when plans to do so are carried out successfully. A lasting mismatch between plans and practice indicates innovation that was not successful. In addition, and because we want innovations to last, we want them to take root in daily actions, and be reinforced by them. Routines with a dominant ostensive dimension can therefore be preferred over routines with a dominant performative dimension. As such, performers of these actions may start out as being consciously skilful of the new action, but may become less conscious of their new skill when time passes by. When this point is reached, we could say that the innovation has been adopted in the routine way of working. But at Radboudumc, there is a disconnect between the organizational and professional logic; stakeholders are forced instead of enticed

to innovate. The organizational logic is dominant. This disconnect between the two logics leads to friction within both fields, largely dependent on a cocktail of suboptimal communication, financing and capacities.

Managing innovation is managing routines

As such, what has become clear from this research, is that the implementation of online communities is a radical change in light of the current way of working. But although radical, it seems to require incremental steps that change the routine in such a way that the innovation becomes a lasting success. In this change, it is imperative that stakeholders can understand what is going on. It is, in other words, important that they maintain a sense of ownership; if practice deviates too far from stakeholders’ grasp of patient-centeredness, change will become negative and thereby obstruct implementation. Stakeholders want to be able to continuously feel part of and able to influence the change occurring. That does not mean that change must fall within the boundaries of their comfort zones, but does require them to be able to make changes to the concept if so desired. Even little influence seems to be sufficient to make a project more recognizable. Figure 4 below attempts to grasp the relationship between successful innovation and routines over time.

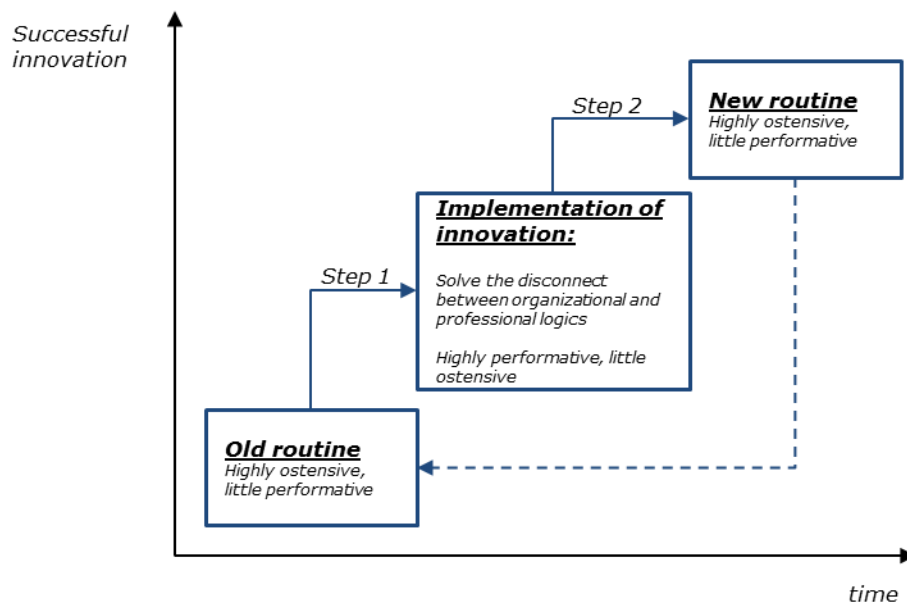


Figure 4: cycle of managing innovation as managing routines

The above figure shows that existing routines change only incrementally. At first, they are highly ostensive and performativity (deviations) is low. This old, existing routine is the status quo. Consequently, when innovation is implemented, performativity first rises relative to the existing routines, which become relatively less ostensive as a result. Innovation can, at this point, already lead to improved results. However, if we want innovation to last, a new routine has to become sustainable and gradually be adopted by all stakeholders. In this stage, the new routine is highly ostensive and only little performative, just like in the old situation. For this to occur, the disconnect must be solved between the organizational logic on the one hand, and

the professional logic on the other. Once this point is reached, innovation has been successfully implemented and is lasting. Implementation of new innovations runs through the same cycle.

This process has proven difficult in Radboudumc. As this research shows, in implementing the online communities, unprecedented collaboration between hierarchical levels and among colleagues was required, demanding development of both organizational and professional capacities and change in organizational routines. A large healthcare organization like the Radboudumc appears inherently conservative and inert. Its organizational routines are firm and therefore hard to change. They appear to form the very core of the organization in delivering high quality care. But as valuable as these routines may be, they inhibit the change necessary to innovate in the long run. And as a common ground for patients, medical staff and other healthcare professionals, change affects many different stakeholders. Either as a result of strong dominant value networks (i.e. changing of goals leads to changing of values and a changing way of working accordingly) or as a result of the aforementioned conservative routines. In addition, innovation occurs in the context of high stakes; a changing healthcare landscape forces providers to reinvent and leads to time-pressure.

In order to set things in motion and achieve change of any sort, radical change can provide a temporary boost. Procedures can be altered, rules can be changed. But it is ultimately in daily practice that behaviour must alter and innovations must take root. Only then can innovation be genuinely called successful, as is shown in figure 4 above. This is the point at which changing the rules of the game leads to changing behaviour of stakeholders. At that point, a deliberate attempt to innovate has resulted in actual implementation. The smaller the deviation between theory and practice, the better have the implementers managed to bring their plans to life. In achieving this, Radboudumc has succeeded in altering the value network; patient-centeredness is on all internal stakeholders' minds. However, this value-network has different meanings to different people; not one perception of patient-centeredness is the same. This implies that stakeholders positions are unclear, making it harder to judge the way in which innovation must be implemented. As such, development of routines proves cumbersome; hurried, uncoordinated and unclear wishes of different patient groups has run some innovations ashore.

C. Theoretical recommendations

The results of this research also have theoretical implications. As such, this study applied a model of managing innovation as managing routines (focus) to a very limited testing ground of online communities used in an academic healthcare setting (locus). The focus was novel, and so was the locus. This has implications for both theory and practice; can the results from this study be repeated in a comparable setting? A challenge lies in the locus. On the one hand this proved clearly demarcated (online communities uniform by design and purpose), but on the other hand an innovation that demands, as mentioned before, a possibly unprecedented collaboration between stakeholders within the organization. Therefore, theoretical and practical implications are limited to the reproducibility of this model in comparable settings.

Theoretically, the theoretical framework of managing innovation as managing routines has been suggested by this study to apply and have explanatory power in academic healthcare settings. Its role seems largest in areas in which innovations or changes influence the way of working; how are new plans truly adopted, and what can be done to speed up this process? How can the development of routines be steered in the desired direction? Or is there a need to change the protocolled conservative nature of healthcare organizations that by many is seen as one of the main foundations of the high quality we have attained? These and more questions are yet unanswered, but may be useful in further developing this model. The model as such is an addition to existing literature, and combines several aspects that by some are regarded as determinants of successful innovation by themselves. Therefore, combining several theories may lead to increasing explanatory power, but may also limit validity when these determinants are not singled out in the analysis. It is the latter observation that deserves attention in possible future development of this model.

Future research may focus first and foremost on replication of this model in comparable academic medical settings. In addition, it is of interest exploring its workings in peripheral settings; hospitals without a research and teaching facility or similar mind-set. In addition, this study found financial incentives to be one of the main reasons for rash decision-making about implementation of innovations. Therefore, more insight into the influence of healthcare financing (as aforementioned currently on volume rather than on output), may lead to additional insights into the tricks of successful implementation of innovations; if financial incentives play such a large role, can we steer this power in favour of our purposes? Finally, a thorough international comparison may yield valuable experiences from hospitals in other health systems; can we rule out (and correct for) the influence of the Dutch healthcare system on the implementation of innovations?

Practically, the aforementioned conclusions and recommendations provide concrete chances to improve on the current situation. Albeit a far cry from a panacea, the set of recommendations provides ample points of reference for the organization's board of directors to adjust and improve their strategy of innovation. In this, it is worthwhile noting that the Radboudumc seems to be one of the frontrunners both in the Netherlands as worldwide in truly incorporating patient-centred care in the organizational DNA. Being a frontrunner implies exploring, learning about and testing the uncomfortable and unexpected. Regardless of the desire to innovate, driven by trends in society and healthcare, innovating requires courage, perseverance and faith. It is therefore that a common goal is imperative.

In conclusion, the new locus and focus of this research provides challenges to reproducibility, but also implies a useful starting point for further theoretical expansion on the concept of organizational routines in healthcare settings. In these settings, the stakes are higher than ever before, and experiences with innovation differ. Different keys to successful innovation exist, and the question whether this research has found one of them requires experimentation in and analysis of new cases, further enlarging the episteme on this subject. Several questions remain yet unanswered. Replicating the model and testing it in different settings are indispensable for fine-tuning the way in which innovation can be managed.

D. Practical implications and recommendations

The above conclusions are not only relevant to this case-study, but can also lead to several practical and theoretical recommendations. These are discussed below.

Practical implications

In order to maximize the benefit of this research for Radboudumc, this section will provide several recommendations on the basis of the cases studied. It is important to note here that these recommendations are based on the static data retrieved during this study. Providing recommendations as such is a delicate matter; although this research attempts to maximize generalizability of the findings, each case not included in this study is unique in its own way. It is important therefore to view the recommendations through this perspective.

The following concrete recommendations can be made:

- 1. Do not rely on the leading power of a common goal if this goal is perceived differently by the people involved.*

The definition of patient-centeredness was different to all stakeholders involved. This was reflected in the way they formulated the goals of the online-communities, and troublesome as management desires to have all stakeholders on the same page. Therefore, it is important not to rely solely on the common goal to make the innovation a success, and spend more time and energy researching stakeholders' specific wants and needs; what do they strive for in achieving patient-centeredness, and how can the organization accommodate that? Nevertheless, a common goal seems a major inductive factor in implementing innovations, and will enlarge the effect of any effort to change.

- 2. Carry out thorough research into the wants and needs of the population the innovation affects, and adapt the innovation accordingly.*

The cases examined that were perceived a failure or being stalled, served patients which did not directly recognize the added value of the online community provided to them. Also, not all patients were able to technically make use of the communities. This may either be the result of the online community simply failing to meet their needs or only be the result of them not being able to show their added value to these patients. The result is similar; no added value is provided. Therefore, thorough research into the wants and needs of the patient target group can help determine if an online-community can be of use to a specific group of patients, and if so, how. This research can be carried out through surveys or interviews, carried out not by actors who have a stake in making the project a success, but by experienced, external researchers. Required is an unbiased and objective view of what patients demand now and may demand in the future. Failing to invest in such research and do so professionally creates the risk of providing a product tailored to the organization, instead of to the patient and is thereby the exact opposite of where Radboudumc wants to be heading. It will also lead to high expenses (communities are set-up but not used) and unrest within the organization through

unmet expectations (stakeholders invest time and energy in communities that are not being used).

3. Limit managerial involvement to settling disputes and propagating the common goal.

Managerial involvement can be both inducing or impeding successful implementation of innovation, as this study shows. Therefore, a modest but firm attitude may prove most helpful, whereby the occasional dispute can be quickly settled and the common goal is consistently communicated. Management must not be too dominant in pursuing the project so that it shows too obvious a responsibility in its eventual success. Do not block out the sun to the stakeholders who will have to make the innovation last. Failing to answer objections from the workplace will lead to rising resistance and slow down the process of implementation. This creates friction that prevents innovations as new routines to take root in daily practice. As such, do not propagate the innovation itself but sell the common denominator. Purvey the goal of patient-centred care and allow room for customization along the way, as long as this shared goal is finally achieved.

4. Correct departmental enthusiasm for financial incentives.

Financial incentives appear to play a large role in the coming about of the online-communities. When setting up of the community is essentially “for free” during a limited period of time, this is a major driver to adopt the particular innovation, without considering its added value to end-users. Being afraid to miss out must therefore not be mistaken for enthusiasm. Although it may delay overall implementation, it may be worthwhile to make departments financial co-owners of the development and implementation of the innovation and have departments pick up part of the bill. Be transparent about costs. It will ultimately have to be the common goal that makes the innovation a success; financial comfort is only one of the ingredients to make this happen. As such, perceived departmental enthusiasm can be corrected by decreasing either the financial reward itself or by lessening the financial setback if the innovation is not implemented. In practical terms, do not tell departments that the innovation will be implemented anyway, but that if they do it quickly they do not have to pay for it themselves. Instead, reward the opportunity to work together on making the innovation work, even when it is finally decided among the stakeholders involved that making it a success is too far a stretch. Reward commitment, not outcome. In the long-run, this will both save costs as well as conserve support among stakeholders for new innovations in the future.

5. Increase the number of quarter masters to overcome unnecessary organizational inertia.

The cases examined showed a crucial role of quarter masters; largely independent, communicative and creative employees with a pivotal role within a single department. Innovation has proven time-consuming. Quarter masters can make ends meet without needing to take the credit for eventual success and having to make use of other peoples’ resources (e.g. time). In this way, ownership remains in the hands of relevant stakeholders and lack of time is no longer a major issue.

6. Allow time for routines to develop and generate both organizational and professional competency.

Innovations take root in organizational routines. This is an incremental and endogenous process. Exogenous influences may kick-start change or boost implementation along the way, but may not become the main focal point of the innovation. As such, routines need time to develop and generate the organizational and professional competencies required. Prevent the difference between ideas and practice from becoming too large; stakeholders losing track and losing their sense of ownership leads to discomfort and general abatement.

In conclusion, this study has given birth to several concrete recommendations, that must explicitly be read with observance of its aforementioned limits. These recommendations range from taking concrete action in the form of increasing the number of quartermasters to taking a more delicate approach to managerial involvement and allowing more time for routines to develop. They are no contradictory, sweeping proposals, but nuances in approaching an organization-wide project that is to a large extent well-managed. Therefore, putting these recommendations to practice at the same time is possible but requires close monitoring.

And a focus on implementation is worth our while. For this thesis shows that mounting trends result in pressing challenges for society in general and healthcare in particular. The tale of the cuckoo's nest is quickly becoming a reality. Therefore, healthcare needs to change, and needs to do so more quickly than ever before. This makes it of vital importance to learn how to do so. Treating healthcare organizations as normal businesses in normal markets is of no use, as we have seen. Organizational routines are at work that have made these organizations as magnificent as they are today and at the same time have become one of their largest threats. For it is an organizational routine that houses both experience and inertia. This study has tried to lay bare what is at the essence of such lagging innovation. Solving the disconnect between organizational and professional logics will make organizational routines manageable through faster adaptation. So that our healthcare organizations can continue providing us with the best care in the world, and deliver value for money. Trying to maintain the status quo will result in painful friction on all levels. Avoid that and take action today.

REFERENCES

- Aarts, J. W., Vennik, F., Nelen, W. L., Van der Eijk, M., Bloem, B. R., Faber, M. J., & Kremer, J. A. (2014). Personal health communities: a phenomenological study of a new health-care concept. *Health Expectations*, 1-16.
- Alders, Maarten. (2012, December 14). *Na 2010 slaat de vergrijzing toe*. Retrieved from Centraal Bureau voor de Statistiek: <http://www.cbs.nl/nl-NL/menu/themas/bevolking/publicaties/artikelen/archief/2003/2003-1175-wm.htm>
- Baxter, P., & Jack, S. (2008). Qualitative case study methodology: study design and implementation for novice researchers. *The Qualitative Report*, 544-559.
- Becker, M. C. (2008). *Handbook of Organizational Routines*. Northampton, Massachusetts: Edward Elgar Publishing, Inc.
- Berlin, J. M., & Carlstrom, E. D. (2010). From artefact to effect: the organising effects of artefacts on teams. *Journal of Health Organization and Management*, 412-427.
- Berwick, D. M. (2003). Disseminating Innovations in Health Care. *Journal of the American Medical Association (JAMA)*, 1969-1975.
- Bettencourt, L. A., Brown, S. W., & Sirianni, N. J. (2013). The secret to true service innovation. *Business Horizons*, 13-22.
- Boeije, H. (2010). *Analysis in Qualitative Research*. London: SAGE Publications Ltd.
- Borleffs, J. (2012, June 12). Medical educational reform. (T. Hendriks, Interviewer)
- Bryman, A. (2008). *Social research methods*. Oxford: Oxford University Press.
- Burns, T. E., & Stalker, G. M. (1994). *The Management of Innovation*. Oxford: Oxford University Press.
- Chandler, A. D. (1977). *The visible hand: the managerial revolution in American business*. Cambridge, MA: Belknap.
- Christensen, C. M. (2009). *The Innovator's Prescription*. New York: McGraw-Hill.
- Christensen, C. M., & Overdorf, M. (2000). Meeting the challenge of disruptive change. *Harvard Business Review*, 1-12.
- Christensen, C. M., Grossman, J. H., & Hwang, J. M. (2008). Integrating to make it happen. In C. M. Christensen, J. H. Grossman, & J. M. Hwang, *The Innovator's Prescription* (pp. 183-220). United States: McGraw-Hill.

- Christensen, C., Grossman, J. H., & Hwang, J. (2009). Disrupting the hospital business model. In C. Christensen, J. H. Grossman, & J. Hwang, *The Innovator's Prescription; a disruptive solution for health care* (pp. 73-110). New York: Mc-Graw Hill.
- Clarke, S. P., Sloane, D. M., & Aiken, L. H. (2002). Effects of hospital staffing and organizational climate on needlestick injuries to nurses. *American Journal of Public Health*, 1115-1119.
- Collinson, S., & Wilson, D. C. (2006). Inertia in Japanese organizations: knowledge management routines and failure to innovate. *Organization studies*, 1359-1387.
- CPB. (2011). *Omgevingsscenario's voor gezondheid en zorg*. Den Haag: CPB.
- Croiset, G., & Daelmans, H. (2012, July 5). Medical educational reform. (T. F. Hendriks, Interviewer)
- Cutler, D. M. (2011). Where are the health care entrepreneurs? The failure of organizational innovation in health care. *Innovation Policy and the Economy, Volume 11* (pp. 1-28). Chicago: University of Chicago Press.
- Davies, H. T., Nutley, S. M., & Mannion, R. (2000). Organisational culture and quality of health care. *Quality in Health Care*, 111-119.
- Davies, S. M., Tawfik-Shukor, A., & De Jonge, B. (2010). Structure, governance, and organizational dynamics of university medical centers in the Netherlands. *Academic Medicine*, 1091-1097.
- De Meijer, C., Koopmanschap, M., O'Donnell, O., & Van Doorslaer, E. (2012). Health expenditure growth: looking beyond the average through decomposition of the full distribution. *Journal of Health Economics*, 88-105.
- Den Breejen, E. (2011). *Arbeidsbesparende innovaties in de gezondheidszorg; een theoretische verkenning naar kansen en belemmeringen voor arbeidsbesparing in de gezondheidszorg*. Rotterdam: Instituut Beleid en Management Gezondheidszorg, Erasmus Universiteit Rotterdam.
- Denison, D. R. (1996). What is the difference between organizational culture and organizational climate? A native's point of view on a decade of paradigm wars. *Academy of Management Review*, 619-654.
- Dewar, R. D., & Dutton, J. E. (1986). The adoption of radical and incremental innovations: an empirical analysis. *Management Science*, 1422-1433.
- Dias, C., & Escoval, A. (2012). The open nature of innovation in the hospital sector: the role of external collaboration networks. *Health policy and technology*, 181-186.
- Djellal, F., & Gallouj, F. (2007). Innovation in hospitals: a survey of the literature. *European Journal of Health Economics*, 181-193.

Elsevier. (2014, May 14). *Innovatie in de zorg: de arts zit straks in India*. Retrieved from beurs.nl: <http://www.beurs.nl/nieuws/zakelijk-en-economie/3441015/innovatie-in-de-zorg-de-arts-zit-straks-in-india>

Epstein, R. M., & Street, R. L. (2007). *Patient-centered communication in cancer care: promoting healing and reducing suffering*. Bethesda, MD: National Cancer Institute, NIH.

Epstein, R. M., & Street, R. L. (2011). The values and value of patient-centered care. *Annals of Family Medicine*, 100-103.

Epstein, R. M., Fiscella, K., Lesser, C. S., & Stange, K. C. (2010). Why the nation needs a policy push on patient-centered health care. *Health Affairs*, 1489-1495.

Feldman, M. S., & Pentland, B. T. (2003). Reconceptualizing organizational routines as a source of flexibility and change. *Administrative Science Quarterly*, 94-118.

Fleuren, M., Wiefferink, K., & Paulussen, T. (2004). Determinants of innovation within health care organizations: literature review and Delphi study. *International Journal for Quality in Health Care*, 107-123.

Flyvbjerg, B. (2010). *Making social science matter; why social inquiry fails and how it can succeed again*. Cambridge: University Press.

Forehand, G. A., & Gilmer, B. V. (1964). Environmental variation in studies of organizational behavior. *Psychological Bulletin*, 361-382.

Foucault, M. (1973). *The birth of the clinic; an archaeology of medical perception*. London: Tavistock Publications, Ltd.

Frank, J. R., & Danoff, D. (2007). The CanMEDS initiative: implementing an outcomes-based framework of physician competencies. *Medical Teacher*, 642-647.

Freel, M., & De Jong, J. P. (2009). Market novelty, competence-seeking and innovation networking. *Technovation*, 873-884.

Gerring, J. (2007). *Case study research: principles and practices*. Cambridge, UK: Cambridge University Press.

Gerteis, M., Edgman-Levitan, S., & Daley, J. (1993). *Through the patient's eyes; understanding and promoting patient-centered care*. San Fransisco, CA: Jossey-Bass.

Groves, P., Kayyali, B., Knott, D., & Van Kuiken, S. (2013). *The big data revolution in healthcare*. New York: McKinsey & Company.

Guyatt, G., Montori, V., Devereaux, P. J., Schunemann, H., & Bhandari, M. (2004). Patients at the center: in our practice, and in our use of language. *ACP Journal Club*, A11-A12.

Hage, J. (1980). *Theories of organization*. New York: Wiley Interscience.

- Ham, C., & Alberti, K. G. (2002). The medical profession, the public, and the government. *British Medical Journal*, 838-842.
- Henderson, R. (2006). The innovator's dilemma as a problem of organizational competence. *Journal of Product Innovation Management*, 5-11.
- Het Financieele Dagblad. (2014, June 10). Hoe complex de situatie is, met alle stelselwijzigingen, heeft me verrast. *Het Financieele Dagblad*, p. 4.
- Hotho, S., & Champion, K. (2011). Small businesses in the new creative industries: innovation as a people management challenge. *Management decision*, 29-54.
- Howe, K. R. (1988). Against the quantitative-qualitative incompatibility thesis, or, Dogmas die hard. *Educational Researcher*, 10-16.
- Institute of Medicine. (2001). *Crossing the quality chasm; a new health system for the 21st century*. Washington D.C., USA: National Academy of Sciences.
- Iske, P. (2013, May 26). *Paul Iske on Combinatoric Innovation (lecture)*. Retrieved from Dialogues Incubator: <http://www.dialoguesincubator.nl/2011/04/15/paul-iske-on-combinatoric-innovation-2/>
- James, L. R., & Jones, A. p. (1974). Organizational climate: a review of theory and research. *Psychological Bulletin*, 1096-1112.
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: a research paradigm whose time has come. *American Educational Research Association*, 14-26.
- Kodicek, E. H., & Young, F. G. (1969). *Captain Cook and scurvy*. University of Cambridge: Cambridge.
- Koen, P. A., Bertels, H. M., & Kleinschmidt, E. J. (2014). Research-on-research: managing the front end of innovation- part II: results from a three-year study. *Research-Technology Management*, 25-35.
- Kraus, S., Pohjola, M., & Koponen, A. (2011). Innovation in family firms: an empirical analysis linking organizational and managerial innovation to corporate success. *Review of Managerial Science*, s11846.
- Kvale, S. (1996). *Interviews: an introduction to qualitative research interviewing*. Thousand Oaks: Sage.
- Larson, E. L., Early, E., Cloonan, P., Sugrue, S., & Parides, M. (2010). An organizational climate intervention associated with increased handwashing and decreased nosocomial infections. *Behavioral Medicine*, 14-22.
- Lewis, M., Young, B., Mathiassen, L., Rai, A., & Welke, R. (2007). Business process innovation based on stakeholder perceptions. *Information Knowledge Systems Management*, 7-27.

- Malterud, K. (2001). Qualitative research: standards, challenges and guidelines. *The Lancet*, 483-488.
- MijnZorgnet. (2013, August). MijnZorgnet actieve communities (user data).
- Nijssen, E. J., Hillebrand, B., Vermeulen, P. A., & Kemp, R. G. (2006). Exploring product and service innovation similarities and differences. *International Journal of Research in Marketing*, 241-251.
- Nonaka, I. (1991). The knowledge-creating company. *Harvard Business Review*, 96-104.
- Noordegraaf, M. (2007). From "pure" to "hybrid" professionalism. *Administration & Society*, 761-785.
- Noordegraaf, M., & Van der Meulen, M. (2008). Professional power play: organizing management in health care. *Public Administration*, 1055-1069.
- O'Connor, A. M., Llewellyn-Thomas, H. A., & Flood, A. (2004). Modifying unwarranted variations in health care; shared decision making using patient decision aids. *Health Affairs*, 63-72.
- OECD. (2013). *Health data, OECD StatExtracts*. Paris: OECD.
- Parker, R. M., Desborough, J. L., & Forrest, L. E. (2012). Stakeholder perceptions of a nurse led walk-in centre. *BMC Health Services Research*, 1-7.
- Peyton Young, H. (2011). The dynamics of social innovation. *Proceedings of the National Academy of Science (PNAS)*, 21285-21291.
- Plomp, E., Schut, E., & Varkevisser, M. (2013). Winstuitkering bij ziekenhuiszorg. *Economisch Statistische Berichten*, 508-511.
- Porter, M. E., & Teisberg, E. O. (2006). *Redefining health care; creating value-based competition on results*. Harvard: Harvard Business School Press.
- Poutsma, E., Blasi, J. R., & Kruse, D. L. (2012). Employee share ownership and profit sharing in different institutional contexts. *The International Journal of Human Resource Management*, 10.1080/09585192.2012.661994.
- Putters, K. (2009). *Besturen met duivelselastiek*. Rotterdam: iBMG, Erasmus Universiteit Rotterdam.
- Roulston, K. (2010). Considering quality in qualitative interviewing. *Qualitative Research*, 199-228.
- Ryle, G. (1949). *The concept of mind*. London: Hutchinson House.
- Sandelowski, M., & Barroso, J. (2003). Classifying the findings in qualitative studies. *Qualitative Health Research*, 905-923.

- Schein, E. H. (1993). How can organizations learn faster? The challenge of entering the green room. *Sloan Management Review*, 85-92.
- Seale, C. (1999). *The quality of qualitative research*. London: Sage.
- Seawright, J., & Gerring, J. (2008). Case selection techniques in case study research: a menu of qualitative and quantitative options. *Political Research Quarterly*, 294-308.
- Shields, P. M., & Tajalli, H. (2006). Intermediate theory: the missing link in successful student scholarship. *Journal of Public Affairs Education*, 313-334.
- Shu, C., Page, A. L., Gao, S., & Jiang, X. (2012). Managerial ties and firm innovation: is knowledge creation a missing link? *Journal of Product Innovation Management*, 125-143.
- Swift, R. (2011). The relationship between health and GDP in OECD countries in the very long run. *Health Economics*, 306-322.
- Ten Cate, O. (2012, June 4). Medical educational reform. (T. F. Hendriks, Interviewer)
- Thakur, R., Hsu, S. H., & Fontenot, G. (2012). Innovation in healthcare: issues and future trends. *Journal of Business Research*, 562-569.
- Tödting, F., Lehner, P., & Kaufmann, A. (2009). Do different types of innovation rely on specific kinds of knowledge interactions? *Technovation*, 59-71.
- Tushman, M. L., & O'Reilly, C. A. (2013). *Winning through innovation: a practical guide to leading organizational change and renewal*. Boston, MA: Harvard Business Press.
- UMC St. Radboud. (2012). *Kaderbrief 2013*. Nijmegen: UMC St. Radboud.
- UMC St. Radboud. (2012). *S@men beter door innovatie; patientgerichte innovatie als aanjager van betere kwaliteit op alle fronten*. Nijmegen: UMC St. Radboud.
- Van de Poel, P. (2013, May). Megamaatschap doet stille machtsgreep. *Skipr*, pp. 10-17.
- Van de Walle, S. (2011). *Developing surveys: concepts and indicators*. Rotterdam: Erasmus University.
- Van de Walle, S. (2012). *Questionnaire design*. Rotterdam: Erasmus University.
- Van de Walle, S. (2012). *Sampling and non response*. Rotterdam: Erasmus University.
- Van der Kraan, W. G. (2006). *Vraag naar vraagsturing; een verkennend onderzoek naar de betekenis van vraagsturing in de Nederlandse gezondheidszorg*. Rotterdam: Optima Grafische Communicatie.
- Van der Pennen, R. M., Berden, H. J., Castelijns, E. C., Vreeman, W. L., & Camps, T. W. (2010). Governance in Dutch hospitals. *Journal on Chain and Network Science*, 121-133.

Varkevisser, M., Van der Geest, S. A., Loozen, E. M., Mosca, I., & Schut, F. T. (2013). *Instellingsoverstijgende maatschappen; huidige ontwikkelingen, mogelijke gevolgen en de aanpak van eventuele mededingingsproblemen*. Rotterdam: iBMG.

Vennik, F. D., Adams, S. A., Faber, M. J., & Putters, K. (2014). Expert and experiential knowledge in the same place: Patients' experiences with online communities connecting patients and health professionals. *Patient Education and Counseling*, 265-270.

Walford, G. (2007). Classification and framing of interviews in ethnographic interviewing. *Ethnography and Education*, 145-157.

West, M. A. (2002). Sparkling fountains or stagnant ponds: an integrative model of creativity and innovation implementation in work groups. *Applied Psychology: an international review*, 355-424.

World Bank Institute. (2011). *The importance of stakeholder ownership for capacity development results*. Washington, D.C.: The World Bank.

Wynen, J., Verhoest, K., Ongaro, E., & Van Thiel, S. (2013). Innovation-oriented culture in the public sector. *Public Management Review*, 10.1080/14719037.2013.790273.

Yin, R. K. (2003). *Case study research: design and methods (3rd ed.)*. Thousand Oaks, CA: Sage.

Appendix: Organizational structure Radboudumc

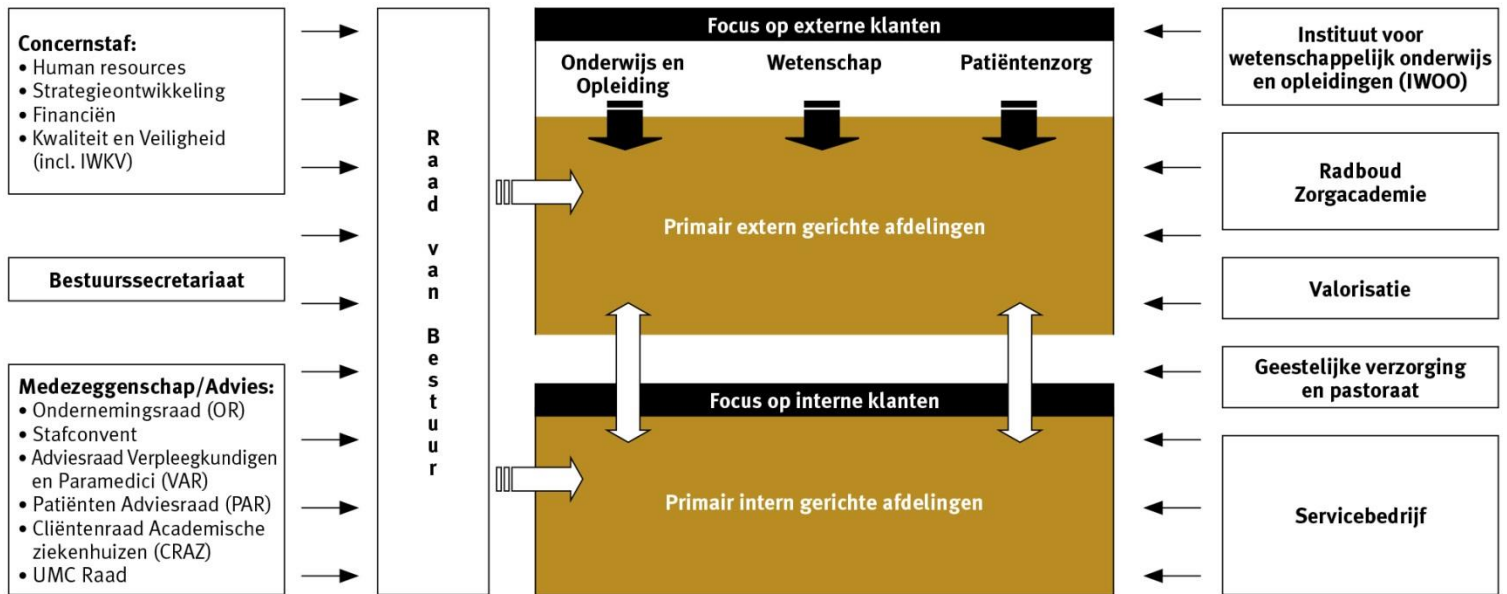


Figure 1: organizational structure Radboudumc⁶

⁶ On November 10th 2013 retrieved from: <http://www.umcn.nl/OverhetRadboudumc//Organisatie/PublishingImages/Organogram.jpg>