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Healthcare Innovation under The Microscope: Framing Boundaries of Wicked Problems

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Healthcare Innovation under The Microscope



**Copenhagen
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HANDELSHØJSKOLEN

Healthcare Innovation under The Microscope

Framing Boundaries of Wicked Problems

Karen Ingerslev

PhD Series 40-2014

LIMAC PhD School
Department of Operations Management

PhD Series 40-2014

Healthcare Innovation under The Microscope

Framing Boundaries of Wicked Problems

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¹ This is subject for further reflections in Chapter 3, as I discuss my approach to fieldwork, being a former employee at the hospital.

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I hope you will enjoy the reading,

Karen

Summery

Purpose: The purpose of this dissertation is to add to our understanding of micro-processes of innovation in a healthcare context. The study asks the research question: ‘How are wicked problems framed in healthcare and how does this framing affects what healthcare professionals attend to when responsible for innovation?’

Methodology: The research project has been carried out as en explorative field study of an innovation project in a Danish hospital setting over a period of four years. The innovation project consisted of a range of workshops, meetings in seven groups of participants, exploratory activities and prototype testing sessions. Each group of participants was considered case units and the work in three of these groups are studied in depths through shadowing techniques (observation and interviews). The groups were chosen due to theoretical sampling of their inclusion or exclusion of different stakeholder perspectives in their framing of problems and thus the boundaries they framed. I present and analyze data through narrative accounts in order to treat data in a context bound manner.

Research Field: Governmental decisions to build new hospitals nationwide and simultaneous significantly reduce budgets and physical space challenge the hospital, which is the specific setting for this study. This complex problem is in the innovation project framed as ‘from 1300 to 800 hospital beds’. The purpose of the innovation project is formulated as finding new ways of managing and organizing work that will allow the hospital to ‘do more and better with less’. This research project considers this context as an important lens to use in the study of innovation. In particular three aspects of the healthcare informed this study: Problems in healthcare tend to be wicked, rather than tame. I suggest using the concept ‘patient trajectories’ in order to address several aspects of this wickedness; the course of illness, the arc of work in healthcare, how this work affects both healthcare professionals and patients, and the individual and subjective preferences and life situation of each patient. I thus suggest

putting ‘healthcare innovation under the microscope’, using two lenses: the framing of these wicked problems and which boundaries are created by this framing.

Findings: The dissertation consists of three papers, preceded by an introduction, a theoretical chapter and a methodological chapter and followed by a conclusion. The analyses in the three papers answer to the three sub-research questions of this dissertation.

The First Paper: ‘Reframing Wicked Problems: A Case Of Healthcare Innovation’ regards the presumption that problems are the outset for innovation. This paper investigates the research sub-question: ‘How do healthcare professionals frame problems and how does this framing affect the kind of solutions that emerge?’ Based on discussions of how problems are conceptualized in innovation literature, I suggest using frame analyses to investigate problem framing processes regarding wicked problems in two narrative accounts, each of which illustrates a pattern in the empirical data: ‘From 1300 to 800 beds’ and ‘The incompetent facilitator’.

The findings in this paper suggest that the search for solutions to wicked problems in healthcare innovation leads to ideas, which requires a reframing of the problem in order for these ideas to appear as solutions. This paper suggests that continual problem framing and reframing processes are cognitive as well as social efforts to find solutions to wicked problems in healthcare, but they are also contested negotiations of power and identity. Reframing reduces complexity by excluding actors and their perspectives on problems, ideas, and potential solutions. The participants might not solve problems, but instead generate new perspectives on what ‘the problems’ might be. Hybrid frames allow for multiple and also diverging and contested perspectives on problems. These findings suggest developing and testing procedures for enabling hybrid framing as an approach to wicked problems.

The Second Paper: ‘The Killing Fields Of Innovation: How To Kill Ideas’ addresses presumptions about opening and closing phases during innovation processes. This paper investigates the research sub-question: Why are ideas killed during opening phases? Based on a discussion of innovation theories concerning what promotes and kills ideas, this paper specifically studies how the framing of innovation promotes or kills ideas. 1650 examples of ideas were identified through explorative field studies. The circumstances of silently or verbally killing ideas were further investigated through interviews, which led to the identification of 6 types of ideas, getting killed: 1) Doublets; 2) Contested Terrain; 3) Copy and Paste; 4) Abstractions; 5) Out of Sync; and 6) Soloists.

This paper demonstrates that ideas are killed during opening phases of innovation processes as well as during closing phases of evaluating ideas. The killing of ideas is not designed for during opening phases in the innovation models used in the innovation project. However, I demonstrate how the design and facilitation of brain storming processes led to clustering of ideas, a design strategy which seemed to kill unique ideas (Soloists).

As the ‘Copy and Paste’ category contests theories of public sector innovation as adopting innovations from other setting, this category of killed ideas was subject to further analyses. The main finding of this paper is that the reframing of the purpose of the innovation project is a key to understand the killing of learning from others as a source of innovation. This reframing from adoption into ambitions of accomplishing radical innovations affects what are considered innovative solutions. The findings of this paper supplement theories of deliberate killing of ideas in closing phases of innovation by suggesting *framing, design, and facilitation of innovation* as unintended ways of killing ideas during opening phases.

The Third Paper: ‘Framing boundaries in healthcare innovation’ addresses presumptions of defining innovations by their positive effects. Instead this paper studies the effects of framing complex problems as a call for innovation across boundaries by asking the research question: How does framing change initiatives as innovation affect which boundaries are approached and crossed? Based on a theoretical discussion of framing and boundaries in relation to innovation, this paper draws on empirical materials regarding the participants’ approach to three kinds of boundaries: 1) the boundary among healthcare professionals from the hospital and general practitioners; 2) the boundary between healthcare professionals and patients; and 3) the boundary between the hospital and the overall healthcare sector. Exemplary narrative accounts of framing and approaching these boundaries were subject to further analyses: 1) ‘What Does This Have To Do With Us?’; 2) ‘Do We Have To Involve Patients?’; and 3) ‘A Note Was Thrown Away’.

The findings of this paper suggest that framing change initiatives as innovation leads to *boundary reconfigurations* in ‘a space for dialogue’, which allow healthcare professionals from different organizations to recognize being colleagues and reframe problems into shared intentions and tasks. However, the innovative framing also leads to unanticipated *boundary moves* through ‘innovation of perspective’ and to unintended *boundary reinforcements* that may exclude the perspectives of patients by means of ‘the patient advocate’. The innovation frame also reinforced the boundaries to other key stakeholders in healthcare by means of design and facilitation.

These diverse framings of boundaries suggest researchers to avoid the ‘effect-bias’: that the effects of innovation are either positive or negative. This paper suggests the analytical move from defining innovations by their valuable effects to studying how framing complex problems as a call for innovation affects boundary reconfigurations, boundary moves and reinforcements.

Overall Conclusions: Conclusively I discuss and synthesise these findings in order to address the overall research question. I suggest that this study in addition to the findings in the empirical analyses has four implications for theory: 1) Problem reframing is a radical innovation; 2) Reframing innovation as radical explains lack of diffusion; 3) The conceptual move from illness trajectories to patient trajectories; and 4) pointing to the risk of an effect bias in innovation studies. Methodologically this study suggests an explorative and engaged approach to answer the call for studies of innovation processes as ‘they move long’. As for limitations of this study, I reflect upon the consequences of my choice of case, the single case design, and my insider-ness. I argue for the value of studying what people do when they intend to innovate and for the use of theory, not the amount of cases as what makes qualitative research valuable and worthwhile. I suggest horizontal peer groups of researcher from other fields as a valuable approach to alienating former insiders from a well-known field as well as the systematic and transparent attention to own reflections while in the field. I suggest implications of this study for research, policy and practice regarding the design, facilitation and management of innovation in healthcare. My concluding remarks suggest to further develop patient trajectories as a frame for innovation in healthcare.

Dansk resumé

Formål: Formålet med denne afhandling er at bidrage til vores forståelse af mikroprocesser i innovation i sundhedsvæsenet. Jeg har undersøgt forskningsspørgsmålet: 'Hvordan bliver forheksede problemer rammesat i sundhedsvæsenet og hvordan påvirker denne rammesætning sundhedsprofessionelles opmærksomhed, når de forsøger at innovere?'

Metode: Forskningsprojektet er gennemført over 4 år som et eksplorativt feltstudium af et innovationsprojekt på et dansk hospital. Innovationsprojektet bestod af en række workshops, møder i de syv grupper af deltagere, undersøgende aktiviteter og afprøvninger af ideer til løsninger. Jeg har betragtet hver gruppe af deltagere som analyse-enheder og har studeret arbejdet i tre af grupperne i dybden ved hjælp af 'shadowing' teknikker (observation og interviews). Valget af grupper er teoretisk informeret på baggrund af deres inklusion eller eksklusion af forskellige interessent-perspektiver i rammesætningen af problemer og dermed de grænser, de drager. For at være tro mod konteksten i behandlingen af data, fremstiller og analyserer jeg data gennem vignetter.

Forskningsfelt: Regeringsbeslutninger om at bygge nye hospitaler over hele landet og samtidigt reducere hospitalernes budgetter og den fysiske plads, de har til rådighed, udfordrer hospitalet, som danner rammen for dette studium. Disse komplekse problemer bliver i innovationsprojektet rammesat som 'fra 1300 til 800 senge'. Formålet med innovationsprojektet formuleres som et ønske om at finde nye måder at lede og organisere arbejdet på, som gør det muligt for hospitalet at 'gøre mere og bedre for mindre'. Forskningsprojektet anser denne kontekst for en vigtig linse at undersøge innovation igennem. Især tre aspekter ved sundhedsvæsenet informerer dette studium: Problemer i sundhedsvæsenet er snarere forheksede end simple. Jeg foreslår at bruge begrebet 'patient trajektorier' for at adressere adskillige aspekter ved denne 'forhekselse': selve sygdomsforløbet, helheden at alt dét arbejde, der foregår i et

sundhedsvæsen, hvordan dette arbejde påvirker både sundhedsprofessionelle og patienter, og den enkelte patients individuelle og subjektive præferencer og livssituation. Jeg foreslår at vi lægger innovation i sundhedsvæsenet under mikroskopet, og bruger følgende to linser: hvordan rammesættes disse forheksede problemer og hvilke grænser drages gennem denne rammesætning?

Resultater: Afhandlingen består af tre artikler, som indrammes af en introduktion, et teori-kapitel, et metode-kapitel og en efterfølgende konklusion. Analyserne i de tre artikler svarer på hvert af afhandlingens tre de del-forskningsspørgsmål.

Den første artikel: 'Omfortolkninger Af Forheksede Problemer: En Case Om Innovation I Sundhedsvæsenet' adresserer formodningen om at problemer er afsæt for innovation. Artiklen undersøger del-forskningsspørgsmålet: Hvordan rammesætter sundhedsprofessionelle problemer og hvordan påvirker denne rammesætning hvilke løsninger der viser sig? På baggrund af diskussioner af hvordan problemer bliver forstået i innovationslitteraturen, foreslår jeg at analysere hvordan forheksede problemer rammesættes i to vignetter, som hver illustrerer et mønster i empirien: 'Fra 1300 Til 800 Senge' og 'Den Inkompetente Facilitator'

Resultaterne fra denne artikler indikerer at når vi leder efter løsninger til forheksede problemer i sundhedsvæsenet, kan vi få ideer, som kræver at vi omfortolker problemer for at få disse ideer til at fremstå som løsninger. Artiklen foreslår at kontinuerlig rammesætning og omfortolkning af problemer er kognitive såvel som sociale bestræbelser på at finde løsninger på forheksede problemer i sundhedsvæsenet, men at det også er stridsfulde forhandlinger om magt og identitet. Omfortolkningerne af problemer reducerer kompleksitet ved at ekskluderer aktører og deres perspektiver på problemer, ideer og mulige løsninger. Deltagerne løser formentlig ikke problemer, men genererer i stedet nye perspektiver på hvad problemet kunne være. Hybride

rammesætninger kan rumme adskillelige divergerende og stridende perspektiver på problemer. Implikationerne af disse resultater peger på at udvikle og teste procedurer som muliggør hybrid rammesætning som tilgang til forheksede problemer.

Den anden artikel: Innovationens 'Killing Fields' – Hvordan Man Slår Ideer Ihjel' adresserer antagelsen om åbnende og lukkende faser i innovationsprocesser. Denne artikel undersøger del-forskningsspørgsmålet: Hvorfor bliver ideer slået ihjel i de åbnende faser? Baseret på en diskussion af teorier i innovationslitteraturen om, hvad der henholdsvis fremmer og slår ideer ihjel, undersøger denne artikel mere præcist, hvordan rammesætningen af innovation fremmer eller slår ideer ihjel. 1650 eksempler på ideer blev identificeret gennem eksplorative feltstudier. Omstændighederne omkring hvordan ideer bliver slået verbalt eller tavst ihjel blev undersøgt nærmere gennem interviews, som førte til identifikation af 6 forskellige typer af ideer, som blev slået ihjel: 1) Dubletter, 2) Kampzoner, 3) Kopier, 4) Abstraktioner, 5) Asynkrone ideer og 6) Solister.

Artiklen viser at ideer både bliver slået ihjel i de åbnende faser i innovationsprocesser og i de lukkende faser, hvor man evaluerer ideer. Det er ikke en del af designet i den innovationsmodel, man bruger i innovationsprojektet at slå ideer ihjel. Alligevel kan jeg vise hvordan både design og facilitering af brainstorming sessioner fører til gruppering af ideer, en design strategi som ser ud til at slå de unikke ideer ihjel (Solisterne). Da 'Kopi' kategorien udfordrer teorier om innovation i den offentlige sektor som en måde at bruge andres innovationer på i en ny sammenhæng, blev denne kategori af ideer genstand for yderligere analyser. Hovedresultatet af disse analyser er at omfortolkningen af formålet med innovationsprojektet er en nøgle til at forstå hvorfor dét at lære af andre som en kilde til innovation blev slået ihjel. Omfortolkning fra at tilpasse andres innovationer i en ny sammenhæng til ambitioner om at opnå radikal innovation påvirkede, hvad man anså for at være innovative løsninger.

Resultaterne i denne artikel supplerer teorier om hvordan man planlægger at slå ideer ihjel i de lukkede faser af innovationsprocesser med forslag om at *rammesætning, design og facilitering* af innovation utilsigtet slår ideer ihjel i de åbne faser.

Den tredje artikel: 'Grænsedragninger I Innovation I Sundhedsvæsenet' adresserer antagelsen om at definere innovationer ved deres positive effekter. I stedet studerer denne artikel effekterne af at rammesætte komplekse problemer som et råb om innovation på tværs af grænser ved at stille del-forskningsspørgsmålet: Hvordan påvirker rammesætningen af innovationsprojektet som *innovation* hvilke grænser, der adresseres og krydses? Baseret på teoretiske diskussioner af begreber om rammesætning og grænser i forhold til innovation, trækker denne artiklen på empirisk materiale om deltagernes tilgang til tre typer af grænser: 1) grænsen mellem sundhedsprofessionelle fra hospitalet og praktiserende læger, 2) grænsen mellem sundhedsprofessionelle og patienter og 3) grænsen mellem hospitalet og hele sundhedssektoren. Eksemplariske vignetter om rammesætning og tilgangen til disse grænser er genstand for de videre analyser: 1) Hvad Har Det Med Os At Gøre? 2) Behøver Vi At Involvere Patienter? og 3) En Seddel Blev Smidt Væk.

Resultaterne af disse analyser peger på at rammesætningen af innovationsprojektet som *innovation* fører til re-konfigurering af grænser i et 'rum for dialog', som gør at sundhedsprofessionelle fra forskellige organisationer anerkende hinanden som kolleger og omfortolker problemer til fælles intentioner og opgaver. Rammesætningen som innovation fører imidlertid også til uventede bevægelser af grænser gennem 'innovation af perspektiv' og til ikke-intenderede forstærkninger af grænser, som ekskluderer patienters perspektiv ved hjælp af en patientadvokat. Rammesætningen som innovation forstærker også grænsen til andre interessenter i sundhedsvæsenet på grund af design og facilitering.

Disse forskellige grænsedragninger antyder at forskere skal søge at undgå 'effekt'-bias: at effekterne af innovation antages at være enten positive eller negative. Artiklen argumenterer for en analytisk bevægelse fra at definere innovationer ved deres værdifulde effekter til at studere, hvordan rammesætningen af komplekse problemer som et råb om innovation påvirker re-konfigurering af grænser, bevægelser og forstærkninger af grænser.

Overordnede konklusioner

Afslutningsvis diskuterer og syntetiserer jeg disse resultater for at adressere det overordnede forskningsspørgsmål. Udover de allerede nævnte resultater af de empiriske analyser, viser jeg at dette studium har fire teoretiske implikationer: 1) Omfortolkning af problemer er radikal innovation, 2) Omfortolkning af innovation som radikal forklarer manglen på spredning, 3) Den begrebsmæssige bevægelse fra sygdoms-trajektorier til patient-trajektorier og 4) Påpejningen af risikoen for effekt-bias i innovationsstudier. Metodisk bidrager studiet med en eksplorativ og engageret tilgang som svar på efterlysningen af studier af igangværende innovationsprocesser. Studiet har sine begrænsninger, grundet valg af case, single case designet og min rolle som tidligere insider. Jeg argumenterer for værdien af at studere hvad mennesker gør når de forsøger at innovere og for brugen af teori frem for antallet af cases som dét, der gør kvalitativ forskning værdifuld og umagen værd. Jeg foreslår forskerfællesskaber på tværs af fag som en brugbar tilgang til at fremmedgøre mig selv fra et velkendt felt, såvel som systematisk og gennemsigtig opmærksomhed på egne refleksioner under feltarbejdet. Jeg peger på en række implikationer af dette forskningsprojekt for forskning, politik og praksis, angående design, facilitering og ledelse af innovation i sundhedsvæsenet. Mine konkluderende bemærkninger handler om at bruge patient-trajektorier som rammesætning af innovation i sundhedsvæsenet.

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Chapter 1: Introduction

This dissertation is the result of an explorative field study of an innovation project at a large Danish hospital. It explores how wicked problems in healthcare are continually framed and reframed and how this framing affects healthcare professionals' attentions and actions throughout the innovation project. In doing so, this study responds to calls for context-sensitive studies of innovation (Hartley 2013, Nauta, Kasbergen et al. 2009). The dissertation contributes to the research field in healthcare innovation with analyses of micro processes of framing and innovation and questions three main conceptions about innovation: 1) problems are the outset for innovation; 2) opening and closing phases of innovation processes; and 3) innovations as defined by their positive and intended effects.

This chapter sets the scene by introducing the problems in healthcare, which makes this study relevant. The four main concepts of the study are presented: wicked problems, innovation, framing and boundaries. This leads to the research questions and an overview of the papers. The innovation project and healthcare as context for this case are then outlined including two empirical stories from the field. Especially two aspects of healthcare are pointed out as central to the study of healthcare innovation: patient trajectories and coordination across specialist functions. Finally the introduction gives an overview of the structure of the dissertation.

Healthcare in Trouble

Healthcare work addresses categories of illnesses, as well as caring for patients as individuals. Across healthcare sectors, politicians and bureaucrats describe a key challenge as 'producing better healthcare services with fewer resources' (Ministry of Health and Prevention 2010a). At the same time, these healthcare sectors experience an explosion of possibilities, e.g. new treatments and increasing demands for services

from increasingly knowledgeable and demanding patients (Crepaldi, De Rosa et al. 2012). The seemingly counteracting forces of increasing demands and possibilities and fewer resources lead many healthcare professionals and researchers to the conclusion that 'healthcare is in trouble'. My English reviewer has provided me with a peculiar illustration of how incomprehensible these troubles are. He continually altered my descriptions of the problems in this dissertation in order to appear logical: 'sorry but you cannot have increasing possibilities and decreasing resources at the same time.' The situation in healthcare is however that possibilities are exploding as healthcare professionals are able to treat still more kinds of illnesses, but political priorities and the global financial crisis mean that there is not sufficiently funding for these new possibilities. Healthcare is thus, like many other societal arenas characterized by so-called 'wicked' rather than 'tame' problems (White 2000, Churchman 1967).

Wicked Problems

Healthcare sectors deal with complex issues like lifestyle related diseases and equal access to healthcare. In addition to these large scale problems regarding whole populations and also politics, problems in healthcare become wicked due to the fact that healthcare work is 'people work', which means that the 'product' being worked on, over or through is not inert. The patients react, and this affects the work (Strauss, Fagerhaugh et al. 1997 p. xv). An example of this complexity is the interaction between specialist evidence-based medicine and the subjectivity of individual patients, when determining the 'best' treatment and care for a patient. Wicked problems are not subject to finite right or wrong solutions. 'Wicked problems' can be defined as:

A class of social system problems that are ill-formulated, where the information is confusing, where there are many clients and decision makers

with conflicting values and where the ramifications in the whole system are thoroughly confusing (Churchman (1967) here quoted in Buchanan 1992:15).

The consequence of confusion or conflicting values between different stakeholders is that wicked problems cannot be precisely formulated, and they can only be partly solved (White 2000, Conklin 2005). Kreiner (2014) argues that the process of addressing wicked problems only stops because we run out of time, not because we have reached a final solution. By proposing solutions, new aspects and new dimensions of the problem are discovered. What can be achieved are more or less informed actions that cope more or less successfully with the situation at hand. This research project draws on the concept of ‘wicked problems’ as a way to characterize seemingly unsolvable issues and as a way to acknowledge the issues at stake, when human beings with individual emotions, relations, preferences, and past experiences become ill and enter healthcare as patients. Likewise, professionals in healthcare bring their expertise and emotions, relations, preferences, and past experiences into healthcare work as well (Strauss, Fagerhaugh et al. 1997). These human and social conditions of illness and for healthcare work are keys to understanding the wickedness of problems in healthcare. Below I address this as ‘patient trajectories’.

When change initiatives like the case ‘innovation project’ address problems in order to find solutions, this wickedness has implications for what the healthcare professionals participating in the innovation project attend to and do when they are responsible for innovation. However, researchers suggest that wicked problems call for innovation (Bason 2010).

Innovation

Innovation is typically described as a process addressing *problems, needs, or possibilities* (Bason 2010). This process can for analytical reasons be regarded as three different phases: invention, implementation, and diffusion (Hartley 2013 p. 47). Sørensen and Torfing (2011 p. 8) suggest that we regard innovation as an: 'intentional and proactive process that involves the generation and practical adoption and spread of new and creative ideas, which aim to produce a qualitative change in a specific context'. Bason (2010 p. 34) calls this qualitative change 'turning new ideas into value for society'.

The innovation process is conceptualized in different ways, e.g. as divergent and convergent phases of *discover, define, develop, and deliver* (British Design Council 2007). *Discover* is an opening phase of exploring the problem and existing solutions. *Define* is a closing phase of analyzing data from the *Discover* phase. *Develop* is an opening phase of generating ideas for solutions and *deliver* is a closing phase of choosing and conceptualizing ideas for testing. The divergent phases are thus described as opening the field of possible ideas and the convergent phases closes the field by analytical sense making and making choices.

Innovation has become an imperative in the public sector in general and specifically in healthcare. When the European Ministers of Health gathered in Denmark in April 2012, the headline was 'Smart Health – Better Lives: Moving Innovation ahead in Europe (www.sum.dk 2013). The message from the ministers to healthcare managers and professionals were, with the words of Csikszentmihalyi (2006) that innovation 'is no longer a luxury for the creative few'. Rather, the European ministers regard innovation as a necessity for all public organizations, because OECD countries lack

funding to carry the burden of increasing costs of healthcare (Ministry of Health and Prevention 2010a). Innovation is viewed as a creative way of handling cutbacks by providing more or better services for less. In the Danish regional and municipal governments, these ‘new and creative ideas’ in a healthcare context regard new products such as medico-technical solutions to support home care and new treatments from clinical breakthroughs. The call for innovation also involves new work processes and ways of collaborating within and across organizations and professions (Danish Regions 2012, Local Government Denmark 2012). In this sense, innovation is regarded as a way to create qualitative change in patient treatment and care as well as in handling the constrained economy in public healthcare service delivery.

This is also the way innovation is regarded in the innovation project under study. Hence ‘innovation’ is used to describe an intention of finding solutions to problems that produce qualitative and valuable change. This conception of innovation will be elaborated and critically discussed in Chapter 2. My study illustrates how these presumptions about the intended outcome, as well as the design and facilitation of the innovation project interact with the wicked problems and influence the participating healthcare professionals to continually frame and reframe problems.

Framing

Framing is a matter of how we perceive a problem (Schön & Rein 1994). This dissertation argues that framing and reframing are key aspects of healthcare professionals’ attentions and actions during an innovation project. Goffmann (quoted in Lemert & Branaman 1997) found that frames, understood as cognitive psychological structures, help people to *locate, perceive, identify and label* occurrences within their life space and the world as such. Social Movement Theory, inspired by the work of

Goffmann, suggests that we view framing processes as interactive, and not only as individual cognitive activities (Bedford & Snow, 2000). In this perspective, frames can be contested as well as successfully facilitate the negotiation of alignment in interaction. Schön and Rein (1994) argue that the framing of problems, solutions, and how they are created are deeply intertwined and cannot be separated.

Brookes and Grint (2010) describe how people often display *contradictory certitudes* about wicked problems, meaning that people are absolutely certain about completely different solutions to problems. As elaborated in Chapter 2, this kind of wickedness relates to the way problems are *framed* in different and often contested ways. As we will see in the analyses in Chapter 6, the patients who were interviewed in the waiting room at the general practitioners clinic e.g. framed problems as a matter of ‘cold’ employees and lack of sedation with medication, whereas the healthcare professionals doing the interview framed problems as a matter of patients having an individualized perspective on healthcare and patients lacking the will to use their own resources to support the closing of hospital beds.

A framing and reframing perspective of wicked problems indicates that we take a closer look at the innovation characteristic ‘qualitative and valuable change’. If there are no solutions as such to wicked problems, this study suggests that we rethink what we regard as the outcome of innovation as qualitative and valuable change. The effects of problem solving are better understood as better or worse developments (Brookes & Grint 2010). The question is rather whether, where and for whom these efforts lead to *qualitative and valuable change* When we propose solutions to wicked problems, we discover new aspects and dimensions of the problem and consequential this study

suggests that we must also rethink our understanding of problems as the outset for innovation as a matter of problem framing processes. As Leonardi (2011 p. 349) states:

Problem definition is not always a straightforward task because problems do not exist 'out there' waiting to be found and solved. During its earliest stages, innovation might best be cast as a process of problem construction.

However, wicked problems do not only challenge how we think about valuable effects and intentions of producing valuable change. Wicked problems are not only going on within the realm of the hospital, but are distributed across a range of institutions within the healthcare sector, as well as in the private sphere of civic society. The main reason being that a range of healthcare organisations and professions are part of patients' pathways. Even though innovations might be of value within an organizational setting, they might have unforeseen consequences in this larger healthcare context. Framing problems marks what is relevant and inside and what is outside. Framing problems thus creates boundaries.

Boundaries

Conceptualizations of boundaries, boundary crossing, and boundary objects allow for addressing innovation in the particular context of healthcare, where patients, work processes as well as problems cross boundaries among professions, organizations and sectors. According to Akkerman and Bakker (2011) boundaries mark differences, which leads to discontinuity in action and interaction. Boundaries thus establish connections (relevance) as well as gaps (discontinuity) e.g. in patient pathways. This duality of relevance and discontinuity emphasizes the advantages as well as pitfalls of

specialization within specific healthcare domains. Healthcare organizations are often characterized by silos, not only due to the institutional context for healthcare services (Frølich, Diderichsen et al. 2011) but also due to the many types of specialists working in healthcare organizations (Seemann, Dinesen et al. 2013) and an inability to bridge interdependencies and combine different skills and knowledge domains (Länsisalmi, Kivimäki et al. 2006). The framing of wicked problems in healthcare innovation affects how healthcare professionals attend to and attempt to coordinate across or reinforce boundaries.

Based on the above key concepts, the dissertation poses the following research question and sub-questions, which all address different ways of framing problems during the innovation project. The innovation project, which I present below, is a case example of a change initiative, which is designed and facilitated with the intention to generate new and creative ideas in order to produce qualitative and valuable change. After the case presentation, characteristics of healthcare and two stories from the field serve to illustrate the context in which this innovation project takes place. These stories also serve to anticipate the study's methodology addressed in detail in Chapter 3.

Research Questions

The overall question of the study is:

How are wicked problems in healthcare framed and how does this framing affect healthcare professionals' attention and actions, when responsible for innovation?

The three sub questions are addressed in the three papers (Chapters 4, 5 and 6):

1. How do healthcare professionals frame problems and how does this framing affect the kind of solutions that emerge?

Chapter 4, comprising the first paper, investigates this question. Both linear and dynamic theories of processes in the early phases of innovation assume an identification of a problem as the outset for innovation. By using frame analyses, this paper poses an alternative perspective and explains innovation processes in healthcare as a continual framing and reframing of problems. The reframing of problems affects and is affected by the ideas for solutions produced during the process. The paper proposes that the generation of hybrid frames during innovation processes in healthcare can offer new perspectives on problems. Reframing problems is thus not only viewed as identifying a problem as the outset for innovation. Reframing problems turns out to be the qualitative and valuable effect of innovation processes, which calls for designs and procedures that enable hybrid problem reframing.

Chapter 5, comprising the second paper, focuses on the effects of the rhetoric that wicked problems must be solved by means of radical innovation for the invention phase of innovation. The invention phase is conceptualized as ‘opening phases’ of idea generation as well as closing phases of abandoning and selecting ideas. The second sub-question addresses an empirical observation that made me wonder:

2. Why are ideas killed during opening phases?

The analyses in this paper address how managers and human resource consultants frame problems, design and facilitate innovation processes and how this affects the generation and abandoning of ideas. As for the process of innovation, the dissertation contributes to theories that address difficulties in the spread of innovation in healthcare

by pointing to the negative consequences of framing wicked problems as a call for *radical* innovation. During opening phases of innovation processes, this radical framing as well as facilitation inspired by design models imply that the adaption of innovative solutions from other settings is perceived as non-innovative and that potential transferable lessons are lost as a consequence.

Chapter 6, which comprises the third paper investigates how the framing of problems also frame which boundaries that participants attend to and cross. The third sub question is:

3. How does the framing of change initiatives as innovation affect which boundaries are approached and crossed?

The purpose of this analysis is to show that boundaries among healthcare organizations, healthcare professionals, and patients are reconfigured when wicked problems are framed in order to be solved by means of innovation. The framing of change initiatives as innovation leads to both intentional as well as unanticipated boundary crossings through which healthcare professionals from different organizations recognize a shared problem and task. It also leads to unintended boundary reinforcement between ‘them and us’, which allows for the exclusion of patient or stakeholder perspectives. This paper thus suggests an analytical reorientation from studying effects of innovation to studying how boundary crossing and boundary reinforcement are affected by the framing that wicked problems must be solved by means of innovation.

The Case and its Context

As I present the context and the case of this study, I am well aware that this is also an act of framing. Other researchers or the healthcare professionals participating in the innovation project might frame the case differently. I attempt to make my framing transparent for the reader and to allow for the readers' alternative framings by presenting rather lengthy narrative accounts from the field study. These accounts have all been subject to dialogue with the participants involved.

Healthcare contexts restrict as well as enhance possibilities for change and innovation (Dopson & Fitzgerald 2008). Pettigrew (1992) suggested that 'context' refers to the outer social, economical and political environment as well as the inner structure, culture, history and political context. I will now briefly touch upon these outer and inner contexts for the present study and how these contexts mediate a call for innovation. I then present the case: a change initiative, called 'the innovation project', initiated by hospital managers in order to address problems in constructing new hospital buildings combined with budget cuts. The aim of the innovation project was to invent new ways of working and collaborating within the hospital and across the healthcare sector. In this project, innovation was defined as a creative way of handling constraints and budget cuts by doing 'more and better with less'.

The specific occasion of this study is a national hospital sector reform in Denmark, which means that new highly specialized acute hospitals will be designed and built within the next ten years (Danish Health and Medicines Authority 2007, Danish Ministry of Finance 2007). As a result, smaller hospitals will close or be merged, municipality-based healthcare centres will expand, and the general practitioners' role will change (Danish Regions 2012). Within five years, the somatic university hospital,

which hosts the case innovation project of this study, will move to new buildings, which due to budget cuts are substantially smaller than the current building structure. The current 1300 hospital beds must be reduced to only 800.

Managers as well as healthcare professionals display no doubt that the organization of healthcare work at the hospital needs to change in many ways in order to enable the hospital to move into the new buildings. One of these changes could be that patients should be hospitalized for an even shorter duration than today and instead treated by their general practitioners, or at home by outreach programmes and municipality-based care. This kind of change implies new ways of organizing patient pathways, healthcare work and management processes within and across professions, disciplines, and departments at the case hospital and throughout the public healthcare sector in Denmark.

The hospital managers respond to this pressure to change in a number of ways: they begin the process of reducing the number of hospital beds while still in the old building structure, which means also reducing their nursing staff; they systematically invert all patient journals in order to evaluate whether there are any patients lying in hospital beds, who could receive treatment elsewhere, at nursing homes etc. They expand their collaboration with primary care units to improve follow up visits to patients at home after hospitalization in order to reduce the number of re-hospitalizations. These initiatives are all examples of how hospital managers try to find ways to overcome the challenge of 'doing more and better with less'. The challenges faced by the case

hospital have also fuelled a call for ‘innovation’, which leads to the ‘innovation project’ addressed below².

Case: ‘The Innovation Project’

The management of the case hospital (CEO, Medical Director and Nurse Director) regards ‘innovation’ and ‘management’ as important elements of the change agenda in the hospital and in healthcare in general. They thus respond to what they experience as a pressure to change also as a matter of healthcare professionals’ capacity to innovate. The hospital management refer to a range of ‘local heroes’ throughout the hospital, who continually figure out new and better ways of doing things. However the managers regret that these new procedures seldom spread to other areas within or outside the hospital. The CEO addresses this challenge as a matter of improving ‘innovation management’: ‘How can we become better at learning from each other and not having to reinvent the spoon over and over again?’ The hospital management combine their experiences of a pressure to change and need for enhancing innovation capacity in what comes to be the ‘innovation project’.

Their intention is that the innovation project should address some of the problems, regarding organization, collaboration, and management of patient pathways within the hospital and across the healthcare sector, which are caused by the new buildings and the budget cuts. The project is initiated top down, but involves department managers at the hospital by asking them to point out problems within organization, collaboration, and management, which they are not able to solve within their own departments. Human resource consultants and the hospital management gather long lists of

² The case description is created on the basis of interviews, observations, and document analyses: for further details on methodology, see Chapter 3.

challenges pointed to by department managers and condense these into four superordinate themes for the innovation project to address. The four themes are 1) managing across organizational and professional boundaries, 2) shared leadership, 3) rethink service and administration functions in line with hospital core mission and tasks and 4) alternatives to hospitalization.

The innovation project rests on an assumption of diversity as important for innovativeness: that it might be fruitful to involve employees from a range of hospital departments in trying to find innovative solutions to the problems posed. 38 healthcare professionals are pointed out by each of their department managers as ‘talented with regards to innovation and management’. The employees are thought to possess knowledge of the needs of patients and the problems and possibilities you face when working at the hospital. The intention, guiding the innovation project, is to simultaneously generate new and creative ideas for solutions to problems and to improve the innovative capacity of healthcare professionals as well as their ability to manage innovation processes leading to qualitative and valuable change.

They participate in a series of workshops, where human resource consultants present innovation theories, models, and tools and guide the work processes from late 2010 till early 2012. The participating healthcare professionals work between workshops in seven groups on specific themes and problems regarding organization, collaboration and management of patient pathways and test ideas for solutions. These work processes primarily take the shape of meetings, dialogue sessions and visits to patients and healthcare professionals from different disciplines, departments and organizations. During these encounters, the healthcare professionals, participating in the innovation project are supposed to test a variety of ideas for solutions in order to create feedback

for further refinement of solutions. The human resource consultants' and hospital managers' framings of the problems to address during the innovation project into four themes lead to a range of choices of design, methods, and facilitation styles in the innovation project. In this study however, I am curious to study what people actually do, when responsible for innovation in this particular healthcare context. In the next section I offer two illustrative stories from my fieldwork, which will be elaborated in Chapter 3 on methodology. They serve as windows for the reader to getting a sense of what is going on in the innovation project and also of what is going on in healthcare.

Patients' Perspectives Get Excluded

One of the groups in the innovation project explores the theme 'Alternatives to hospitalization' from the patients' perspective, as they believe patients have a lot of resources to put into their own healing process. A charge nurse and charge physiotherapist from the group invites me along to a general practitioner's clinic to interview patients.

The charge nurse tells the first interviewee, an elderly man, about the reduction of hospital beds from 1300 to 800, and asks: 'What do you need in the future? Which resources could you mobilize into the collaboration among you, the hospital and your general practitioner?'

The many patients interviewed this afternoon are mystified by these questions, making sense of them in their own ways. Ove tells about his uncle who had prescriptions for 236 different kinds of pills, and was really ill and confused: 'That's murder' as he puts it. When his medication was reduced to four different kinds of pills, he became normal. Other patients sense warmth in some hospital departments and coldness in others. They share what works out, like when the general practitioners examined a sore throat,

took a blood sample, and found a severe blood cancer, and stories of things not working like answering the same questions again and again. They share their insecurity, anger and also how impressed they are with the healthcare professionals, especially how nice they are.

Leaving the clinic after several interviews, the charge nurse and the charge physiotherapist are clearly frustrated: 'Why were the patients not able to relate to the whole system that we are trying to innovate? They were just talking about their own illness! None of them talked about what resources they could mobilize. It's all about us being nice to them. Maybe we really need to be clear about our expectations and demands to the patients?' They both begin to doubt the idea of bringing patients into dialogue with healthcare professionals from the hospital and general practitioners in order to find alternatives to hospitalization by activating patients' resources.

A couple of weeks later, other members from this group visit a regional hospital, which has advanced accelerated patient pathways, based on patients' needs. They meet an anthropologist who is employed at the hospital to advocate the patients' perspectives in dialogues with healthcare professionals. They immediately adapt this idea and test the 'patient advocate' in dialogues with healthcare professionals from the hospital and general practitioners.

This story, which I will return to in Chapter 6, serves to illustrate how healthcare work, professionals and patients affect the micro processes of the innovation project and how intentions of involving patients in finding shared solutions to problems are challenges in this particular context. The healthcare professionals, participating in the innovation

project, ask questions that presupposed solutions to the problems faced by the hospital: activate patients' resources. The patient advocate, as a solutions, presupposes a 'standardized' patients with certain kinds of needs and resources to offer. The standardized patient seems easy to fit into improving the healthcare 'machine' through innovation. But the standardized patient does not exist and thus healthcare cannot work as a machine. If the hospital has to change in ways that includes flexibility and individual fit, how does this affect the healthcare professionals' approach to innovation?

Still, individuality is not the only challenge to the search for solutions to problems in healthcare. So is the dramatic increase of people suffering from and living with chronic diseases (Crepaldi, De Rosa et al. 2012, Danish Regions 2012, Gittell 2012). Today, most patients do not get well again after incidents of illness and disease. They remain within the healthcare sector for ambulant check-ups and further hospital treatments, and tend to move back and forth among general practitioners, hospitals, and home care. This condition profoundly affects the image of healthcare: citizens become ill, are treated, and cared for, where after they get well again. In order to illustrate chronic illnesses as complex conditions for innovation in healthcare, I will share another story from my field study. In doing so, I try to 'walk in the shoes of the patient' (Scharmer 2008), to zoom in on an individual patient, and I intend to use the learning from this walk to point out two key aspect coming into view when we use the individual patient's attention and actions as lenses in the study of innovation.

Anna's Illness – 'A Whole Life'

Anna is the pseudonym of one of the patients, who participated in the innovation project under study. She is in her mid-50s and suffers from eczema, which causes

severe skin eruption and itching. Anna has been periodically hospitalized for 13 years, but she still suffers from bouts of discomfort. Anna explains that sometimes: 'it gets so bad that I cannot use my hands or even walk. I have tried almost everything on the market – and it just doesn't work for me'. She lost her job as a visiting nurse due to her long-term sick leave: 'This last year, I was not hospitalized in December, February, June and August – other than that, I was most of the time hospitalized three weeks in a row. I have hardly been at home'.

Anna has a long drive to the outpatient clinic in the dermatology department of the case hospital where she receives her specialist treatments: 'I wouldn't like to drive back and forth for outpatient treatments. I live 50 km away from the hospital and cannot get any mileage allowance. Here at the hospital, they have abilities, which I don't have. I can put on lotions and take pills at home, but it doesn't help me. I don't want to involve my husband in this. Here I just have to enter the door and everything gets better'. Her treatments are a combination of rest, lotions, light treatment, and red baths. Often she needs two baths a day to soothe her pain. She further explains: 'At home I have to cook, clean, do laundry – a thousand things. Here I get nursed all the time and that calms me down'.

She does not involve her general practitioner in her skin condition, as he does not have the knowledge and expertise to help her: 'my GP is no good', Anna explains. At times, when there is no room for her at the hospital, she asks her general practitioner for a referral to a private specialist. She prefers hospitalization and does not want visiting nurses in her house to help her out with the lotions: 'When you are at home and can't do anything – you can't tidy up. I don't want strangers in my house when it is such a mess'. Anna used to be a visiting nurse herself, and she explains that she is ashamed to

allow her former colleagues into her home as she hardly has the energy to clean and tidy.

This small example illustrates some of the complexity at hand, when healthcare professionals approach problems regarding patient pathways, collaboration, and management in healthcare in order to find innovative solutions. This is clearly not ‘a problem’, but a ‘messy’ situation with conflicting values. Anna’s story indicates that a lot more than illness is at stake in healthcare. Her chronic skin disease is only part of a larger picture - a whole life - that includes Anna’s marriage, employment, residential location, and emotions, all apart from her suffering due to a chronic disease. Anna’s preferences are personal and understandable. From a political, managerial, and economic perspective, her local general practitioner and a visiting nurse should provide her treatments in order to reduce hospitalizations and thereby save money. Nevertheless, Anna contests the straightforward solution of being referred for treatments outside the hospital due to her life situation as a whole. We could even ask: Why does the hospital physician then admit her to hospitalization? These and other aspects of being a patient and working as healthcare professionals are addressed below in order to further unfold the context for healthcare innovation.

Bringing Work Back In

Based on the two stories and the above introduction to the wickedness of problems in healthcare, I now derive two aspects which - according to the analyses of problem framing in Chapter 4 and of boundaries in Chapter 6 - are central to studies of innovation in healthcare contexts: patient trajectories and coordination across specialist functions. In doing so I am inspired by Barley and Kunda (2001 p. 90), who argue for ‘bringing work back in’ to the study of e.g. organization, management, and leadership:

'The dearth of data on what people actually do (...) leaves us with increasingly anachronistic theories and outdated images (...)'. I intend to bring in patients' perspectives and healthcare work forth as crucial aspects of the inner context for and thus wickedness of healthcare innovation.

It is apparent from Anna's story that a sequence of steps in a chronic patient pathway among hospital, general practitioner and home care does not take the totality of healthcare work into account. Strauss and colleagues (1997) suggest that we address a story like Anna's as an *illness trajectory*. Illness trajectories include the physiological unfolding of the patients' disease (the course of illness), the total organization of work done over the course, plus the impact on those involved with that work, and its organization. Anna's illness trajectory is characterized by her evolving skin condition, the work being done by the staff at the dermatology department, her general practitioner, and home care nurses and how this evolving illness and work affect all the people involved. For different kinds of illnesses, the illness trajectory will involve a range of medical and nursing actions, diverse skills and resources, a customized parcelling out of tasks among the workers (including perhaps kin and patient), and quite different relationships (both instrumental and expressive) among the workers. Strauss and colleagues (1997 p. 262-263) make the distinction between viewing patients as *objects of or participants in* healthcare work. The patient as object is treated as if he or she were non-existent. The patient as participant is explicitly regarded as a member of the working team. My story above from the general practitioners' clinic suggests that it can be challenging for healthcare professionals to approach patients as participants. In addition, I will argue below that Anna is much more than an object or a participant in an illness trajectory.

Patient Trajectories

Anna's story is far more complex than her evolving skin condition. It is not simply the course of her illness. Her illness trajectory is characterized by her regular visits to the hospital to receive treatments. But her exclusion of the skills and resources of her general practitioner, visiting nurses, as well as her husband in the treatments also transform her illness trajectory in unforeseen ways. Thus, healthcare work can be characterized by the unexpected and therefore can be difficult to plan and control. Contingencies not only stem from illnesses but also from work and organizational as well as individual elements, from the given combination and interactions of patients, relatives, and healthcare professionals. Adding to this complexity, healthcare work is 'people work', which means that the 'product' being worked on, over or through is not inert (Strauss, Fagerhaugh et al. 1997). For example, Anna clearly indicates during the interview that she wants her home to look proper if she is to invite former colleagues into her house to apply her lotions.

The hospital nurses routinely hospitalize her even though Anna is not referred as inpatient according to the guidelines for highly specialized functions. There are only ten hospital beds for inpatients at the department's disposal, which places an enormous pressure on the hospital physicians to ensure that the beds are used by those patients who really need specialized medical treatment. Anna as well as other patients could receive assistance from the primary sector or the private sphere. It is apparent from Anna's story that the few and very expensive hospital beds are used not only for specialized medical treatment but also for emotional and social support.

Accordingly, I address illness trajectories as *patient trajectories* in order to emphasize that we are talking about a person who is suffering from a disease and not an illness,

which involves a human being suffering from it. The concept ‘patient trajectory’ questions the use of a patient advocate instead of inviting ‘real’ patients into dialogues on improving how healthcare works. These complex social interactions throughout a patient’s trajectory are key aspects of the inner context for innovation in healthcare and might affect what healthcare professionals attend to when responsible for innovation.

Patient trajectories not only require specialist knowledge and skills from specific medical domains. Patient trajectories also call for healthcare professionals with other kinds of skills, if they are to be able to acknowledge and coordinate work being done by those involved across disciplines, units, departments, organizations, and sectors within healthcare as well as by the patients. As demonstrated below, this coordination is an essential, but difficult task to perform.

Coordination Across Specialist Functions

When patients are hospitalized, they enter highly technologized hospitals with arrays of medical specialities, representing ever deepening and still narrower professional knowledge (Strauss, Fagerhaugh et al. 1997). Specialized knowledge saves the lives of many patients. A growing body of medical knowledge leads to still better cures or abilities to stabilize chronic conditions. Unfortunately, specialized knowledge is only part of the knowledge necessary, as patients often have multiple or blurry diagnoses requiring expertise from several knowledge domains. The patients, interviewed in the general practitioners clinic, told about probably deadly amounts of different prescriptions of medicine, and thereby clearly demonstrated that these narrow knowledge domains are not easily coordinated.

In Strauss' terminology (1997), the 'arc of work' is the overall work that needs to be done to control the course of illness and get the patient home. The arc of healthcare work consists of many types of work: machine work (medical technology), safety work (regarding both patients and personnel), comfort work (tender loving care), sentimental work (psychological work), patient work and articulation (coordination) work. Articulation work implies the calculation and carrying out of numerous lines of work, which are constituted of clusters of tasks. Lines of work and tasks make up the arc of work anticipated for a given trajectory. Both require coordination for they do not arrange themselves automatically in proper sequences across interfaces between organizations and professions. The arc of healthcare work is thus located within each organization, and each group of specialized health professionals is responsible for their own tasks, organizations, and budgets. Furthermore, the arc of healthcare work is located in several shared tasks and responsibilities of interdependent organizations, professions, and specialties (Strauss, Fagerhaug et al. 1997).

The flows of actions throughout patient trajectories are often interrupted at the interfaces between knowledge domains and the functional divisions of labour within and between various organizations and professions. The specialists often have different views on the task and focus of their work, what Cole and Engeström (1993) describe as 'compartmentalized organizations of experts'. The specialist functions are often coordinated through standards, guidelines, procedures, contracts, and regulated by laws regarding e.g. maximum waiting times in national cancer pathways (Ministry of Health and Prevention 2010b). These coordination mechanisms only address some of the types of healthcare work, found by Strauss and colleagues (1997). Engeström and colleagues (1995) thus call attention to 'horizontal dialogical problem solving skills' as essential for coordination of healthcare work in patient trajectories. I will introduce and discuss the concepts of boundaries, boundary crossing, and boundary objects in

Chapter 2 in order to enable analyses of how healthcare professionals frame these boundaries and what the effects are.

The outer political and economic context of healthcare is also part of the reason for fragmentation in healthcare. There is an increasing acknowledgement that unintentionally New Public Management inspired reforms have led to further fragmentation of public services (White 2000, Hood & Peters 2004). When each sub system of the healthcare sector is managed according to specific aims, optimal processes, and local budgets, the responsibility for coherency and collaboration across units is often inadequate or not accountable. Procedures and guidelines can even become counter-productive in serving sub-optimizing silos (Seemann, Dinesen et al. 2013), and groupthink (Janis 1972), thereby creating barriers for collaboration. At the same time, it can be difficult for healthcare professionals to grasp how the parts of patient trajectories for which a given staff member is responsible is deeply dependent on other parts. Van de Ven (1986) calls this risk of silos ‘the part-whole challenge’.

It is especially those patients with multiple or chronic diseases who are in need of collaboration across healthcare organizations and in need of the different professions. The part-whole challenge is addressed by numerous efforts of coordination, collaboration, knowledge-sharing, hand-over, plans, and feedback in order for patients to receive high quality treatment and to experience coherent pathways (White 2000, Gittel 2009). New Public Management reforms are thus supplemented by a governmental focus on coordination, partnership, and joint accountability to acknowledge the complexity and risk of fragmentation in healthcare (White 2000). The individual and subjective aspects of patient trajectories and the risk of fragmentation due to specialization affect the framing of the problems, which change initiatives like

the case innovation project intends to solve. This framing lead to framing of which boundaries to attend to.

Patient trajectories and coordination across specialist functions are in this thesis regarded key aspects of healthcare, which affects the wickedness of problems, how problems are framed, and which boundaries healthcare professionals attend to, when responsible for innovation. This introductory chapter concludes with an overview of the chapters in the dissertation.

Structure of the Dissertation

The dissertation is structured as follows:

Chapter 2: Theoretical Lenses

This chapter provides the theoretical lenses: innovation, framing and boundaries, which enable analyses of how wicked problems in healthcare are framed and how this framing affects what healthcare professionals attend to when responsible for innovation.

Chapter 3: Methodological Lenses

This chapter presents the methodological lenses I have used to place innovation under the microscope: my explorative, pluralist, and engaged approach to research and the ethnographic approach to field research, the design of the study and the methods used. After presenting an overview of data, I outline my approaches to analyzing and presenting data through coding and vignettes.

Chapter 4: Reframing Wicked Problems: A Case of Healthcare Innovation

This chapter comprises the first paper of this paper-based dissertation. The paper is resubmitted to Journal of Health Organization and Management after the first review. Early Danish versions of the paper were a conference paper at Det Danske Ledelsesakademi 2013, later published in Majgaard (2014 forthcoming).

Chapter 5: ‘The Killing Fields’ of Innovation – How to Kill Ideas

This paper is accepted for publication in The Innovation Journal, The Public Sector Innovation Journal, 2014, 2 (open issue). An early version was a conference paper at Oklahoma State University, 2012 and was published in a Danish version (Ingerslev 2011/2012).

Chapter 6: Framing Boundaries in Healthcare Innovation

This paper is submitted to Journal of Health Organization and Management. Early Danish versions were published in Paulsen and Harnow Klausen (Ingerslev 2012) and with one of my supervisors (Ingerslev & Elmholdt 2012)

Chapter 7: Conclusion

This concluding chapter sums up and discusses the three papers together by relating the findings to the main research question. I address the conceptualization of innovation in healthcare and reflect upon implications for healthcare managers and professionals, who intend to create qualitative and valuable change through innovation. The dissertation concludes with critical reflections on the consequences of the choices made throughout the research project, discussing alternative paths which could have been pursued in the empirical material, new possible analytical perspectives, and suggests further studies of innovation in hospitals in particular and healthcare in general that this study has revealed.

Chapter 2: Theoretical Lenses

This chapter provides the theoretical lenses: innovation, framing and boundaries, used in this thesis to put ‘innovation’ under the microscope. Microscopes are instruments that allow you to zoom in on little things and tiny movements. Microscopes allow you to study parts of a larger whole. I have carved out three sections of the innovation literature in order to allow for empirical analyses of how framing and innovation processes unfold from a micro perspective in the particular healthcare context. My objective is to learn more about how these micro processes affect how the whole ‘thing’ works by ‘bringing work – and thus context’ back in. The chapter is structured along the following lines: First, I anchor the present study in innovation research and discuss the implications of the healthcare context for the study of innovation. Secondly, I use the problem, as it is framed in the innovation project: *from 1300 to 800 hospital beds* as a lens to discuss the presumption in innovation literature that innovation processes start with the identification of a problem. Then, I use innovation, as it is framed in the innovation project: *doing more and better with less* as a lens to present and discuss how innovation research conceptualizes the intended effects or outcomes of innovation processes. Finally, I use wicked problems in healthcare as a lens to investigate the role of *framing boundaries* in healthcare innovation.

Innovation in the Rear-view Mirror

Before I zoom in the microscope on micro processes in framing and innovation, I will take a short look in the rear-view mirror: Where does the concept ‘innovation’ come from and how has it developed, changed, and travelled among domains?

The etymological origin of the word ‘innovation’ comes from the Latin ‘Innovare’, which means ‘bringing new to the world’ (Paulsen & Klausen 2012 p. 15). The word is

found as far back as the 15th century in texts, emphasising innovation as ‘breaking norms and conventions’ in the process of bringing new to the world (Godin 2010). Large amounts of theoretical work have since been done to develop and refine the concept of innovation (Fagerberg, Mowery et al. 2006). As in many other fields of research, innovation research has advanced from rather generic conceptualizations to still more specific and context-dependent understandings. Most of this innovation research focuses on private sector technological product innovation (Hartley 2013, Godin 2010, Baldwin & von Hippel 2011, von Hippel 2005, Van de Ven & Poole 1990). Schumpeter’s (1983) point from 1934 that innovation is a critical factor in economic development made him stand out as the founding father of the concept of innovation. Consequently, innovation is often understood within the logic of economics, i.e. as driven by the dynamics of competing markets (Godin 2010). Later streams of literature moved into other fields like service innovation and social innovation, where attention is paid to processes and social needs rather than to commercialising products (Godin 2010, Brown & Wyatt 2010, Albury & Mulgan 2003).

As opposed to the competitive approach, the collaborative approach to innovation is predominant in these fields. Bason (2010 p. 10), who is widely recognized for his work on public innovation, argues that the wicked problems in public sectors require fresh thinking. In healthcare, what I defined as ‘patient trajectories’ are rarely located within separate units, which points to a collaborative and shared, rather than a competitive approach to innovation across the different disciplines, organizations, and sectors (Hartley 2013). Sørensen and Torfing (2011 p. 8) suggest a definition of innovation, which emphasizes the intention of producing qualitative change rather than winning markets:

Innovation is the intentional and proactive process that involves the generation and practical adoption and spread of new and creative ideas, which aim to produce a qualitative change in a specific context.

Researchers have specified that ‘new and creative ideas’ in a healthcare setting often refer to the implementation of inventions or medical research results into clinical practice and their dissemination to other healthcare settings rather than where the invention took place (Greenhalgh, Robert et al. 2004). These inventions could be medico-technical devices or new organizational tools such as care plans (Kerosuo 2001). Researchers have also pointed out what the ‘qualitative change’ should be concerning in a healthcare context:

Innovation is the process of turning ideas into reality, using a new concept, service, process or product to improve treatment, diagnosis, education, outreach, prevention and research, as well as enhancing quality, safety, outcomes, efficiency, and cost. (Omachonu & Einspruch 2010 p. 5)

Still, the competitive approach to innovation is suitable for part of the innovation going on within healthcare, especially medico-technological innovation and the invention of pharmaceutical products. In healthcare, as in the private sector, competition has proven to be a driver of innovation (Greenhalgh, Robert et al. 2004). This is however not the whole story. Bason (2010 p. 34) thus suggests that innovation in public organizations is the process of creating new ideas and (consciously) turning them into value for society. In healthcare, as in other public arenas, innovations are affected by and affect the outer context and thus larger systems, than where problems or ideas for solutions show up. I

return to the discussion of qualitative change and value below in the section on ‘more and better for less’.

With these differences between private and public sector in mind, still an OECD literature review of public innovation (Nauta, Kasbergen et al. 2009) and more recently the work by Hartley (2013) criticize the often context-blind literature on innovation and show how this can lead to over-generalizations of findings or over-adoption of ideas from e.g. private sector innovation to the public sector. As I will discuss in the paper, located in Chapter 4, the design models of innovation (Brown & Wyatt 2010), as adopted by e.g. Bason (2010) do not sufficiently capture the processes of framing and reframing problems in healthcare innovation. The search for a more context-specific understanding of innovation within healthcare is relevant, as research finds a substantial lack of diffusion and spread in this sector (Greenhalgh, Robert et al. 2004, Greenhalgh 2005). I return to the implications of the healthcare context for innovation below in the section on ‘framing boundaries’.

The historical development of the concept of innovation in these diverse fields of research leaves us without clear-cut definitions and conceptualizations of innovation, as Hartley, Sørensen and Torfing (2013 p. 822) also point out. This situation makes it a challenging endeavour to study innovation. The many nuances and different approaches to innovation could install ‘a moving target’ within my research project. One way of holding ‘innovation’ still while studying it, could be to conduct a structured and detailed literature review of innovation research in order to demonstrate that I have read and organized existing knowledge within the field, and then settle for a definition of innovation, appropriate for my unit of analysis. I have, however, chosen a different approach to linking theory, methods and research approach. Instead of

studying innovation as an intentional process, which departs from a problem and leads to qualitative and valuable change, I have made an analytical move: I study the effects of framing wicked problems in healthcare on what healthcare professionals say and do, when responsible for innovation. The next section addresses this issue of problem framing.

Framing Problems as the Outset for Innovation

This section uses the problem, as it is framed in the innovation project: *from 1300 to 800 hospital beds* as a lens to critically discuss the presumption in innovation literature that innovation processes start with the identification of a problem.

Through out the literature, innovation processes are often described in phases or stages, which might give the impression of a rather linear endeavour (Osborne & Brown 2013). Cooper's (2008) description of the stage-gate model from 'idea' to 'launch' of innovations is an example of this. It is an investment model built as a best practice manual in order to reduce risk while getting products into to the market. The stage-gate model runs through an ideation phase, a development phase, and a commercialisation phase. These stages find their relevance also in healthcare innovation, when we talk about e.g. bio-medical technologies. When the hospital managers' framing of the problem at the hospital is 'from 1300 to 800 hospital beds', they presuppose solutions like better collaboration and management. These kinds of solutions are not to be 'commercialized'. Rather the phases of ideation and development are more likely to be followed by an 'implementation' phase of new ways of doing things.

Innovation processes can however be chaotic, emergent and unpredictable – and elegant at other times, as shown by Van de Ven and colleagues (1999). Van der Ven (1999) describes the innovation process as a *journey* and not as the result of planned or rational decisions. Change is in his view a process of becoming and the emergence of unexpected innovations, which develop over time. He finds that innovation processes are characterized by events and by circular processes, moving back and forward: ‘A circle of divergent and convergent activities that might repeat over time on different organizational levels, if there are resources to renew the cycle’ (Ven 1999 p. 16). The circles are typically periods of initiating, developing and implementing, which create two opposing forces: divergent and convergent behaviours. Divergent behaviour creates new ideas, chaotic patterns, and explorative actions. Convergent behaviour creates directions, strong leadership, and reduction of risk. Both are in this view necessary to create innovation. These behaviours, which *create* choices and *make* choices, might be opposing in the sense that they appear in unpredictable or simultaneous manners. They might also be synergetic if elegant flows of actions or designs see to that the divergent and convergent behaviours supplement each other on the road to innovative outcomes.

The messiness of innovation makes Bason (2010) describe innovation processes like a ‘half-rolled-up yarn of wool more than a smooth innovation funnel’. Also Cooper argues that the process is not linear or rigid, as especially the front end of the process is characterized by what he calls *divergent ideation processes*. The early phases of innovation are also described as *fuzzy front end* (Reinertsen 1999), which makes Darsø (2000) suggest a ‘pre-ject’ phase of ideation until an idea has crystallized that can move into a ‘pro-ject’ phase. Van de Ven (1999) describes the chaotic and emergent aspect as part of the entire innovation journey due to the interaction between divergent and convergent behaviours, and not just an aspect of the early phases.

Whether iterative, circular, or linear, as mentioned in the introduction, Hartley (2013) argues for the value of analyzing the significantly different phases of innovation, viewed as a process through the three phases of invention, implementation, and diffusion. The invention phase refers to the front end, characterized by creativity in terms of idea generation and initial tests. The implementation phase refers to the process of making the idea work in practice (iterations, trials, small adjustments, re-launch). The diffusion phase is when the invention spreads to, is adopted by, or is adapted to other contexts.

Much of the innovation literature is based on the assumption that ‘problems’ are stable entities, isolated from the preceding or subsequent phases in innovation processes. This assumption is apparent in theories, which address innovation processes as a rather linear trajectory as well as theories, which emphasise emergent or messy aspects of innovation processes. A classic example is Wallas’ phase model of creativity, which starts with the *encounter*, where a problem or challenge is identified (1926, quoted in Cropley & Cropley 2012). Similarly, Osborne (1953) conceptualized the early phase of ideation in innovation processes as one of *orientation*, meaning observation of a need or difficulty. The fuzzy front end literature refers to ‘*ideation as a collection of large numbers of alternative solutions to a problem that needs to be solved*’ (Reinertsen 1999, emphasis added, Koen, Ajamian et al. 2001). Hartley and colleagues (2013) describe innovation as a complex and iterative process through which *problems are defined*, new ideas are developed and combined, prototypes and pilots are designed, tested, and redesigned, and new solutions are implemented, diffused and perhaps problematized. Even in theories that describe innovation as complex processes, problems appear as something to identify during the early phases and to solve during later phases.

In order to enable analyses of how healthcare professionals perceive and act on wicked problems in healthcare, I elaborate on the concept of *framing*. The framing of problems turns out to have implications for what healthcare professionals attend to and do when responsible for innovation.

The concept of framing is used through out the social sciences with different meanings and in different contexts (Schön & Rein 1994, Lemert & Branaman 1997, Benford & Snow 2000, Pick 2003). In the introductory chapter I pointed out that frames are often conceptualized as cognitive, psychological structures at the individual level, which help people locate, perceive, identify, and label occurrences within their life space and the world as such (Lemert & Branaman 1997). Healthcare professionals thus shape their perception of a situation into a particular problem or set of problems by means of framing. This problem framing is not settled once and for all. Healthcare professionals test alternative framings of a situation in order to create new perspectives on problematic situations (Schön 1984). How they set up a problem, which path they choose in order to inquire about a problem, and what means they apply in order to solve the problem all depend on their framing of the problem. According to Schön (1991) framing is a process of paying attention to specific aspects of a situation and organizing these in a way that call for a certain type of action. In this sense, framing offers a perspective on a problem as well as a direction for solutions.

Schön and Rein's (1994) analysis of frame reflection in policy-making processes is often seen as a key inspiration to the concept of *frame*. They identify two types of frames: *rhetorical and action frames*. A rhetorical frame refers to a broad interpretation of an issue, i.e. the general story, value system, and (political) ideas within which actions take place. Action frames refer to a specific level of commitment to a particular

course of action. In this particular case, a rhetorical framing could be that healthcare sectors need innovation in order to meet problems, which are created by increasing possibilities and needs, and decreasing resources. The action framing could be to initiate an innovation project, which addresses the substantially reduced amount of hospital beds by involving healthcare professionals in rethinking and redesigning collaboration and management processes. This framing process is not simple, objective, or peaceful.

Differences in framing problems can facilitate negotiation of alignment in interaction. Through the process of contested framing, healthcare professionals' different perspectives are negotiated and if successful, aligned as a basis for action. Differences in framing can however also lead to conflicts. Schön (1984) showed how the additional exploratory hypotheses, which healthcare professionals generate about a situation, depend on their framing of the situation. Different ways of framing problems imply making choices of problem settings, means of solutions and paths of inquiry. Disciplinary backgrounds, organizational roles, past histories, interests, political, and economic perspectives make healthcare professionals frame problematic situations in different and often conflicting ways (Williams 2002). They thus reconcile, integrate, or choose among conflicting assessments of a situation, or they construct a coherent problem that they believe should be solved. Ferlie and colleagues (2005 p. 125) show how this process often involves power struggles among various healthcare professionals and that these power struggles can inhibit the spread of innovations.

These contests and challenges do however not only refer to the phase of dissemination and diffusion of innovations in healthcare. Also the earlier phases of invention and implementation are subjects of disputes. The power struggles also affect the framing of

problems. Hargrave and Van de Ven (2006) describe how opposing actors each seek to achieve their own goals and struggle against one another to frame and reframe the meaning of relevant issues. These authors draw attention to actions taken to shape the frames of others. A frame-analytical approach can show how the predominant framing of a dispute can shift by altering the power relationships among the parties over time (Schön & Rein 1994, Kaplan 2008). The concept of framing thus refers to an individual as well as socially contested perception of problems.

There is much more at stake in innovation processes than a wish to find solutions to a problem. Theories of framing offer ways to conceptualize what else is at stake, e.g. when aspects of wicked problems are left out of a problem framing. Problems are not closed entities, existing separately in the world, nor stable outlets for innovation processes. When dealing with wicked problems, we always ignore some aspects and some perspectives, otherwise we cannot establish a problem. Problem frames affect interaction, which again affects problem frames. Department managers at the case hospital frame problems they encounter during everyday work. These problem framings are reframed into four themes to be addressed in the innovation project. These themes interact with but do not however determine how the healthcare professionals, participating in the innovation project, frame problems through their attention and actions.

This framing approach to problems in healthcare innovation is used as an analytical lens in the papers, located in chapters 4, 5, and 6. Below I address how wicked problems, framing, and the healthcare context affect how we think about the effects of innovations.

Effects of Innovations

In this section, I use the framing of innovation in the innovation project as ‘doing more and better with less’ as a lens to present and critically discuss innovation theories about the effects of innovations. The intention of producing *qualitative change in a specific context* (Sørensen & Torfing 2011) and turning ideas into *value for society* (Bason 2010) suggests the first distinction to be made: Are ideas new to the world or new in a specific context? This distinction leads me to address: From which perspective do we evaluate innovations? What kind of changes are we looking for?

New to the World or New in a Specific Context?

Innovation is typically regarded as a specific kind of change, namely disruptive change (Osborne & Brown 2005). The etymological meaning of innovation as ‘a break with the past’ is discussed throughout innovation research in order to clarify whether this discontinuity represents ‘new to the world’ ideas (radical breakthroughs), or ideas that are ‘new in a specific context’, or even just examples of incremental change (Nauta, Kasbergen et al. 2009, Moore 2005, Buchanan & Moore 2013, Hartley 2005).

Osborne and Brown (2013) use Garcia and Calantones’ description of four different modes of change in services or products to share their view on how to distinguish innovation from continual change: 1) Radical innovations transform the paradigm of social production; 2) Architectural innovations imply changes in organisational skills and competencies as well as changes in the needs met by the innovation within the existing paradigm; 3) Incremental innovations represent discontinual change of products or service within the existing paradigms and with no effect on skills, competencies, or needs; and 4) The fourth mode of change is product or service development, which builds on existing skills and represents no newness.

The three categories: radical, architectural, and incremental innovations suggest multiple contexts for evaluating ‘the quality’ of change. Innovations can change the paradigm within which healthcare is provided. This would in the conceptions of this thesis imply a problem reframing. Innovations can also transform the skills of healthcare professionals and the need expressed by citizens. Finally innovations can result in a break with past products and services. The authors consider the fourth category of change as continual development and not innovation.

British Innovation Unit, the Lab, and Nesta have analysed more than 100 examples of what they define as *radical service innovations* around the world (Gillinson, Horne et al. 2010). They suggest that innovations should improve output *and* reduce costs of services by 20-60 % in order to be considered as radical. If costs are reduced without improvement of service, it is not innovation in their definition. Radical service innovations are thus different, better, and lower cost public services, which distinguish them from service development (Osborne & Brown 2013). Rather, it is about generating new perspectives on ‘old’ problems to ensure a genuine shift in the nature and efficiency of the services offered and to transform the public’s experience of these services (which corresponds to the triple aim of healthcare improvements, discussed below). A model in four parts explains radical efficiency in action: 1) New insights and knowledge, 2) New customers (reconceptualised customers, who are often taken for granted), 3) New suppliers (reconsidering who is doing the work and thus the role of the customer), and 4) New resources (create new kinds of solutions by involving new people).

Gillinson and colleagues (2010) distinguish between finding new solutions by rethinking what the problems are and creating new perspectives on challenges (insight,

knowledge, and customers) and creating new perspectives on solutions by rethinking which overall task each institution is meant to solve (suppliers and resources). This model suggests how to distinguish the value of radical innovation from architectural innovation. Radical innovations question which problems to address and thus the purpose of work and who the users are. Architectural innovations question current solutions by suggesting new work processes. I thus regard radical innovation as a matter of reframing problems.

On the other hand Moore (2005) also suggests that also incremental change and continual improvements can (but do not necessarily) lead to innovations. Moore suggests two different models of innovation in the public sector: break-through innovations and incremental change. He describes break-through innovations as typically technological and large in terms of significantly different from conventional practices in a field and as able to solve the performance problems of whole industries. Break-through innovations are considered robust in terms of displaying similar effects in different contexts.

Moore suggests that ‘incremental change’ refers to activities in organizations where people focus on improving their daily operations. Improvements are considered ‘small innovations’, which can accumulate and result in significant changes in the overall organizational performance (Moore 2005 p. 44). Moore (2005) thus suggests that a combination of incremental innovation and continual improvement over time can result in what Osborne and Brown (2013) consider as architectural or radical innovations. Buchanan and Moore (2013) pose further arguments for the innovative potential of small changes. They argue that radical changes destabilize organizations. Buchanan and Moore (2013 p. 9) argue for the value of ‘small stuff’ like small-scale changes in

acute care as these changes can generate major benefits for patients, staff, and hospital performance. The possible benefits they find in their studies are economic (income), processual (safer patient pathways), and temporal (better distribution of tasks, quicker solutions, and less waiting time). Buchanan and Moore (2013) even argue that an effect of small-scale changes can be that people are less bored and less frustrated (emotional benefits), which again possibly lead to improved inter-professional relations, possibly supporting the relational fundament for large-scale innovations.

These two descriptions of innovation both presuppose an evaluation of whether the innovation changes the overall organizational performance; if the answer is yes, then the changes can be defined as innovation. They do however differ as to whether the road to this change is through ‘break-through technologies’ or ‘small innovations’.

In this sense, radical innovations in a healthcare context might be a new (to the world) cure for HIV/AIDS. Innovation in healthcare can however also be new ways of working and new types of relations between healthcare professionals and patients, which does not change the overall paradigm of healthcare (Greenhalgh 2005). These latter kinds of innovations are typically architectural or incremental and thus new in a specific context. The answer to the question whether innovations are new to the world or in a specific context is thus: Yes, both-and. As this does not help me much further, I instead to address the question about perspective for evaluating innovations.

Effect as a Matter of Perception

Van de Ven (1999) argues that ideas can be considered as new if they are new to the ones involved in the innovation process. Hartley (2005) suggests defining the context

for evaluating novelty by pointing out that ‘those changes worth recognizing as innovation should be new to the organization.’ These suggestions allow for evaluating change as innovation despite others already acting in these new ways. In this sense, innovations are not defined by their ‘newness to the world’ as innovations can be copies and can be old ideas in action in a new setting, like Schumpeter’s (1983) ‘recombination of things’.

This context dependent evaluation of innovations made Hartley and colleagues (2013) propose that innovation includes both step and disruptive change, radical and incremental innovation, the generation of original inventions and adoption and adaptation of others’ innovations. In their view, it is the actors at the *local site* of implementation that determine whether change is regarded as qualitative and thus as an innovation. Other researchers argue that innovations should also create value for society (Bason 2010).

Value for Society

The literature of innovation continually discusses the notion of value (Osborne & Brown 2013). Crepaldi and colleagues (2012 p. 13) point out that a change must be either more effective or more efficient than pre-existing alternatives to be considered a valuable innovation. This approach to valuable innovations regards innovation as a key to meet societal challenges of increasing possibilities and needs and decreasing funding and resources (Crepaldi, De Rosa et al. 2012). In this line of thinking, institutions like the British Innovation Unit, the Lab, Nesta, and Institute for Healthcare Improvement in Boston define innovations as substantially improving output and reducing costs (Gillinson, Horne et al. 2010, Berwick, Nolan et al. 2008). The hospital managements’

intention to finding solutions to problems by ‘doing more and better with less’ is in line with these definitions.

Researchers at the Institute for Healthcare Improvement in Boston take a similar approach to ‘doing more and better with less’ in a healthcare context, without describing these ‘improvements’ as ‘innovations’. Berwick and colleagues (2008) coined a triple aim for healthcare improvement: 1) improve patients’ experience of care, in terms of quality as well as satisfaction; 2) improve the health of populations; and 3) reduce per capita costs of healthcare. Buchanan and Macaulay (2013 p. 29) in similar ways argue for regarding innovation as doing *more and better with less* by reducing costs, while improving the quality and safety of care, at a time when demand for acute services is rising along with patient expectations of quality of care.

The above are different ways of addressing innovation as valuable changes for the individual as well as for society in terms of improving quality, experience, and cost-effectiveness. On the other hand researchers like Hartley (2013) and Osborne and Brown (2013) criticise this normative approach to innovation as suffering from a pro-innovation bias. Their research demonstrates that innovations are not necessarily a good thing per se. Also, as mentioned above, innovations can be radical innovations, which transform the paradigm of production. These radical innovations are something completely different from what we already know and not just more effective or efficient solutions (Osborne & Brown 2013).

This point about the effects of innovation as a matter of perception supports my suggestion of empirically investigating innovation processes rather than discussing

normative theories and models. The last question I address concerns what the change is all about?

Healthcare Innovation as Social Innovation

As pointed out above the messiness of wicked problems is not something we deal with in the beginning of an innovation process, as Cooper (2008), Reinertsen (1999), and Darsø (2000) suggest. The mess is rather a defining characteristic of these kinds of problems. Wicked problems thus affect what it is we believe to be the effect of innovation. In line with this thinking, Hartley (2013:4) outlines the characteristics of service innovation as:

Service innovations typically have higher levels of ambiguity and uncertainty since they are affected by the variability of the human characteristics of both service giver and service receiver (the latter, in some cases, as a co-producer). The innovation is often not physical artefacts at all, but a change in service (which implies a change in relationship between service providers and their users), and features are intangible with high levels of tacit knowledge.

This quote addresses similar aspects to the wicked problems in healthcare and the complexity of patient trajectories I defined in the introductory chapter. First of all, the ambiguity and uncertainty challenge our ways of conceptualizing an outcome of a change initiative as innovation. Effects are not unambiguous. Wicked problems as well as possible solutions can create unforeseen effects in multiple areas of healthcare. The quote also challenges conceptions of implementation and spread, when innovations are characterized by intangible features and high levels of tacit knowledge.

The qualitative change in healthcare, produced by innovations, is accordingly not mainly medical (therapies and clinical practices) but also what researchers call *social innovation* (Crepaldi, De Rosa et al. 2012). Drucker defines social innovation driven by human needs and not technological development (Drucker 1985). This point is elaborated in the European literature review on innovation in the social services, where the authors find that social innovation is brought about by ‘the evolution of social needs, social practices, social behaviours, and attitudes and addresses social objectives as roles, relations, norms, and values’ (Crepaldi, De Rosa et al. 2012). Darsø (2011) elaborates on the ‘change in relationships’, as she defines social innovation as changes in ways of relating, new forms of interaction, new ways of organizing, or new constellations of people in collaboration. Social innovation is thus defined as immaterial and qualitative changes, like more effective services, and knowledge and skill building, typically with the intention to increase overall efficiency and effectiveness (Crepaldi, De Rosa et al. 2012).

This immaterial status means that social innovation does not have autonomous existence, which makes it different from physical objects with technical specifications. Crepaldi and colleagues (2012) unfold this argument by characterizing social innovation in three dimensions: relational; processual; and interactional. The relational dimension of social innovation pinpoints that the relationship between user and provider is direct, e.g. patient- physician interaction, as opposed to producer and buyers of goods. The processual dimension of social innovation implies that the processes and diffusion of innovation are never fully accomplished. New ways of collaborating within patient trajectories are continually subject to the mess, caused by wicked problems in healthcare. The interactional dimension underscores that the generation and dissemination of innovation unfold within a complex system (society as a whole) and among different systems, contexts, and implementing environments.

Interactions between policy, management and operational clinical levels of healthcare make generation and dissemination of innovations a wicked endeavour. Innovation in this setting is thus considered a matter of ongoing processes.

When accepting this line of reasoning, it becomes apparent that the search for qualitative change as the effect of innovations is challenged in healthcare. A change initiative like the innovation project could either lead to nothing, to qualitative change or produce negative effects, or most likely a combination of both, depending on whose perspective you take and how the problem is framed. How do we determine whether changes are qualitative, taking into consideration the multiple stakeholders in patient trajectories and the wicked problems, characterizing healthcare? Quite often however, the innovation literature does not ascribe value to the effects of innovation, but rather to intentions, which I will address below.

Intentions to do Good

Sørensen and Torfing (2011) argue that innovations *aim* at producing qualitative change. In the specific context of healthcare, Greenhalgh and colleagues (2004, emphasis added) define innovation as a novel set of behaviours, routines, and ways of working that are *directed at improving* health outcomes, administrative efficiency, cost effectiveness, or users experience, and that are implemented by planned and coordinated actions. In their conceptualization, the effects of innovation are *intended* to improve a set of dimensions in healthcare. The innovation literature offers multiple ways of addressing this intention of creating value.

Bason (2010 p. 34) highlights the aim of public innovation ‘to do good’ as he argues for an *intention* of creating value. Value is, in his view, the reason d’etre of public innovation. Bason regards this ‘value for society’ in terms of balancing four bottom lines: 1) productivity; 2) service experience; 3) results; and 4) democracy. Public innovation should in this line of thinking seek to create value on all bottom lines and not destroy other bottom lines. In the same line of thinking, Moore (1995) and Hartley (2005) argue that the driver of public innovation is not only the search for improvements or economic value, but also for ‘public value’. Moore (1995) defines public value much in line with the triple aims of healthcare improvement in terms of quality, efficiency, and fitness of service, which sets a complex bottom line of simultaneous multiple goals like high professional standards, a continual reduction of waste in work processes, and services tailor made for the needs of each individual citizen.

These descriptions of intentions to create value for society might seem a bit ‘rosy’ due to the absence of negative interdependence between different bottom lines, and to the ‘whole system’s thinking’ gaining ground from e.g. competing for personal or organizational gains. When highly specialized hospitals solve their financial and spatial problems by reducing the amount of hospitals beds, they either hospitalize patients for a shorter period of time or they seek to avoid hospitalizations in the first place. Both of these strategies might backfire and lead to re-hospitalizations of patients in an even worse condition than at the time of the first referral due to lack of the competencies needed to treat these patients in the primary care sector. Following Hartley (2013) and Osborne and Brown’s (2013) critique of this normative approach to innovation as a good thing *per se*, the final section on effects of innovations argues for addressing this issue as a matter of empirical investigation.

Effect as a Matter of Empirical Investigation

Hartley and colleagues (2013 p. 821) argue that not all innovations are effective or involve improvements. In their reasoning, innovation can fail or result in harmful outcomes. They argue that innovation is not good or bad as such; it is 'just' the realization of new ideas. They point to the potential of learning from and creating a deeper understanding of innovation processes by studying also failed innovations or innovation processes, which lead to harmful outcomes. Aspirations for creating value can be a driver for innovation as well as value can be the effect of innovation.

However, in complex systems like healthcare, it is not possible to evaluate the effects of innovations as simply valuable or not. I will elaborate on this point in Chapter 6. The effects of innovations can be perceived as qualitative and valuable change and live up to intentions, but they can also be perceived negatively and show up in unintended and unanticipated ways and places. The effects of innovations could be that other parts of the healthcare sector pay the price for new and smarter ways of doing things within the realm of the hospital. New ways of doing things or doing things in a new way could mean raising costs or lower quality or treatment for the individual and the population, or less equality, participation, and empowerment for citizens. The value of these innovations depends on perspective. Still, we can learn from studying what is determining whether an innovation is perceived as valuable or harmful and from which perspective. The value of innovation is, in this study, regarded as a matter of empirical investigation. Inspired by this point about avoiding a pro-innovation bias, I have made the analytical move to studying what healthcare professionals attend to, when responsible for innovation. What do they do? What happens? What comes out of their efforts?

However, wicked problems do not only challenge how we think about valuable effects and intentions of producing valuable change. Wicked problems and patient trajectories as well as the relational, processual, and interactional dimensions of social innovation are not only going on within the realm of the hospital, but are distributed across a range of institutions within the healthcare sector, as well as in the private sphere of civic society. Patient trajectories contain work practices and activities (of patients, relatives, and healthcare professionals), which cross organizational and professional boundaries within and among healthcare organizations. Even though innovations might be of value within an organizational setting, they might have unforeseen consequences in this larger healthcare context. Valuable effects of innovation are dependent on the perspective and thus framing of problems. I will, in the next section, discuss the concept of the boundaries, which define, separate, and connect these different actors and organizational settings.

Framing Boundaries

Conceptualizations of boundaries, boundary crossing, and boundary objects allow for addressing innovation in the particular context of healthcare, where patients, work processes as well as problems cross boundaries among professions, organizations, and sectors.

Some boundaries are physical and observable: the skin, for instances, separates the body from its surroundings. Other types of boundaries mark differences between organizational units; hence, a hospital is different from a general practitioners' clinic. Some boundaries demarcate professional responsibilities, such as the physicians' mandate to practice medicine. These boundaries are not physical or objective, but people tend to act as if they were (Berger & Luckmann 1987, Kerosuo 2004). In their

review of the boundary literature, Trompette and Vinck (2009) demonstrate that the concept of boundaries has inspired substantially diverse streams of research. This large body of literature describes boundaries in different ways.

From Star's (1989) early interest in knowledge infrastructures, Trompette and Vinck (2009) outline how boundaries have been subject to research on *boundary work*, *boundary negotiation*, *shifting boundaries*, *boundary blurring*, and *boundary spanning individuals*, and *organizations*. Cultural activity theory and the work of Engeström (1995) on boundary objects and boundary crossing as well as the situated learning theory of communities of practice and the work of Wenger (1998) on boundary spanners (brokers) have especially advanced the concept of boundaries. Boundaries are furthermore essential features of the territory in the socio-technical school (Miller & Rice 1975) and boundary objects are a key term in Actor-Network Theory (Callon 1986).

However, a shared feature of boundaries appears to be that boundaries help create a sense of identity (we) as well as an identification of others (they). Boundaries are considered effects of framing processes that mark a space that is inside, and mark what is outside e.g. when boundaries serve to stabilize and advance professional communities, and to distinguish specialties. A boundary thus also illustrates what is central and what is peripheral, in terms of closeness to the boundary, e.g. positioning expert physicians and young doctors with regards to the medical knowledge domain. The framing of an identity by means of boundaries is based on feelings of sameness, which on the other hand easily leads to positioning 'us versus them' (Coser 1956). Boundaries may challenge coherency in patient pathways as they can create a tendency

for 'group think' (Janis 1972), particularly for groups closing around themselves and stereotyping out-groups negatively (Akkerman & Bakker 2011).

In their review of the boundary literature, Akkerman and Bakker (2011) consider boundaries as marking two or more sites relevant to each other in a particular way. Boundaries thus demarcate a need for coordination across different, but intersecting practices on either side of the boundary in order to cooperate effectively and create coherent patient pathways. In this respect, Akkerman and Bakker state that 'boundaries mark differences, which leads to discontinuity in action and interaction'. Boundaries thus establish connections (relevance) as well as gaps (discontinuity) e.g. in patient pathways. Especially when we experience gaps, we become aware of boundaries. This duality of relevance and discontinuity emphasizes the advantages as well as the pitfalls of specialization within specific healthcare domains. The specialized domains are highly relevant for and dependent on each other in order to provide high quality and coherent patient pathways. This interdependence calls for management as well as coordination in order not to leave gaps. This task is by no means simple, as healthcare work is characterized not only by standardised and evidence-based procedures but also by uncertainty and experimental processes (Bohmer 2009).

Through years of research in healthcare, Engeström and colleagues have demonstrated that boundaries are potential sites of creativity and innovation (Engeström 2008, Engeström, Engeström et al. 2003, Engeström 1995). The generation of something new becomes possible when healthcare professionals embody or belong to both sides of a boundary, which allows for an expanded set of perspectives. The explanation is the possibilities of combining seemingly unrelated domains, which are characterized by different and unfamiliar languages and practices.

According to the literature on boundaries in healthcare (Engeström 2009, Illeris 2000) hospitals can be perceived as part of a network of interacting activity systems, such as the primary and secondary healthcare sector, with a potentially shared task in terms of the patients. The boundaries between organizational units and disciplines challenge coordination, as healthcare tends to be characterized by opposing opinions, competing professions, and contrasts or competitions among different languages, codes, and cultures. Boundaries in healthcare are thus often considered more restrictive than enabling (Kerosuo 2004) in terms of differentiation and integration (Akkerman & Bakker 2011). Kerosuo (ibid.) argues that boundaries can promote fragmentation of healthcare organizations if no common understandings arise at the boundaries, and no dialogue is possible due to lack of a common language. There are, however, other ways of establishing continuity across boundaries than common language and dialogue. Theories typically apply two concepts to describe potential forms of continuity across sites: boundary objects and boundary crossing (Akkerman & Bakker 2011).

Boundary Objects

Boundary objects refer to artefacts co-existing on either side of the boundary and fulfilling a bridging function between intersecting practices (Star & Griesemer 1989). Across organizational and professional boundaries, healthcare professionals typically interact through mediating artefacts (boundary objects), as exchange of information often takes place by means of digitalized patient records and the like. There are several studies of boundary objects in healthcare, as described in the literature review by Trompette and Vinck (2009), studies of working practices linked to computerized medical files (Berg 1997, 1998, Jensen, 2005), and studies of the impact of the Internet on the doctor-patient relationship (Broom 2005). As will become apparent from the three papers analysing framing processes, several of the healthcare professionals' ideas and prototypes are new boundary objects, such as shared care plans, referral schemas,

and electronic patient records. These boundary objects can become part of new ways of managing, organizing, and collaborating across disciplines, departments, and sectors, and thus of boundary crossing.

Boundary Crossing

Boundary crossing refers to people's transitions and interactions across sites (Suchman 1994). Boundary crossing describes how to achieve continuity across sites when professionals at work may need to 'enter onto territory in which we are unfamiliar and, to some significant extent therefore unqualified' (Suchman 1994 p. 25). The professionals 'face the challenge of negotiating and combining ingredients from different contexts to achieve hybrid situations' (Engeström, Engeström et al. 1995). These hybrid situations do not reduce the complexity of healthcare into simple problems, much less simple solutions. Instead, the confrontation with complex problems at the boundaries can force healthcare professionals to reconsider current practice and interrelations (Akkerman & Bakker 2011 p. 146).

Kerosuo's (2001) studies of boundaries in healthcare suggest that encounters of arguments from different perspectives on either side of a boundary can lead to 'emergence of shared solutions' to problems that entail coordination across boundaries. If successful boundary encounters enable healthcare professionals to acknowledge and reflect upon differences between their own and others' practices and potentially view their own practice through the eyes of the other. These boundary encounters between intersecting practices can allow for recognizing shared problems and thus enable reconsideration of current practices. These encounters at the boundaries thus allow healthcare professionals to address issues of relevance as well as discontinuities and coordination.

Boundaries in healthcare are considered effects of framing processes. The analyses in the paper, located in Chapter 6 address how the framing of problems led to boundary crossing, boundary reinforcements, as well as boundary moves.

Conclusion

In this chapter, I have presented and critically discussed the three theoretical lenses: innovation, framing and boundaries, which will serve as the theoretical scaffolding for my empirical studies of how wicked problems in healthcare are framed and how this framing affects what healthcare professionals attend to when responsible for innovation. The framing of the problem in the innovation projects as ‘from 1300 to 800 hospital beds’ led to discussions about the theoretical preconception that problems are identified in the early phases of the innovation process. Wicked problem are not only wicked during ‘the fuzzy front end’ of innovation. When problems are wicked, we can expect and must study how they are framed throughout the innovation project.

The framing of innovation in the innovation project as ‘doing more and better with less’ led to discussions about intentions of producing qualitative and valuable change from innovations. Healthcare innovation is characterized by the relational, processual and interactional dimensions of social innovation. These dimensions challenge preconceptions concerning implementation and spread, as these processes tend to be on-going. What is regarded as qualitative and valuable change and by whom is in this dissertation regarded as a matter of empirical investigation. Problem framing creates boundaries, but also allows for boundary crossing. Instead of studying effects of innovations, this dissertation suggests studying the effects of framing problems on which boundaries are attended to.

As the implementation and spread of social innovation is never fully accomplished, it makes sense to study this kind of innovation as a matter of processes where people relate and interact. As the effects of innovation are dependent on contexts and perceptions, it accentuates the importance of studying how people frame problems when they attempt to innovate. In the next chapter, I will outline my approach to research, the innovation project as the empirical case of this study, the methods I have used, the kinds of empirical material I have created, and the analytical strategies I have used to study framing of wicked problems in innovation processes.

Chapter 3: Methodological Lenses

This chapter presents the methodological lenses I have used to place healthcare innovation under the microscope: Firstly I present and reflect upon the consequences of my explorative, pluralist, and engaged approach to research in this study of problem framing in healthcare innovation. This leads me to outline the case under study: the ‘Innovation Project’, as well as the methodological considerations in adopting an ethnographic approach to field research. Then I present the design of the study and the shadowing methods used: observations from the external participant’s position and interviews as observant participation. This approach makes visible the link between the overall research question, the sub-questions and the empirical investigation. After presenting an overview of data, I outline my approaches to analyzing and presenting data through coding and vignettes.

Note on Linear Versus Interwoven Research Processes

The theoretical framework, presented in chapter 2, provides a set of lenses through which I put healthcare innovation under the microscope. Innovation, framing, and boundaries proved to be helpful concepts in order to allow for analyses of micro-processes when healthcare professionals attempt to find innovative solutions to wicked problems. This theoretical framework has been an important aspect of the design of this study and the methodological as well as analytical choices. However, not in a linear or chronological order, where the literature review was followed by data collection and analyses. As Czarniawska (2007) states, methods for gathering empirical material and analytical work are interwoven. In field studies the empirical field is thus also an analytical field. Consequently, the explorative field study has inspired and called for further literature studies, e.g. into the concepts of framing and boundaries in order to allow for analyses of the empirical findings. In the following presentation, I attempt to be transparent and reflective about these interwoven

processes of doing explorative research. However descriptions may for communicative reason appear as if they mirror linear research processes.

Understanding Trough Exploration

The cluster of theoretical and empirical reasons for the focus of this research project means that instead of arguing for one best philosophy of science, I have followed Van der Ven's (2007) advice to combine a range of different approaches and data source in order to explain divergent and interdependent dimensions of complex problems in the world. Also Czarniawska (2007) argues that the task is not to find the best research approach per se but instead to find the best research approach for a particular problem. Below I will discuss suitable approaches to assess and study framing processes and innovation and in what ways I regard my findings as knowledge.

Within the social sciences, there are several types of research approaches. Launsø and Rieper (2005) suggest a typical distinction between four different orientations: 1) description, 2) explanation, 3) understanding, and 4) actions. I will shortly outline these orientations in order to reflect upon my own approaches to research and the ways in which some of these orientations played different roles throughout my research project.

Launsø and Rieper (2005) demonstrate how the *descriptive and explanatory* types of social sciences often adopt concepts and research strategies from natural sciences. Descriptive research asks questions like: 'How is X distributed on Y?' and applies research methods such as questionnaires in order to produce statistics. Research aimed at explaining social phenomena typically asks: 'What X causes Y?' and examines the

question through controlled laboratory experiments. My attempt to study how wicked problems are framed and how this framing affects what healthcare professionals attend to when responsible for innovation does not fit these kinds of questions. Nevertheless, I pursued descriptive, qualitative types of questions in the fieldwork and in the empirical analyses.

My research question in many ways calls for research orientations that aim towards *understanding and actions*. The phenomena that these approaches aim at studying are related to the human mind, will, and intentions. Launsø and Rieper (2005) suggest that social research that aims at ‘understanding’ typically poses the question: ‘What is X?’ This research orientation seeks qualities, structures or traits, which characterize X by means of interpretation, meaning horizons, traditions, whole systems thinking, symbols, and everyday speech. This type of research typically addresses dialogues and learning processes, and often carries the ambition to develop new ways of understanding through the interpretation process (Ibid.). The dominant perspective in this tradition is that of the research subjects’ worldview and actions. The researcher enters the empirical field in order to create a basis for understanding, and then leaves the field in order to reflect and analyse incidents and stories from the field. Research that initiates actions focuses on learning and development in practice. The key question is often how actors develop actions based on knowledge they acquire through the research process.

My wish to further our understanding of framing processes and innovation in the context of healthcare resembles the understanding type of research, proposed by Launsø and Rieper (2005). However, an action orientation resulted from my approach to research as I sought to validate my empirical data and test my analyses through on-

going exchange of field notes and papers with the participants in the innovation project. This exchange turned out to have implications for participants' attention throughout the innovation project, and thus their future actions. In this sense, my approach to study context-specific aspects of framing processes and innovation in healthcare was an exploratory and entangled process of interacting with the empirical field and with theories.

Fuglsang (2010) suggests this kind of perspective on innovation should adapt Levi-Strauss' notion of *bricolage* as a term for innovation as well as a research strategy. Innovation as bricolage means everyday adjustments through interaction and dialogues and using the material at hand in order to solve new problems. Bricolage as a research strategy means connecting a diverse range of empirical materials and theoretical perspectives, which 'happen to be at hand'. Bricolage seems to allow researchers to take real world problems as departure points for their work and use theories and methodology as means to create knowledge. In this case bricolage aided my *exploration* of framings of wicked problems in order to *understand* more about how this framing affected healthcare professionals' attention and actions. The combination of different approaches is based on a pluralist understanding of philosophy of science and an engaged approach to research (Van de Ven 2007), which I will outline below.

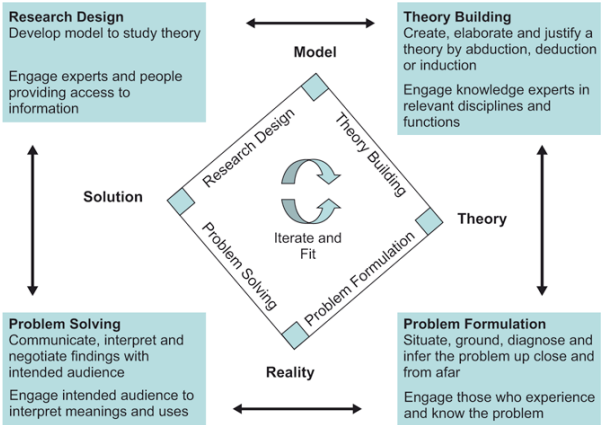
Pluralist and Engaged Approach to Research

Van de Ven (2007) does not view diverse scientific paradigms and methods as competing, but rather as supplementary. According to Van de Ven, pluralism should not be dismissed as noise, errors, or outliers if researchers are not looking for consensus, convergence, and agreement on reliability and replicable findings. The descriptive focus on framing of wicked problems allows for diverging and contested

framings, which are not regarded as inconsistencies but rather as important nuances to our knowledge about innovation in healthcare. Van de Ven advocates the view that real world problems contain inconsistent and contradictory aspects, which are apparent in this study of framing of wicked problems in healthcare innovation, as exemplified in previous chapters. These contradictory aspects call for diverse and complementary research approaches and methods.

Despite this pluralist philosophy of science, Van de Ven (2007) suggests that social scientists make an active choice of perspectives on the nature of the phenomena under study (ontology) and the methods used to understand the phenomena (epistemology). Accordingly Van de Ven's pluralist approach does favour one particular perspective: critical realism, inspired amongst others by Bhaskar (1993). In particular critical realism argues that knowledge about 'reality' is filtered through language and concepts that are relative and which change over time and place. This has led social constructionist researchers to doubt whether it is possible to obtain valid knowledge about reality and sometimes even if an objective reality exists (Danermark, Ekström et al. 2002). Critical realism takes the stand of an objective ontology and a subjective epistemology. From this perspective reality exists independently of our cognition, and science is a possibility to gain more or less valid knowledge about this reality (Van de Ven 2007). In contrast, the constructivist approach focuses on how a given social world is constructed (Czarniawska 2004). However when studying innovation in healthcare, researchers are not free to construct any explanation of a phenomena. Bodily and emotional reactions to illness are physical, observable and measurable dimensions of healthcare, which also are subject to processing through social interaction, and constructed through language and concepts.

On the other hand, this discussion of whether the world exists independently of human cognition is not the primary concern of this study. My units of analysis are how wicked problems are framed and how this framing affects what healthcare professionals attend to when responsible for innovation. The concept ‘wicked problems’ calls for an objective as well as a subjective ontology. Wicked problems represent something in the world, which is subject to our subjective framing. Framing processes of wicked problems are best studied by employing qualitative and subjective methodologies to allow for getting a sense of how they unfold. In this sense, this study is more in line with the engaged approach to research, suggested by Van der Ven (2007) in the Diamond Model, which is visualised below in Figure 1.



Source: Adapted from Van de Ven (2007)

Figure 1: The Diamond Model

Engaged Scholarship is a particular relevant strategy to approach research questions, concerning complex social problems like in this case. Engaged Scholarship encourages a participative form of research engaging with practitioners as well as other researchers, as questions in complex social settings are of a magnitude that exceeds the capacity of the individual researcher. In this particular case I have participated and engaged in multiple ways through the research project, all of which will be accounted for below. Engaged scholarship modifies the critical realist perspective by incorporating the social constructionist notion of observations as theory-laden and that inquiry is not value free, as researchers do not have access to any reality free of human cognition and interaction (Berger & Luckmann 1987, Van de Ven 2007). As a consequence, researchers study the world as it appears to us. In my case, I make sense of the field study through my longstanding employment at the hospital as well as the theories and methods used in studying framing processes and innovation.

This is in line with Van de Ven's claim that the underlying philosophy of science has consequences for the practice of science. As described below, I combined field study techniques with desk analyses and interviews in order to learn about the interplay between problem framing, what the participants in the innovation project attended to and which actions they took while responsible for innovation and what the effects were. I combined theories of public and service innovation and innovation in healthcare to knowledge about healthcare work and the concept 'patient trajectories', as well as to field observations of healthcare professionals' actions and expressions, noticing artefacts like crumbled up post it notes and my own sensations and feelings while in the field.

Below I unfold my engaged approach to research by addressing the engaged processes of problem formulation, research design, and problem solving. The results of the engaged process of theory building are laid out in Chapter 2.

Engaged Problem Formulation

This dissertation investigates the overall research question: How are wicked problems in healthcare framed and how does this framing affect what healthcare professionals attend to when responsible for innovation? This question was not posed at the outset of the research, but was developed and refined during the research process. The initial open and explorative character of the study is not unique, as in real world research, finding focus can often be a long journey (Booth, Colomb et al. 1995). As in the case of this particular research project, Booth and colleagues argue that focus can stem from a mixture of the following aspects: 1) a gap in already existing research, 2) a real world problem, and 3) from the researchers own interests. All three aspects are described below.

Gap in Existing Research

The gap in existing research is touched upon in the first introductory chapter of this dissertation and is further outlined in the theoretical Chapter 2. The gap refers to the call for context sensitive studies of innovation (Hartley 2013, Nauta, Kasbergen et al. 2009) and for qualitative studies of public innovation *processes* that are not retrospective like the majority of the public innovation studies, OECD reviewed (Nauta, Kasbergen et al. 2009). Consequently OECD calls for prospective, close-to-practice studies of innovation processes as they develop and move along, especially concerning the early phases of innovation.

The overall research question calls for a design and methods that allow for collecting empirical material within the logic of a process study (Van de Ven 2007). Here boundaries and boundary crossing as theoretical constructs have been part of my journey to finding focus for this research project in as much as boundaries are part of healthcare professionals experiences and descriptions of their work and of patients' trajectories. Boundaries and boundary crossing have also been guiding my methodological approach to research, quite similar to Blumer's 'sensitizing concept', which provides researchers with a general sense of reference and guidance in approaching empirical instances (Bowen 2006). My attempts to study how healthcare professionals addressed and crossed boundaries, while responsible for innovation accentuated that boundaries are not objective entities, but rather the results of framing processes. Boundaries and framing processes appeared as powerful analytical approaches to studying attempts to finding innovative solutions to wicked problems.

A generic challenge in conducting process studies of innovation 'in the making' (Darsø 2000) is that researchers cannot be certain that the defining aspect of innovation; 'qualitative change in a specific context' will result from the innovation processes studied. Researchers may study aspirations, attempts, and experiments, aimed at finding solutions to wicked problems, which end up as just that and which do not produce qualitative change. A critical voice would ask: 'Did you then study innovation?' My answer to this question is that I set out to study how the framing of wicked problems affects what healthcare professionals attend to and what they do, when responsible for finding innovative solutions to these problems. Whether the healthcare professionals succeed or fail in producing qualitative change is not the main analytical point here. Instead what is focus of attention here is the interplay between wicked problems, framing, design and facilitation, attention and actions, and effects. If no qualitative change occur, my analysis might point to important lessons to learn

about counterproductive problems framings, innovation designs or processes (not in a linear causal fashion).

I find support in the literature for this approach. Several organizations engage in innovation without resulting in improvements (Hartley 2005). In the field of product innovation, researchers document figures ranging from 30 per cent to 90 per cent failure to progress from ideas to products (Tidd, Bessant et al. 2005). If researchers solely investigate successful innovation processes, they according to Hartley (2005) suffer from a pro-innovation bias, as addressed in Chapter 2. Innovation processes also lead to dead-end, mistakes, and obstacles to be overcome. Hartley thus calls for studies of innovation processes, which fail, as well as of those which succeed.

In the particular healthcare context, I suggested to further examine and advance our understanding of what healthcare professionals do, when confronted with wicked problems and responsible for finding innovative solutions to these problems. This kind of knowledge can nuance literature on innovation in this particular context.

A Real World Problem

In this study, ‘the problem’ in the field of healthcare innovation refers to a cluster of challenges, which are framed from multiple perspectives. This has made engagement of stakeholders in this project a natural and necessary part of the research process, as suggested by Van de Ven (2011). Key stakeholders in this research project came from the university as well as a national and regional government level and from practice: the case hospital. These stakeholder perspectives are shortly outlined here.

This dissertation is part of the strategic research program SLIP: Strategic Leadership Research in the Public Sector (Melander 2012, SLIP 2012). The Danish Ministry of Finance (FM) initiated the research program in 2008 in order to pursue knowledge and inspiration on future public sector management and leadership pathways. The ministry expressed concerns with regards to some of the negative consequences of New Public Management inspired reforms (Hood & Peters 2004) as reported by employees in the ministry (Gjørup, Hjortdal et al. 2007). Some of these unintended consequences are a lack of efficiency and quality improvements. Adding to this, professionals throughout the public sector experience demands of excessive amounts of documentation and less time spend on core tasks with clients/patients/citizens. Parallel to this research initiative, the Centre for Business Development and Management (CVL) at Copenhagen Business School (CBS) encouraged debate on future public sector management in collaboration with a cross organizational network of public institutions (FORUM 2012). Key players from this network applied the Ministry of Finance to fund SLIP (Melander 2012).

Central Denmark Region (RM) was part of the FORUM network and situated this particular project on innovation within the hospital sector and with an innovation project at the regions' somatic university hospital as empirical field. SLIP also initiated a similar project within the regional psychiatric university hospital, which is organized separately from the somatic hospital. A constant focus on rising costs and regular cutbacks and the construction of new hospital buildings through out the country drew attention to the ability of employees and managers to innovate in order to sustain and transform the hospitals role in the national as well as the regional healthcare sector. Here the real world problem was how to ensure high quality and coherent patient pathways within and across healthcare professions and organizations *and* at the same

time cutting costs. The innovation project is an example of this attention as elaborated below in the case description.

In the beginning of 2010, I created a research project steering committee with representatives of all these stakeholders and my two supervisors in order to engage in dialogues on my project regarding aim and field etc. and ensure relevance as suggested by Van de Ven (2007). I quickly learned that the multiple perspectives and agendas did not easily fit together in a well-ordered research question and a straightforward research design. Having settled on the hospital sector and the case hospital and a headline of the problem as ‘innovation in times of cutbacks’, I still felt a need to narrow the scope of my project from this overriding purpose. I decided to take two simultaneous paths and opened up the field: 1) initiate a field study of the innovation project at the hospital as a specific case of a change initiative, framed as innovation and 2) review literature on innovation in public healthcare (see chapter 2). Edmondson (2011) supports these two parallel paths in order to make the problem ‘thicker’ and to establish a theoretical contribution to previous research. Her advice is: ‘Start with the problem!’ and engage with those who experience and know the problem in order to situate the problem and to ensure a relevant problem formulation. This engagement must then be reflected in the design and methods, I settled for in the study. In my aspiration to produce knowledge on framing processes and innovation in a healthcare context, I have sought to obtain perspectives and advice from key stakeholders: researchers, patients, and practitioners like hospital managers, healthcare professionals, and human resource consultants.

Researchers' Own Interests

As for my own interest, after 8 years working as a manager and organizational consultant in hospitals, I was curious of whether various innovation process designs could help bridge some of the gaps in the collaboration between professions, departments, and organizations within the healthcare sector. Patient pathways and problems in healthcare do not belong within single organizations, but rather across professions and healthcare organizations. In other words, I wanted to ‘heal the wounds’ of healthcare: the gaps in patient pathways and the lack of coordination and thus coherency.

The ‘medicine’ I first came across was that if innovations should be regarded as valuable, legitimate, and worthy in healthcare, these innovations should be considered as qualitative changes for everybody; patients, physicians, general practitioners, homecare nurses, relatives, economy, quality, efficiency, and effectiveness – the whole lot. My idea was that innovations could be of value for healthcare in terms of creating coherency for patients across boundaries. I named this approach Boundary Crossing Innovation. This was it! The cure was found. At least I thought so for a while. Later I became more interested in studying ‘what was going on’ than ‘what ought to be going on’.

In my search for finding focus in this research project I have been weaving between these gaps in existing literature, the cluster of real world problems and my own interests. However, at key to finding focus came when entering the field. Below the case description of the innovation project serves as the context for my engaged process of formulating the problem as well as developing the research design.

Case Description: The Innovation Project

As mentioned in the introduction, the public healthcare sector in Denmark is under dramatic change due to governmental decisions of building new hospitals nationwide and restructuring tasks and workflow between hospitals, primary care units, and general practitioners. The case under study is an innovation project performed from late 2010 till early 2012 in a public university hospital setting. According to handout materials collected during my fieldwork, the hospital management's aim with the innovation project was:

We are going to develop our organization towards the new hospital building structure. The innovation project aims to create new ways of organizing and leading the hospital when the hospital is moved to a new and substantially reduced building site in 5-10 years. The innovation project should create possible solutions to the challenges related to the new hospital by developing the way tasks and work processes are organized and by developing leadership that support work processes and work climate. The project should: 1) Identify and implement well-proven new ways of leading, managing, and organizing (best practice), 2) Identify and test ways of leading, managing, and organizing not yet thoroughly tested and 3) Generate and test ideas of new ways of leading, managing, and organizing (next practice).

In it self, the innovation project was on a national level an innovation, as this project was the first of it kind to systematically involve healthcare professionals in rethinking and redesigning work and management processes at a hospital in light of the substantial changes related to new buildings in terms of size, economy, geography, resources, infrastructures, etc. There were several parallel examples through out the

country of involving healthcare professionals in the realization of the decisions to build shared acute departments. However, these initiatives were implementation of solutions, where as the innovation project had an open agenda of approaching problems in an innovative way in the hope to find solutions.

The innovation project was organized with a steering committee, a human resource advisory group and a group of human resource consultants including two project managers. The head of departments appointed 38 employees and first line managers from the hospital as participants in the innovation project, based on their talents concerning management and innovation. The participants were divided into seven groups, which became the primary organizational structure of the innovation project, see Figure 2.

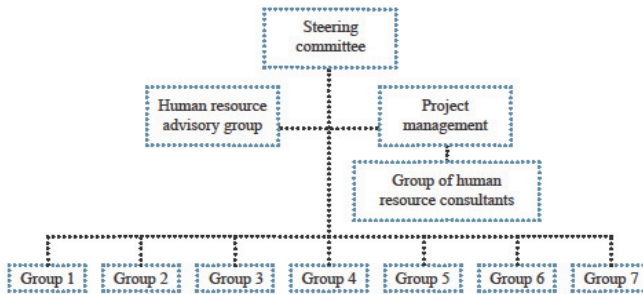


Figure 2: Innovation project organization chart

The heads of departments appointed a range of challenges, which they recommended the participants to address in the innovation project (see Appendix 1). The steering committee and the human resource advisory group merged these challenges into four

themes (Figure 3), which turned the department managers' questions and problems into desired outcomes of the innovation project. See Appendix 2 for a full description of the four themes.

Theme 1	Theme 2	Theme 3	Theme 4
Boundary crossing leadership, coordination and collaboration between professions and specialties	New forms of shared leadership with fewer managers and square meters	Rethinking of administrative and clinical service functions in order to focus on the hospitals' core missions and task	Alternatives to hospitalization due to urgent need of reducing number of hospital beds

Figure 3: The four themes of the innovation project

The innovation project was designed as a stream of workshops for all the participants, facilitated by the human resource consultants, group meetings for the participants working on specific problems throughout the project, and prototype-testing sessions conducted by the groups. This design was based on the innovation and design firm IDEO's process structure for innovation with three overlapping spaces: inspiration, ideation, and implementation (Brown & Wyatt 2010). 1) *Inspiration* is the problem or opportunity that motivates the search for solutions, 2) *ideation* is the process of generating, refining, and testing ideas, and 3) *implementation* is the path that leads from the project stage into people's lives. The human resource consultants illustrated the flow of workshops as shown in Figure 4.

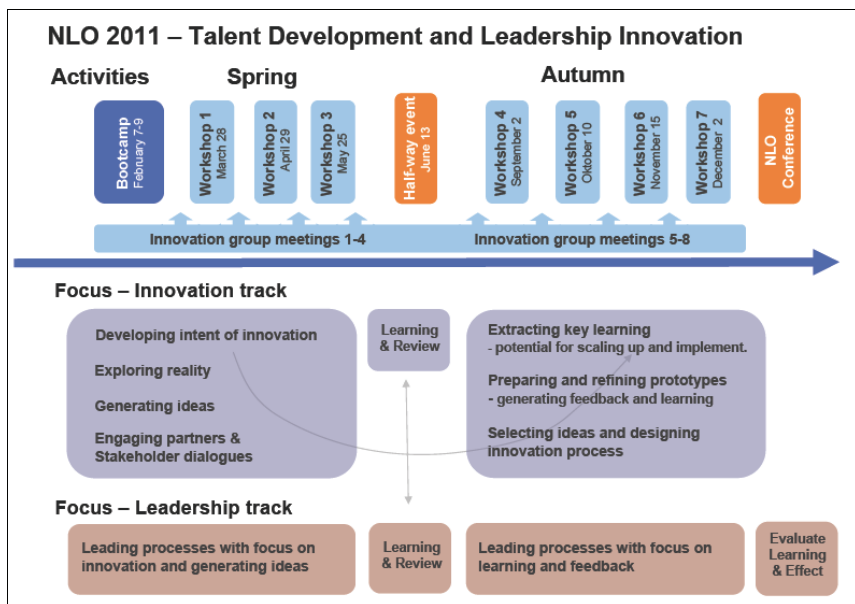


Figure 4: The flow of workshops in the innovation project

The first six months of the innovation project were designed as an inspiration space with a three-day boot camp and three one-day workshops. The aim of these activities was according to hand out materials, written by the human resource consultants to ‘develop the participants’ capacity to explore real world challenges and possibilities, contexts, and stakeholders, all within the four topics’. Each group of participants was designated to ‘develop and test ideas of how to address the challenges of the future hospital’. The human resource consultants designed the first workshop with a focus on ‘exploration of the four themes and on developing a clear intention of the work in the innovation project’. During my fieldwork, I noticed how the seven groups framed problems, generated ideas and explored reality through observations, vox pop interviews etc. In the second workshop the intended focus was giving feedback to the

groups on their work. The feedback came from hospital managers from different organizational levels ranging from charge nurses and heads of departments to heads of centres and hospital managers. During the third workshop the human resource consultants planned to inspire the participant in how to test ideas and conduct prototypes. At the midterm event, the participants presented results and learning so far and received further feedback from hospital managers.

The following six months, four workshops were designed in order to ‘support the participants in creating and trying out small-scale prototypes’. The human resource consultants’ aim was to ‘develop the participants’ capacity to experiment and create feedback in order to learn from experience’. The participants were supposed to use this feedback to ‘generate new iterations of the prototypes for further testing in small-scale hospital settings and eventually to make recommendations for potential scaling up and implementation’. At the fourth workshop, the groups prepared for trying out their ideas. At the fifth workshop, the human resource consultants planned to focus on how the participants could ‘generate effect and learning, and on making plans for second iteration of their prototypes’. At the sixth workshop, the human resource consultants planned to focus on each participant’s learning concerning innovation and innovation management. The seventh workshop was designed as a preparation for the final conference through pitch training and report writing. At the conference, the participants presented their projects and received feedback from hospital managers and stakeholders. For an overview of the participants in each of the groups, the problems they addressed and the prototypes they ended up testing, see Table 1. The numbers indicates hours of observation.

Group/task	Meetings	Prototypes	Participants
Group 1 Alternatives to hospitalization	7x3 hour	1x2 hours Front line innovation process	2 Charge nurses Consultant Acting consultant Nurse 2 Junior doctors Physiotherapist
Group 2 Qualified visitation	1x2 hour 10x3 hour 1x1 hour	1x3 hours 3x2 hours Dialogue triangle. From interface to space for collaboration	Journalist Charge nurse Consultant Leading physiotherapist
Group 3 Coordination across departments and specialties	2x1 hour	2x1 hour Tool to identify the complex patient	Coordinating nurse Physician 2 Consultants Nurse
Group 4 From units to whole system	5x3 hours	1 hour Leadership dialogues and reflections	Project nurse manager Managing medical secretary Charge nurse Physician Specialist nurse Administrative manager
Group 5 Competent environments	4x1 hours	Dialogue model Collaboration and sharing across boundaries	2 Administrative managers Consultant Charge nurse Physician
Group 6 Social capital		Motivation of employees to do more for less	2 Department radiographers Medical secretary Bio analyst Administrative manager
Group 7 Managing and organizing research	2x1 hours	Ambassador for the young researcher	3 Physician researchers
Total	77	14	

Table 1: Overview of participants, problems and prototypes

I gained access to the innovation project through dialogues with my research project steering committee and the human resource consultants, facilitating the innovation project. I negotiated this access with all the participants, and with each group of participants, I observed. We made agreements that I would send transcripts of interviews for approval, and send them papers when using quotes or incidents from their work in my analysis before submitting them to journals. I do not use names of

people and their units and departments are not listed in order to anonymize the participants. Internally in the region and the case hospital, the innovation project as such is easily recognizable as a consequence of the choice in the design not to compare multiple innovation projects. The participants are aware of and have approved this.

Formulating the Problem

Within this innovation project, ‘the problem’ was not something to uncover for me as a researcher. Researchers must instead define where the field of study begins and ends, and reflect upon the consequences of setting the field in this way for the research project they wish to carry out (Robson 1993). I framed the problem to address in this research project within this particular innovation project as field and context. Within the overall innovation project, I focused on the following empirical questions: 1) how are problems framed over time? 2) What do healthcare professionals attend to and do while responsible for innovation? 3) how do ideas to solve problems emerge, develop, grow and dissolve over time? And 4) what are the effects of their effort?

In order to answer this type of process questions, I needed empirical material on incidents that illustrated changes in the framing of problems and in the healthcare professionals’ attention and actions. These aspirations made me look into ethnography and anthropology for inspiration of how to study framing and innovation processes as they ‘move along’. The next section addresses my engagement with these research fields in order to design the study.

Engaged Design of an Explorative Case Study

Yin (1994) argues for the use of field research to explore subjects, where theory still does not exist or is not exhaustive because of the specific context or because the study's problem definition is not yet fully established. In this case, the literature review in chapter 2 demonstrated the need for context specific knowledge of innovation in particular regarding the aspects of wicked problems, framing, and boundaries. Furthermore, the initial problem definition of the research project was rather broad and addressed the challenge to initiate innovation in times of cutbacks. The literature review as well as the broad problem definition of the study supported my choice to conduct a field study. The present explorative study is not a classical ethnographic study. It does however employ an ethnographic approach to field research, inspired by Robson's advice (1993) . Here I will outline this distinction and make clear the design and methods used.

Ethnographic Approach to Field Research

Originally, ethnographic studies were inspired by cultural anthropology and sociology (Malinowski 1920). It involved the researchers' immersion in the particular culture of the social group to be studied. The aim was to describe life in detail in order to produce thick descriptions (Robson 1993:148). Ethnography meant for the researcher long periods of time in the natural environment of phenomena under study in order to understand it from 'the inside'. Today field studies vary a great deal; from naturalistic field studies where the researcher observes naturally occurring phenomena, to analytically inspired problem oriented field studies to classical anthropological field studies of cultures and communities (Hastrup 2010). The present field study might best be positioned in the middle of this continuum as problem oriented by exploring the framing of wicked problems in healthcare innovation.

Robson (1993) argues that a flexible design is particularly relevant in case studies or ethnographic studies. In my case, I had to engage with the field when possibilities arose. As mentioned, this meant that my field study began immediately and not after the literature review and project design were completed. The innovation project was about to take off, and I grabbed the opportunity and got on the plane. The flexible design acknowledges that processes in real life do not always unfold as planned, and people react in unexpected ways. For example during the field study I learned that the groups' themes and problems were not a bullet-proof indicator of which groups to observe. Their target problems changed along the way, which made other groups more relevant for my purpose of exploring problem framing and framings of boundaries (see description of pilot study below).

The innovation project provided me with a range of occasions where healthcare professionals were asked to address complex problems related to the new hospital buildings in order to find innovative solutions. In this sense, my assumption was that the innovation project would provide me with an arena with a higher possibility of coming across innovative attempts than if I choose to study everyday work at the hospital, even though these problems and questions of how to address them incidentally popped up in the operation theatres or at department meetings. The innovation project thus combines a top down approach to innovation, initiated by the management and a bottom up approach to innovation, where employees try to solve problems by means of innovation. This setting allows for me to study the interplay between the framing of wicked problems and the effects on what people do when responsible for innovation.

The innovation project was an entangled affair of workshops, meetings, and experiments. It was neither an example of best practice, nor an intervention study in order to evaluate quality and effects of specific innovation models and tools. Along the way, the hospital experienced a range of changes: a merger, cutbacks, etc. I have only studied these changes as far as the participants brought them into the innovation project. Changes like these are part of the context of healthcare, but in this study, they served only as a backdrop to the studies of micro processes in innovation. This being said, the cutback did turn out to have significant impact on the innovation project in terms of how problems were framed. It created a specific focus on the reduced amount of hospital beds, which appeared as a crisis situation requiring action, a 'burning platform', and guided the innovation processes and the problem framings closer to patients and everyday work processes at the hospital than towards radically new solutions.

I deployed an experience-based and theoretical sensitivity towards boundaries and boundary crossing to guide my attention in the exploration of problem framings, ideas, attention and activities, and effects. Which stakeholders were included in the activities (if any)? Which physical settings within and outside the hospital did the participants go to? Which professions and specialities were included? In what ways did patients become part of the innovation project (if any)?

The study is thus an explorative case study of a change initiative, framed as innovation in the particular context of a hospital and each group of participants is considered case units. These cases are defined temporally as groups of participants, while they are responsible for innovation throughout the innovation project. The cases are also defined spatially as sub cases, regarding activities in workshops, meetings, and

prototype tests (Huberman & Miles 2008). This design appear as a single case design (the innovation project) despite the multiple case units (the groups of participants). This design has strengths and limitations with regards to the possibility of making generalization of findings to other contexts, which I will address in Chapter 7 on limitations. In this case, my pluralist and engaged approach to research has the consequence that I favour detailed and nuanced descriptions and analyses of micro-processes in a particular healthcare context higher than producing replicable and reliable findings, which can be generalized to other settings. I reach my conclusions through transparent and systematic reflections on empathic and recognizable descriptions of activities during framing and innovation processes, which is a criteria for making valid field work put forward by Brinkmann and Tanggaard (2010). Van der Ven (2007) also argue that researchers should demonstrate a reflective approach to research, in terms of the researcher's role as well as transparency about the methods used and steps taken along the way to allow for others to critically evaluate the work. In the next section, I transparently reflect upon my own role as a researcher and the methods I have used.

Reflections on Researcher Role and Methods

As a social scientist I strive to create knowledge *about* people, and the means of doing this is to do research *with* people. This knowledge is created through different degrees of involvement. Spradley (1980) suggests to think of involvement as a continuum from non-participatory to complete participant with intermediate positions as active, moderate, and passive. I strived to position myself as active or moderately involved in the intermediary positions. Below I will argue why I consider the ends of the continuum: passive and complete participant not suitable for this research project.

Hastrup (2010) distinguishes between outsider and insider researchers, and explains how the non-participatory or passive observer position allows for distance and outsider-ness: not taking anything for granted as insiders might do, while at risk of too far a distance and thus alienation from the field under study. However Czarniawska (2007) argues that all observation is participatory due to the physical presence of the researcher and the continuous need to negotiate access to the field. Passive participation is still participation.

The complete participant on the other end of the continuum is an insider researcher from the position of an ordinary participant, which allows for closeness to the subject under study. This type of participation carries the risk of un-reflected subjectivity and not sufficient analytical distance. Spradley (1980) holds that the complete participant cannot conduct conscious research, as it is too hard to create enough distance to the material, if I as a researcher was employed as a healthcare professional or as human resource consultant in the innovation project. As I have been employed in healthcare organizations for years, even at the case hospital, some might regard me as an insider, as one of the human resource consultants. In similar ways my observations and interviews were at risk of being too subjective and without sufficient analytical distance. My observations as well as my analyses are at risk of being biased, as I knew a lot about the particular hospital beforehand. Numerous people in the innovation project knew me from my years working at the hospital with clinicians in operating theatres, white-collar workers in offices, and in the high circles. Spradley (1980) argues that the less a researcher is familiar with a practice, the more she is able to observe the tacit rules. He thus proposes that researchers must strive to objectify the participants of the study.

According to Czarniawska (2007), field studies are however characterized by and informed by subjectivity: i.e. the researcher is not an objective observer, and the people in the study are not merely sources of information. The researchers' subjectivity generates additional empirical material of what is going on in the field. Through my fieldwork, I became a co-author, who co-created meanings of the phenomena under study, i.e. when I mirrored back my observations to the groups or exchanged field notes, quotes or papers with them in the validation of my work.

Czarniawska argues that choosing how we go about making direct observations, which are participatory by nature, is more of an ethical than a methodological question. As I made observations in the field, I had to be aware that: I somehow demanded access and intruded, as I wanted to join the groups in the innovation project. I observed and thereby made people the object of observation. I demanded intimacy and wanted personal contact, trust, and confidence, as I wanted to get close to the experiences of the participants. An ethical code of conduct for research implies taking care of people who are part of research. Researchers explore and represent other peoples' lives, actions, and meanings; researchers talk on people's behalf, which can change their lives.

I attempted a different kind of participation than that of the outsider or insider researcher, which instead resembles Spradley's (1980) moderate and active participation. Following Hastrup's (2010) recommendation, I participated in the innovation project, not as observer or participant, but *as a researcher*: as an external participant. This was an attempt to make direct observation from a position of detached involvement in the work. Moderate participation is not doing what people under study are doing, but doing what is necessary to create rapport, dialogue, and understanding.

My approach to blend in was not to be silent and anonymous, as that was not how people acted. I showed the participants that I would spend time with them, engage in their work, socialize, and small talk during coffee breaks etc.

My participation *as a researcher* aided my alienation from a well-known field and differentiated my present researcher role from my previous roles as manager and human resource consultant at the hospital. I followed Robson's (1993) advice of trying to balance my subjectivity by a scientific attitude: I attempt to systematically explicate the kinds of observations I made, in which contexts, and from which role and position. I attempted to use the outsiders' objectifying approach to exotify the known and to explore with fresh eyes; I tried to objectify myself as a researcher by being explicit about my background as a former insider: a complete participant in the hospital. I systematically reflected upon how my experiences and preconceptions, academic training, gender, and age affected the process under study as well as what I was able to observe.

My subjectivity calls for a sceptical attitude towards my own ideas, observations, and conclusion to enable testing for possible disconfirmation. This has indeed been a challenging and ongoing task.

Appendix 6 shows excerpt from my field notes, as I tried to objectify myself and be reflective about my role. I recognize that I used my subjectivity of being a former insider in my observations by using my knowledge, experience, emotions, and sensations as guides in order to identify important aspects and to ask challenging questions.

Two strategies in particular helped me to keep open minded, curious, and not just looking for the expected: first of all the research questions guided my observations and field notes as well as the structure of my interviews with the participants in the innovation project. This preparation kept my attention on track while making observations. Secondly I continually shared field notes, data displays, and analyses in research workshop with colleagues, who had not been part of the hospital nor the innovation project. Their interpretations of the data and analyses through out the research process aided my alienation from this well-known field. In future research projects I would like to be part of a research team with a combination of insiders and outsiders, investigating a shared empirical field in order to learn from observations and analyses from these different positions.

As an aid to discipline my attention, the initial 6 months of the study was designed as a pilot period to get a sense of what was going on and what was at stake in the innovation project. Below I will describe this pilot study as well as the methods I have used for data collection and analyses.

Pilot Study of Selected Groups

For practical reasons I had to select some groups for observation, as the groups worked in parallel sessions at the workshops during the innovation project. In the pilot study phase, I selected two groups for observation, based on whether the groups' initial framing of the problem, they wanted to pursue was framing boundaries within the hospital (Group 4) or boundaries to other parts of the healthcare sector (Group 1) (see Table 1). My aim with this selection of groups was to provide empirical material from a variety of problem framings, leading the participants to address different kinds of boundaries (Launsø & Rieper 2005:94). This approach resembles theoretical sampling of cases by their inclusion of diverse stakeholder perspectives (Huberman & Miles 2008). Here I shortly describe the work of these groups. More elaborate descriptions are to be found in the analytical papers in chapters 4, 5, and 6.

Group 1: Outpatient Functions as Alternatives to Hospitalization

This group of participants worked on the question: 'How to skip hospitalization and still treat patients successfully?' Their initial ideas to solve this problem regarded extensive use of patient hotels, and rationalization of workflows in and expansion of acute functions in outpatient clinics. They realized that these ideas existed elsewhere in the hospital and that the challenge instead was implementation and spread of these ideas. They ended up testing a design procedure for collecting ideas from frontline employees, ideas to be implemented in order to change patient pathways from hospitalization to outpatient treatment.

Group 4: From Units to the Whole System

This group of participants called their work: 'turning frontline managers' perspective 270 degrees'. Their idea was to change the focus of clinical managers from their own

unit onto patient pathways across medical knowledge domains and professions. They attempted to bring the strong professional cultures and often isolated ward management teams to collaborate across departments, knowledge domains, professional backgrounds, personal interests, and skills. The group tested a procedure, which was designed to support clinical managers' dialogues and reflections on leadership issues and to give them time for this apart from management of daily work processes.

After two months of observing these two groups, while they explored, analysed and framed their theme and problem, one of the human resource consultants told me that the participants in Group 2 had changed their focus. They no longer framed the problem, they addressed as a matter of the hospital's preadmission visitation of patients, but instead framed the problem as the interplay between the hospital-based specialists and the general practitioners, who refer patients to specialized hospital treatment. This information made me include Group 2 in the final part of my pilot study. This part of the pilot study led to my decision to observe Group 2 consistently throughout their work process, while continuing to observe the work in groups 1 and 4.

Group 2: Qualified Visitation

The participants in Group 2 attempted to find alternatives to hospitalization through new ways of collaborating among the hospital and the primary sector. Their initial ideas were: more qualified referrals from general practitioners, quicker medical investigation and visitation at the hospital, and involvement of patients' and relatives' resources. They ended up testing a procedure designed for turning organizational interfaces into spaces for dialogue and collaboration.

During the pilot study period of six months and until the final conference twelve months from the Boot Camp, I observed almost all meetings and activities in the innovation project (see Table 4). The primary observation sites were: 1) workshops, 2) group meetings, and 3) prototype testing sessions. Additionally, I observed all meetings in the group of human resource consultants, the human resource advisory group, and in the innovation projects' steering committee (see Appendix 3).

From Behind the Scene – the Researchers' Learning Process

In the early pilot-study phase of my fieldwork, I felt a strong and normative urge to point out important criteria for, which problem were more important and which innovations were more valuable than others in healthcare: The problems of gaps, the lack of coordination and coherency, and the boundary crossing innovation, as mentioned in the beginning of this chapter. My critical stance was that valuable innovations should not just be better, cheaper, and more efficient for the particular unit of adoption. Instead I argued that innovations in a healthcare context are valuable only if relevant actors throughout the healthcare sector are taken into account in terms of their tasks, knowledge, economy etc. I found support for my opinions in stories from patients, health professionals, managers, as well as in theories on public management and innovation. Innovations in hospitals MUST be of value across organizations and professions in healthcare in order to be accounted for as valuable innovations for all parts of the sector. Only in this way, I proclaimed, can the healthcare sector in Denmark meet patients' needs in a coordinated and effective manner. This normative approach made me shadow the groups, whose problem framings and ideas for solutions somehow acknowledged these gaps and framed problems in ways that spanned the boundaries within and among healthcare organizations.

What I learned during the pilot-study of the first two months of the innovation project was that people did not stick to their themes, problems, or plans. The actions taken by the healthcare professionals participating in the innovation project often took unexpected turns, and different actors and problems moved in and out of their attention. These rather messy activities inspired me to step back in the field study, which followed the pilot-study and position my self curiously asking: ‘What is going on here?’ This lead me to investigate how problems are framed and how this framing affects what healthcare professionals say and do, when responsible for innovation rather than predefining innovative effects. In the next section I outline and reflect upon the methods I have use for creating empirical materials.

Shadowing the Field

Through my research program I had the opportunity to engage with Barbara Czarniawska and her work in organizational studies on anthropologically inspired constructivist fieldwork. I especially found her descriptions of the field study technique ‘shadowing’ inspiring, which is amongst others inspired by Bakhtin (Czarniawska 2007:118). Czarniawska defines ‘shadowing’ as following and observing selected people in their everyday routine occupation for a period of time without acting like the fly on the wall (Ibid:17). The shadow observes sameness and differences and interconnected actions, which constitute the phenomenon under study. The shadow does not actively participate in the activities as such, which according to Czarniawska allows for the necessary outsider-ness in terms of enabling analytical distance.

Czarniawska argues that the field researcher has to ‘zap’ around in the field as social processes are accelerated and are going on in simultaneous settings. The notion of time is especially important here, as my field study was not approaching innovation as a

chronological description of activities in workshops, breaks, and group meetings, although this was the formal representation of the innovation project (see Figure 4). According to Czarniawska, issues like problem framings or boundary crossing are organized in kairoitic time, structured around emergencies, events, scenes, and dramas. In this sense my explorative research question was inspired by the ‘critical incidents technique’ (Flanagan 1954) as well as the process study approach (Van de Ven 2007): What are important incidents of problem framing and shift in healthcare professionals attention and actions while responsible for innovation? In the following section I outline how I shadowed the selected groups of participants.

I decided to use extensive observations and in-depth interviews as my two primary strategies in order to collect qualitative empirical material of what healthcare professionals attend to and do while responsible for innovation. Furthermore I engaged in informal dialogues and collected documents to allow for complexity and completeness (Czarniawska 2007). In this regard, I included policy documents, steering committee activities and patients’ stories as back drop for the analysis of health professionals’ attention and actions while responsible for innovation. I also included documents from the innovation project, such as conference handouts, meeting agendas, resumes, and power point presentations in my empirical materials.

Observation Practice

A typical observation session would unfold like this: I sat at the meeting table close to where the activities took place, usually at a corner. I took copious notes on my computer or in my notebook. I used the top of the sheet to note time, group, and the purpose of the activity, see Table 2. For an overview of observation hours and setting, see Table 3 and Table 4.

	Time: Date and hours
	Group no.: People present
	Goal: Agenda of the day
Diary: log of activities, dialogues	Reflections, hunches, hypotheses, emotions.

Table 2: Field diary

I used the left hand side of the paper to create a diary: a log of activities, documenting dialogues, mostly with keywords, often with quotes. Czarniawska (2007) calls this use of a field diary a narrative reporting of events. The right hand side was used for my reflections, hunches, hypotheses, and emotions. During the majority of my observations, the participants in the setting invited me to share some of my observations in brief time slots, which often led to further reflections and dialogue. The role as an observer took many shapes throughout the innovation project and here I will share a couple of examples.

During a workshop, I was asked by one of the project managers to stand in for a sick human resource consultant in order to facilitate a feedback session in one of the groups. As the human resource project managers were my daily access point to the innovation project, I feared that by rejecting the request, I would create boundaries for my self in terms of limited access to the activities in the field. The outcome of my acceptance was of course no field notes, but afterwards I wrote down my account of what had been said and done during the session. An unexpected side effect of being a substitute human resource consultant was that my position changed regarding this particular group. They kept inviting me to observe their meetings and prototype testing sessions, even after they stopped inviting their appointed human resource consultant. This incident is part of the analysis in the paper, located in chapter 4.

Another example of the diversity of ways I was a shadow researcher were the occasions, where I was *not* granted access to observe due to crowding. This could be dialogue with stakeholders or prototype testing sessions: too many participants wanted to be part of the activities and having a researcher on the side would simply be too much disturbance. In some of these cases I was later allowed access, as none of the participants bothered to make a resume of the processes and results. The log part of my field notes (see Table 2 above) came in handy to support this need for documentation and in this regard they brought me access.

Workshops

I observed 12 workshop settings where all participants and the human resource consultants were present, a total of 90 hours. At the workshops, I observed from the periphery of the room when the participants listened to the human resource consultants giving lectures or assignments. When the participants worked in groups in separate rooms, I joined in on one of my three selected groups. Two principles guided my choice of group to observe: first of all stick close to Group 2, as their problem framing addressed the boundary between the hospital and the general practitioners in the primary sector. The second principle was to small talk with participants from the other two groups as they arrived in the morning and during coffee breaks in order to sense if any of these groups were changing their framing of problems or if they were planning prototype testing. If I sensed this, I would prioritize to observe their work during parallel group sessions. As the number of prototype tests was quite low compared to the hours of dialogues in meetings, I would above all prioritize groups initiating prototype testing in order to allow for further investigation of the effects of problem framing on healthcare professionals' actions.

Meetings

I observed seven meetings in the steering committee (14 hours total), seven meetings in the human resource advisory group (14 hours total) and ten meetings between the human resource consultants (40 hours total). During these meetings, I sat next to the members at large meeting tables with computers, meeting agenda, and coffee. Once in a while the members asked me about my observations, as I was the only person who was present in more than one group (each human resource consultant supported one group of participants during their work processes).

I observed 32 meetings in the groups of participants (77 hours total). In these group meetings, I listened to their dialogue while I sat at their worktable. I made agreements with them, which allowed me to ask questions about what they were doing, which problems they were working on, prototypes they were planning to test, and so on. These questions sometimes changed the groups' problem framing as exemplified by an incident in Group 2: The dialogue in the group weaved back and forth between brainstorming ideas for technical solution to improving the general practitioners' referral of patients for specialist treatment at the hospital, and designing procedures to support collaboration among general practitioners and specialist hospital physicians. After listening for a while, I was confused by the shifting problem framings and how this affected their own roles as participants in the innovation project. This led me to ask them whether they primarily saw themselves as innovative talents, who should create new ways of collaboration among hospital, general practitioners, and patients, or whether they saw themselves as facilitators of innovation, who should facilitate new types of cross-organizational dialogues. This question made them discard their ideas of computerized referrals, and hotlines for specialists, and moved their attention to the facilitator role and a process design called 'the dialogue triangle', which they ended up

testing. This shifting of roles in the innovation process between innovator and facilitator of innovation is further elaborated in the analyses in chapter 4.

I observed eight prototype tests (14 hours total). As mentioned, I often negotiated access to observe the groups' prototype testing by offering to share my notes on what happened. I shared the left column of my field notes with factual observations of people, time, activities, and dialogue elements, while keeping the right column with personal reflections and initial categories to myself.

The activities in the innovation project were often simultaneous; both face to face interactions and interactions through e-mails, phone calls, and social media. Sometimes also 'invisible' interactions: meetings not planned or announced, taking place in private or somewhere in the highly distributed hospital building site. Furthermore, I could not know where important events were going to happen. With such a dispersed and fragmented process, I might not be at the right time at the right moment. This is why my observations had to be supplemented with interviews in order to learn about these events.

Interviews as Observant Participation

Czarniawska (2007:78) describes how field researchers have been reluctant towards conducting interviews, as the data from interviews are 'representational data'. Interviews do not provide the researcher with accounts of what really happened. The researcher learns through interviews how the interviewees account for incidents. However interviews have become a modern institution (Gubrium & Holstein 2002) as interviews are a natural part of research, marketing, news production etc. Within the

social sciences, the qualitative research interview is described and conducted from diverse scientific paradigms, which lead to substantial differences in terms of aim, approach, and outcome. The main question is: what kinds of empirical material do researchers get through interviewing? Gubrium and Holstein (2002) offer three metaphors for the interviewer in order to illustrate the implications of different scientific approaches for the research process: 1) the miner, 2) the traveller, and 3) the co-constructor. The metaphor of the miner signals a realist approach to interviewing, where the interviewer seeks to discover essential traits of the interviewee. The metaphor of the traveller illustrates a phenomenological approach to interviewing, where the interviewer through conversation and sense making tries to understand the interviewee through interpretation. The metaphor of a co-constructor illustrates a constructivist approach to interviewing, which explores discourses and allow for multiple worlds.

Czarniawska suggests conducting interviews as part of the shadowing approach in the form of 'observant participation'. Observant participation is an approach to interviewing, where the participants in the innovation project under study are asked to observe their own attention and actions in order to share accounts of incidents. This approach to interviewing supports my wish to learn about 'critical incidents' (Flanagan 1954) leading to problem framing and reframing throughout the innovation project. Furthermore the observant participation approach positions the interviewees as 'informants' in a classic ethnographical sense (Spradley 1979): what do the participants experience? How do they describe the incidents? However the interview sessions challenged the classic interviewer-interviewee roles, as I was present, observing, and reflecting during all the selected groups' work processes. By interviewing, I did not get one true account of what really happened during the innovation project, but I did get the participants' many different stories of what they

attended to and did. According to Czarniawska (2007:81) the interviews create the possibility of one more account of the incidents - 'a novel reading' and added meaning to my observations. The shadowing approach to interviews as observant participation in this sense combines the informant (descriptive), the traveller (sense-making), and the co-constructor (multiple versions of the story).

Interview Practice

I conducted eight one-hour interviews: one interview with each of the groups of participants and one interview with the group of human resource consultants. During these interviews I invited the participants to become observers of their own work process in order to support me observe and learn from their observations and reflections on the activities in the innovation project. Before the interviews, I made a letter for each group. The letter explained about my project and research interest and asked them for an interview to learn about their work process, and how their theme, problem, and ideas had developed over time. The letter helped me get interview appointments. In addition I hoped to trigger reflection before the interviews. For practical reasons, the interviews usually took place during group meetings, as healthcare professionals seldom are able to join meetings or interviews during regular workdays. A copy of the letter is enclosed in Appendix 5. The group interviews were semi-structured (Kvale 1996) with a main focus on descriptive questions (Spradley 1979) as I was curious to learn:

- What problems and ideas did they address during their work?
- What were in the participants' view important incidents in changing the framing of the problems, they worked on?
- How did their ideas for solutions change over time?
- What happened before and after these changes?

I hoped to establish an atmosphere of trust in order for the participants to feel safe in sharing their experiences for good or bad with me. I made sure not to explain or defend incidents during the innovation project and not to judge, but to be curiously listening and asking questions. When conducting interviews in each group, I initially put my sound recorder on the table and hung a large piece of brown paper on the wall. Here I drew a timeline from the first gathering of the innovation project (the information meeting) to the day of the interview. I used the timeline to aid their recollection of the events and processes they had been part of throughout the past year in the innovation project. I drew their initial theme as well as all their framings and reframing of problems on the upper part of the brown paper. Along this framing process I noted their changing ideas for solutions. On the timeline in the middle of the paper I drew the activities they pointed out as important with regards to the incidents, and below the timeline I drew stories of the climate in the group during the work, e.g. feelings of frustration, joy, or stressfulness. See Figure 5 for examples of questions from my interview guide.

I used knowledge from my observations to ask clarifying questions and shared field notes on incidents to thicken, challenge, or supplement the groups' stories. I probed for incidents of reframing problems, which I had noted during workshops, groups meetings, or prototype tests, if the groups did not mention them during the interviews, in order to explore whether they were perceived as unimportant or merely forgotten. When I shared my observations of the processes, the interviews became a 'negotiation of meaning' or 'collaborative sense making'. After my interviews, the human resource consultants experienced that the groups had a clearer sense of their own work processes, ideas, and results. They therefore decided to implement a similar kind of process review interview in the next round of the innovation project.

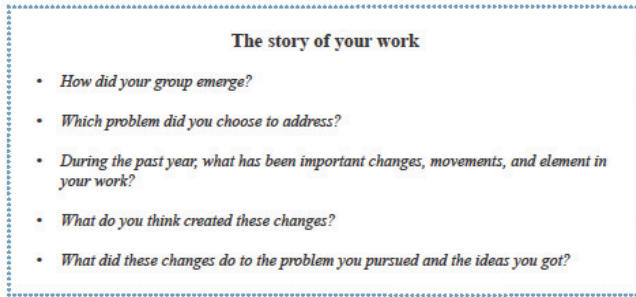


Figure 5: Examples of interview questions

In the section below I present an overview of the empirical data from the field study as well as my strategies for organizing, coding, analysing, and presenting the material.

Overview of Data

The primary empirical material consists of qualitative data from the shadowing: observations of groups of participants in the innovation project in different settings and the eight one-hour interviews. The total amount of observation was approximately 249 hours: 77 hours of observation of the groups of participants during groups meetings, 14 hours of observation during prototype testing in the groups, 14 hours of observation at meetings in the steering committee, 14 hours of observation in the human resource advisory group, 40 hours of observation in the group of human resource consultants and 90 hours of observation of workshop and other types of gatherings in the innovation project, where all the participants were present. All of the settings in the field study (except for the interviews) are displayed in Table 3, which provides an overview of the frequency and total length of observation in each of the sites in the innovation project.

Observation sites	Number	Hours	Number of participants pr. observation
Workshops/ conferences	12	90	42-63
Steering committee	7	14	9
Human resource advisory group	7	14	6
Group meetings	32	77	3-11
Exploring, testing, prototyping	8	14	4-12
Group of human resource consultants	10	40	6

Table 3: Hours of observation in each setting

Table 4 provides a detailed overview of data collection sites and frequency throughout the field study of the innovation project. The numbers in brackets indicate hours of observation. ‘X’ indicates meeting activity, ‘P’ indicates prototype testing, and ‘I’ indicates interview. For an overview of the workshops, and activities in the steering committee, the human resource advisory group and the group of human resource consultants, see Appendix 3. In Appendix 4, you find a description of the participants’ positions as well as tasks of the steering committee, the human resource advisory group and the group of human resource consultants. Table 5 provides an overview of observations of the work in the seven groups of participants, their professional backgrounds and the title of the prototype, they worked to develop.

Time/Activity	Workshops	Steering committee	Human resource advisory group	Group of human resource consultants	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7
Sep10		X (2)									
Oct10											
Nov10											
Dec10	Information (2)	X (2)	X (2)								
Jan11	Kick off (7)		X (2)	XX (2x4)							
Feb11	Boot camp (21)		X (2)	X (4)				X (3)			
Mar11	WS 1 (7)			X (4)	XX (2x3)						
Apr11	WS 2 (7)	X(2)	X (2)		X (3)	XP (2+2)		X (3)	X (1)		
May11	WS 3 (7)			X (4)		XPX (3x3)		X (3)			
Jun11	Midway (7)	X(2)	X (2)	X (4)	X (3)	XX (2x3)	P (1)	X (3)			
Jul11											
Aug11						X (3)					
Sep11	WS 4 (7)	X(2)	X (2)	XX (2x4)	XI (3+1)	X (3)		X (3)	X (1)		
Oct11	WS 5 (7)				P (2)	PDX (2+1+3)	X (1)	P (1)	X (1)		X (1)
Nov11	WS 6 (7)			X (4)	X (3)	PXX (2+3+3)	PI (1+1)	I (1)	I (1)	I (1)	
Dec11	WS 7 (7)	X (2)	X (2)		X (3)	X (3)	X (1)		X (1)		IX (1+1)
Jan12				XI (4+1)		X (1)					
Feb12	Conference (4)	X (2)									

Table 4: Overview of data

I have used the translations of formal positions from the Danish Medical Association (www.laeforeningen.dk) and from Central Denmark Region (www.rm.dk), as there are no exact corresponding title translations between positions in the Danish and the

American or British healthcare sectors. ‘Consultant’ refers to ‘overlæge’, who in an American context might be entitled ‘senior hospital physician’. ‘Acting consultant’ refers to ‘konstitueret overlæge’, which translates as ‘ad interim appointment of a senior hospital physician’. ‘Junior doctor’ refers to ‘yngre læge’, who is in postgraduate training. Head of department refers to ‘afdelingsleder’ and charge nurse refers to ‘afdelingssygeplejerske’. When I address the participants as a group, I call them healthcare professionals.

Group/task	Meetings	Prototypes	Participants
<u>Group 1</u> Alternatives to hospitalization	7x3 hour	1x2 hours Front line innovation process	2 Charge nurses Consultant Acting consultant Nurse 2 Junior doctors Physiotherapist
<u>Group 2</u> Qualified visitation	1x2 hour 10x3 hour 1x1 hour	1x3 hours 3x2 hours Dialogue triangle. From interface to space for collaboration	Journalist Charge nurse Consultant Leading physiotherapist
<u>Group 3</u> Coordination across departments and specialties	2x1 hour	2x1 hour Tool to identify the complex patient	Coordinating nurse Physician 2 Consultants Nurse
<u>Group 4</u> From units to whole system	5x3 hours	1 hour Leadership dialogues and reflections	Project nurse manager Managing medical secretary Charge nurse Physician Specialist nurse Administrative manager
<u>Group 5</u> Competent environments	4x1 hours	Dialogue model Collaboration and sharing across boundaries	2 Administrative managers Consultant Charge nurse Physician
<u>Group 6</u> Social capital		Motivation of employees to do more for less	2 Department radiographers Medical secretary Bio analyst Administrative manager
<u>Group 7</u> Managing and organizing research	2x1 hours	Ambassador for the young researcher	3 Physician researchers
Total	77	14	

Table 5: Overview of sites in field study of groups

Organizing Empirical Materials

Finishing the field study, my empirical material added up to:

- 224 computer typed pages (approx. 100.000 words)
- 210 pages of interview transcripts (8x1 hour interviews)
- 700 e-mails
- 7 reports from the groups on their work
- Power point presentations from workshops
- Agendas and summaries from meetings in the steering committee and the human resource advisory group.

I printed all this material and organized it according to the types of activities in the sub-cases:

- Workshops
- Group meetings (group 1-7)
- Group exploratory activity (group 1-7)
- Group prototype-testing activity (group 1-7)
- Human resource consultants meetings
- Steering committee meetings
- Human resource advisory group

I organized this into a (thick!) binder with a chronological structure of dates and activity headlines. Early in the field study, I started to play around with the empirical material. I organized the material from a range of different perspectives in order to get a feeling of what was at stake in the different settings and in order to test multiple ways of making sense of data. When I got a hunch, I looked for further examples in the material. Examples of tentative displays are listed in Appendix 7. This ‘playing around’ with the empirical material was not just a lonesome affair behind the computer. It was also an engaged endeavor: One of my early hunches during the fieldwork was to follow the unintended consequence of framing wicked problems as a call for radical innovation in the innovation project. I later reviewed and coded my field notes from this perspective. Early on the aim of the innovation project was formulated as: ‘test existing successful practices in new settings and test ideas for new and better leadership practices’. As demonstrated in the analyses, located in chapters 4 and 5, this aim changed in order to support the health professionals in creating wild ideas without limitations. It raised the bar and created a sense of playground. At the same time the radical framing of innovation killed potentially great ideas, especially if they were related to learning from others.

After my early hunch, the first step in this analysis was in the autumn of 2011 to engage with two of the human resource consultants, who facilitated the innovation project. Together we wrote a paper for the first international conference on Transforming Health through Innovation and Entrepreneurship at Oklahoma Spears School of Business. We all struggled to find common grounds in the writing and we all learned a great deal about the social processes of engaging (Van de Ven 2007). From this collaborative interpreting of my observations as a researcher and their observations as facilitators, especially two effects were evident. The process of writing was a strong tool to support critical reflection and learning from actions. Afterwards, the group of

human resource consultants decided that part of the communication from the groups in the innovation project should be presented in an article. Furthermore, the facilitators of the innovation project now conceptualize radical innovation as innovation that challenges understandings of the primary task of an organization as opposed to incremental innovation that is related to challenging the processes of the organization. 'Radical innovation' was no longer used to call for wild and new to the world ideas.

This playing around with the empirical material was not just a matter of organizing data. It was also an engaged process, which initiated and affected the following coding and analyses.

Coding and Producing Vignettes as Analytical Strategies

Having organized the empirical material, I coded the data regarding two first-level codes: innovation and boundaries. (Robson 1993:385). These codes categorized the empirical material regarding instances, where the participants in the innovation project attended to the notion of 'innovation' or took actions, framed as innovation or framed boundaries to other professions, departments, organizations, or sectors. Within each of these I made second-level codes (pattern coding) in order to track patterns of primary activities as 'talking' (dialogue meeting etc.) or 'acting' (explorative or prototype testing activities).

Within the innovation code, I categorized 1) problems framings, 2) ideas for solutions, and 3) actual prototype tests. Within the boundary code, I categorized whether the health professionals engaged with 1) local authorities, 2) general practitioners, 3) patients, 4) managers, 5) other departments or professions, 6) other organizations or

private companies. I searched for patterns between the two types of coding, e.g.: What happened with the groups' problem framing, when they interacted with general practitioners? What happened to their ideas, when they initiated dialogues with hospital managers? By asking these questions, I learned that problem framings and the healthcare professionals' ideas, attention and actions when responsible for innovation changed over time, depending on who was talking and to whom. I made a second-level coding of the problem framings in order to categorize with types of boundaries were framed by this problem framing.

Across the two first-level codes, I categorized the human resource consultants' design and facilitation of the innovation project according to the phases of innovation processes, according to their design model for innovation: inspiration, ideation, and implementation. Furthermore I coded their encouragement or discouragements of participants to frame and approach boundaries between 1) departments, 2) professions, 3) organizations, 4) sectors, and 5) patients.

According to Czarniawska (2007), processes such as framing and innovation processes are structured around emergencies, events, scenes, and dramas. Narratives display the inherent complexity of critical events and seek to specify patterns. Stories are thus analytical and not 'objective' accounts of what happened. The next step in the analytical process after the coding of the empirical material from field notes and interview quotes was thus to represent these data in a context-bound manner. This was done by using stories and producing vignettes of incidents. As Van de Ven puts it, it requires a story in order to move from observation and description to a theory of processes (Van de Ven 2007). 'Narrative explanations' are thus widely used in process studies (Van de Ven 2007:154). According to Launsø and Rieper (2005), my aim to understand how problem framing affects what healthcare professionals attend to and do while responsible for innovation calls for analyzes of incidents and stories from the

field. This narrative approach to events is also found in critical realistic research designs, where descriptions of activities in everyday language, based on field notes, are subject to analyses and interpretation (Danermark, Ekström et al. 2002).

According to Huberman and Miles (2008) vignettes are focused descriptions of a series of events taken to be typical, representative, and emblematic. In addition to the ‘extreme’ or ‘unique’ cases, which represent the dramas and critical events, I also looked for the common, the seemingly ‘natural’ or everyday-like occurrences during the innovation project. What does the typical way of framing problems look like and how does this typically affect healthcare professionals attention and actions while responsible for innovation?

I shared raw empirical material both as snippets of field notes and transcriptions of interviews with research colleagues in order to learn what they saw in the excerpts, as they were not present during the processes. We discussed my coding and potential patterns in the material. I began the process of creating vignettes based on field notes, pointing to important incidents in the empirical material and supported by statements from the participants during the interviews and these analytical processes and feedback from my research colleagues. My process of writing moved back and forth between vignettes, presenting empirical material, theories, analyses, and argumentation. This process of writing was also subject to review and feedback from my research colleagues. Through out the research process I shared my left hand side field notes with the participants and received feedback on their experiences of the incidences. Furthermore they read and gave feedback on paper drafts. I regarded their feedback as additional data as well as a way of validating my analyses and inspiring me of other possible interpretations of what was going on. In the papers I use quotes, snippets from

field notes, and longer excerpts from stories of incidents in order to allow the reader as well to co-interpret the incidents with me. These vignettes are a substantial part of the following three empirical papers. In this Chapter 3 on methodology, I have therefore not included them at full length in order to avoid reoccurring stories in the dissertation.

Conclusion

In this chapter I presented my approach to research, the case, design, and methods, which lay the ground for the empirical analyses in the three papers located chapters 4, 5, and 6. I argued for a explorative approach to the case study of framing processes and innovation and for an pluralist and engaged approach to the scholarly process. I described shadowing as my strategy to create empirical material: observation as an external participant and interviews conducted as participant observation. Finally, the range of approaches to organizing, making sense of, and presenting the empirical material were outlined.

Chapter 4: Reframing Wicked Problems

A Case of Healthcare Innovation

This paper is resubmitted to Journal of Health Organization and Management after first revision. The references for this paper have been included in the full final bibliography.

Abstract

Purpose: This purpose of this paper is to show that problems in healthcare innovation are subject to framing. This challenges phase theories of innovation, focusing especially on the initial phase, where problems are identified and defined. It is argued that healthcare innovation is not a response to a single, baseline *problem*, but rather to wicked problems.

Design: A field study of an innovation project in a Danish hospital setting provides empirical data for frame analyses of micro-processes concerning problem definition and generation of solutions.

Findings: The search for solutions to wicked problems in healthcare innovation leads to ideas, which require a reframing of the problem in order for these ideas to appear as solutions. Framing and reframing problems are collaborative efforts to find solutions to wicked problems in healthcare, but they are also contested negotiations of power and identity. When people attempt to identify and define problems, they construct frames that offer new perspectives on problems. Hybrid frames allow for multiple and

diverging perspectives on problems. This research thus suggests procedures for enabling hybrid frames as an approach to wicked problems.

Research Implications: This understanding of problem framing and reframing in healthcare innovation has implications for a more specific research agenda regarding the micro processes of innovation, when problems are wicked.

Practical Implications: When healthcare professionals frame wicked problems, when responsible for innovation, they might not solve problems but instead generate new perspectives on problems.

Originality: This paper brings together the innovation and framing literature to further our understanding of the effects of how wicked problems are reframed in healthcare innovation.

Keywords: innovation, healthcare, problem framing, reframing

Introduction

'The formulation of the problem is often more essential than its solution' (Einstein & Infeld 1967).

Coherent, efficient, and high quality patient pathways across professional domains, organisations, and sectors are a longstanding aim as well as a persistent problem in healthcare (Seemann, Dinesen et al. 2013). Innovation is seen by researchers as well as policy-makers as a powerful response to problems that cannot be solved by pursuing existing procedures or by standard solutions (Hartley, Sørensen et al. 2013). Instead new ideas must be put into action. In this sense, innovation is perceived as an expression of problem solving (ibid.). In order to distinguish innovative solutions from *change*, several authors argue that innovation must entail discontinuous changes (Osborne & Brown 2013). Whether the change is new in a radical or incremental manner is determined by how stakeholders evaluate the innovation in the particular context of adoption (Greenhalgh 2005). However, it is not only the stakeholders' perceptions of solutions that make innovation a relative phenomenon. The problems that innovation is supposed to address are also a matter of contestation.

Problems in healthcare often involve fragmented patient pathways across specialized units. These problems are complex because they are difficult to precisely identify and solve as they are entangled with other problems (White 2000). This paper will focus on how the complexity of problems in healthcare affects innovation processes, seen as a response to *problems*. Leonardi (2011 p. 349) has challenged the notion of identifying problems in innovation processes:

Problem definition is not always a straightforward task because problems do not exist ‘out there’ waiting to be found and solved. During its earliest stages, innovation might best be cast as a process of problem construction.

Schön’s (1991 p. 4) studies of healthcare professionals suggest to phrase this as an active process of *problem framing*:

Through complementary acts of naming and framing, the practitioner selects things for attention and organizes them, guided by an appreciation of the situation that gives it coherence and sets a direction for actions.

‘Problem framing’ during early phases of the innovation process has inspired research for this paper, as there is a need to understand how innovation processes can support the creation of more coherent healthcare sectors and organizations (Omachonu & Einspruch 2010). Hence, the research question to be addressed here is: How do healthcare professionals frame problems, and how does this framing affect the kind of solutions that emerge?

In order to answer this question, the paper falls in the following parts: The paper begins by presenting how the innovation literature conceptualise problems. The concepts of ‘wicked problems’ and ‘framing’ are introduced in order to argue for addressing framing of wicked rather than stable problems in healthcare. I then describe key features of the Danish healthcare sector and the hospital hosting the case innovation project of this study. This is followed by an outline of the qualitative methods used for data collection and for analysis of narrative accounts of how

problems are framed and the kinds of solutions that emerge. The analyses lead to discussions of phase theories of innovation and theories about framing processes. The paper concludes by suggesting that continuous and contested reframing of problems can generate new perspectives on problems. This conclusion has implications for how we conceptualize phases in innovation processes, how we understand the ‘search for solutions’ to problems and raises important questions regarding how innovation processes are designed and facilitated.

Framing Wicked Problems in Healthcare Innovation

Much of the innovation literature is based on the assumption that ‘problems’ are stable entities, isolated from the preceding or subsequent phases in innovation processes. In this literature, innovation processes are often described in terms of phases or stages, which might give the impression of a rather linear trajectory (Osborne & Brown 2013). Cooper’s (2008) description of the stage-gate model from ‘idea’ to ‘launch’ of innovations is an example of this. Another classic example is Wallas’ phase model of creativity, which starts with the *encounter*, where a problem or challenge is identified (1926, quoted in Cropley & Cropley 2012). Similarly, Osborne (1953) conceptualized the early phase of ideation in innovation processes as one of *orientation*, meaning observation of a need or difficulty. The fuzzy front end literature as well refers to ‘*ideation as a collection of large numbers of alternative solutions to a problem that needs to be solved*’ (Reinertsen 1999, emphasis added, Koen, Ajamian et al. 2001).

Innovation processes, however, can be chaotic, emergent and unpredictable, while in other instances they can be elegant, as shown amongst others by Van de Ven and colleagues (1999). Whether messy or linear, Hartley (2013) argues for the value of analysing the significantly different phases of innovation. Hartley and colleagues (2013) describe innovation as a complex and iterative process through which *problems are defined*, new ideas are developed and combined, prototypes and pilots are

designed, tested and redesigned, and new solutions are implemented, diffused and perhaps problematized. This review demonstrates that even in theories that describe innovation as a complex process, problems appear as something to identify during the early phases and to solve during later phases.

The idea of problems as stable and definable is challenged, however, when we move into the context of healthcare. Here problems such as fragmented patient pathways across organizational boundaries are rarely precisely identified and defined. Such problems are characterized as ‘wicked’ or ‘messy’ (Churchman 1967, Ferlie, Fitzgerald et al. 2011). Rittel defined wicked problems as:

A class of social system problems which are ill-formulated, where the information is confusing, where there are many clients and decision-makers with conflicting values and where the ramifications in the whole system are thoroughly confusing (Churchman 1967).

This system characteristic fits the case of healthcare. When healthcare professionals face wicked problems, they do not encounter a problem, but rather a mess (Schön 1984, Schön 1991). Wicked problems ‘defy efforts to delineate their boundaries and to identify their causes, and thus to expose their problematic nature’ (Williams 2002). In order to enable action, healthcare professionals generate a perspective on the messy situation by which they establish a problem. Wicked problems will often depend on people’s varying perceptions and perspectives (Buchanan, 1992, p. 15). Certain aspects of problems will thus be neglected or overlooked when attempting to address wicked problems, e.g. related to coherence, quality and efficiency of patient pathways across

professions and sectors (White 2000, Buchanan 1992). The neglected aspects could involve the perspective of other departments, sectors, or patients. Unfortunately, this means that solutions often ‘strike back’ in unexpected ways. As a result, many wicked problems are not entirely solved or remain intractable, as they are entangled in a web of other problems. In the following section, this perspective on problems is addressed in terms of *framing*.

The concept of framing is used through out the social sciences with different meanings and in different contexts (Schön & Rein 1994, Lemert & Branaman 1997, Benford & Snow 2000, Pick 2003). At the individual level, frames are often conceptualized as cognitive, psychological structures that help people to locate, perceive, identify, and label occurrences within their life space and the world as such (Lemert & Branaman 1997). Healthcare professionals thus shape their perception of a situation into a particular problem or set of problems. Healthcare professionals test alternative framings of a situation in order to create new perspectives on problematic situations (Schön 1984). How they set up a problem, which paths they choose in order to inquire about a problem, and what means they apply in order to solve the problem all depend on their framing of the problem. According to Schön (1991), framing is a process of paying attention to specific aspects of a situation and organizing these in a way that calls for a certain type of action. In this sense, framing offers a perspective on a problem as well as a direction for solutions.

This framing process is not simple, objective, nor peaceful. Schön (1991) showed how healthcare professionals generate diverse hypotheses about a situation, depending on their normative framing of the situation. Williams (2002) demonstrates how professionals, depending on their disciplinary backgrounds, organizational roles, past

histories, interests, political, and economic perspectives, frame problematic situations in different, and often conflicting ways. These normative framings and thus diverse hypotheses can compete because of the conflicting assessments of a situation. These multiple constructs of reality can however also appear as hybrid frames (Schön & Rein 1994 p. 186). Hybrid frames are incomplete mixtures of perspectives, which allow for convergent approaches to situations by bringing in the dilemmas of wicked problems.

Wicked problems, framing, and hybrid frames provide a conceptual framework for challenging theories of innovation that highlight specific problems to be solved. Here we analyze a specific case of healthcare innovation: How do healthcare professionals frame problems and how does this framing affect the solutions that emerge? In the following section, I will outline the context, case, design, and methods used for the empirical study of framing processes.

Context and Case

The case to be described here consists of an innovation project conducted from 2010-2012 in a Danish hospital setting. The project began as a response to politically initiated national reforms of public healthcare services and its effect on the case hospital, when it will move to a new, but substantially smaller building site within five years (Danish Health and Medicines Authority 2007). In light of a 40 per cent reduction of the amount of hospital beds in the new building structure, the hospital management initiated a series of innovation projects. They invited hospital employees to rethink and redesign work processes and management routines as part of the solutions to expected problems related to having only 800 hospital beds instead of the current 1300. The innovation project was a combination of meetings of all participants

in workshops alternating with participants working in seven smaller groups in order to identify problems and find solutions.

The innovation project was managed by a steering committee with representatives from the top management level of the hospital and the university. The 38 participants in the project, from a variety of knowledge domains, departments, and functions, were appointed by their heads of departments as particularly talented healthcare professionals with regard to management and innovation. Most participants were either front-line staff or lower level managers. Human resource consultants designed and facilitated the activities throughout the project. They were inspired by IDEO and designed the project with spaces for inspiration, ideation, and implementation (Brown & Wyatt 2010). In addition, they designed the innovation processes as an interaction between divergent and convergent processes, as illustrated by the terms used in the Double Diamond Model: discover, define, develop, and deliver (British Design Council 2007).

The reason for initiating an *innovation* project was that the hospital management did not regard the solution to this problem of substantially reducing the amount of hospital beds as a simple operation. They did not believe the problem could be solved by working more efficiently or by raising productivity. Instead, the hospital management urged the participants in the innovation project to ‘invent something we have never tried before’. Still, these solutions had to be ‘very practical and easy to implement in order to ensure that we will fit into the new buildings’. This innovation project forms the overall context within which problem framing during healthcare innovation was studied.

Methods and Data

Non-participatory observation studies were conducted for all workshops and meetings in which the human resource consultants and the steering committee met, as well as activities in selected groups of health professionals during the innovation project. The unit of analysis was the framing process. For the present purpose of describing and analysing problem framing over time, frames are conceptualized as observable, recurring patterns of interactions and dialogues, which takes a specific perspective on what is to be regarded as 'the problem' and set out a specific course of action to search for solutions to this problem.

Field notes were made during and immediately after each observation, describing interactions and dialogues on problems and ideas for solutions. These field notes were supplemented with other documentation such as meeting agendas and meeting minutes, e-mails, and PowerPoint presentations.³

Eight one-hour focus group interviews were conducted with each group of participants and with the group of human resource consultants in order to obtain their accounts of which problem they were trying to solve and their ideas for solutions. In order to minimize consensus-seeking behaviours during the group interviews, participants were asked to individually note key incidents on paper, inspired by the group nominal technique (Van de Ven 2007).

While the field study resulted in an abundance of data, two particular problem framing processes stand out: the problem framed as reduction of hospital beds and the problem

³ Authors' translations of informants' statements from Danish to English.

framed as incompetent facilitators of innovation. These two examples of framing processes will be described in more detail through narrative accounts and analysed in order to show the consequences for how problems are perceived and which solutions emerged.

The Problem Framed as ‘From 1300 to 800 Beds’

One of the groups in the innovation project addressed the reduction of hospital beds as a matter of finding alternatives to hospitalization. This group (Group 1) consisted of two charge nurses, two consultants, a nurse, two resident physicians and a physiotherapist. Their initial framing of the problem as alternatives to hospitalization addressed inefficient workflows in outpatient clinics, and insufficient utilization of patient hotel beds. This framing led one of the charge nurses to suggest a direction for the solution to the problem as: ‘Can we skip hospitalization by moving patients directly from outpatient clinics to the patient hotel?’ Pursuing this direction, the group sought to identify currently hospitalized patients who could instead be treated as outpatients. At a group meeting, the nurse stated:

We just have to look around, who are the most effective departments? Who conducts DC conversion [on patients with heart failure] without hospitalization, and who hospitalizes patients for 24 hours in order to conduct the same procedure? This does not even have to be innovative.

Hence, the group initiated interviews with hospital staff regarding work and management processes in efficient departments, and they generated ideas for how to spread these practices. As one of the physicians stated during the group meeting: ‘Why don’t people do the obvious? This is what we are going to find out’. If one department

can conduct DC conversion as an outpatient procedure, how come another department hospitalizes the same kind of patients? The group thus framed the problem of substantially reducing the amount of hospital beds as a simple problem of lack of efficiency. This framing of the problem resulted in proposals for solutions such as knowledge sharing and learning across departments.

This framing of the problem as lack of efficiency changed as the group generated ideas for solutions. During the group members' interviews with colleagues in the hospital, they encountered resistance when they asked them questions about learning from each other across knowledge domains and departments. Evaluating the interviews at a group meeting, the resident physician expressed frustration:

Nothing happens in terms of learning from each other, as physicians are sitting with folded arms. They have such a strong autonomy and do what they please. The heads of departments can go to blazes for all I care. They are just figureheads.

The charge nurse added: 'This is the land of kingdoms, of defending monopolies by habit.' From these interviews, the resident physician concluded: 'every department sees itself as the hub of the universe. We are not very good at networking; we do not learn from each other or study the places where things work well.' The groups' inquiry led them to reframe the problem: from lack of efficiency to professional kingdoms. The solution, however, remained knowledge sharing. The nurse stated:

We want to help employees generate ideas about how to conduct treatment on an outpatient basis of hospitalized patients. This should be done in a positive tone and with a much better communication.

Concurrently, the problem was now framed as professional fiefdoms and lack of knowledge sharing, and the solutions were directed toward improving the tone of dialogues.

This framing led the group to inquire whether employees in the Cardiology Department had knowledge and ideas of alternatives to hospitalization. They initiated a dialogue meeting with employees from Cardiology concerning two patient groups currently hospitalized for 24 hours: 1) check-ups after heart transplant and 2) investigation of possible heart failure. The group used methods and tools from the workshops to design idea-generation processes for this meeting. The headline for the dialogue meeting was ‘Skip Hospitalization – Ideas for Action’ with the subtitle: ‘Hurrah, we have to cut down; we are forced to be innovative’. The group thus ended up framing the problem as a matter of cutting back as well as efficiency. They evaluated the dialogue with the cardiologists as a great success, as the staff had many ideas of how to discharge patients earlier than today.

The framing of the problem as ‘from 1300 to 800 beds’ led to concrete and practical solutions. The group of participants saw their colleagues throughout the hospital as part of the problem, as well as sources of innovation and solutions to problems. The result of their framing of the problem was that the spread of current best practices was seen as a solution. These solutions were directed at patients and everyday hospital work

processes: replacing hospitalization with outpatient treatment, inserting patients into smoother treatment flows and collaboration among departments and organisations. The problem of reducing the number of hospital beds from 1300 to 800 is framed from different perspectives, e.g. efficiency in outpatient clinics or professional kingdoms, which frames simpler problems. These lead to solutions like knowledge sharing and ‘good tone’, which feeds back to new framings of the problem.

In a similar fashion, the work in Group 2 shows how the framing of the problem as reduction of hospital beds leads to simple and concrete solutions. Group 2 consisted of a consultant, a physician, two administrative managers and a charge nurse. They framed the problem as one of shared physical space and the need for managers to cover more than one unit. The working title for their solution was ‘The Competent Room’, which illustrated that they sought to make more efficient use of the three Radiology Departments’ CT scanners. They believed this could reduce the duration of outpatient visits to the hospital. During the interview with this group, the consultant described the Pelvic Floor Unit as one of his inspirational models: Here experts from many domains of expertise work side by side in a shared physical space with patients suffering from pelvic floor complications. Prior to the establishment of this unit, patients could wait up to three months for their next appointment, i.e. to see a gynaecologist. The consultant explained his perspective on the problem and direction for solutions thusly:

The problem is the outpatient check-ups. We find out that patients need a scan. Then they come in a second day for scanning and again a third day to get the results. We can do this better! With more experts in the same room and by sharing scanners and workforce, we could listen to patients’ descriptions once and for all instead of patients sharing their information

every time they meet a new healthcare professional, and they could get their results right away.

His point is that patients should not be continually admitted and discharged when it is possible to carry out all the procedures within a single work process on an outpatient basis.

However, this framing of the problem as lack of coordination and his solution of sharing the physical space changed after the group received feedback from the hospital's department managers. These managers rejected the group's idea of more experts in the same room because of the logistical complications. They interpreted 'The Competent Room' as a physical space rather than the metaphor it was meant to be: A competent room was a work process that involved better use of resources, better management, and organization of work across knowledge domains and departments. In order to emphasize these aspects, the managers recommended the group to use the word 'environment' instead of 'room'. After this feedback session, the charge nurse reflected: 'it might not be necessary to bring the scanners into a shared room. Maybe we should just improve interaction between departments?' She changed the framing of the problem from sharing physical space to planning and coordination across departments:

The national pathway for cancer patients promises MR scans to patients within 72 hours after their brain tumour is removed. But more often than not, patients are ready to be discharged from the ward after 48 hours. Since

the Radiology Departments plan the scan 72 hours after surgery, patients remain hospitalized for another 24 hours!

The charge nurse framed the problem of prolonged hospitalization as related to departments acting in silos. This problem framing allowed for efficient and well-coordinated patient flows to become the solutions. The consultant added: ‘Maybe what we are talking about is the environment within and interactions among all three radiology departments?’ Hereby he emphasised the part of the problem framing addressing work climate and collaboration. The physician reacted to this framing of the problem as lack of interaction by declaring: ‘I also found a shared CT scanner room boring and too simple. We have higher ambitions than that.’ The consequence of framing the problems in this way was that improving everyday hospital work processes by shortening the patient’s hospital stay was regarded as boring and un-ambitious.

During the interview with this group, it turned out that the framing of the problem, as ‘lack of interaction’ was by no means new. The consultant explained that long before the innovation project, he was concerned about the three radiology departments that were fighting to avoid a merger so as to keep their own ‘turf’, and to maintain their exclusive rights to expensive scanners. Now months later, the group framed the problem in a similar fashion, and they decided to interview representatives from the three departments about their interaction with each other. As the interviews confirmed the need for interaction, the group met with departmental representatives, using process tools from the innovation project workshops in order to facilitate creative and constructive dialogues between the parties.

During the interview with the group, the consultant explained that these three-party meetings have continued as an on-going process. All the departmental representatives found that the meetings had strengthened collaboration between the three departments. The consultant continued:

The design of this process for the radiology departments is an example of ‘The Competent Environments’ we wanted to create. We search for where the needs and ideas are and help people establish an environment, where they can solve problems themselves.

The framing of the problem shifted from prolonged hospitalization and recurrent outpatient visits to the hospital into a lack of interaction between departments. This problem framing made the participants test solutions such as facilitation of interaction among departments in ‘Competent Environments’. This solution possibly improves interaction more than it actually addresses the complex problem of reducing the amount of hospital beds from 1300 to 800. The solution of improving interaction led to a new framing of the problem as ‘incompetent facilitators of innovation processes’, which is the second recurring framing pattern that emerges from the data.

The ‘Incompetent Facilitators’ Problem

Several of the groups were concerned about the steering committee’s ambition that they should ‘invent something we never tried before’. This led the groups to devalue those solutions that had already been implemented in other settings, as they believed that they had to come up with ‘new to the world’ solutions. As one consultant lamented:

The human resource consultants indicate that we should invent the wheel. We are met with high expectations. It feels like there is pressure to come up with something never seen before in history.

This situation led to reflections about the participants' competencies as innovators: 'Am I innovative enough? Am I able to think out of the box after all these years of clinical work?' They asked self-referential and critical questions like these and expressed a sense of doubt about their ability to innovate. It also led to continually new framings of the problem, which in turn pointed to new solutions. One of the administrative managers explained: 'We are very good and very bad at generating ideas – meaning, we never stop, we just keep associating and opening up'. A physician acknowledged this shortcoming: 'Every time we think we've got something, it has already been invented several times in other places, of course'. This hunt for something 'never tried before' led to new perspectives on the participants' own role in the innovation project. A physician explained:

We want to create a task force that collects and communicates ideas and connects people with ideas. We might not be the ones who should generate ideas. Maybe we should facilitate innovation by organizing the wealth of ideas throughout the hospital?

Here the physician changed his perception of the role of the participants in the innovation project from being a source of innovative solutions to problems into being facilitators of innovation processes. As a result, problems framed as 'lack of interaction and collaboration with regards to physical space and resources' disappeared from the

dialogues in this group. Instead, the participants put their efforts into dialogues on solutions such as creating innovative environments and facilitating innovation processes.

When solutions should be of the ‘never tried before’ type, this meant that innovation itself became a solution. This resulted in endless circles of ideation and in solutions directed at educating healthcare professionals to be facilitators of innovation processes. This in turn led to framing of problems regarding their own shortcomings as innovators as well as lack of innovation skills among the human resource consultants.

At a workshop feedback session, one department manager had strong opinions about innovation and criticized the various innovation support programs in which he had taken part: innovation platforms, lectures, courses, and training programs:

It’s no good. What really works is to have people who work together sit facing each other and discuss the problems they have. This creates new and better practices.

This argument corresponded to the two groups’ learning from interviewing colleagues throughout the hospital: They already knew the problems, and some wards had even found solutions. However, these solutions were not disseminated to other areas with similar problems. This had led the group to frame the problems as ‘lack of knowledge sharing’ and ‘lack of spread of innovation’. However, the solutions of spreading existing ideas and solutions led to the groups taking on a role as human resource consultants, concentrating on facilitating dialogues instead of testing and implementing their colleagues’ ideas for solutions.

This change of the participants' own role in the innovation project followed a series of incidents in which several of the participants expressed confusion and lack of confidence in the human resource consultants' abilities to design and facilitate the innovation project. In this case, for example, a human resource consultant who asked the groups to make their ideas practical and testable provoked the consultant in Group 2 to complain:

We experienced a shift in the level of ambitions. At first, the ambitions were very high, and we were going to learn to be innovative and to generate wild ideas. Then it suddenly changed and became simple. We had to experiment no matter what kinds of ideas we had. The human resource consultants demand that we test specific ideas really gave us a crisis.

The participants experienced the combination of creative processes and realization of ideas as a shift from radically new solutions to testing 'whatever'. The human resource consultants gave the groups Lego bricks and pipe cleaners in order to help them visualize their ideas and how they could be investigated through 'prototypes'. In some groups, however, this approach backfired. A physician from Group 2 said:

We didn't get that idea of prototypes – and the methods were so provocative. It was like hell. We had innovation and new tools up to here.

Two months later, when interviewed, members of the same group regarded their own work differently. The charge nurse remarked:

We did not think of the dialogue meeting between the three conflicting radiology departments as a prototype. We realized it was a prototype when we had to fill in a form one month ago on our project for the Steering Committee.

The physician concluded during the interview:

It is a fabulous concept. We create relations across silos. We invite representatives from each silo into a shared space where they can communicate and relate in new ways. The space has to be sustainable, meaning independent of us as facilitators. How absurd that we became human resource consultants ourselves. We have developed a new kind of process consultancy that lets processes unfold without us guiding it.

The consultant seemed frustrated that the idea he brought into the innovation project turned out to be the one that the group pursued:

I don't understand why nobody asked if anybody had some good ideas. Nine out of 10 ideas refer to practical problems from our everyday work that we could try to solve. Instead, we use four months pretending we are brainstorming and generating ideas together.

The participants framed the problem in terms of the human resource consultants' inability to facilitate innovation processes. A resident physician reflected upon a workshop feedback session with department managers:

We were taken by surprise when we had to present our project to the department managers – that was the human resource consultants' fault. We want to be prepared and feel well equipped and not look like idiots. We do not invite the human resource consultants to our meetings anymore – it doesn't really get things moving.

The group described this and other incidents as humiliating, and this problem framing affected the solutions they came up with by the end of the innovation project:

Employees are in. Human resource consultants are out. We want to create a squad of health professional innovators, travelling the hospital to facilitate dialogues and processes. We know the jargon. We know resources and ideas are out there. What we miss is somebody who can facilitate dialogues.

The resident physician concluded: 'We leave the human resource consultants behind'. Here the participants and their competence as innovation facilitators are the primary focus, in comparison to the competencies of the human resource consultants. The reduction of the amount of hospital beds and the fragmented patient pathways that were part of the first example are no longer part of the problem framing.

Discussion

The above analyses of the narrative accounts show that problems in healthcare are not framed once and for all. Healthcare professionals who are responsible for innovation frame wicked problems as they attempt to find solutions. The wicked problems lead to framing and reframing processes, which offer substantially different perspectives on problems and set diverse directions for solutions. Patients' pathways characterized one set of problem frames, as did coordination of specialists' work and constraints with regards to hospital beds. The other problem framing was characterized by ambitions to create radical innovation and capabilities of facilitating innovation processes.

The focus on patients' pathways led to solutions such as mobilizing existing knowledge of healthcare professionals throughout the hospital and paying attention to the current inability to transform this knowledge into new actions and to spread this knowledge across the hospital. The ambition for radical innovation led to competition for generating wild ideas, seemingly endless ideation and a sense of low innovation capacity. The result was that human resource consultants were devalued, and healthcare professionals took on the innovation process facilitator role. Even more importantly, the reduction of the amount of hospital beds and the fragmentation of patients' pathways disappeared from focus.

As a consequence of these reframing processes, the solutions proposed by the participants seem rather moderate and procedural in comparison to the problems related to the large and disruptive change in number of hospital beds. The so-called prototypes that the groups set out to test are not solutions to the reduction of the amount of hospital beds. Instead, the participants found ways to get people across different units to talk to each other. These dialogues created possibilities to understand

the problems from different perspectives but are not in themselves solutions to the wicked problems. In these examples, however, these dialogues are what came closest to a solution.

This kind of solution appears rather different from the kinds of solutions, IDEO is looking for. The IDEO inspired design strategy for innovation pushes participants to chase solutions. In the IDEO line of thinking, the only way they can be successful is to reframe the problem, as there are no simple solutions to these systemic and wicked problems. The observable pattern of interaction and dialogues explains this discrepancy between wicked problems and small solutions by means of reframing: When the participants are not able to find solutions to the complex problem they are addressing in the innovation project, they reframe the problem in order to make it fit those solutions they have found.

Framing and reframing processes appear as collaborative as well as contested aspirations to find solutions to wicked problems in healthcare. The continuous framing and reframing from different perspectives, pointing to solutions in different directions, offers a micro process perspective on how innovation works: generating frames in order to offer new perspectives on problems. But these are no final or best solutions to the wicked problems facing healthcare professionals. Instead, the participants generate new perspectives on the problems faced by the hospital. These framing and reframing processes also appear contested and illustrate negotiations of power (Who is the better facilitator of innovation?) and struggles over identity (Who are the innovators?). Framing and reframing suggests a framework to further conceptualize and investigate how the multiple and often contested perspectives on wicked problems come into play during innovation processes. The notion of hybrid frames as a mixture of multiple

constructs of reality offers a promising perspective on framing in the particular context of healthcare. Hybrid frames reflect the discrepancy of problematic situations more fully because they include the dilemmas of wicked problems.

Conclusion

Innovation research describes innovation processes as phases and stages as well as alternating and simultaneous processes. Nonetheless, this view of innovation is burdened by the notion of a stable baseline, articulated as ‘the problem’. The wicked problems that characterize healthcare militate against considering healthcare innovation as a response to a single baseline problem. Innovation in healthcare does not take its point of departure in problem *identification*. Rather, this study shows that problems are continually framed and reframed. Problem discovery is in this paper replaced by problem framing and reframing. Viewing innovation in terms of reframing has implications for perspectives on how we perceive wicked problems and how we search for solutions. Whether problems are framed as lack of innovation capacity, or as embedded in everyday clinical work can affect the kind of work that follows and the selection of actors that will be involved in the innovation process.

These findings have implications for framing theory as well as phase theories of innovation. Schön (1984) describes framing processes as a deliberate and constructive strategy to enable new perspectives on problems. The analyses in this paper suggest that the volatile and dynamic framing and reframing of problems is regarded as a much more continuous and messy negotiation of perspectives and directions than might be suggested by Schön’s more linear ‘framing in order to solve problems’ (Schön 1991). Reframing problems in healthcare innovation suggests further investigation regarding design and facilitation of innovation processes in order to acknowledge this continual

reframing of problems as a contested but predictable part of innovation when confronted with wicked problems. Should managers then give up on the idea of pursuing specific problems? Should they instead view reframing of problems via the generation of new perspectives as innovation? How should facilitators of innovation processes address different stakeholder perspectives on problems and solutions, when the framing processes continually reframe who key actors are? The framing of wicked problems causes some perspectives to be excluded. This paper suggests that an enhanced focus on hybrid framing of problems might call for implementing procedures like the dialogue across units to allow for convergent approaches to the complex challenges in healthcare.

Chapter 5: 'The Killing Fields' of Innovation - How to Kill Ideas

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Abstract

This paper points to seemingly contradicted processes of framing innovation, idea generation, and killing ideas. It reports from a yearlong innovation project, where healthcare professionals explored problems and tested ideas for solutions, regarding a future downsizing of the case hospital. Theories in various ways describe the opening and closing phases of innovation. Exploration and idea generation open a field of interest, which is then closed by making choices of ideas to further explore in the next opening phase. These choices deliberately kill a lot of ideas. In the innovation project, however, substantial amounts of relevant ideas got killed during opening phases, where the purpose of activities was framed as *idea generation*. These ideas were either verbally or silently killed, and some in rather contradicted ways: The design and facilitation of brain storming processes lead to clustering of ideas, a design strategy which seemed to kill unique ideas; The reframing of innovation as a radical endeavor killed learning from others for being not-innovative. The findings of this paper supplement theories of deliberate killing of ideas by suggesting *framing, design and facilitation of innovation* as more subtle ways of killing ideas during opening phases.

Key words: Health care, innovation, framing, design, facilitation

Introduction

This paper takes its departure in a field study of an innovation project in a Danish hospital. The fieldwork demonstrated seemingly contradictions between the *purpose* of innovation, the design and facilitation of idea generation, and the killing of ideas. The title analogy ‘The Killing Fields’ was originally coined by the Cambodian journalist Dith Pran after his escape from the communist Khmer Rouge regime in order to describe a number of sites in Cambodia, where large numbers of people were killed and buried.⁴ With humble respect of this genocide, ‘The Killing Fields’, in this paper, refer to innovation processes where different kinds of ideas are discarded for obvious or more subtle reasons. The processes of supporting or undermining innovation in public service organization are less studied aspect of innovation processes (Hartley 2006: 34).

The purpose of the innovation project was to adapt new and better practices from across professions and organizations in the healthcare sector, to experiment with ideas from other settings than healthcare and to generate new ideas for solutions. The innovation project was designed and facilitated as continual divergent and convergent phases. Divergent phases were designed to open a field of interest through exploration and idea generation. Convergent phases aimed at closing the field of interest by making choices of ideas to explore in the next opening phase and so forth. *Why then were substantial amounts of ideas killed during opening phases?*

This empirical wondering was the spark to analyze contradictions between innovation theories and practices in this paper. This approach to research is described by other researchers as using empirical *mysteries* as dialogue partners with theories and models

⁴ en.wikipedia.org/wiki/Killing_Fields

in order to question, doubt, and problematize existing or dominant expectations and frameworks (Alvesson & Kärreman 2007).

Initially, theories of innovation phases are reviewed in order to enable discussions of what kills ideas. Deliberate exnovation, and individual and group dynamic explanations for killing ideas are supplemented by the concept of *framing* in order to address the often contradicted problems and solutions in healthcare. The theory section is followed by an outline of the context and case, the field study, and the methods used for data collection and analyses. The analyses suggest that framing and design of innovation affects the killing of different types of ideas. The conclusion summarizes the findings and suggests implications for innovation research and facilitation.

Promoting or Killing Ideas

This section reviews theories on promoting and killing ideas throughout innovation research. The concept of *framing* is introduced as a theoretical and analytical approach to address the promotion or killing of ideas.

What Promotes Innovation?

Researchers and policy makers point to innovation as:

The key to meeting the challenges of the early 21st century, arising from technological advances, social change, globalization or global financial crisis (Cropley & Cropley 2012: 29).

In a hospital setting, innovation can be defined as:

The process of turning ideas into reality, using a new concept, service, process, or product to improve treatment, diagnosis, education, outreach, prevention, and research, as well as enhancing quality, safety, outcomes, efficiency, and cost (Omachonu & Einspruch 2010: 5).

Innovation is thus given a central role in sustaining and transforming our societies. It has become the *king of words*, as graffiti states in Copenhagen, Denmark (Ingerslev & Elmholdt 2012). Governments make reforms and strategies to stimulate innovation (Danish Regions 2012, Local Government Denmark 2012, Regeringen 2007), and since the 1880's, researchers have tried to break the code: 'Can we learn how to innovate and not just wait for the muse to inspire us with a bright idea?' (Drucker 1985: 34). The research ambition has been to understand innovation drivers and barriers. It has addressed how environments as private businesses or public institutions accordingly should be shaped to generate, sustain, and diffuse innovations (Fagerberg, Mowery et al. 2006, Greenhalgh 2005). Researchers try to understand, which organizational structures, financing, and cultures tend to create innovative organizations (Amabile 1996).

Of particular interest to this study, researchers have addressed *phases* of innovation processes like the stage-gate model from idea to launch to marked (Cooper 2008). In a public healthcare context these phases could be conceptualized as: 1) *invention* - creativity plus ideas; 2) *implementation* - concrete change; and 3) *diffusion* - spread and adoption of ideas (Hartley 2013). The quest to promote innovation by designing

and facilitating innovation processes along these lines might seem straight forward. Nevertheless Hartley (2013) and Moore (2005) both argue that there is much more at stake in innovation than generating, implementing, and spreading great ideas. According to Cropley and Cropley (2012) the question of what promotes innovation is tricky due to the contradictions, characterizing innovation. The next section unfolds the seemingly contradiction of killing ideas.

What Kills Ideas?

A widespread assumption is that organizations support dissemination and diffusion of their innovations and that adaptors engage with promising practices in search for ideas to learn from and adapt into their particular organizational setting (Hartley 2013). However Moore's (2005: 47) study of public innovation demonstrates the opposite. Quoting Elmore (1997), Moore found that:

Indeed, a common fate of innovations in the public sector was to languish within a given organization until it could be killed by the organization that developed it.

People did not support their own creative ideas through implementation or spread to other organizations. Likewise people did not adopt inventions from other organizations into their own organizations. Instead creative ideas were slowly killed by subtlety languishing. Accordingly Moore (2005) argues that ideas need help to survive and flourish within an organization and to spread to other parts of society.

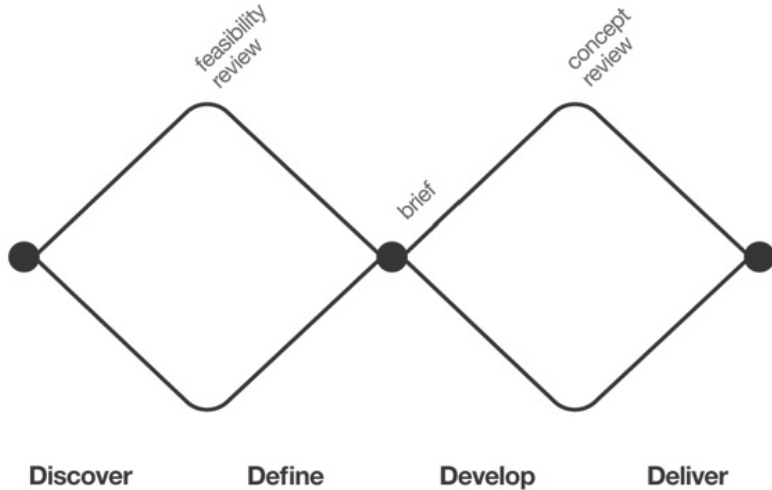
Innovation literature describes various strategies for killing ideas. In the stage-gate innovation model, the purpose of the gates is to decide whether an idea should be recycled, continue to next stage, or be killed (Cooper 2008). The brainstorming technique in similar ways allows for creating many ideas, before categorizing the ideas to pursue, and thus killing other ideas (Osborne 1953). The *Double Diamond* innovation process (Figure 6) illustrates divergent and convergent phases of innovation, conceptualized as *discover*, *define*, *develop*, and *deliver* (British Design Council 2007). *Discover* is an opening phase of exploration and creating knowledge of the problem and existing solutions. *Define* is a closing phase of analyzing and making sense of data from the *Discover* phase in order to define ‘innovation questions’. Innovation questions should mobilize for action and stimulate imagination. *Develop* is an opening phase of generating ideas for solutions and *deliver* is a closing phase of choosing and conceptualizing ideas for testing. The divergent phases are thus described as opening the field of possible ideas and the convergent phases close the field by analytical sense making and making choices.

Exnovation was coined by Kimberly (1981) as part of ending innovation processes, where existing, but no longer relevant, practices are discarded to create space for adopting different and fresh thinking. Exnovation also describes deliberate killing off an innovation, which fails to meet its initial promise (Hartley 2013).

Stage-gate, brainstorming, and exnovation are all *deliberate* strategies for killing ideas during the closing phases of innovation. Substantial amounts of ideas are created, but only a few turn out to be worth pursuing through implementation and spread. These strategies presume that the design for killing allows for the best ideas to survive. Other theories suggest that this is not always the case and employ individual and group dynamic explanations for killing ideas. Visholm (2012) suggests that competition, envy, and fear of innovations, which threaten status quo, are also killing ideas along

side of the deliberate rejection of bad ideas. This paper takes a different approach by studying how *framing* of innovation promotes or kills ideas.

Figure 6: The Double Diamond Innovation Model



Source: British Design Council, 2007

Framing Promotes or Kills Ideas

Innovation processes typically address problems, needs, or possibilities (Bason 2010). However problems in complex settings as healthcare do not present themselves as well formed problems, but as messy indeterminate situations (Schön 1984, 1991). This applies to problematic situations in clinical practice and to problems regarding specialization and thus interdependency between organizations and professions in healthcare (Strauss, Fagerhaugh et al. 1997, Akkerman & Bakker 2011). Schön demonstrates how healthcare professionals through the active process of *framing* construct well-formed problems by choosing and naming their observations from

messy indeterminate situations (Schön 1991). Disciplinary backgrounds, organizational roles, past histories, interests, political, and economic perspectives make healthcare professionals frame problematic situations in different and often contradicting ways. Problems, as the outset for innovation, are thus highly dependent on framing in terms of how people think of them. Contested framing and possible reframing of problems in this sense affects innovation processes, both in terms of framing the purpose and outset for innovation and the range of relevant outcomes. This paper seeks answers to the question: *Why are ideas killed during opening phases?* by analysing the relationship between framing, and the promoting and killing ideas in the case described below.

Case and Methodology

This section presents the case and methods used for collecting and analyzing empirical materials.

Case

The context of the study is public healthcare in Denmark. The empirical material is based on a hospital innovation project. Due to governmental decisions of building new, but smaller, hospitals nationwide, the public healthcare sector is under dramatic change. The consequences of this downsizing could be a restructuring of tasks and workflow between hospitals, municipality-based primary care units, general practitioners, and even patients (e.g. self-monitoring at home).

The innovation project was a yearlong process where healthcare professionals explored problems and tested ideas for solutions, regarding this downsizing. The process was

designed and facilitated by six human resource consultants as a *Double Diamond* process with deliberate opening (*Discover and Develop*) and closing (*Define and Deliver*) phases (Figure 1). The projects' steering committee invited 38 employees from different departments and disciplines to participate in the innovation project in order to explore the consequences of the downsizing within 4 themes: 1) leadership across boundaries; 2) shared leadership; 3) administrative and service functions; and 4) alternatives to hospitalization (Table 6). The employees were divided into seven groups, which explored the themes, problems, and ideas for solutions through workshops, meetings, and dialogues with stakeholders, experiments, and feedback.

Table 6: The Four Themes of the Innovation Project

Theme 1	Theme 2	Theme 3	Theme 4
Boundary crossing leadership, coordination and collaboration between professions and organizations	New forms of shared leadership with fewer managers and square meters	Rethinking administrative and clinical service functions in line with the hospitals' core missions and task	Alternatives to hospitalization due to urgent need of reducing amount of hospital beds

Source: Author

The hospital management initially asked:

How can the hospital keep up current levels of productivity in terms of outpatient treatments and surgery in the new hospital buildings? In a five year perspective, we must concurrently reduce square meters, hospital beds and employees by approximately 40 per cent.

Initially the steering committee's ambitions regarding the outcome of the innovation project were: 'more nuanced and concrete solutions to identified problems that are ready to implement.' Over time the purpose of the innovation project changed. Soon after the first workshop, leading hospital staff members referred to the innovation project as: 'we are doing something radical in a radically new way'. This statement represents a shift in ambitions towards creating *radically* new solutions. In the *Define* phase, when the steering committee evaluated which ideas to pursue for testing and implementation, they talked about finding the *best* ideas. These were framed as '*ideas with a certain innovation height that are also wide and deep*'. *Innovation height* usually refers to a continuum from incremental, small step improvements, to radical breakthrough inventions (Moore 2005, Albury 2005). In the literature, *innovation height* is not at one (radical) end of an innovation scale. Preceding the managers' expression of radicalism, the human resource consultants stated: 'the participants should fly in the opening *develop* phase, not letting themselves limit by what is known to be possible'. The steering committee at this point used the term *radical innovation* to express their ambitions for the innovation project. They demanded radically new ideas and wanted a sufficiently open design of the innovation processes to allow for wild ideas. 'This is a playground!' the head of the steering committee announced. The steering committee often referred to a book on innovation with *Next practice* as an appealing phrase in the title (Jensen, Jensen et al. 2008). In this book, the field of *radical innovation* is in opposition to the well-known (and boring?) *best practice*. Best practice includes doing benchmarks and learning from others. The point taken from this book was that, if the hospital pursued best practices from other hospitals, it would always be second to someone. In other words: When you learn from others, they are ahead of you! The purpose of the innovation project thus changed from searching for *concrete* solutions to problems to searching for *radically new* solutions.

The analyses below address how this *reframing* of the purpose of the innovation project affects the process of generating and abandoning ideas for innovative solutions.

Methods for Collecting and Analyzing Empirical Materials

An explorative research strategy was chosen for collecting incidents of killing ideas through out the innovation project, as it was not possible to predict where and when ideas emerged or whether they got killed. Ethnographical inspired methods as extensive observations and detailed field notes (Spradley 1980) were used in order to collect ideas and trace whether they got killed or lived long enough to be tested in the *deliver* phase. Below the different design strategies, employed during the innovation project, for generating ideas are described and examples of ideas are provided for illustration.

Brainstorming Sessions

One design strategy for idea generation was brainstorming sessions, which were reoccurring during opening phases of the innovation project. Brainstorming sessions were usually conducted in silence. The participants used Post It notes to write down ideas and display them on blank walls. Closing phases followed brainstorming sessions, where the participants clustered ideas, which covered the same theme and created headlines for each cluster. These headlines and clusters were points of departure for the next opening phases. Human resource consultants asked questions at workshops like: ‘What should be our focus in order to succeed in the future hospital?’ Participants provided answers like: ‘In the future we should evaluate managers’ ability to sustain productivity as well as their ability to facilitate innovation.’ Participants also designed and facilitated brain storming sessions with stakeholders. One of the groups working on better referrals asked general practitioners: ‘What needs do you have in

order to conduct medical examinations and referrals in the future?’ The general practitioners suggested: ‘If we are to conduct medical examinations, we must be able to consult senior hospital physicians’.

Exploration and Analyzes

The seven groups of participants used a different design strategy than brain storming for idea generation in between workshops. In group meetings they worked on their specific theme, problem, innovation question, and ideas for solutions. The groups used the *Discover* phase to explore *real world challenges* related to the four themes. They investigated already existing innovative practices in high performing clinical departments through out the hospital to learn from their work processes. They visited waiting areas for outpatients and interviewed patients and medical secretaries. They even went to shopping malls and libraries to conduct *vox pops* about peoples’ needs regarding health care and to a local wind mill factory to learn from their use of R&D project tools.

Define Phase

The seven groups shared experiences from the discover phase with each other and tried to catch the essence of their learning with regards to specific aspects of the theme to pursue and ideas to test. The innovation questions should narrow the four rather broad themes of the innovation project into questions like: ‘How do we ensure free access to patient data, no matter where you are, what time it is, or what position you hold?’ The participants used design tools as modeling and prototyping to support their ideation from these innovation questions. One group tried to reduce the number of inpatients at a surgery department. They were inspired by principles from day surgery and tested an idea of exchanging hospital beds with flight seats. This allowed outpatients to rest after

procedures until they were discharged. Another group struggled to identify *complex patients* as these patients are in greater need for collaboration across professional and organizational boundaries. The group used LEGO bricks to build mock ups of an identification tool and discovered the language of red and green traffic lights. The color codes appeared useable on a schema in order to create a quick overview of the severity of patients' complicating life circumstances as, for example, drug abuse and psychiatric diagnoses. During a day shift, nurses on duty in two wards tested the color coded schema by checking the red or green boxes for each patient.

Approximately 1650 ideas on Post It notes from opening brainstorming sessions and conclusions of the groups' *Define* phases constitute the empirical material. During the analytical process, these ideas were sorted into three empirical categories: 1) verbally expressed killing as 'this idea is no good'; 2) silent killing as ignoring an idea; and 3) ideas which are further pursued in the innovation project. Within these categories, the next analytical step was to search for clusters of ideas with common characteristics. The empirical materials were subject for presentations and discussions with researcher colleagues in order to strengthen and refine categories and create headlines for clusters. Observations and field notes were used in order to create first draft descriptions of circumstances and tentative explanations of the two types of killing of ideas. Open extensive dialogue interviews with the seven groups of participants supplemented these descriptions in order to create fuller account of the events (Czarniawska 2007). Inspired by the Critical Incident Technique (Flanagan 1954) the interviews were used to probe for the participants' experiences of critical incidents in the process of generating and killing ideas. The observations, field notes, and interviews led to accounts of incidents of verbal or silent killings of ideas, analyzed in turn below.

Findings and Analyses

Verbal Killing of Ideas

An example of verbal killing of ideas was a nurse participant, who argued for re-introducing hospital physicians with generalist skills. Her hope was that generalist physicians would be better able to detect and interpret patients' overall conditions. Specialists tend to focus on specific symptoms within a narrow area of expertise. Questions from several physician participants killed her idea:

What should the training of these generalist physicians consist of? Who would hire such a person? What patient would feel safe in the hands of a generalist? ⁵

Three clusters of ideas were verbally killed during the opening phases of the innovation project. *Doublets* were ideas that addressed the same problem or theme, which is expected in brainstorming (Cropley & Cropley 2012, Van de Ven 2007). The process of clustering similar ideas under headlines killed a lot of Post It notes, but ideas tended to survive, if several participants had the same idea.

Another cluster of verbally killed ideas addressed *Contested Terrain*. These ideas typically related to ongoing initiatives like the idea to train generalist physicians. These

⁵ The idea of re-introducing physicians with generalist skills was killed in the innovation project, but is accepted nationwide. Now physicians are trained as acute specialists to act as a first entry point to the hospital for all acute patients. This is no matter which conditions they might suffer from, and specialties they need treatment from.

problems received massive management attention and displayed high potential for conflicts. In various ways the hospital management expressed that in these terrains, they did not want un-controllable interference from the innovation project. On several occasions the steering committee verbally and deliberately killed ideas in *Contested Terrain*.

The third cluster of verbally killed ideas is *Copy and Paste*. The participants generated hundreds of ideas, which were killed as '*this is already working elsewhere*'. Verbal killing of *Copy and Paste* ideas is illustrated in the following vignette.

One group worked on a systematized collaboration and coordination between clinical departments regarding e.g. stroke patients. During the *Discover* phase, the group visited a unit that faced similar challenges concerning patients with lower back pains. After this visit, a physician participant announced:

The Centre of Lower Back Pain is already working hard and successfully to coordinate between specialists and departments. What really strikes me is that they are not using a specific person as a coordinator, as was our initial idea. They understand coordination as a work function to be handled! This is a great perspective! They are so far ahead of the rest of us. We shouldn't continue working on this idea of improving coordination across specialties and departments. We are approaching the same type of problems as the patients with lower back pain used to experience. The patients in our case only suffer from stroke.

After the visit to the Centre of Lower Back Pain, the group discarded the idea to renew coordination of processes for stroke patients. Other departments had already implemented similar functions. They did not find their own idea innovative at all. With this conclusion, the group instead invented the schema for scoring patients' complicating life circumstances in order to identify *complex patients* in need of coordination. The well-established coordination function at the Centre of Lower Back Pain was not explored any further during the innovation project and thus not adopted by other hospital departments.

Killing *Copy and Paste* ideas contradicts theories, which point to the ability to learn from others through creative imitation (Drucker 1985) by adapting ideas from other contexts (Moore & Hartley 2008, Hartley & Benington 2006) as an important factor in public innovation. Killing *copy and paste* ideas is discussed after the findings and analyses of silent killing of ideas below.

Silent Killing of Ideas

An example of silent killing of ideas appeared at the very first gathering in the innovation project: a nurse participant expressed her idea of involving employees from local authorities as participants. She argued that a range of possible solutions to the hospitals' challenges involved home care or rehabilitation before and after hospitalization. Neither the steering committee, nor the human resource consultants, or the other participants answered to this idea. It was not addressed in later sessions in the innovation project.

Three clusters of ideas were silently killed during the opening phases of the innovation project. *Abstractions* were abstract or complex ideas, often framed by the participants as questions or visions like: ‘How do we ensure common purpose and high quality standards for patients across the hospital?’ These kinds of ideas might need further processing during the *Discover* and *Define* phases to crystallize in more concrete forms. Unfortunately, they did not make it that far as they disappeared.

Another cluster of silently killed ideas were ideas *out of sync* with the design of the Double Diamond innovation process. An example was the above idea of involving employees from the municipality. This silent killing might be a sign that the human resource consultants relied too heavily on the process design. Innovation models can appear linear even though, amongst many others, Van de Ven (1990) described innovation processes as chaotic, emergent, and unpredictable. If the human resource consultants made sense of the process of innovation in a linear manner and thus stuck to the plan of selecting participants from within the hospital, they by default killed ideas, which were generated through these iterative and perhaps contradictory processes. This might have caused them not to pay attention to the ongoing framing and reframing of ideas, regardless that the purpose of this phase of the innovation project was to *open up*.

The third cluster of silently killed ideas was *Soloists*, meaning unique ideas. When the participants clustered ideas in the closing *Define* phase, they on some occasions left out ideas, which were less represented on the Post It notes. Silently killing unique ideas seems contradictory to the purpose of innovation as creating something new. Killing *Soloists* can be ascribed to new ideas being uncomfortable with regards to status quo or to envy towards other participants’ innovativeness. When instead approaching the role

of design and facilitation in the killing of ideas, *Soloists* seemed to end up as unimportant ideas by means of the design strategy of clustering.

The clusters of verbally and silently killed ideas are displayed in Table 7. The contradictory killing of *Copy and paste* ideas is a typical case, holding many empirical examples. The next section discusses circumstances, tentative explanations, and consequences of these killings.

Table 7: Types of ideas, which are verbally or silently killed

Killing	Verbal	Silent
Type of ideas	Doublets (safe) Contested terrain Copy and paste	Abstractions Out of sync Soloists

Source: Author

Discussion

The circumstances of and tentative explanations for killing *copy and paste* ideas *already being done elsewhere* relate to an expression by the group, which tried to identify complex patients. The group evaluated their idea to improve coordination as: ‘not innovative at all’ after visiting the Centre for Lower Back Pain. The evaluation of what is regarded as an innovative *outcome* is relative to what the *purpose* of the innovation project is. However this purpose is reframed through out the innovation project.

Part of the initial framing of the purpose of the innovation project was to *spread best practices* and the ambitions regarding outcome of the innovation project were: ‘more nuanced and concrete solutions to identified problems that are ready to implement.’ This purpose and ambition regarding outcome was substantially reframed during the innovation project from *concrete solutions to searching for radically new solutions*. This reframing affected the process of generating and killing ideas for innovative solutions in contradictory ways.

The reframing of innovation as radical affected how the participants over time perceived themselves as part of the innovation project, and the problems and ideas they worked on. In the *Discover* phase, when the purpose was framed as finding concrete solutions to problems, and to spread best practices the participants appreciated their privilege of being part of the innovation project. Several of them asked the head of the steering committee challenging questions with regards to the overall purpose and scope of the innovation project: ‘What is not up for innovation?’ Other participants posed rather radical ideas such as quitting the hospitals’ traditional organizational structure related to the medical knowledge domains. They suggested organizing according to patient’s pathways instead. The head of the steering committee rejected these types of ideas: the hospital management had decided to carry on the organizational structure into the future hospital.

After the first workshop, the radical reframing of the purpose of the innovation project began. Simultaneously several of the participants reflected upon how hard it was to think anew about the hospital they were part of. A charge nurse participant expressed her concern:

Everybody knows so much about the everyday work at the hospital. The challenge is to use that knowledge to innovate on an organizational level.

Some participants regretted they kept using knowledge from the existing hospital and felt at risk of ending up copying and pasting old structures and cultures into the new hospital. They even wondered if they were able to be creative after all these years working at the hospital.

The managers' growing aspirations of creating radically new solutions to problems were setting an ambitious context for the groups' work. At the same time these ambitions led participants to express feelings of inferiority, of not being innovative, wild and creative enough. The participants even began to judge their deep knowledge of hospital practices as barriers to innovation.

The reframing of innovation as radical thus negatively affected the participants' sense of innovativeness. The vignette about the group that visited the Centre for Lower Back Pain, illustrates how the search for radically new solutions meant that the participants did not pursue ideas with great potential for innovating patient pathways, if these ideas were already at work elsewhere at the hospital. The framing of innovation as radical seemed to stop the groups from learning from practices in other specialist areas and testing these in new contexts. This is a contradictory situation in light of Hartley and Bennington's (2006) claim that learning from others and combining this learning with practices in new settings is one of the most important aspects of public innovation. In addition to this advocacy for learning from others, Moore (2005) argues that many

small changes can accumulate into significant change and Cropley and Cropley (2012) point out that, if innovations are to succeed in implementation and diffusion, they should not be *too* wild. These findings suggest nuances to conceptions of innovation as a radical endeavor in order to avoid killing good, even small ideas from other settings.

These theoretical claims could leave the impression that public innovation is only about small scale improvement and *copy and paste*. However Hartley and Bennington (2006) state that public innovation is not about adopting and scaling up, but about *craft and grow*: dynamically adapting innovations to a local context. An example of this was the standardization and systematic information procedures in day surgery, which inspired a cardiologist from an inpatient surgery department. He saw the potential to reduce the number of hospital beds in his own department, improve quality of care, and patients' experiences by adapting this information procedure to his patients. It seems contradictory not to change procedures regarding inpatients due to the fact that these information procedures were already implemented with regards to outpatient treatments in other parts of the hospital building.

This theoretical framing of innovation as *accumulative through learning from others* was part of the initial purpose of the innovation project, as described in the case. Over time, the analyses demonstrated how this purpose in several ways was reframed as a matter of radical innovation: in texts; by human resource consultants who taught innovation models; and by the steering committee waiting for innovative solutions to complex challenges. The consequences of reframing innovation as radical were that learning from innovative practices in other contexts was killed.

Discarding learning across contexts is often explained by *the not invented here syndrome*, coined by Clagett (1967) in order to describe internal resistance against external knowledge. The syndrome can occur when external knowledge conflicts with the prevalent routines and beliefs within an organization, so that employees respond with resistance. Another type of explanation of this killing learning across context could be the envious killing of other people's ideas (Visholm 2012). It might sometimes be the case that people prefer to come up with good ideas themselves and devalue other people's ideas for not taking local context into account. However, the analyses and discussions of this paper tell a different story: A story about how framing learning from others as non-innovative kills ideas.

Conclusion

This paper has analyzed contradictory processes of framing innovation and the generating and killing of ideas. The analyses of 'the killing fields' of innovation showed that opening and closing phases of innovation processes are far from deliberate and smooth. Killing ideas is not always deliberate exnovation in the closing phases, according to explicit premises like: *do ideas meet problems in building a new and smaller hospital?* Contradictory silent or verbal killing ideas also appear during opening phases, exemplified by killing of *Soloist* ideas through clustering of ideas and killing *Copy and Paste* ideas and thereby learning from others. These kinds of killings are not designed for in innovation models, or through the human resource consultants' facilitation, and are less obvious than the deliberate killings of ideas in the closing phases.

The reframing of innovation as radical affects the opening and closing phases of innovation processes in ways that challenge design and facilitation of innovation. The

reframing introduces competition between ideas, which contradicts the opening principles of brainstorming, allowing for numerous ideas to surface and seeking to silence the critical voice of self and others (Osborne 1953). The framing of innovation as a radical endeavor is a key to understand the killing of learning from others as a source of innovation and thus affects what is considered innovative solutions.

The main finding of this paper is that ideas are killed during opening phases of innovation processes as well as during closing phases of evaluating ideas. Killing ideas during opening phases is not designed for in innovation models, but is explained by contradicted reframing of problems, purpose of innovation, and ideas. Killing ideas by reframing and facilitation nuances theories, which explain the killing of ideas by closing phases on innovation, used in design models of innovation. Framing and facilitation also nuances explanations pointing to individual and group dynamic reasons for killing ideas. This finding suggests further research into the effects of framing and reframing problems, purpose, and ideas for innovation processes. Knowledge of how framing closes idea generation in undesirable ways could be used to further advance facilitation of innovation processes with a specific attention to the killing fields of innovation.

Chapter 6: Framing boundaries in Healthcare Innovation

This paper is submitted to Journal of Health Organization and Management. The references for this paper have been included in the full final bibliography.

Abstract

Background: This paper reports from a qualitative case study of a change initiative undertaken in a Danish public hospital setting during national healthcare reforms.

Purpose: The purpose of this paper is to challenge understandings of innovation as being defined by their positive and intended outcomes. Instead this paper studies the effects of framing complex problems as a call for innovation across boundaries.

Methodology: Narrative accounts are analysed in order to elucidate the effects of the innovation frame on which boundaries are created and crossed.

Findings: Framing change initiatives as innovation leads to *boundary reconfigurations* in ‘a space for dialogue’, which allow healthcare professionals from different organizations to recognize being colleagues and reframe problems into shared intentions and tasks. The innovative framing also leads to unanticipated *boundary moves* through ‘innovation of perspective’. However it also leads to unintended *boundary reinforcements*, that may exclude the perspectives of patients by means of ‘the patient advocate’. Also the innovation frame reinforced the boundaries to other key stakeholders in healthcare by means of design and facilitation. These diverse

framings of boundaries suggest researcher to avoid the ‘effect-bias’: that the effects of innovation are either positive or negative.

Practice implications: The paper suggests that researchers as well as practitioners should not presume that boundary crossing enhance creativity and innovation. When analyzing the intended, unintended, as well as unanticipated consequences of this innovation frame researchers and practitioner gain nuanced knowledge about how this affects the framing and approach to different kinds of boundaries in healthcare.

Keywords: Healthcare innovation, framing, boundary crossing, boundary creation, unintended effects

Introduction

Innovation is regarded as the key to meeting the challenges of the 21st century in terms of social change and economic sustainability (Cropley & Cropley 2012). The healthcare sector also faces complex challenges arising from advances in medical treatment, heightened needs and demands from patients and decreasing resources to fund healthcare (Crepaldi, De Rosa et al. 2012). Here innovation is also considered the ‘magic bullet’. This paper examines innovation as a response to *framing* the challenges in a particular way (Schön & Rein 1994): A field study of an innovation project in which the managers of the Danish case hospital face a complex problem of reducing the amount of hospital beds from 1300 to 800 in 5 years. They frame this problem as a call for *innovation across boundaries*.

Innovation in complex systems such as healthcare is difficult. Specialised professional knowledge saves the lives of many patients, but healthcare organizations and work tend to be characterized by ‘compartmentalized experts’ (Engeström, Engeström et al. 2003) and ‘fragmented silo perspectives and silo solutions to problems (Seemann, Dinesen et al. 2013). Calls for research suggest we need more knowledge about the kinds of innovative processes needed to create more integrated healthcare across professional, organizational, and sector boundaries (Omachonu & Einspruch 2010). This call for research frames innovation processes as enabling the creation of coherent patient pathways across organizational and professional boundaries in healthcare.

This paper avoids presuming that innovations lead to positive effects on coherency across boundaries in healthcare. Instead this paper empirically investigates how healthcare professionals frame and approach boundaries, when they intend to address complex problems by means of innovation. The research question is: How does

framing change initiatives as innovation affect which boundaries are approached and crossed? The next section discusses the concepts of framing and boundaries in relation to innovation. I then present the context for the field study and the case, which is followed by a presentation of methodology, data and analyses. The paper concludes by proposing how framing and boundaries can be used as fruitful analytical lenses for studying innovation as a matter of boundary reconfigurations, boundary moves and boundary reconfigurations.

Theoretical Framework

This sections presents the theoretical framework used in this research: innovation; framing; and boundaries.

Innovation

A definition of innovation would be appropriate at this point. However, Hartley, Sørensen, and Torfing (2013 p. 822) argue that researchers do not agree in their definitions of innovation. In a healthcare setting, ‘innovation’ often refers to the implementation of inventions, or medical research results into clinical practice, and their dissemination to other healthcare settings than where the invention took place (Greenhalgh, Robert et al. 2004). These inventions could be medico-technical devices or new organizational tools such as care plans (Kerosuo 2001). New therapies or clinical practices typically imply *new types of relations* between service provider and user, or between stakeholders, and new work processes in order to meet social needs in new ways (Darsø 2011). Medical innovation thus implies social innovation (Crepaldi, De Rosa et al. 2012).

In their review of research on innovation in healthcare, Lämsäsalmi and colleagues (2006) discuss their findings using a widely accepted definition of innovation by West and Far (1990:309):

The intentional introduction and application within a role, group or organization of ideas, processes, products, or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, or wider society.

This definition specifies that innovation is an *intentional* effort designed to *benefit*, which also characterizes the case of the present field study. This particular case was designed according to the global innovation and design firm IDEO's process structure for innovation. This structure operates with three overlapping spaces: 1) *inspiration* is the problem or opportunity that motivates the search for solutions; 2) *ideation* is the process of generating, refining, and testing ideas; and 3) *implementation* is the path that leads from the project stage into people's lives (Brown & Wyatt 2010).

Throughout the research literature and policy papers, attempts to make innovations in public services are characterized by the intention to 'do good'. Bason (2010) suggests that public innovations must be evaluated in terms of *improvements* compared to a baseline of productivity, service experience, results, and democracy. This perception of innovation is contested in ongoing scholarly discussions. Even though Hartley (2005) maintains that innovation is driven by the *intentions* to enhance value, she warns us, as do Osborne and Brown (2013) against a normative, pro-innovation bias: Innovation is not good or bad per se, in as much as they define innovation as *a discontinuous*

change. Hartley and colleagues (2013 p. 821) argue that not all innovations are effective, nor do they entail improvements. Innovative efforts can also fail, and they can lead to unintended effects that are either beneficial or harmful.

In complex systems such as healthcare, a discontinuous change like acute cancer pathways might have positive effects on waiting time for diagnosis and treatment, thus potentially increasing cancer patient survival rates. However, these successful pathways might also have negative consequence for those patients who do not fit into the smooth treatment pathways because they suffer from multiple diseases, and who thus receive less of the much needed coordination across disciplines and sectors. Greenhalgh and colleagues (2004 p. 221) thus suggest considering the benefits of innovations in terms of how intended users perceive and evaluate an innovation. This implies that some users might consider the disruptive changes as improvements, while others might regard these same changes as harmful. The effects of innovation in complex systems such as healthcare are thus highly relative.

In addition to avoiding the pro-innovation bias, which means that people frame innovation as a good thing per se, this paper thus warns about what I regard as an ‘effect bias’. The effect bias leads us to evaluate innovations by their positive or negative effects. This does not offer a valid evaluation of innovations in complex systems, as innovations can also lead to simultaneously positive and negative effects, depending on perspective. Instead, this paper considers innovation as driven by ‘good intentions’ and accordingly designed to create value, which is addresses in the next section as a matter of *framing* change initiatives as innovation.

Framing

'Framing' is widely used throughout the social sciences with slightly different meanings and in different contexts (Pick 2003, Gray 1996). Goffmann used framing to address schemata of interpretation (Lemert & Branaman 1997). He understood frames as cognitive, psychological structures, which help people to locate, perceive, identify, and label occurrences within their life space and the world as such. Social Movement Theory, inspired by the work of Goffmann, perceives framing processes as interactive, and not only as individual, cognitive activities (Bedford & Snow, 2000). Different ways of framing entail making choices about how to perceive problems, possible solutions, and paths of inquiry. Disciplinary backgrounds, organizational roles, past histories, interests, political, and economic perspectives lead healthcare professionals to frame problematic situations in different, even conflicting ways (Williams 2002). This paper adopts this cognitive as well as social perspective on framing. Schön and Rein (1994) suggest that a 'rhetorical frame' refers to a broad interpretation of an issue, i.e. the general story, value system, and (political) ideas within which actions take place. In the particular case of this study, designing and initiating change to address substantial challenges is rhetorically framed as 'innovation'.

Current challenges in healthcare are obviously complex issues, to which solutions are not accomplished within separate healthcare organizations or with the competencies and skills of a single profession. As shown by numerous studies, the different elements of healthcare do not easily connect in coherent patient pathways, especially when patients have multiple diseases (Strauss, Fagerhaugh et al. 1997, Kerosuo 2004, Engeström 1995). The innovation literature has emphasized that service delivery across separate public organizations and sectors requires collaborative innovation or innovation in partnerships (Hartley 2013). Bason (2010 p. 4) coins this need for joined innovation: 'co-creating new solutions across powerful organizational silos'. The

intended benefit of innovation processes in healthcare appears to be an interdisciplinary and inter-organizational phenomenon, which is also mirrored in recent streams of research in collaborative innovation (Sørensen & Torfing 2011) and co-creation (Bason 2010). Since healthcare professionals from different disciplines and organizations frame problems differently, thus assessing solutions from their own distinct perspectives, the next section considers the creation and crossing of boundaries as an effect of these cognitive and social framing processes.

Boundaries

Some boundaries are physical and observable: the skin, for instances, separates the body from its surroundings. Other types of boundaries mark differences between organizational units: hence, a hospital is different from a general practitioners' clinic. Other boundaries demarcate professional responsibilities, such as the physicians' mandate to practice medicine. These boundaries are not physical or objective, but people tend to act as if they were (Berger & Luckmann 1987, Kerosuo 2004). In their review of the boundary literature, Trompette and Vinck (2009) demonstrate that the concept of boundaries has inspired substantially diverse streams of research. However, a shared feature of boundaries appears to be that boundaries help create a sense of identity (we) as well as an identification of others (they). For the purpose of this paper, boundaries are considered effects of cognitive and social framing processes that mark a space of what is inside and what is outside.

In their review of the boundary literature, Akkerman and Bakker (2011) consider boundaries as marking two or more sites relevant to each another in a particular way. Boundaries thus demarcate a need for coordination across different practices on either side of the boundary in order to cooperate effectively and create coherent patient pathways. In this respect, Akkerman and Bakker state that 'boundaries mark differences, which leads to discontinuity in action and interaction'. Boundaries thus

establish connections (relevance) as well as gaps (discontinuity) e.g. in patient pathways. This duality emphasizes the advantages of specialization within specific healthcare domains. The specialized domains are highly relevant for and dependent on each other in order to provide high quality coherent patient pathways. This interdependence calls for management as well as coordination in order not to leave gaps. This task is by no means simple, as healthcare work is characterized not only by standardised and evidence-based procedures but also by uncertainty and experimental processes (Bohmer 2009).

The concept of *boundary crossing* describes how to achieve continuity across sites when professionals at work may need to ‘enter onto territory in which we are unfamiliar and, to some significant extent therefore unqualified’ (Suchman 1994 p. 25) and ‘face the challenge of negotiating and combining ingredients from different contexts to achieve hybrid situations’(Engeström, Engeström et al. 1995 p. 319). These hybrid situations do not reduce the complexity of healthcare into simple problems, much less simple solutions. Instead, the confrontation with complex problems at the boundaries can force healthcare professionals to reconsider current practice and interrelations (Akkerman & Bakker 2011 p. 146). Kerosuo’s (2001) studies of boundaries in healthcare suggest that encounters of arguments from different perspectives on either side of a boundary can lead to ‘emergence of shared solutions’ to problems that entail coordination across boundaries. These encounters at the boundaries thus allow healthcare professionals to address issues of relevance as well as discontinuities and coordination. Boundaries are thus supposed to be potential sites of learning and innovation (Engeström 2009).

Aakjær (2013 p. 190) terms the emergence of shared problems and shared motivations for engagement as ‘reconfiguring of boundaries’. These reconfigurations can be instances of crossing boundaries. They can also be a creation of new boundaries through moving boundaries from marking the difference between the hospital and other healthcare suppliers to marking the shared task for organizations within healthcare. Boundaries can also reinforce differences between ‘us’ and ‘them’. In this sense, boundaries are not only potential sites for learning and innovation. They may also impede collaboration across disciplines and sectors in healthcare (Kerosuo 2004).

This theory section has considered innovation as an intentional effort to improve healthcare specific tasks. However, framing change initiatives as innovation might in itself lead to unintended effects by designing for creating and crossing different kinds of boundaries. The next section presents the context and case for the empirical study of how healthcare professionals approach boundaries when they intend to innovate.

Context and Case

This paper reports from a case, which exemplifies this threefold logic that complex challenges call for innovations, which lead to improvements: A Danish hospital is facing a 40% reduction in the amount of hospital beds over a 5-year period while maintaining current levels of productivity in terms of outpatient treatments and surgery. This change will radically affect work routines within the hospital and is expected to have a significant impact on the work of general practitioners as well as the municipality based care. The reduction is a consequence of the national healthcare reforms, which fund the construction of new hospitals nationwide in order to facilitate the restructuring of emergency functions as well as the distribution of highly specialized areas of expertise across the country (Danish Health and Medicines

Authority 2007). Amongst the many initiatives to meet the dramatic challenges, related to this reduction of the amount of hospital beds, the management of the case hospital decided to initiate an *innovation project* from late 2010 till early 2012. They invited 38 practitioners from a wide range of the hospitals' professions and departments with managerial or innovative talents to identify, develop, and invent new ways of managing and organizing healthcare work across professions, departments, and organizations. These new ideas were to be implemented in the course of the hospital's move into the new buildings.

The human resource consultants who designed and facilitated the innovation project were inspired by IDEO's process structure for innovation, with its three overlapping spaces of *inspiration*, *ideation* and *implementation* (Brown & Wyatt 2010). The first six months were designed as an inspiration space, with a three-day boot camp and three one-day workshops. The aim of these activities was to develop the participants' capacity to explore real world challenges and possibilities, contexts, and stakeholders. In the *ideation space*, the participants were divided into seven groups and asked to generate and refine ideas for solutions. Over the following six months, four workshops were carried out, the intent of which was to support the participants in creating and trying out small-scale prototypes. The aim of this part of the project was to develop the participants' capacity to experiment and create feedback in order to learn from experience. The participants were supposed to use this feedback to generate new and better prototypes for further testing in small-scale hospital settings and eventually to make recommendations for potential scaling up and implementation.

Methods

The present paper is part of a larger case study and will thus only report on a sample of the data. The data described here was collected through an ethnographic approach to field research (Robson 1993). During 18 months, observations were made of all activities in the innovation project; workshops (90 hours), group meetings and exploratory activities (77 hours), and prototype testing (14 hours), human resource consultants preparing and evaluating facilitation of the project (40 hours) as well as managerial meetings in the steering committee and a human resource advisory group (2x14 hours). Across all observation sites, the primary focus was on the participating healthcare professionals' dialogues and actions. During and immediately after each observation, the field notes on observations were computerized.

For the present paper, field notes were categorized by incidents where framing the change initiative as innovation led the participants to approach different kinds of boundaries. This categorization revealed three kinds of boundaries: 1) the professional boundaries, marking differences between specialist healthcare professionals from the hospital and general practitioners; 2) the boundaries, marking differences between healthcare professionals and patients; and 3) the organizational boundaries, marking differences between the hospital and the overall healthcare sector. For each of these categories, exemplary narrative accounts of incidents were created. Finally, eight one-hour interviews with each group of participants and with the human resource consultants were conducted, recorded, and transcribed in order to explore the participants' understanding and create denser accounts of the activities in the groups when framing and approaching these three types of boundaries. These narrative accounts are subject to analysis and further discussions of the effects of framing the change initiative as innovation in which boundaries are created and crossed. The first

narrative account illustrates healthcare professionals from the hospital approaching the boundary to general practitioners outside the hospital.

First Dialogue: What Does This Have To Do With Us?

One of the groups of participants in the innovation project attempted to formulate strategies for reducing the amount of hospital beds from 1300 to 800 by finding alternatives to hospitalization. This group consisted of a journalist, a charge nurse, a senior hospital physician, and a leading physiotherapist. Through their dialogues at group meetings, the group realized that the reduction of the amount of hospital beds 'would create a tsunami of patients hitting other parts of healthcare'. As they did not want to pass on these problems to other healthcare providers, they chose to address the issue of reducing the amount of hospital beds as one of collaboration between the hospital and general practitioners. They thus visited a large medical centre and hosted a dialogue meeting with eight of general practitioners working there.

At this dialogue meeting, the charge nurse described the future reduction of the amount of hospital beds and the group's wish to learn about the general practitioners' needs in order to prepare for their taking over responsibility for patients who would currently be hospitalized. At first, the general practitioners did not understand what the reduction of the amount of hospital beds had to do with them: 'We are only consulted by ambulant patients'. When the charge nurse invited the general practitioners to explore the potential consequences of reducing the amount of hospital beds, the general practitioners understood the pressure that the fewer hospital beds might put on their clinics. Having realized this, one of the general practitioners proclaimed: 'the really new and innovative part of this is that we hear about the change before it is implemented. Usually we discover stuff like this when it is already there, and we are in

big trouble.’ Throughout the first part of the dialogue meeting, the general practitioners expressed comments such as this and shared multiple stories about poor collaboration with the hospital.

As a next step in the dialogue meeting, the leading physiotherapist asked the general practitioners to brainstorm on their future needs and to share examples of current challenges regarding hospitalization. The general practitioners talked about their insecurity when patients have vague symptoms, and rare or multiple diseases. In these cases, they often referred patients to hospitalization. They suggested more frequent professional discussions with and supervision from specialist hospital physicians in order to learn more about monitoring specific symptoms and thus possibly treat patients in their clinic. They were eager to prevent hospitalization of less severe cases, and thereby take the pressure off hospital beds. They all agreed to pursue an intensified training of general practitioners performed by hospital specialists. Evaluating the dialogue meeting, one of the general practitioners concluded:

We must be careful not to live in a world of our own in the medical centres and in each of your hospital departments, hating each other just for the cosiness of it. We have to visit each other more often in order to get to know each other and learn about the work each of us does and the challenges each of us face. This familiarity could make it easier to express what we need from each other in order to solve our problems.

This narrative account is in the next section analysed as an example of a *boundary reconfiguration*.

Boundary Reconfiguration

The participants in the innovation project framed and crossed physical, organizational, and professional boundaries by initiating the dialogue meeting with the general practitioners. Their intention was to identify collaborative solutions to the complex problem of reducing the amount of hospital beds, seeking shared solutions to what was articulated as shared problems. One result of the meeting was that hospital specialists should carry out more training of the general practitioners. The dialogue process leading to this decision resembles Kerosuo's (2001) description of how the encounter of arguments from different perspectives led to the 'emergence of shared solutions'. The dialogue meeting is thus an example of a design procedure which can enable collaboration. When framing the change initiative as innovation in order to address the complex challenge of reducing the amount of hospital beds, the healthcare professionals acknowledged the relevance of coordinating with the general practitioner across the professional boundary. This framing encouraged the participants to do something different than 'creating silo solutions' to silo problems.

The narrative account suggests that in framing and approaching this professional boundary, the healthcare professionals from the hospital not only initiated boundary crossing, which led to shared solutions, but also eventually reconfigured the boundaries from framing silo problems to framing a shared problem. The encounter in this case was initially characterized by critical comments, the general practitioners expressing their frustration at not being informed of or involved in change processes at the hospital. The critique seemed to frame an emotional boundary in the dialogue meeting, as a reaction to long-standing knowledge and information boundaries, experienced by the general practitioners in their daily collaboration with hospital practitioners. At this point, the relevance of collaboration as well as the discontinuities between the two groups of healthcare professionals was evident. As the two groups of healthcare

professionals listened to each other's perspectives on the challenges, they finally acknowledged that both parties had to change their behaviour in order to achieve the new visitation and referral practices. The general practitioners needed more specialized knowledge in order to avoid unnecessary hospitalizations, and the hospital specialists had to prioritize their role as knowledge experts and thus their training obligations with regards to other healthcare professionals.

The example of intensifying the training effort suggests that rhetorically framing the problem as complex rather than simple can enable a reconfiguration of the boundary from local problems to a shared problem; this in turn allows for connections and collaboration across boundaries, which mark differences between knowledge domains.

Strikingly, the general practitioners pointed to the dialogue meeting as an innovation in itself. The dialogue meeting is not a solution to the problem of reducing the amount of hospital beds, but it is nevertheless a design procedure that enables encounters between different perspectives and roles in healthcare, thus addressing the relevance of either side of the boundary as well as the need for coordination. When healthcare professionals from the hospital initiated the dialogue meeting, this new awareness of the others' perspectives was raised by physically crossing organizational boundaries to enter the general practitioners' medical centre. The effect of this boundary crossing was to alter the boundary encounter into *a space for dialogue*.

Space for Dialogue

The space for dialogue across boundaries at first raised negative emotional reactions due to past experiences. The dialogue meeting altered the general practitioners' perspective on future challenges of reducing the amount of hospital beds from a problem residing within the hospital into *a shared problem*. The space for dialogue

enabled a sharing of perspectives regarding the challenges they faced: the hospital's reduction in the amount of beds and the general practitioners' taking care of their patients and avoiding unnecessary hospitalizations. When Darsø (2011) points to 'new types of relations' between service providers and receivers as part of innovation, this typically involves new roles or a new division of labour between patients and healthcare professionals. In this case, based on a boundary crossing face-to-face encounter, the space for dialogue enabled a personalized relationship between the two groups of healthcare professionals. The effect of this *new relation* was a *shared intention* to avoid unnecessary hospitalizations. The new relation provides each of the groups of healthcare professionals with a sense of being colleagues who collaborate on the same overall task. The space for dialogue seemed to dissolve the 'us versus them' feeling, expressed as a habitual 'cosy-hate' due to listening to each other's challenges and aspirations. Instead, they expressed a desire for further meetings in order to exchange knowledge and discuss their mutual needs. Whether the boundary encounter becomes a space for dialogue and enables new relations might be a determining factor in whether a shared problem and shared intentions result from the encounter.

First Set of Findings

This first part of the analyses suggests that spaces for dialogues, new relations across boundaries, shared educational solutions and shared problems and intentions are effects of doing something differently: crossing the boundary between the two groups of healthcare professionals. This boundary crossing enabled the healthcare professionals to reframe the problem from one that resides within the hospital to a problem affecting both healthcare sectors. This reframing reconfigured the boundaries, the healthcare professionals attended to.

The rhetorical framing of the change initiative as innovation motivated the participants to create a space for dialogue at the boundary between the two sectors in order to address connections as well as discontinuities and gaps. The effect of this space for dialogue was that intentions to innovate did not just concern solutions that were new and better for ‘me’ (my profession, department or hospital), but also of solutions that were new and better for ‘us’ (professionals across healthcare organizations).

This part of the analysis shows how approaching the boundary between specialist and generalist healthcare professionals can lead to boundary reconfigurations. This boundary reconfigurations reframe boundaries of the problem as well as solutions into shared ones. This boundary reconfiguration is regarded *an intended and positive effect* of the change initiative. The next narrative account illustrates positive as well as negative effects of approaching the boundary between healthcare professionals and patients.

Second Dialogue: Do We Really Have To Involve Patients?

The group of healthcare professionals from the innovation project continued their work in the inspiration space by interviewing patients in the general practitioners’ waiting room. They asked patients about their needs regarding future hospitalization and medical care and about the kind of resources they could activate during future illness in order to avoid hospitalization. Generally, the patients had difficulties responding to these questions. Instead, they spoke about being ill, of recent visits to general practitioners, or experiences of hospitalizations, either as family members of patients or as patients themselves. The patients’ responses were disheartening for the healthcare professionals, and they almost skipped the idea of involving patients in the inspiration space of the innovation project.

By coincidence, they met an anthropologist who worked as a 'patient advocate': She was employed at another hospital, where she observed and interviewed patients in order to be able to represent patients' perspectives in dialogues with healthcare professionals and managers. The group decided to have the anthropologist speak in the voice of patients with severe skin diseases in testing their idea of a new kind of dialogue meeting in the ideation space. This time, the participants in the dialogue meeting were the patient advocate, physicians and nurses from the dermatology department and a general practitioner. The charge nurse, initiating the dialogue meeting, explained the group's intention to develop a design procedure that could enable 'stakeholders in healthcare to talk to each other and solve problems together instead of talking about each other and moving problems around'.

During this dialogue meeting, the general practitioner shared numerous experiences with plans of poor quality, made by hospital physicians when discharging patients. On the other hand, the hospital physicians complained about referrals from general practitioners, which explained patients' conditions in a single sentence. The patient advocate kept repeating: 'This is my life you are messing around with, not some disease.' The physicians continued to discuss patients with more than one diagnosis, who alternately visit general practitioners and specialist departments. The general practitioner expressed concerns that local authorities were not at the dialogue meeting, as he expected the municipality-based health centres and home care nurses to play a key role in avoiding future unnecessary hospitalizations. The participants from the innovation project as well as the hospital employees were surprised to learn that the general practitioner did not see himself or his colleagues as coordinators for these patients. General practitioners do not have enough knowledge of skin diseases, he said, and he could not see the point of being the 'not-knowing and not-acting messenger boy'.

A somewhat depressing conclusion for the group was that none of the participants in the dialogue meeting were willing to change their future behaviour, and no agreements were made to improve collaboration across professional boundaries. Weeks later, the charge nurse from the dermatology department reported to the group that one of the hospital physicians who participated in the dialogue meeting now expressed new viewpoints concerning both hospitalization of patients as well as collaboration with general practitioners. His documentation of examinations and treatments had become more thorough: he shared his knowledge and his plans, which enabled general practitioners to take an active part in the treatment and thus responsibility for longer periods of illness before referring patients to specialized treatment again.

The effects of the healthcare professionals' framing and approaching the boundary to patients is discussed below as examples of reinforcing and moving boundaries.

Reinforcing and moving boundaries

The group of healthcare professionals tried out different approaches to engage patients in reducing the amount of hospital beds. Initially, they approached patients as a resource outside of the hospital, which they found important to engage during the inspiration space of the innovation project. One of their approaches was to encourage patients (via interviews) to take the perspective of the hospital having to reduce the amount of hospital beds. Another approach during interviews was to ask patients to imagine how they themselves, along with specialist hospital physicians and general practitioners, could play different roles during their pathways as patients. The conclusion from testing these two approaches was that the group saw no need for further dialogues with patients.

The purpose of the ideation phase is to explore and learn from prototyping ideas for solutions to problems in order to use feedback from these tests to formulate improved iterations of their ideas (Brown & Wyatt 2010). From this viewpoint, experiencing 'failures' like this drives learning and innovation. Why did this sense of failure not lead to testing new ways of engaging with 'real' patients? The group's own explanation was that individual patients were the wrong actors to involve during the inspiration space. They argued that their attempt to innovate collaboration across organizational and professional boundaries called for systems-level thinking rather than individual stories.

Innovation research argues that user involvement in innovation is based on listening to users' problems, experiences and needs (Baldwin & von Hippel 2011, von Hippel 2005). In our case study, the group perceived the patients' individual perspectives as a barrier to innovation across organizational boundaries between the hospital and general practitioners. Both of these approaches to patients which the group tested demonstrate their difficulties in bridging the gap between analysing systemic interdependence between healthcare sectors and taking the patients' perspectives into account. Appropriate questions to patients address their personal experiences, feelings and thoughts. Instead, the group approached patients with 'systems-level-questions'. Their questions might seem naïve, but the pitfalls of asking research questions instead of interview questions are also well known in qualitative research (Kvale 1996).

In the first narrative account, participants in the innovation project asked general practitioners about their needs and challenges. These questions addressed the viewpoints of the general practitioners, but led to a boundary reconfiguration and a shared agreement of a 'systems-level' purpose of keeping patients out of the hospital if possible. In this case, the participants succeeded in combining the professional, but

individual, perspective of general practitioners with the perspective of specialist healthcare professionals from the hospital into a shared perspective on problems and solutions within the healthcare sector as such. However, the learning from this experience did not lead the group to reconfigure the boundary between healthcare professionals and patients to frame a shared problem. Instead, the boundary between the patients' and the healthcare professionals perspectives on problems was reinforced.

The Patient Advocate

The group's third approach to engaging patients was to hire an anthropologist to act as a patient advocate. This idea emerged after the group was unable to get 'systems level answers' when they interviewed patients. They found the patient advocate a suitable method of involving patients' perspectives in the innovation project, when patients as individuals failed to live up to expectations. In a meeting with healthcare professionals, the anthropologist was asked to process individual patient stories and concerns of multiple patients into a 'patient perspective'. The anthropologist seemed to enable boundary crossing between the specialist and generalist healthcare professionals and to support the creation of a space for dialogue between the two groups of professionals. However, the effect of this patient advocate was also a reinforced boundary between patients and healthcare professionals. This boundary reinforcement led real patients to disappear from the dialogue, thus creating potential discontinuities and gaps.

The 'invention' of the patient advocate role as an approach to frame and approach the boundary to patients did not allow for boundary reconfigurations, neither to the emergence of shared solutions to problems as occurred in the first dialogue meeting. In this case, the general practitioner as well as the hospital physicians and the patient advocate held on to their own perspectives on problems. The second dialogue meeting

instead pointed to the municipality's responsibility for the welfare of these patients, but the municipality was not represented at the meeting. The result of framing and approaching the boundary to patient through the patient advocate was that the boundary to patients was reinforced, thus preventing the patients from being able to share their own perspectives on problems in dialogues with healthcare professionals. The unintended effect of the invention of the patient advocate was to exclude 'real' patients from the innovation project. However, the second dialogue also created unanticipated and positive effects on care plans, discussed below as *innovation of perspective*.

Innovation of Perspective

Throughout the field study, there are many examples of rhetorical framings of the problems related to the reduction of the amount of hospital beds and intellectual agreements of how to solve them. However, these framings rarely led to new actions. The above narrative account exemplifies the opposite situation. The intention with this dialogue meeting was to find shared solutions to problems created by the reduced amount of hospital beds, but no agreements were reached. The effects of the dialogue meeting appeared after the meeting, as the hospital physician demonstrated a better appreciation of the complexity of the problem when he provided better plans for the general practitioner's treatment of the patients. From the observations made, it is not possible to account for the physician's intentions to change his behaviours. It is possible, however to acknowledge the positive effects on the ability of general practitioners to extend the period of patient treatment in their clinic, when they can consult these more thoroughly formulated plans. In this sense, it is important to distinguish between the intended effects and those effects that are not the result of intentional implementation or emerging shared solutions through dialogue, as Kerosuo (2001) proposes.

When theories of innovation for analytical reasons distinguish between invention and implementation, they fail to acknowledge that effects appear during both the inspiration, ideation, and implementation spaces of the innovation processes. Consider the situation where the hospital or the general practitioners clinic wanted to 'implement' the emerged solution from this second dialogue meeting in terms of more thorough referrals and plans. This would typically entail new guidelines or rules spelling out the appropriate level of documentation and quality of care plans, which general practitioners and hospital physicians would then be expected to follow. The crucial point here is that guidelines and rules like these already exist, defining the division of labour between each healthcare organization, implemented in electronic referral schemes, patient reports, etc. The analysis suggested that framing and attending to the boundary between groups of healthcare professionals and the patient advocate allows for a different kind of effect, as it enables actions with a greater awareness of others' perspectives. In this case, the effect is 'innovation of perspective': the hospital physician took into account the roles and responsibilities of the general practitioners. I consider this innovation of perspective a boundary move, as the healthcare professional acts in ways as if the boundary as moved from marking his own perspective to marking multiple perspective on the problem.

However, the approach to framing and attending boundaries to patients seems crucial: The invention of the patient advocate role led to the unintended and potentially harmful reinforcement of boundaries among healthcare professionals and patients, which ended up excluding real patients from the innovation project. The creation of the patient advocate role also led to the unanticipated and positive boundary move, which showed up as innovation of perspective in action. Taking others' perspectives is one of the intended effects of framing and approaching the boundaries to healthcare professionals outside the hospital.

The third and final narrative account illustrates negative effects of framing the change initiative as innovation.

Third Narrative: A Note Was Thrown Away

The first half of the innovation project was characterized by a continuous focus on difficulties in crossing boundaries between professions, departments, and sectors. The participants challenged hospital managers and human resource consultants by asking: ‘Why aren’t representatives from other sectors part of this innovation project?’ They stated: ‘The primary sector is going to be a major part of solutions to those challenges facing the hospital’. At the midterm workshop, hospital managers met with the participants to provide feedback on their work. As preparation for this session, the human resource consultants asked the participants to brainstorm in silence, using Post-it notes, on the question: ‘What should receive attention if we are to succeed in the future hospital?’ The participants quickly created hundreds of notes, with both proposals and questions to be considered. Examples are:

- We need an overview of the organization of innovation
- Should we rate managers’ success in terms of productivity or innovation?
- Collaboration across boundaries (hospital and primary sector)
- How do we make transitions between the primary and secondary sectors smoother for patients, and ensure quality?

After this brainstorming session, the participants clustered notes with similar points and created headlines for each category. The note ‘Collaboration across boundaries’ was moved around from one group of Post-its to the next. ‘It belongs everywhere’, one participant concluded. The note ended up under the headline ‘Boundary-crossing

communication'. Groups gathered around each headline and discussed the critical questions to the clusters. The group that had chosen the headline 'Boundary-crossing communication' quickly decided to focus their efforts inside the hospital, as communication between the regional parliament and the hospital 'seems so infected by politics that there is no point in addressing it'. The note 'Collaboration across boundaries' did not really fit into this theme of hospital internal communication and was crumbled up and thrown away.

The effects of how the participants framed and approach the organizational boundary between the hospital and the overall healthcare sector is discussed below as an example of boundary reinforcement.

Reinforcing Boundaries

The intention of improving cross-sector collaboration disappeared from the innovation project, when ideas developed during brainstorming were clustered into themes. The 'note was thrown away' incident thus raises the issue of a possible clash between the intention of creating positive effects through innovation across boundaries in healthcare and the framing of innovation through procedures like tools and process designs. IDEO defines the inspiration space as the problem or opportunity that motivates participants to search for solutions (Brown & Wyatt 2010). This is part of early phases of innovation processes, where challenges are faced to some degree but solutions have not yet appeared. A high degree of openness is often valued as a means of stimulating creativity during these early parts of innovation processes (Brown & Wyatt 2010). During the innovation project, it seemed like the atmosphere of openness during brainstorming also made both the intention of the project more open, as well as problems and challenges that the innovation project should address.

The openness of the brainstorming phase allowed for a reinforcing of the boundary marking the difference between a focus restricted to the hospital and the need for collaboration and innovation across boundaries to other healthcare organizations, as did the political governance of healthcare. Van de Ven (1986) argues that a key innovation challenge is to manage transactions between parts and whole. He shows how people in complex work processes tend to become so involved in their own role that they lose a sense of 'the whole system'. He claims that people risk developing and implementing microstructures that create 'macro nonsense'. As the 'Collaboration across boundaries' Post-it note was thrown away to enable a more hospital internal focus, it allowed for initiatives to reduce hospitalization, which overlooked the crucial role of healthcare professionals in the primary sector. The innovation project was thereby at risk of solving problems by creating intra-organizational solutions that created micro nonsense for patients, whose pathways cross the organizational boundaries in healthcare. It also risked creating nonsense in the collaboration with healthcare professionals from other sectors.

Innovation Frame

The complex and boundary crossing perspective on problems was discarded due to the reinforcement of boundaries created by framing the change initiative as innovation. This framing introduces procedures such as brainstorming and clustering, but these are unable to address the complexity of challenges in healthcare. The process of clustering ideas after brainstorming instead favoured ideas that replicated each other, thus reinforcing boundaries. The intention to move the boundary in order to address the purpose of the overall healthcare sector in solutions to problems seemed too complex and politically infected to address, and thus disappeared. The note - and the possibility for boundary crossing - was thrown away.

The creation of a macro context for innovation, as argued by Van de Ven (1986), connects innovation processes to the mission and strategy of an organization. In the case of healthcare, this macro context is not the hospital but the larger healthcare sector. Problems might appear within the hospital but they also connect to healthcare professionals outside the hospital and to the patients' pathways that span organizational and professional boundaries. In this case, the framing of the change initiative as innovation reinforced the boundary between the hospital and the overall healthcare sector. The effect of this boundary reinforcement was that the participants in the innovation project concentrated on improving internal hospital work processes instead of integrating healthcare across organizational boundaries.

Discussion

Framing a change initiative as innovation suggests that there are no standard solutions like 'efficiency' or 'productivity' to complex problems; as in this case of reducing the amount of hospital beds from 1300 to 800. This framing provides a license to deviate from standard solutions and to search for new kinds of solutions. However, in complex systems, this paper argued that we should avoid the 'effect-bias', which leads us to evaluate innovations by their positive or negative effects. Innovations can also lead to simultaneously positive and negative effects, depending on perspective. Furthermore these effects can be intended, as well as show up in unintended and unanticipated ways and places. Below I address three findings from these analyses, regarding effect.

New Relations and Innovation of Perspective

The dialogue meetings offered a design procedure that enabled boundary reconfigurations and boundary moves. The new relations and the innovation of perspectives raised awareness of shared problems and shared solutions and thus of

healthcare professionals, employed in other parts of the healthcare sector. In these cases framing change initiatives as innovation encouraged boundary crossing between professions and organizations, which enabled spaces for dialogues at the boundaries. This design procedure thus enabled healthcare professionals reconfigure or move the boundary from marking 'inside' within the hospital and 'outside' the hospital to a boundary marking the connections and interdependence between healthcare professionals, organizations, and sectors, working with shared intentions to solve complex and shared problems.

Exclusion of Patients' Perspectives

Framing change initiatives as innovation can however also lead to unintended effects regarding exclusion of patients from change efforts. In this case, the patient advocate as a procedure for inviting patients' perspectives reinforced boundaries and thus allowed for discontinuities between service providers and receivers. In these cases, boundaries between 'us' and 'them' were reinforced; this may have reduced complexity by framing the problem in a simpler way. But the effect of this simplification was that there was no shared solution to an otherwise shared problem of coping with the reduction in the amount of hospital beds. The procedure however also moved the boundary between healthcare specialists and generalists from marking a gap to marking mutual relevance in the pursuit of a shared task.

Exclusion of Stakeholders' Perspectives

Framing the change initiative as innovation also led to the unintended exclusion of key stakeholders from other parts of the healthcare sector. The purpose of the change initiative changed from a sector perspective to an organizational perspective. This reinforcement of a boundary between a hospital focus and a 'whole sector' focus took

place due to the innovation design and tools applied. The framing of this boundary led to focusing on problems, which allowed for further fragmentation of healthcare, despite the stated intentions to create more integrated services.

Conclusion

The choice of approach to inviting patients' or general practitioners' perspectives on challenges is crucial for whether boundaries are reconfigured, moved, or reinforced.

These findings suggest the need to refine our thinking about the inspiration, ideation, and implementation spaces in the design procedures, which have the goal to foster valuable innovation in healthcare. Further studies could provide knowledge about how to enable spaces for dialogue and innovation of perspective in order to allow for boundary reconfigurations and boundary moves. Unanticipated emergence of new actions due to boundary moves supplement ideas of implementation as a space for intended actions, In addition we need to learn more about which perspectives to include and to exclude in our framings of problems in order to avoid harmful boundary reinforcements. These multiple perspectives on problems must be taken into account when designing and facilitating innovation processes in order to supplement the outcome of simplifying techniques like brainstorming and clustering.

The diversity of these effects emphasises the suggested need for an analytical move from *defining* innovations by their positive and intended effects to studying how framing processes affect boundary reconfigurations, moves, and reinforcements. Detailed knowledge about the multiple, diverse, and often contradicted effects of intending to innovate can help to significantly advance studies of innovation in complex settings like healthcare.

Chapter 7: Conclusion

In the chapter I present and discuss the results from the three empirical analyses. This leads me to discuss and synthesize these findings in the overall conclusion. I reflect upon implications of the study for theory and methodology, address limitations of the study, and suggest implications for policy and practice. Lastly, in the concluding remarks, I suggest further avenues of research that might extend and elaborate on these results.

Note On On-Going Processes

It is time to zoom the microscope out. My explorative approach to study micro-processes of problem framing and innovation in healthcare has brought about learning, which in some ways challenges the idea of reaching a conclusion and stating clear contributions to prior research as well as suggesting practical implications of this research. Phrased short and clear, this dissertation has demonstrated that innovation in healthcare, which is characterized by wicked problems, is a matter of ongoing processes, which at it's best produces new perspectives on problems. There are no right or best solutions, and thus no simple way of assessing whether changes are valuable as it depends on perspective, and thus on the framing of problems and which boundaries thus are attended to. This suggests innovation researchers to acknowledge the diversity of actions, which may result from framing wicked problems as something to be solved by 'innovation' by providing close-to-practice empirical studies of micro-processes. However, as I write these conclusions, I am in serious risk of using language, which makes the findings and suggestions appear linear, with a starting point, some interventions and an end point. I will strive not to.

Focus

This research project investigated effects of framing wicked problems in an innovation project in a hospital setting. I have conducted an explorative field study of what healthcare professionals say and do while responsible for innovation. I analyzed the empirical material from three different but related perspectives: presumptions about problems as the outset for innovation; opening and closing phased during innovation processes and innovations as defined by their positive and intended effects. This approach has generated a more refined view of the micro-processes of problem framing and innovation in the specific context of healthcare, regarding how problems are reframed, ideas are killed and how the innovation frame leads to boundary reconfigurations, boundary moves as well as boundary reinforcements.

Previous critique of innovation research have highlighted a tendency to ignore the specific context, which has led to overgeneralizations of findings (Hartley 2013). In the introductory chapter, I unfolded healthcare as a context for innovation and key characteristics of healthcare work, especially regarding the risk of fragmentation and need for coordination across specialist functions and I introduced the conceptual move from illness trajectories to patient trajectories. This move shed light on how problems in healthcare become wicked and thus the importance of framing. My theoretical lenses for putting ‘healthcare innovation under the microscope’ were three concepts: innovation, especially regarding perception of effects; framing, especially regarding problems; and boundaries, especially regarding boundary crossing as a means to coordinate across discontinuities in healthcare.

This led to the empirical analyses and thus to the findings of this dissertation.

Findings

The First Paper, located in Chapter 4, addresses the first sub research question, which problematizes the presumption that problems are the outset for innovation:

How do healthcare professionals frame problems and how does this framing affect the kind of solutions that emerge?

The approach to answer this question was frame analyses: specifically, I analyzed micro-processes concerning problem definition and generation of ideas for solutions in the innovation project. In doing so, this paper brings together the innovation and framing literature to further our understanding of how problems in healthcare innovation are subject to framing (Schön 1991). It is thus argued that healthcare innovation is not a response to *a problem*, as problems in healthcare tend to be wicked (White 2000, Churchman 1967). Their definition depends on perspective. Problems are thus framed in order to allow for ideation and generation of ideas for innovative solutions. When healthcare professionals are responsible for innovation, they might not solve problems, but instead generate new perspectives on what ‘the problems’ might be. The paper shows how healthcare professionals by means of reframing reduce complexity by excluding actors and their perspectives on problems, ideas, and potential solutions.

The findings in this paper suggest that the search for solutions to wicked problems in healthcare innovation leads to ideas, which requires a reframing of the problem in order for these ideas to appear as solutions. Framing and reframing problems are cognitive as well as social efforts to find solutions to wicked problems in healthcare,

but they are also contested negotiations of power and identity. This paper suggests that continual problem framing and reframing processes are main characteristics of healthcare innovation. This challenges phase theories of innovation, focusing especially on the initial phase, where problems are identified and defined. Theoretical attempts to explain apparent set backs in innovation processes (Van de Ven 1999), and iterative and emergent processes (Bason 2010) seem to still represent an idea of progression from *a problem*.

This understanding of problem framing and reframing in healthcare innovation has implications for a more specific research agenda regarding the micro processes of innovation, when problems are wicked. If hybrid frames (Schön & Rein 1994) allow for multiple and also diverging and contested perspectives on problems, my research suggests to develop and test procedures for enabling hybrid framing as an approach to wicked problems.

The Second Paper, located in Chapter 5, addresses the second sub research question, which critically discusses presumptions about opening and closing phases during innovation processes:

Why are ideas killed during opening phases?

This paper investigates an empirically based wondering of why substantial amounts of relevant ideas were killed during opening phases of idea generation in the innovation project. Several theories describe the opening and closing phases of innovation (Bason 2010, Brown & Wyatt 2010). Exploration and idea generation open a field of interest,

which is then closed by making choices of which ideas to further explore in the next opening phase. These choices deliberately frame problems to focus on and invariably leave out others. Killing ideas however is not always deliberate exnovation (Kimberly 1981) in the closing phases, according to explicit premises. In this paper I showed the seemingly contradicted processes of framing wicked problems as a call for radical innovation and the design and facilitation of the opening processes of idea generation, which unexpectedly killed a lot of ideas in the phases which were supposed to *generate* ideas.

The main finding of this paper is that ideas are killed during opening phases of innovation processes as well as during closing phases of evaluating ideas. Killing ideas was not designed for during opening phases in the innovation models used in the innovation project. However, I demonstrated how the design and facilitation of brain storming processes led to clustering of ideas, a design strategy which seemed to kill unique ideas. Last but not least, the paper argued that the reframing of the purpose of the innovation project as accomplishing radical innovation is a key to understand the killing of learning from others as a source of innovation and thus affects what is considered innovative solutions.

The findings of this paper supplement theories of deliberate killing of ideas in closing phases of innovation by suggesting *framing, design, and facilitation of innovation* as unintended ways of killing ideas during opening phases. These findings nuance explanations pointing to individual and group dynamic reasons for killing ideas. Further knowledge of how framing innovation closes idea generation in undesirable ways could be used to further advance design and facilitation of innovation processes.

The third paper, located in chapter 6, addresses the third research sub question, which problematizes presumptions of defining innovations by their positive effects.

How does framing change initiatives as innovation affect which boundaries are approached and crossed?

Based on a theoretical discussion of framing and boundaries in relation to innovation, this paper drew on empirical materials regarding the participants' approach to three kinds of boundaries: 1) the boundary among healthcare professionals from the hospital and general practitioners; 2) the boundary between healthcare professionals and patients; and 3) the boundary between the hospital and the overall healthcare sector.

The findings of this paper suggest that framing change initiatives as innovation leads to *boundary reconfigurations* in 'a space for dialogue', which allow healthcare professionals from different organizations to recognize being colleagues and reframe problems into shared intentions and tasks. However, the innovative framing also leads to unanticipated *boundary moves* through 'innovation of perspective' and to unintended *boundary reinforcements* that may exclude the perspectives of patients by means of 'the patient advocate'. The innovation frame also reinforced the boundaries to other key stakeholders in healthcare by means of design and facilitation.

These diverse framings of boundaries suggest researchers to avoid the 'effect-bias': that the effects of innovation are either positive or negative. This paper suggests the need for an analytical move from defining innovations by their valuable effects to studying

how framing processes affect boundary reconfigurations, boundary moves, and boundary reinforcements, when framing complex problems as a call for innovation.

Overall Conclusions

In this section, I discuss and synthesize these findings in order to answer the overall research question:

How are wicked problems framed in healthcare and how does this framing affect what healthcare professionals attend to when responsible for innovation?

Firstly, I address this question by pointing to implications for theory and methodology, and secondly I point to implications for policy and practice.

Implications For Theory

Taking the three papers as a whole, this dissertation offers theoretical contributions to the conceptualization and study of innovation in healthcare: 1) Reframing problems is a radical innovation; 2) Framing innovation as radical explains lack of diffusion; 3) From illness trajectories to patient trajectories; and 4) the effect-bias of innovation studies.

Reframing Problems Is A Radical Innovation

This study has shown that when healthcare professionals attempt to invent solutions to wicked problems, they continually reframe the problem, they approach. At a glance we

could evaluate this as a failure. If the participants in the innovation project did not invent new solutions to problems, did they succeed? Maybe the innovation project was designed and/or facilitated the wrong way? Maybe the managers pointed to the wrong problems to find solutions for? However, this study appointed this reframing of problems to the complex and wicked challenges, facing healthcare.

If radical innovations transforms the paradigm of social production (Osborne & Brown 2013), based a rethinking what the task, purpose and challenges are (Gillinson, Horne et al. 2010), this problem reframing is the most radical and profound innovation possible. However problem reframing as an outcome of attempts to innovate is more of a 'new perspective' than it is a 'new thing'. A problem reframing is not subject to simple implementation or diffusion. It is more of a social and cognitive innovation.

It is not possible for me to turn the microscope to the effects of this problem reframing. Did problem reframing eventually lead to a reduction of the amount of hospital beds? Did the hospital save money? Were the healthcare professionals able to move tasks from the specialized hospital to the primary care sector? Even if these kinds of data were available, no causal effects could be defined, as the results might have come about through other initiatives than the innovation project. Even more so, the saved money, the reduced amount of beds or the moved task might not look like innovations from the perspective of the patients, the municipality based nurses or the general practitioners. This sort of social and cognitive outcome of innovation thus affects how we theoretically conceptualize, methodologically study as well as design and facilitate, what are analytically considered as the invention, implementation, and diffusion phases of innovation process.

With this point in mind, this study suggests that we should set out to study how problem reframing come about in much more empirical detail. There are no right solutions to wicked problems. What might be experienced as a problem in one setting, might be the solution to a problem in another setting. It is apparent that problem reframing as such is not good or bad per se. Problem framing can include or exclude more perspectives on problems.

Exclusion of perspectives might be considered negative as the complexity of wicked problems is reduced. Important perspectives from key stakeholders might be left out. However the exclusion of perspectives through framing is also establishing the possibility to act, to generate, and test ideas. There must be a limit to perspectives. Without this framing, a risk in addressing wicked problems is that we could end up in endless dialogue processes, involving still more perspectives. The key questions is, which are important perspectives to address in a hybrid framing of a problem? This approach can allow for problem reframing, which we then must evaluate as a better or worse development.

Reframing Innovation As radical Explains Lack Of Diffusion

Importantly the reframing of innovation as radical can explain some of the problems that healthcare sectors face in terms of a well documented lack of diffusion of innovations (Greenhalgh, Robert et al. 2004). Learning from others appears as not innovative and is abandoned, if solutions should be radical as in 'new to the world'. In significant ways the radical framing of innovation affected how problems were framed and reframed and what was considered as solutions.

This finding suggests that framing, like innovation, is a ‘slippery’ concept. My analytical outset for this research was to consider framing as healthcare professionals attempts to ‘set’ problems from messy situations. However, innovation, like problems, is not out there in the world to study. Innovation can be an intention, a design, procedures for facilitation, a qualitative and valuable change like a reframing of a problem or a brand new invention. Innovation is also subject to framing, through perspectives, approaches, and designs.

From Illness Trajectories To Patient Trajectories

Healthcare sectors deal with complex issues like lifestyle related diseases and equal access to healthcare. In addition to these large scale problems regarding whole populations and also politics, problems in healthcare become wicked due to the fact that healthcare work is ‘people work’. Patients as well as healthcare professionals are human beings with individual emotions, relations, preferences, and past experiences. I have in this dissertation suggested the advance Strauss’ (1997) concept of illness trajectories into *patient trajectories* in order to emphasize that we are talking about a person who is suffering from a disease and not an illness, which involves a human being suffering from it. Patient trajectories accentuate why problems are wicked in healthcare, also on a individual micro-level, e.g. caused by the interaction between specialist evidence-based medicine and the subjectivity of individual patients, when determining the ‘best’ treatment and care for a patient.

The Effect Bias Of Innovation Studies

In addition to avoiding the pro-innovation bias, which means that people frame innovation is as a good thing per se, I have in this dissertation coined the notion ‘effect bias’. The effect bias leads us to evaluate innovations by their positive or negative

effects. This does not offer a valid evaluation of innovations in complex systems, as innovations can also lead to simultaneously positive and negative effects, depending on perspective.

Implications For Methodology

Methodologically, this dissertation contributes with an explorative and engaged approach to answer OECD calls for studies of innovation processes as they move along (Nauta, Kasbergen et al. 2009). An abundance of people, places, and organizations have made me into a ‘bricoleur’ researcher of problem framing and innovation processes. This engaged and pragmatic approach has enabled me to compare what healthcare professionals and managers, and human resource consultants say and what they actually do while responsible for innovation. It has provided me with a wealth of empirical material, which I have mined for patterns, important incidents, dramas, and contradictions. The crafting of new knowledge is not only a matter of combining theory with empirical materials. Equally important are the valuable lessons I learned while comparing my empirical materials from each of the sub-cases. The interviews have played the role of supporting choices of incidents for further scrutiny in the empirical analyses and to add or nuance observations of the problem framing and innovation processes.

The organization of the innovation project in seven groups forced me to select a number of groups to observe. Multiple activities were simultaneous, which is why I supplemented my observations with participants observations during the interviews. As described in Chapter 3, I carefully selected the primary sub-cases (groups) according to my theoretical sampling of stakeholder perspectives. Furthermore I was attentive towards new groups to include in my studies and engaged with human resource

consultants and participants in order to guide my attention throughout the innovation project.

Limitations Of This Study

This dissertation is the result of a range of choices regarding approach, design, and methods and as such, has its limitations. Below I share reflections on my choice of case, the design, and my role as a researcher.

The Case

The innovation project was designed as a process of invention. It was not designed to implement or spread new and creative ideas. Nor was it designed to turn new and creative ideas into better and cheaper ways of doing things. Accordingly the case did not provide me with data on implementation and diffusion. At least that is what I thought. As discussion above, the boundary moves and innovation of perspective lead to new actions (implementation) in different contexts (diffusion).

My choice of the innovation project as case positions this study within a top-down approach to the study of innovation, as initiated by managers and designed and facilitated by human resource consultants. This design rules out the study of innovation as it emerges during daily work at the hospital. My focus was on what healthcare professionals do, when they attempt to innovate.

The Single Case Design

The single case design has strengths and limitations with regards to the possibility of making generalization of findings to other contexts, which I briefly addressed in

Chapter 3. However, my aim with this study was not to generalize based on the quantity of data. Rather I have provided narrative accounts of incidences of problem framings and healthcare professionals attention and action while responsible for innovation. I have analyzed and related these narrative accounts to current literature and shown if and how the theoretical concepts are reflected in the data. What makes research processes stringent and of high quality is disciplined and analytical attention based on theory (Wegener, Meier et al. 2014). Qualitative research usually requires hours of interviewing, months or even years of fieldwork or large amounts of archival data. Researcher often feel that they are drowning in data and they face the challenge of making use of huge amount of data that they have spent so much time gathering. Based on the above reasoning, it is the use of theory not the amount of data that makes a research project based on empirical material from a single case valid and worthwhile (ibid.).

Insiderness

I am well aware of the challenges I have faced throughout this study as a former insider at the case hospital. I am also aware of the benefits of this insiderness in terms of easy access, familiarity with jargon, and physical surroundings. In Chapter 3 I reflected upon my approach to field research and the multiple strategies I applied in order to aid my alienation from the field. In particular I found the use of horizontal peer groups with researchers from other fields helpful in the process of objectifying the field and gaining analytical distance. Furthermore the field diary approach with half a page for observations of activities and another half page for reflections on my own role, sensations etc. was a helpful tool in this objectifying process.

Implications For Research, Policy, And Practice

Healthcare is relevant to all of us: we are all current or future patients or kin; some work in healthcare; and as part of the public welfare system in Denmark we all pay for healthcare through our taxes. My engagement throughout the research process as well as through my employments at the case hospital means that I hoped not only to contribute to theory with findings from this study. It is an enormous task to rethink healthcare in times of financial cutbacks, aging populations, and increased prevalence of chronic diseases. I thus further hoped to be able to contribute with relevant knowledge and questions to further exploration for politicians, managers, human resource consultants, healthcare professionals, and maybe even for patients. Even though I had a descriptive and analytical aim of understanding micro processes in this particular innovation project, there are still some general lessons to be learned.

Designing and facilitating for innovation

The innovation was in this study not regarded as an example of best practice, nor did I make an intervention study in order to evaluate quality and effects of specific innovation models and tools. As suggested, the innovation project might have been designed and facilitated differently, as well as the problem to address could have been framed differently.

Instead I offer my reflections upon the preconceptions about innovation, which are build into the design of the innovation.

The individual genius

Heads of departments at the hospital were asked to point out particularly talented healthcare professionals for participating in the innovation project. This could indicate a preconception about creative individual geniuses despite, despite Csikszentmihalyis

(2006) famous point that creativity is no longer a luxury for the creative few. Would these talented participants still be innovative when they are removed from their daily work, their relationships to colleagues, and their clinical expertise? Interestingly the participants reframed their own role in the innovation project from ‘innovative talents’ to ‘facilitators of innovation’, who tested designs for innovative environments regarding the problems people face during their daily work.

My suggestion would be to test the innovative capacity of groups of people, who have demonstrated a creative way of collaborating. In addition to let these groups address complex but specific problems that they face in their daily work. These problems would address patient trajectories. These problems are wicked. They resist clear definitions and final solutions, but can be approached in a stepwise fashion. I therefore propose to down play the rhetoric of innovation as radical and as a purpose in itself. I suggest that we resist the temptation to design innovation processes within healthcare as if we were trying to invent some new technical device.

Innovation of perspective or in action?

The design called for a move from analysing problems through discussions to interaction with stakeholders and prototype testing. Why was it so difficult for the participants to move from the analytical phase of framing problems to the phase of exploring, testing, and learning through practice?

First of all, if reframing problems is not considered a valid outcome of change initiatives, this might leave the participants as well as facilitators and managers with the impression of ‘just talking, no actions, and thus no results’, even though what they might have come up with is an innovation of perspective. It seems as a design mistake

to use radical ambitions as a driver for formulating innovation questions and thus for framing problems and possible solutions.

Secondly, it seems that the design framed yet another boundary for the participants to overcome. The early phases of exploration and idea generation seemed more attractive to the participants than testing ideas for solutions. Throughout the innovation project, there was significantly more dialogue between the participants within the innovation project, than dialogues with stakeholders, and testing prototypes in action. A tentative path to explore in future research could be, whether early interaction with stakeholders and testing ideas are considered 'risky business', acknowledging the caution towards mistakes in healthcare (Tucker & Edmondson 2003). This path suggests that additional boundaries are framed by the separation of everyday practices at the hospital and activities in the innovation project.

Managing innovation

This resistance towards interaction with stakeholders and testing ideas for solutions inspires me to pose a question for future research, which in addition is relevant for politicians, managers, and professionals in healthcare: Are innovation projects like the example studied in this dissertation primarily training and thus 'games'? Or is innovation a necessity, perceived as 'serious business' and as an everyday activity? This question suggests researchers to explore relationships between initiatives from innovation projects, on-going managerial initiatives as well as those initiated by healthcare professionals in their daily work.

My assumption is that as participants in innovation projects reach the testing phase, it becomes evident if innovation projects are games or not. It seems important to establish if there is a 'client' who has framed a problem and thus has an interest in soliciting possible solutions. Even if the 'solution' is a new perspective on the problem. This issue relates to further analyses of the assumption in the innovation project studied here that participants would be more engaged if they framed the problems themselves rather than sticking to the problems posed by heads of departments.

The innovation project is designed with a focus on the front end of innovation. There is no build-in stage-gate approach to the design. Instead there are specific tasks to solve and a focus on learning and feedback to create better iterations of prototypes of ideas for solutions. However, the suggestions based on prototypes are not necessarily further developed at the hospital. What might be the implications of enthusing people to generate and put forward ideas, when ideas are not taken further forward? How do managers and facilitators handle their disappointment? This might leave participants with the question: Is this for fun? Even at the final conference, where the seven groups presented their projects and results, there was no deliberate killing of the ideas with least potential. How far would managers let employees into scaling ideas for implementation throughout the hospital?

A final suggestion for managers in healthcare would be enable and initiate occasional spaces for dialogue on problems from different perspectives in order to listen to and acknowledge the problems faced on either side of the table. Even without agreements about solutions, new actions can emerge, if there is a mutual awareness of others' perspectives.

Concluding Remarks

Personally, what I have learned from conducting this study is how the role of patients' perspectives diverged. This goes for the overall innovation project, for the participants, but also for me as a researcher. Sometimes patients felt included, other times excluded, sometimes they were addressed as objects, sometimes as participants, sometimes the complexity of patient trajectories was subject to hybrid framing.

On several occasions, I experienced how the patients' perspectives were discarded as too individualized and unable to address the healthcare sector as such. I have field notes of a healthcare professional declaring: 'Our project is not about patients. Usually it's always about patients. This time, it's about us'. This statement indicates that the trend about addressing patients' perspectives might exclude the perspectives of healthcare professionals. Framings exclude and include by marking boundaries. As I evaluate public statements and declarations, I agree: Discussions and initiatives are truly always about patients. Nevertheless, I found very little evidence that the innovation processes were really about and with patients. What I found were healthcare professionals and managers speaking from their own perspectives, and often with very little if any hybrid framing of problems. Still the dialogues between healthcare professionals' and managers' rather individual perspectives broadened and diversified the overall framing of problems.

Next time I decide to carry out action research in this area, I will test different ways of engaging patients in problem framing and innovation. In doing so I will call for patient trajectories, rather than wild ideas to be the overall framing of innovation. This patient perspective might affect how healthcare professionals and managers attend to the implications of what they regard as 'small stuff', which nonetheless might be of significant value to patients. In order to illustrate this point, I will let Anna have the

final word, as her statement below reminds us what, in the end of the day, caring for peoples' health is all about:

My illness isn't dangerous; it's just ruining my life.

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Appendix 1: Suggestions from department managers

1. Safe medication processes and medication ready to use
2. Collaboration between clinical biochemistry and clinical departments across centers at the hospital
3. Delivery of goods to the hospital (laundry, food etc.)
4. Administrative services reduced by 40 percent
5. Homepages and intranet in merger and branding of the hospital
6. Organizational structure of communication in the future hospital
7. Cleaning and transport in house or by in
8. Systematic management of innovation
9. Food concept at the new hospital
10. Synergy between labs, merged in the new hospital
11. New concepts for administrative workstations mean collective facilities across departments
12. Knowledge sharing in a huge hospital
13. The technical department moves from very old hospital with many repair functions to brand new buildings
14. How do we move into new buildings step by step, as they are ready, and keep up production and patient safety?
15. New concept with one patient per room means new needs for observing patients
16. Patient hotel is challenged by one patient per room concept. The right patient in the right bed
17. More specialization and more shared core office facilities at the same time?
18. Shared ambulatory facilities and sub-specialization at the same time?
19. Ambulant clinics as a merger of huge departments (heart surgery)
20. Need of acute diagnostic ambulatories in each center to receive patients from GP, primary sector and the central acute center?
21. Rational work processes in shared ambulatories
22. Experiment with management and collaboration between brain-surgery and neuro-anesthesia
23. Experiments with clear management across professional employees working with surgery and perioperative patients instead of divided management between surgery and anesthesia
24. Coordination between surgical departments when operation theatres and perioperative units will be shared
25. Expansion of outpatient surgery
26. Collaboration between senior physicians with one taking management responsibilities of work processes
27. Organization of acute centre
28. Management of patient processes instead of departments?
29. Managing huge departments
30. Managing nurse staff with different specialties

31. The education of future colleagues – culture and improvement
32. Organization of patient processes, education and development of clinical practices when all patient processes flow across the hospital
33. Experiments with matrix between specialist teams and management of ambulatories, operation theatres etc.
34. Cochlear Implant Centre of Western Denmark
35. Coherent patient processes across specialties, departments and centers, involving employee competences and patients
36. Impact of organizing the hospital in seven centers with interacting specialties
37. Consequences of gathering children and young patients in a specific area?
38. Alternatives to hospitalization as there will be fewer beds

Appendix 2: Elaboration of the four themes of the innovation project

The innovation project addresses innovation of (translated from resume of meeting in the steering committee):

Professions

(of relevant professional connections within and among the medical knowledge domains).

- As our aim is to create even more coherent patient processes, we are in greater need of collaboration across professions and medical knowledge domains. Simultaneously we need to test and develop new forms of leadership and organization, which can lead to improved service and more efficient treatment of patients. Therefore we urge the projects within this category to test potential answers to, how to manage, organize, and orchestrate the interaction in the future. In this respect we would also like suggestions of relevant professional connections among the university hospital, the regional hospitals, and the primary sector.

New forms of shared leadership

- Treatment of patients will change due to future advance of knowledge and changes of the population of patients as well as the physical setting in the future hospital. This call for testing and developing new forms of shared leadership: between healthcare professionals close to patients, and regarding daily

engagement in research and education. It is decisive that the projects also identify which managerial competencies can facilitate leadership within and of a diverse range of new forms of leadership and organization. In this way it becomes possible for leaders continually to achieve the skills which corresponds to the managerial challenges regarding the creating and subsequent operation of the future hospital

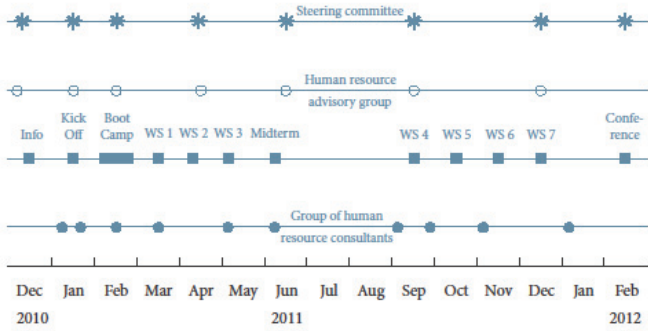
Administrative and clinical service functions

In order to contribute in the best possible way to coherent patient processes, research, and education, we urge projects within this category to: identify already well-proven new ways of organizing, communicate, test, and suggest how we can rethink parts of administrative and clinical service functions. In this regard how can administration and service connect in the best possible way to daily operations, leadership, and organizing with subsequent effects for patients?

Alternatives to hospitalization

Coherent patient pathways within the future hospital will depend on to which extent we have been able to incorporate new ways of organizing, which implements the potential for streamlining according to the principles of 'just in time' before we move into the new buildings. Simultaneously the conditions in the new physical setting calls for identification and development of alternatives to hospitalization. The reduced amount of hospital beds alone demonstrates the need for testing and implementing innovation in this regard. We urge the projects to suggest specific alternatives, and suggestions of how new forms of local or cross-professional organization and demarcation of services can ensure high quality patient treatment without or with a minimum of hospitalization. Preferable in collaboration with the primary sector.

Appendix 3: Overview of activities in the innovation project



Appendix 4: Frequency and length of observation

Group/task	Meetings	Participants
<u>Steering committee</u> Decide themes Choose participants Support project managers Link to hospital practices Evaluate process and products	7x2 hours	Chief nursing officer CEO of building project Head nurse Head physician University vice dean Head physician of centre CEO of HR firm 2 project managers Head of HR
<u>HR advisory group</u> Support project management Prepare steering committee meetings Link to hospital practices	7x2 hours	Head of HR region Head of HR hospital CEO HR firm Head of HRD hospital 2 project managers
<u>HR consultants</u> Design and facilitate workshops Support the seven groups	10x4 hours	2 project managers 2 HR consultants hospital HR consultant firm HR consultant region
<u>Workshops (WS)</u>	Info: 2 Kick off: 7 Boot camp: 21 WS1: 7 WS2: 7 WS3: 7 Midway: 7 WS4: 7 WS5: 7 WS6: 7 WS7: 7 Conference: 4	All participant and HR consultants
Total	158	

Appendix 5: Interview letter for the participants

Kære NLO deltagere,

Det har været og er rigtig spændende at følge jeres arbejde i NLO, nogle af jer hyppigt og helt tæt på, andre mere sporadisk og på afstand.

Min forskningsinteresse går på, hvordan processer som NLO kan være med at til udkrystallisere innovationsspørgsmål og – svar?

Min dataindsamling har hidtil hovedsageligt bestået af følgestudier, observation og feedback af observationer og refleksioner til grupperne.

Men jeg er også nysgerrig efter at høre, hvordan I har oplevet jeres arbejdet indtil nu og vil derfor forsøge for en stund at gøre jer til ‘deltagende observatører’.

Jeg vil gerne her i efteråret gennemføre gruppe-interviews med hver af de 7 grupper. Jeg regner med at interviewet varer ca. 1 time og bedst vil kunne gennemføres i forbindelse med ét af jeres gruppemøder. Jeg vil tro, at det kan fungere som tid til

refleksion for jer, blot i en anden form end den, I har udviklet i gruppen sammen med jeres konsulent og dermed forhåbentlig ikke belaste jer yderligere arbejdsmæssigt.

Jeg vil i interviewet gerne høre, hvad I har oplevet af vigtige hændelser/bevægelser i løbet af NLO, hvad I tror, der har bidraget til disse bevægelser og hvordan I kan se, at det har påvirket fokus for jeres arbejde.

De bedste hilsner

Karen Ingerslev

Ph.d. stud. CBS/Region Midt

Appendix 6: Right hand side field notes

The following box contains sentences extracted from my field notes in the right hand side column, where I listed my own reflections on what was going on.

I try to match my clothes with that of the participants to blend in.

I am tall, which often makes me look down to people. I try to kneel or sit down to talk to people to get in eye level or even below.

My access to the groups is easy. (The hospital is used to people watching, as 22 educations serve their practical training at the hospital...).

When they hear that I am a psychologist, I receive lots of comments like this one from a junior physician from the Cardiothoracic and Vascular Surgery Department participating in an experiment, I observed involving employees in closing beds: “Are you observing who is taking the lead and how we solve conflicts?”

I receive recognition from the physicians for doing this research project.

I often get positioned as the clever one, - the expert, - concerning both innovation and process-work. What does it mean when I am invited with an external consultant to develop the project with the CEO and the project leader of the consultancy firm?

Some groups share that they feel like winning when I decide to observe their work, as they greatly appreciate my sharing of observations through mirroring and reflections with them. My words are given a lot of authority.

Doing observations might be a provocation in itself in times of cut downs: Look, there is somebody 'just' observing, not working'. What does it mean that the groups try to involve me in their work? "You are sitting there, listening and typing – could you make a summary of our dialogue/interview?" What does it mean that the project leader of the innovation project tries to make me facilitate the dialogue in a group on personal feedback as one of the consultants in the team is sick, meaning one group is without their helper?

For most of the participants, I am considered an insider, as I come from the large hospital in the merger.

Participants from the small hospital might consider me an outsider, as well as the consultancy firm.

As I am not clinically trained, I might be considered less of an insider.

Before doing this research project, I came from a position as a young manager, which might make me one of them. But I am still an outsider as I am not a talent, I am not a consultant, and I am not a manager – but the only researcher in the innovation project.

Appendix 7: Organizing data

Binder
Finishing the field study I had 224 computer typed pages (approx. 100.000 words), 210 pages of interview transcripts, 700 e-mails, and seven reports from the groups on their work, power point presentations from workshops, agendas, and records from meetings in the steering committee and the human resource advisory group. I printed all this material and made a binder with a chronological structure of dates and activity headlines.
Overview: Groups and focus
I re-read all material and made an overview of the innovation project in terms of organizational structure (the steering committee, the human resource advisory group, the group of human resource consultants, and the seven groups), and each of their focus at different points in time.
From need to prototype
I made a temporal overview of how the steering committee expressed the need for innovation, which problems were raised by department managers, the clustering of problems in themes by the human resource advisory group, which headlines the groups decided to work on, and what they ended up testing in prototypes.
Framing of innovation
I made an overview of how innovation was framed by the steering committee, the human resource advisory group, the human resource consultants, and the participants. (this overview shows two patterns in the framing of innovation: innovation as better and cheaper & innovation as radical or incremental).
Problems and boundary crossing
I made an overview of what types of problems the groups addressed and what kinds of prototypes they tested in terms of crossing professional, departmental, hierarchical, and sector boundaries.
Innovation and boundary crossing
I made detailed readings of the material in terms of if and how boundary crossing is framed as part of the innovation project
Analysis of framing of innovation
I compared how the groups, dependent on whether they were close to managers, consultants, patients or colleagues, framed innovation.

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