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Anu Kajamaa
UNRAVELING THE HELIX OF CHANGE
An activity-theoretical study of health care change efforts
and their consequences

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Unraveling the helix of change

An activity-theoretical study of health care change efforts and their consequences

Abstract

The study examines change efforts and their consequences in health care in the public sector. The aim of this study is, by providing a new conceptual framework, to widen our understanding of organizational change efforts and their consequences and managerial challenges. Public sector health care is currently pressured with opposing demands such as objectives for fast service production and cost effective care in tandem with requirements for the provision of high quality care. Despite the multiple change efforts, the results of health care development projects have not been very promising, and many developmental needs and managerial challenges exist. The study challenges the predominant, well-framed health care change paradigm and calls for an expanded view to explore the underlying issues and multiplicities of change efforts and their consequences. The study asks what kind of expanded conceptual framework is needed to better understand organizational change as transcending currently dominant oppositions in management thinking, specifically in the field of health care.

The study includes a series of explorative case studies of health care change efforts and their consequences. Theory and practice are tightly interconnected in this study. The methodology of the study integrates the ethnography of organizational change, a narrative approach and cultural-historical activity theory, which also provides theoretical tools for analyzing health care change efforts and their consequences. In grounding its conceptual framework, the study introduces the focal literature on organizational change, change management and studies, taking a multi-site, multi-level and multi-logic approach to organizations. From the stance of activity theory, historicity, contradictions, locality and employee participation play significant roles in developing organizations. The empirical data of the dissertation was collected in four public sector health care organizations during the years 2004–2010. By exploring the oppositions between distinct views on organizational change and the multi-site, multi-level and multi-logic of organizational change, the study develops an expanded, multidimensional activity-theoretical framework on organizational change and management thinking.

The findings of this study contribute to activity theory and organization studies, and provide information for health care management and practitioners. The study illuminates that continuous development efforts bridged to one another and anchored to collectively created new activity models can lead to significant improvements and organizational learning in health care. Some of the studied change efforts were discontinuous or encapsulated, not benefiting the larger whole. The study shows that the stagnation and unexpected consequences of change efforts relate to the unconnectedness of the different organizational sites, levels and logics. If not dealt with, the unintended consequences such as obstacles, breaks and conflicts may stem promising change and learning processes.

The ways of conducting change efforts in organizations play a critical role in the creation of collective new practices and tools and in establishing ownership over them. Breaking hierarchical boundaries, engaging previously distinct parties in designing and analyzing change, and diffusing and bridging successive results across projects, spaces and time are crucial learning challenges for health care organizations. Achieving system-level changes and learning requires the development of shared tools and managerial support. Nurturing the continuity and sustainability of promising new practices, tools and learning becomes a crucial management issue.

Achieving profound change in the level of activity requires a long, collective learning process. Due to oppositions to and the complexity and multidimensionality of change, the development of health care practices is slow and demanding. The study shows that the consequences of change efforts often emerge in the long haul. Expansive organizational learning only emerges slowly, a process which may take years. In the development of health care, further connecting of different organizational sites, levels and logics with the aid of system-level interventions focusing on qualitative transformations is needed. This calls for a new expanded vision on health care change from health care practitioners, managers and political decision makers.

Keywords: activity theory, multi-site change, multi-level change, multi-logic change, tools, narratives, expansive learning, change management

Anu Kajamaa

Muutoksen kehiä avaamassa

Toiminnanteoreettinen tutkimus terveydenhuollon muutospyrkimyksistä ja niiden seuraamuksista

Tiivistelmä (Abstract in Finnish)

Tutkimus tarkastelee terveydenhuollon muutospyrkimyksiä ja niiden seuraamuksia julkisessa terveydenhuollossa. Tutkimuksessa kehitetään uudentyyppinen käsitteellinen viitekehys, jonka tavoitteena on laajentaa ymmärrystämme organisaatiomuutoksista, niiden seuraamuksista ja johtamisen haasteista. Julkinen terveydenhuolto on nykyään monenlaisten vastakkaisten vaatimusten, kuten samanaikaisen nopean ja kustannustehokkaan sekä laadukkaan hoidon tuottamisen kohteena. Monista yrityksistä huolimatta terveydenhuollon kehittämishankkeet eivät ole tuottaneet kovin lupaavia tuloksia ja monia muutoshaasteita on ratkaistavana. Tämä tutkimus haastaa ja laajentaa terveydenhuollon alueella vallalla olevan tarkkarajaisen muutosajattelun tutkien terveydenhuollon organisaatioiden toiminnan taustalla vaikuttavia vastakohtaisuuksia, muutoksen moniulotteisuutta ja seuraamuksia. Tutkimus pyrkii vastaamaan siihen, minkälaista laajennettua käsitteellistä viitekehystä tarvitaan nykyään vallalla olevan johtamisajattelun taustalla olevien vastakohtaisuuksien ymmärtämiseksi ja ylittämiseksi, erityisesti terveydenhuollon organisaatioissa.

Tutkimus koostuu eksploratiivisista terveydenhuollon muutospyrkimysten ja niiden seuraamusten tapaustutkimuksista. Teoria ja käytäntö kietoutuvat tutkimuksessa tiiviisti toisiinsa. Tutkimuksen metodologia yhdistää organisaatiotutkimuksen etnografiaa, kertomuksellista lähestymistapaa ja kulttuurihistoriallista toiminnan teoriaa, joka tarjoaa teoreettisia välineitä terveydenhuollon muutospyrkimysten ja niiden seuraamusten tutkimukselle. Tutkimuksessa esitellään keskeistä, tutkimuksen aihepiiriin liittyvää aiempaa organisaatiomuutoksen ja johtamisen kirjallisuutta, joka tarjoaa monipaikkaisen, monitasoisen ja monilogiikkaisen lähestymistavan organisaatioihin. Toiminnan teoreettisesta näkökulmasta historiallisuus, paikallisen toiminnan ja sen ristiriitojen tutkimus ja työntekijöiden osallistuminen työn kehittämiseen ovat keskiössä.

Tutkimuksen aineisto on kerätty neljästä julkisen terveydenhuollon organisaatiosta vuosina 2004–2010. Tutkimuksessa perehdytään erilaisiin vastakkaisiin organisaatiomuutosta koskeviin näkemyksiin ja paikannetaan monipaikkaisia, monitasoisia ja monilogiikkaisia muutoksia laajennetun toiminnanteoreettisen käsitteellisen muutosajattelun ja johtamisen kehittämiseksi. Tutki-

mustulokset tuovat uutta organisaatiomuutoksiin liittyvää tietoa toiminnan teoreettisen ja organisaatiotutkimuksen kentille, hyödyttäen myös terveydenhuollon johtajia ja käytännön toimijoita. Tutkimuksen tulokset osoittavat, että kehittämisyritykset, joita silloitetaan aiempiin kehittämistoimiin ja jotka tuottavat yhteisesti kehitettyjä toimintamalleja, voivat johtaa merkittäviin edistysaskeliin ja organisaation oppimiseen terveydenhuollossa. Jotkut tutkituista muutopsyryksistä osoittautuivat epäjatkuviksi tai koteloituivat paikallisiin osastoihin, eivätkä laajemmin hyödyttäneet organisaatioita. Tuloksista käy ilmi, että muutopsyrykimysten pysähtyneisyys ja odottamattomat seuraamukset liittyvät organisaation eri toimintojen toteutuspaikkojen, organisaatiotasojen ja logiikoiden erillisyyteen. Muutopsyrykimysten tahattomat seuraamukset, kuten esteet, katkokset ja ristiriitatilanteet saattavat pysäyttää lupaavasti käynnistyneitä muutos- ja oppimisprosesseja ellei niitä käsitellä.

Muutopsyrykimysten toimeenpanon keinoilla on vaikutusta uusien yhteisöllisten toimintatapojen ja välineiden sekä niiden omistajuuden syntyymiseen. Hierarkkisten organisaatorajojen rikkominen ja erillisten tahojen osallistuminen muutopsyrykimysten suunnitteluun ja muutoksen analyysiin sekä hyväksi havaittujen tulosten levittämiseen yli yksittäisten projektien, tilojen ja ajanjaksojen on keskeinen oppimishaaste terveydenhuollon organisaatioille. Systeemitason muutosten aikaansaaminen vaatii yhteisten välineiden kehittämistä ja organisaation johdon tukea. Uusien lupaavien toimintatapojen ja välineiden jatkuvuuden ja kestävyuden tukeminen on keskeinen johtamishaaste.

Syvällisen muutoksen aikaansaaminen ja prosessien tehostaminen toiminnan tasolla vaatii pitkän yhteisöllisen oppimisprosessin. Tämän tutkimuksen tulosten valossa terveydenhuollon kehittäminen on vaativaa ja hidasta olemassa olevien vastakohtaisuuksien ja muutoksen monimutkaisuuden ja moniulotteisuuden takia. Muutosten seuraamukset tulevat usein ilmi vasta vuosia muutos-hankkeiden päättymisen jälkeen. Ekspansiivinen oppiminen kehittyy hitaasti ja sen saavuttaminen voi viedä organisaatioissa vuosia. Terveydenhuollon kehittämisessä tarvitaan entistä enemmän muutos-hankkeita, jotka keskittyvät laadullisten systeemitason muutosten aikaansaamiseen kytkien erilliset paikat, tasot ja logiikat yhteen. Tämä edellyttää, entistä laajempaa ajattelutapaa terveydenhuollon toimijoilta, johtajilta ja poliittisilta päätöksentekijöiltä.

Avainsanat: toiminnan teoria, monipaikkainen muutos, monitasoinen muutos, monilogiikkainen muutos, välineet, kertomukset, ekspansiivinen oppiminen, muutosjohtaminen

PREFACE

My interest towards work research rose as a bachelor student at the Department of Education in the University of Helsinki. In my bachelor's thesis I examined the consequences of an activity-theoretical change effort conducted in Alko, the company responsible for selling alcohol products in Finland. Alongside my studies I worked as a salesperson in the company. My analysis of the historical change effort while experiencing the consequences of the changes, in my own workplace, evoked an interest in workplace interventions. During the years 2004–2011, I have been involved in three large-scale work research projects. These projects, led by Professor Yrjö Engeström, have been run by the Center for Activity, Development and Learning (CRADLE) (the former Center for Activity Theory and Developmental Work Research) at the University of Helsinki. I worked first in a research project called *Stabilization and Diffusion of Innovative Forms of Work and Learning: Traces, Consequences and Bridges*. I completed my Master's thesis in this project in 2005. The second health care project in which I worked, called *From Disjointed Projects to Sustainable Development*, took place from 2006 to 2008 and involved a large-scale intervention in a university hospital's surgical operating unit. The data of this study has been collected in these two projects, funded by the Finnish Work Environment Fund (TSR).

In 2007, I began CRADLE's doctoral program on Developmental Work Research and Adult Education (DWEAE). The doctoral school belongs to the Finnish Graduate School in Education and Learning (FiDPEL), which is the largest Finnish graduate school and is financed by Finland's Ministry of Education and the Finnish Research Academy. I completed my dissertation in the program during the years 2008–2011. In my dissertation project, I wanted to investigate how changes take shape in the Finnish health care system and how its change management could better respond to the current challenges. Being a work researcher with an educational background provided me the possibility to form an outsiders' perspective of health care activities. However, being an outsider meant constant studying and learning about medical work from the informants in the research sites and from literature and other sources. My attempt in this book is not to touch any specific issues concerning the substance of medical work but, with the aid of activity theory, to analyze and conceptualize health care change efforts and make their consequences visible as well as to widen our understanding of the field and its change management.

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Studying change and change management in health care contexts has been a fascinating journey and a rewarding learning experience for me. The process of completing the dissertation has required hard work and has been extremely interesting and rewarding. The support and good advice from my supervisor, Professor Dr. Yrjö Engeström, and co-supervisor, Dr. Hannele Kerosuo, are very gratefully acknowledged. I am especially indebted to Professor Dr. Yrjö Engeström for giving me the great opportunity to work in his projects and to learn so incredibly much from him. I am indebted to the pre-examiners of this book, Professor Paul S. Adler from the University of Southern California in the US and Professor Eero Vaara from the Hanken School of Economics in Finland, for their extremely positive feedback on my work. The funding and grants from TSR and FiDPEL are gratefully acknowledged. The Institute of Behavioural Sciences and the Center for Activity, Development and Learning have provided a great infrastructure and an intellectually inspiring environment for my work.

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Helsinki, October 7, 2011
Anu Kajamaa

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ORIGINAL ARTICLES

- I Kajamaa, A. (2010), “Expanding Care Pathways – Towards Interplay of Multiple Care Objects”, *International Journal of Public Sector Management* 23 (4): 392–402.
- II Engeström, Y., Kajamaa, A., Kerosuo, H. & Laurila, P. (2010), “Process Enhancement Versus Community Building: Transcending the Dichotomy through Expansive Learning”, in K. Yamazumi (Ed.), *Activity Theory and Fostering Learning: Developmental interventions in education and work*, pp. 1–28, Osaka: Center for Human Activity Theory, Kansai University.
- III Kajamaa, A. (2011), “Boundary Breaking in a Hospital: Expansive Learning Between the Worlds of Evaluation and Frontline Work”, *The Learning Organization* 18 (5): 361–377.
- IV Kajamaa, A., Kerosuo, H. & Engeström, Y. (2010), Employees’ Narratives about a Development Project as a Resource for Managing Organizational Change, in E. Bonet, B. Czarniawska, D. McCloskey & H.S. Jensen (Eds.), *Second Conference on Rhetoric and Narratives in Management Research* (proceedings), pp. 129–148, ESADE Business School: Barcelona.
- V Engeström, Y., Kerosuo, H. & Kajamaa, A. (2007), Beyond Discontinuity: Expansive Organizational Learning Remembered, *Management Learning* 38 (3): 319–336.

In the following summary section of the dissertation, these articles will be referred to by the Roman numbers I–V. Other published articles which relate to this study but are not included in it are listed at the end of this book.

1 INTRODUCTION

Organizational change has become an important and commonly studied phenomenon. Among organization studies, a wide range of approaches have been developed. Organizations and organizational change are no longer seen as simple and unitary but as increasingly complex, diverse and context laden (Poole & Van de Ven, 2004). In the literature, there is an ongoing separation and debate between the top-down-directed planned view and the bottom-up-oriented emergent view of organizational change. Some important openings for combinatory approaches, applying the features of both planned and emergent views, have been made to better understand the increasing complexity and phenomena related to organizational development and change (Van de Ven & Poole, 1995; 2005; Beer & Nohria, 2000).

The current paradigm for health care change in the public sector follows a rational method for conducting and implementing change, using top-down-directed, well-framed techniques and presupposing planned progression. Previous studies indicate that despite the extensive and expensive efforts, health care is an especially challenging field to develop. The field has become increasingly complex and unexpected, and the projects conducted often fall by the wayside. Due to factors such as this complexity, the reasons behind the failures are often difficult to identify. The starting assumption of this study is that the current way of conducting change in health care holds the risk of excluding the multiplicity of change. The oppositions between the administrative-managerial view and the view represented by those responsible for carrying out the everyday practice of patient care are not often scrutinized. Thus, an exploration of multi-site, multi-level and multi-logic organizational change with new theoretical tools is needed.

Analysis of the dialectical tensions or oppositions¹ in ‘the intersection’ of the distinct views underlying organizational change efforts seems to be rare among organization studies and in studies on health care. In this study the tension-laden intersection between the distinct views is explored with the aid of dialectically informed activity theory. The study is especially interested in what happens when different actors meet ‘in the intersection’ and try to change the practical work *activity* and what the consequences are of this. The study aims at creating a new conceptual framework, or an expanded view, to widen our understanding of organizational change efforts and their consequences and managerial chal-

¹ The study views oppositions, not as radically reversed categories or universal logical oppositions, but as strong dialectical tensions which exist and are experienced and interpreted as tensions and juxtapositions in organizational life.

lenges. This study belongs to the studies on organizational change and learning. More specifically, it positions its theoretical framework in relation to previous studies focusing on multi-site, multi-level and multi-logic change. The multidimensionality of change refers, in this study, to the building of an expanded approach to change, which is done by exploring the different organizational sites, levels and logics and trying to transcend the dominant oppositions in management thinking and the dichotomies underlying organizational change. Novel to organization studies, this study combines three multiplicities of change in examining the case studies: multi-site, multi-level and multi-logic change.

Metaphorically, the challenging intersection or gap between the distinct views can be perceived as an obscure helix in need of unraveling. The helix metaphor used in this study illuminates the complex, multidimensional and historically embedded nature of organizational change. The word “helix” is Greek and is defined in the dictionary as something spiral, a type of a curve in three-dimensional space. The helix is traced on a cylinder or cone by the rotation of a point crossing its right sections at a constant oblique angle; broadly, it is a spiral, such as the handrail of a spiral staircase.²

To unravel the helix of change, this study applies cultural-historical activity theory³ (CHAT) (Leont’ev, 1978; Engeström, Miettinen & Punamäki, 1999; Sannino, Daniels & Gutierrez, 2009) and its applications: the theory of expansive learning (Engeström, 1987; Engeström & Sannino, 2010) and developmental work research (DWR) (Engeström, Virkkunen, Helle, Pihlaja & Poikela, 1996; Engeström 2005a; Engeström, Lompscher & Rückriem, 2005; Kerosuo, Kajamaa & Engeström, 2010). The activity-theoretical framework is complemented with a narrative approach, applied in the data collecting and data analysis (Mishler, 1986; Czarniawska, 2004). The theoretical-methodological principles of this study are presented in the seventh chapter on methodology.

² Helixes are important in mathematics and architecture for representing curves in three-dimensional space and are also important in molecular biology. In molecular biology, change is viewed as the transmission of genetic information from one generation to another. The pattern of the pairing of single or interacting molecules determines the helixes’ secondary and tertiary structures. In molecular biology, the term double helix (Watson, 1968) refers to the structure of DNA and RNA, which are double-stranded molecules of nucleic acids formed of intertwined helixes and proteins. In sociology and innovation research, the concept of the ‘triple helix’ has been invented and used to describe the collaboration between universities, companies and the public sector (see e.g. Etzkowitz, 2003; Tuunainen, 2004).

³ The foundations of activity theory were developed in 1920s and 1930s by Russian psychologist Lev Vygotsky (1896–1936) and Aleksei N. Leontjev (1903–1979). Activity theory is a multidisciplinary theory which has gained increasing popularity and relevance among researchers in the fields of education and organization studies (Engeström, 2005a; Adler, 2005; Prenkert, 2006; Blackler, 2009). The activity-theoretically informed frameworks are well represented in previous studies. Therefore, this study does not provide a further, overall presentation of the approaches.

The basic idea of cultural-historical activity theory is that socio-cultural, mental and material resources for action are intertwined. Activity theory represents functional materialism, in which knowledge is viewed as emerging in cultural and historical settings and as distributed and decentered. The capabilities of humans belonging to *activity systems*⁴ develop as they collectively act in their surroundings. Change, development and learning are intertwined. Objects of human activity are partly given and partly emergent or unanticipated (Engeström, 1987; also Blackler et al., 2000).

From the activity-theoretical perspective, change is never isolated from its historical context but is socially and discursively constructed and materially and socially mediated in object-oriented activity (Engeström 2000; Engeström, Puonti & Seppänen, 2003). Organizational change is a collective resolution of historically evolved tensions and contradictions⁵. Locally emerging ruptures, obstacles and tensions are seen as connected to larger societal contradictions, taking shape in the environment external to an organization, pressuring it to change. System-level interventions can help people to see the difficult situation differently, to create a dialogue and to design change collaboratively (e.g. Engeström, 1987; 2005a; Blackler et al., 2000).

Activity theory has been applied to and further developed in the field of education and the study of work research. Developmental work research, developed in Finland, is an application of activity theory to the study of work and organizations. Developmental work research applies specific theoretical-methodological tools and models and incorporates qualitative research methods, such as ethnographic field research. Developmental work research interventions are research assisted and provide analytical tools and thus have the potential for innovativeness and solutions that fit each situation uniquely (Bodrožić, 2008: 9). This study conducts a developmental work research project (i.e. an intervention) in a surgical operating unit at a university hospital and analyzes past activity-theoretical health care change efforts and their consequences with a multifaceted repertoire of activity-theoretical analytical concepts and models. Chapter 9 of this study presents how the empirical findings and the new insights

⁴ In his theory of expansive learning, activity theorist Yrjö Engeström (1987) presents a dynamic model of an activity system consisting of a subject (or group of subjects), an object, mediating artifacts, rules, a community and the division of labor (Engeström, 1987: 78). In activity theory, subjects act as parts of a community that performs object-oriented collective activity. The distinction between activity systems is made by their conception of the object (Blackler, Crump & McDonald, 2000: 282).

⁵ Previous activity-theoretical studies have conducted analyses of dilemmas, conflicts, disturbances and contradictions (see e.g. Helle, 2000; Virkkunen, 2006; Sannino, 2008; Engeström & Sannino, 2011; Kerosuo, 2011).

of this study contribute to the development of the theoretical tradition of cultural-historical activity theory and developmental work research.

Taking an activity-theoretical stance, historicity, contradictions, locality and contextuality play significant roles in organizational change. In this study, organizational change is viewed as a tension-laden learning process, carried out in collective object-oriented activity, taking shape within and between multiple activity systems. Change is seen as processual and continuous in nature, embedded in different temporalities and spaces. Organizational change is here analyzed as a multidimensional, complex and open-ended phenomenon, always intertwined with the local history of an organization. This study enriches organization studies and activity theory by pointing to the multidimensionality of change and to the consequences of organizational change efforts, such as the life spans of collectively created organizational models, tools and ways of working.

The study places the opposing views of change and organizational forces into interplay and creates a new, expanded conceptual framework for unraveling the helix of change and for transcending the dominant oppositions in management thinking. It is an explorative case study⁶ of health care change efforts and their consequences and managerial challenges. In this study, studying and transforming activity intertwine. The study detects and unravels, in the empirical articles, oppositions which emerge on different levels: in the literature, in the applied change and intervention methods, and also in the practical work and managerial activities of health care. Health care change efforts mean, in this study, management-directed planned change interventions and employee-initiated interventions and the emergent changes. Oppositions, obstacles, ruptures and conflicts within and between the different sites, levels and logics are scrutinized and viewed as triggers for organizational learning and change. The study connects the analysis and transcending of oppositions to the activity-theoretical notions of organizational learning and development.

The dictionary definitions for the word “unravel” illuminate the methodology created in this study. To unravel means to undo, disentangle or disengage something woven, tangled or raveled up, to untangle or separate the threads of something, to make clear of confusion or to resolve the intricacy, complexity or obscurity of something. Metaphorically, unraveling the helix means pulling apart the different ‘threads’ of the complex helix of change. The threads refer to

⁶ An explorative case study is an investigation of several cases by seeking and experimenting with different possibilities and making overtures. The researcher acts as an explorer in the research process. The rallying point of the single cases in this study is that they all represent Finnish public sector health care organizations which have undergone activity-theoretical change projects. For more on case study research see e.g. Gomm, Hammersley & Foster, 2000. On multiple case study research see Yin, 2009.

the different oppositions involved in health care activity and its change attempts, which are investigated in the five empirical articles of this study, in multiple sites, on multiple levels and from multiple logics. The threads also resemble the specific ruptures, obstacles and conflicts which are examined in this study with the aid of activity theory.

The oppositions in health care need to be unraveled to newly interpret and to better understand organizational change and change management. As important as unraveling the oppositions is, the focus here is on the successive ‘weaving’ of the unraveled dimensions back together and transcending them by providing an activity-theoretical conceptual framework. The ‘weaving’ of the conceptual framework is done in the ninth chapter of this study. The idea of moving between unraveling, weaving and transcending reflects the dialectical thinking of this study.

The study depicts health care as a historically developed organizational field, consisting of multiple sites, levels and logics and organizational boundaries. The study suggests an activity-theoretical system-level approach to organizational change that involves organizational boundary-breaking collaboration efforts and collective tool creation processes. In this approach change is viewed as a dynamic interplay of multiple expansive learning cycles which may take years. The approach aims at expansion of the object across multiple organizational sites, levels, logics and organizational processes. The following subsections and the second and the fourth chapter are dedicated to a literature review of the focal literature of organizational change, change management and the studies focusing on multiple sites, levels and logics in organizations. The literature review grounds the conceptual frame of this study. The concepts of organizational change and change management are defined in the following.

1.1 The concept of organizational change

Studies focusing on change have been conducted in various scientific fields, mainly in psychology, sociology, education, management studies, public administration, engineering, economics, anthropology, political sciences and organization studies. Scholars in these different fields have tried to be responsive to contemporary organizational demands and answer the following essential questions: *What* is organizational change, and *why and how* do organizations need to change? *What type* of change, *if any*, is achieved by organizational interventions, and *why* (Bartunek & Moch, 1987: 496)?

Scholars and schools of thought in organizational research have, over the years, offered different ontologies and epistemologies⁷ for studying organizational change. Some cross-disciplinary dialogues have also been established. The need for knowledge on organizational change and change management has dramatically increased over the last two decades. Both the field of organization theory and the field of practice are continuously challenged to find useful theoretical and methodological techniques and solutions to better understand and manage change. Multiple important new openings and heuristic devices, such as concepts, typologies, stage models and approaches, have been introduced to describe the mechanisms of change and to model change (e.g. Kotter, 1996; Beer & Nohria, 2000; Poole & Van de Ven, 2004; Van de Ven & Poole, 1995; 2005).

In the literature of organization studies, change is commonly defined as a *difference* in form, quality or state over time in an organizational entity. Change can also be seen as an *observed difference* between the before and after states of entities occurring in two different temporalities in an organizational entity. From this viewpoint, depicting change as difference always requires a comparison between the before and after states of the studied process (Van de Ven & Poole, 1995). A change paradigm aiming at radical changes currently dominates the change literature and methods applied in practice. In the change literature, planned and emergent views on organizational change are usually presented as distinct and competing, and the planned view dominates the field (Poole & Van de Ven, 2004; By, 2005).

Since the 1970s organizational analysis has been increasingly dominated by issues of managerial and administrative concerns (Benson, 1977). Since the 1980s, issues related to programs of organizational culture, organizational re-engineering, content, context, process and outcome have been under the scrutiny of organizational research (Jian, 2007: 7). During the 1980s and especially during the 1990s as the emphasis on cost effective performance started to rise, the intentional, planned view of change and the line of research following its principles became more influential and spread as a leading paradigm for improving organizational performance. In the approach, change is viewed as goal-rational, processual, episodic, abrupt and punctuated. Planned change efforts with well-prescribed goals are usually directed from the top down to the lower organizational levels in the form of specific change projects or programs (O'Neill & Sohal, 1999; By, 2005).

Increasingly from the 1990s onwards, industrial management principles, such as business processes, have gained acceptance and are seen as a critical

⁷ Ontology means that an organization is represented as being, and epistemology means the methods for studying change (see Van de Ven & Poole, 2005).

resource for middle managers and first-line supervisors in organizations to achieve performance goals in production (McKinley & Scherer, 2000). Business Process Re-engineering (BPR), based on industrial management principles aimed at radical productivity, efficiency, cost-effectiveness and performance improvements, provides an example of a popularly used approach which might be called a 'big bang' strategy for organizational change (Hammer, 1990; Hammer & Champy, 1993; Davenport & Short, 1990).

The traditional linear, "top-down" model of organizational change that assumes that changes happen in linear fashion and progressively has started to be questioned, especially in complex organizations (Styhre, 2002; Weick, 2000). Social systems can produce innovative, creative forms of interaction and operation which may deviate from original, predefined project goals (Mohrman, Tenkasi & Mohrman, 2003: 321). Previous research has questioned the dominant, top-down view and stated that the introduction of top-down instructed management models and tools, such as industrial management principles, has in fact, generated tensions and paradoxes in organizations (see e.g. Adler, Goldoftas & Levine, 1999). Top-down directed changes aiming at economic improvements often, for example, cause anxiety and resistance among employees (e.g. Hubbard, Mehan & Stein, 2006: 114). Studies focusing on organizational learning and competence building have stated that top-down directed, structural and system change initiatives will presumably not lead to fundamental organizational changes (Beer & Nohria, 2000: 15).

Despite economic as well as human resource investments, change projects do not often lead to the desired results and backfire at least to some extent, or in the worst case, completely fail (Kotter, 1995; Kotter & Schlesinger, 2008). It has been stated that only approximately one-third of organizational change efforts succeed, at least to some extent (Beer & Nohria, 2000: 11). As much as 60% (Burnes, 2004) to 70% of planned organizational change projects fail (Balogun & Hope Hailey, 2004; Beer & Nohria, 2000). A study on the impacts of re-engineering efforts revealed a 70% failure rate among conducted re-engineering projects. The failures of change projects have been explained to be caused by many different reasons, such as mismatches between managers' strategic choices and situational variables, poor project planning, the omission of predefined steps of change, change being implemented too quickly, poor management of resistance, and inconsistency and mistakes in the managers' use of planned change models (Kotter, 1995; Kotter & Schlesinger, 2008).

In capitalist welfare states, health care operates with opposing pressures related to the reconciliation efforts of social demands and needs and global capitalism, involving the adoption of a businesslike market-oriented management approach (Robey & Holmström, 2001). Health care organizations commonly apply top-down-directed approaches and models to improve practices.

Previous studies depict great difficulties in changing and managing health care with linear, predetermined techniques and models (Vakola & Rezgui, 2000; McNulty & Ferlie, 2004; Manos, Sattler & Alukal, 2006; Edwards, Nielsen Paarup & Jacobsen, 2009). In the Finnish health care system, various kinds of health care change projects have been carried out to improve the field when the need for changes is acute. However, the change projects have produced relatively minor adjustments within the situation addressed and have not in general produced the desired results (Tuomola, Idänpään-Heikkilä, Lehtonen & Puro, 2008).

The alternative views debating the planned view are in favor of analyzing emergent changes and making innovations directly on the front line, allowing for emergence, encouraging the wider applicability of small experiments and being aware of the continuous, cyclic nature of change. The studies look for real-world examples and the appearance of unplanned, unforeseen and unexpected small initiatives, actions and innovations that may have surprisingly large consequences (Weick, 2000). The need for change is often unpredictable and can be triggered by organizational crises (Burnes, 2004). Complexity, chaos, paradoxes, flexibility and fluidity have become increasingly used notions among organizational studies to capture the recent challenges and developments in the environmental reality (e.g. Eisenhardt, 2000).

The planned view brings important organizational devices, such as rules and protocols that importantly aid the organization in planning the challenging everyday work of complex health care contexts. The emergent view for its part takes into account other important issues, such as the unpredictability and uncontrollability of change. The emergent view perceives change as occurring as the environment unfolds and observes how humans try to cope and reactively adapt to existing situations. The combinatory change approaches, which apply the ideas and features of both the planned and the emergent views, are here seen as especially useful devices in trying to respond to the current challenges and complexity of the organizational world, specifically of health care in the public sector.

Searches for new combinatory views and concepts in order to understand change are here considered as important heuristic openings, but it is hard to find sufficient theoretical frameworks that would offer conceptual tools and models for depicting the multidimensionality of organizational change. The knowledge of effective *system-level* change management, which explores the boundaries between different public sector organizations and change initiatives that involve the public and networks beyond organizational units, is narrow (White, 2000: 165). A need exists for further empirical health care management studies and the evaluation of the *consequences* of the new management models and techniques that have been implemented (Hitt, Beamish, Jackson & Mathieu, 2007).

Among health care organizations and organization studies, the need is evident to further develop qualitatively oriented collaborative approaches and techniques for conducting change efforts.

The growing presence and significance of the literature on the unexpected, emergent nature of change and the difficulties of successfully carrying out planned change projects in health care provide an indication of the need for an expansion of the existing views on organizational change and change management. It is hard to find frameworks that take a dialectical, system-level view and provide multidimensional information on the consequences of health care change efforts.

What is also usually missing in previous studies on organizational change is an analysis of how exactly the multidimensionality of change is dealt with both theoretically and in practice. The existing studies do not usually connect organizational change to a larger underlying societal contradiction and the tensions and obstacles that take shape on the level of work activity. The frameworks that combine the development of theory and methodology and empirical explorations such as developmental interventions are hard to find.

Thus, a theoretical-methodological framework for the better understanding and managing of multidimensional organizational changes and contradictions needs developing. An activity-theoretical framework allows for the collective analysis of work activities and expansion of the existing activities. It provides a dialectical view and tools for dealing with contradictions and for creating system-level changes, and is thus applied in this study. I will next introduce the notion of organizational change management and then move on to introducing the planned, the emergent and the combinatory views on organizational change.

1.2 Organizational change management

It has been stated that in order to keep up in the competitive markets, an organization must change moderately at least once a year and enact a major change every four or five years (Kotter & Schlesinger, 2008). It has been widely agreed that successful change management is vital for organizations to survive and succeed in the constantly changing and competitive operational environment, both in large organizations (e.g. Pettigrew, Ferlie & McKee, 1992) and in small companies (e.g. Beer & Nohria, 2000; By, 2005). The role of change management has become increasingly important in the public sector and also in voluntary sectors facing new challenges (White, 2000).

Organizational *change management* has tried to answer how to manage change effectively by drawing on and often combining different ideas from different disciplines, mainly from business, systems engineering and psychology. Managers' strategizing of change process and the decision-making guiding

the process may happen explicitly or implicitly. Typically, in planning change efforts, managers need to envision the process, define who to involve in the process and choose adequate methods and techniques to carry out the process (Kotter & Schlesinger, 2008). Change management typically includes a process in which top managers, who envision and strategize change, and middle managers, who are responsible for operational management, continually try to renew an organization's direction, structure and capabilities to meet and to serve the constantly changing needs of internal and external customers (Moran & Brightman, 2001: 111).

Change management has become increasingly challenging in organizational contexts due to the rapid increases in information. The overall complexity of organizations and the pressures to manage them effectively have increased in recent decades. Unexpected and uncertain phenomena make organizational life increasingly turbulent and difficult to predict. Organizational change is difficult to carry out, and managers often fail at determining the optimal speed of change and do not tailor the speed of change to the situation. Organizations and also the practice of management have faced the necessity to undergo rapid changes. New government regulations, technological developments, demands for new products, globalization and increased competition have set managers new kinds of challenges for conducting organizational change (Kotter & Schlesinger, 2008). The recent global economic crises and natural disasters, reported intensively in the media, have created much uncertainty and destabilization and the need to better manage difficult situations (McKinley & Scherer, 2000).

Management and strategy implementation can be conducted in organizations in various ways and on various levels depending, for example, on the size, structure and objectives of the organization (Bourgeois and Brodwin, 1986). Organizational change initiatives have different means, purposes and goals, varying from economic objectives to enhancing organizational learning and work-related well-being (Beer & Nohria, 2000). During the 1970s and 1980s participatory trainings and educative events to enhance human-related issues such as capacity development, the promotion of work-related well-being, commitment and the motivation of individuals to work more efficiently increasingly started to become an essential part of organizational life. Human resource development (HRD) has become an increasingly obvious function in organizational life. HRD ideology carries the idea of the extension of human capital in organizations (e.g. Nadler, 1984).

Since the 1970s organizational and management consultancy has increasingly assisted managers to make decisions and to better manage change. Consulting companies often offer organizations packaged solutions that follow certain preplanned pathways for achieving change (Schaffer, 2000). By using the packaged models, a crucial aim of top management in organizations is to

create a fit or a match between an organization's internal structure and the state of its environment, and through this process, to increase efficiency and economic profit. Consultants can be seen as carriers of rationalization and marketization since the techniques and methods they use are often based on a planned view of change and follow management principles that emphasize cost-effectiveness (Pihlaja, 2005).

Increasing competitiveness in the markets brings higher pressures to respond quickly to the demands and simultaneously to globalize and to improve the quality of production (Beer & Nohria, 2000). The focal change agent in planned change efforts, following stage models, is the management or a consultant, who is usually an external change agent, launching different kinds of change initiatives from the top down to the employees. The management sets the goals for the change processes and thereafter evaluates their effects (Armenakis & Bedeian, 1999). As a guiding principle or underlying logic, stage models, which are frequently applied within the planned view, assume progress and mutual agreement between the management initiating change and the employees enacting it. The models typically suggest that change targets, i.e. employees, need to be prepared by the management or consultant for the change in order for the change efforts to succeed. It is assumed in the planned view of change that change takes place and will eventually lead to the intended consequences (Jaffe, Scott and Tobe, 1994). However, a large variety of bottom-up, participatory techniques for conducting change efforts have also been developed. These more often pay attention to the unexpected consequences and the complex, non-linear nature of organizational change. Studies on unintended consequences usually, importantly, view both managers and employees as change agents and acknowledge the tension between their reciprocal activities (Jian, 2007).

The need to better contend with the increasing competition has caused in recent decades a need to focus on organizational learning and to develop qualitatively new *learning* and *collaborative* change approaches and intervention methods (see Pihlaja, 2005). Change is often locally produced, consisting of small steps and alterations, ongoing improvisation, adaptation and adjustment processes in organizational contexts (Van de Ven & Poole, 1995; Orlikowski, 1996). Representatives of organizational management have also importantly been advised to create contexts for local experimentation (Beer & Nohria, 2000:16).

Dialogue, relationships and co-created organizational models have become a crucial factor in reshaping and holding together organizations (Adler & Hecksher, 2006). Various kinds of participatory intervention methodologies have been created and collaborative efforts have been conducted among organization and management studies to enhance critical communication, dialogue, negotiation, learning, boundary crossing, knotworking and the co-creation of activity

models between the management and employees in organizations. These types of bottom-up efforts are less common than change efforts directed from the top down.

A growing need for methodology development exists within the studies on organizational change management (By, 2005) and in health care. Scholars have not yet managed to create an approach to change management which would profoundly answer what types of changes organizations need and how to implement them (Burnes, 2004). The numerous studies on organizational change and change management involve multiple, often opposing change theories and approaches, which makes the field hard for managers to capture and often confusing for those participating in organizational change efforts (Kotter, 1995).

Which is the best, ultimate change approach for contemporary society has been debated in the academic literature and among different kinds of consultancy and development literature, especially literature that addresses issues such as complexity and constant change. Due to its complexity, there are no universal rules for organizational change management (Pettigrew & Whipp, 1993), and multiple approaches are applied (By, 2005). As the environment changes, the available approaches to organizational change and change management are continuously challenged to further develop, regenerate, reconceptualize and expand to better address the current questions. In the following, I will define the focus of this study and specify the structure of the book.

1.3 The focus and structure of this study

This study takes a multidimensional perspective on organizational change and focuses on organizational change efforts and their consequences and on managerial challenges in health care in the public sector in Finland. The articles of the study present case studies from Finnish health care organizations. The study uses ethnographic methodology to investigate the consequences of change efforts through multiple sites, levels and logics in health care organizations.

This dissertation is comprised of two parts. The first part is a summary and the second part consists of articles published in international journals and books. Nine chapters comprise the first part, forming a summary. Theoretical and methodological development is mainly conducted in the first part of the dissertation. The second part consists of the five scientific articles.

The first, introductory chapter introduces the reader to the research topic and provides an overview of the structure of the book. The second chapter is the story of the evolution of research on organizational change based on the focal literature on organizational change. This chapter shows how organizational changes often emerge as unpredictable and the consequences of change efforts

may emerge as intended and unintended. In the third chapter, the research questions, the research design and a summary of the published articles are presented. The fourth chapter describes the theoretical groundings of the multi-dimensionality emphasized in the dissertation. In this chapter, the dimensions of multi-site, multi-level and multi-logic change are presented, through a review of previous studies. The fifth chapter uses object historical data in depicting health care as a context for organizational change. This chapter describes the special features of the Finnish health care system and explains how change management and evaluation are typically conducted. In the sixth chapter the four research sites and data from Finnish health care are presented, involving the data analysis methods conducted in the study. The seventh chapter presents the ethnographic-interventionist methodology of the study and the proceeding of the data collection is explained. The central findings of the five empirical articles are presented in the eighth chapter. The final chapter, the ninth chapter, concludes the study by presenting an expanded activity-theoretical framework for organizational change and change management.

The five articles are included in the dissertation after the summary section. The articles of the study each detect health care activities and change efforts in multiple organizational sites, on multiple organizational levels and from multiple organizational logics. Each article depicts a dialectical tension which appears in the literature on organizational change, health care intervention methods and the management of medical practices. In the empirical articles, the study first contrasts normative care activity protocols (i.e. a document depicting a normative care pathway) and the actual patient care activities taking shape in a hospital (Article I). Second, the study scrutinizes and tries to transcend a dichotomy between a process efficiency intervention and a community building intervention (Article II). Third, a rare employee-initiated change effort and tool creation process between the opposing organizational worlds of evaluation and front line work is examined (Article III). Then, methodological concepts and tools are developed to retrospectively trace the long-term consequences of organizational change efforts in local sites (Article IV). By tracing the long-term consequences of organizational change efforts, the study tries to overcome the opposition between the continuity and discontinuity of organizational change and learning by offering ideas for bridging organizational change efforts across time to prevent and overcome breaks in learning processes (Article V).

The data of this study consists of interviews, observations, meetings, statistics and documents, and complementary material such as photographs and e-mails collected from four health care organizations in Finland. The work activity of medical practitioners taking care of patients was followed, interviewed and observed. In addition, managers representing upper and operative management and patients (i.e. clients) were interviewed. The data collection has

been conducted during the years 2004-2010, before, in and after change efforts, of which two have been carried out in specialized care and two in primary care settings in Finland. A surgical operating unit at a university hospital forms the main research site. Other sites are a unit for internal diseases at a university hospital, a health centre and a health consortium.

The data of the study includes 180 interviews, conducted as planned and as *in situ* interviews during ethnographic field research, 57 days of observation, 23 meetings, statistics from the years 2006–2008 provided by the surgical operating unit at a university hospital, around 1000 pages of documents, 637 pages of field notes, 313 e-mails and phone calls, and hundreds of photographs. The following photograph (Figure 1) is an overview of one of the operation theatres at the main research site to illustrate the research context and the position of the researcher. The researcher is conducting ethnographic fieldwork and is the person in the photograph holding a notebook.



Figure 1. An overview of one of the operation theatres at the main research site, the surgical operating unit at a university hospital

2 THE EVOLUTION OF RESEARCH ON ORGANIZATIONAL CHANGE

Over the years, scholars in the field of management have, by and large, borrowed many concepts and theories from other fields to explain and provide alternative views to better understand organizational change (Van de Ven & Poole, 1995). However, in the literature the planned and emergent views of organizational change have remained the two dominant, opposing perspectives. In the top-down-directed, planned view of organizational change, the management typically has extensive power and control over an organization. On the contrary, the bottom-up-oriented, emergent view of organizational change emphasizes participation and decentralized management. Studies combining the distinct, competing views have recently gained increasing popularity in trying to further explain organizational change. Combinatory approaches, for example, highlight the importance of combining both economic and human aspects in creating change (Van de Ven & Poole, 1995; 2005; Beer & Nohria, 2000).

Next, I will introduce the predominant approaches to organizational change, examine what these views have to offer to the study of organizational change and review the differences between these views. I will use the predominant distinction, created by previous research, between the planned and the emergent view as an aid and as generic categories with which to introduce the different theories. In this chapter, I am presenting the literature representing the essential elements of both views. It is here acknowledged that within the planned and emergent views are also a large variety of views. Later in this section, I will introduce the basic idea of dialectical thinking, which this study is derived from, and then position the study in the research on organizational change.

2.1 Planned organizational change

The *planned view* of change ontologically perceives reality as a rather stable constellation of material substance or things. Change is the dependent variable, explained by independent variables that cause change in the dependent variable. Change is seen as a measurable relationship between variables and as a development or adaptation to the existing reality (see e.g. Emery & Trist, 1965, Burke & Litwin, 1992). The planned view of organizational change tries to explain the process that brings about change and in so doing tries to offer process models for efficient change management. Furthermore, the planned approach emphasizes the importance of understanding the different states which

an organization will have to go through in order to move from an unsatisfactory state to an identified desired state (Eldrod II & Tippet, 2002).

The planned view of organizational change was introduced in the 1940s by social scientist Kurt Lewin (1898–1947), who focused on group dynamics and is seen as a father figure of action research. Lewin created a rational, goal-oriented model of change which aims at the enhancement of organizational effectiveness and viability. The model's basic idea is that an organization needs to execute change by proceeding from one stage to another stepwise, through planned organization-wide actions, namely 1) unfreezing, 2) moving to a new level and 3) freezing the new level. By using a stage model, it is possible for the organization to tackle the opposing forces enhancing and hindering change, the enhancing forces being the change initiatives launched by the management and the hindering forces being located among the employees within the organization. Change is assumed to take place when one set of forces is greater than the other, i.e. when the old behavior is discarded and the new is mutually agreed upon and accepted (Lewin, 1947).

The practice of organizational development (OD), informed by the planned view of change, started to become an increasingly recognized field in the early 1950s. Organizational development is concerned with changes in organizations' cultures and is largely focused on organizational behavioral changes as well as changes in the schemata of individuals⁸ (Bartunek & Moch, 1987). From the 1960s onwards, the planned view gained recognition and a strong status among studies of change. Lewin's (1947) classical model of organizational change has been further developed; scholars have, for example, added more stages to it and started to emphasize the importance of the diffusion of the achieved changes in organizations (see e.g. Kotter, 1995; 1996; Kanter, Stein & Jick, 1992). During its development, organizational development has expanded its unit of analysis from individuals to groups and interpersonal and intergroup communication, the making of shared meanings, negotiation, participation, and structural and political issues. Already since the 1980s organizational development interventions have emphasized the importance of employee involvement in decision-making;

⁸ Schemata are frames of reference, generated historically and collectively shared by different sizes of groups of people, which can be viewed as "templates that, when pressed against experience, give it form and meaning." Mental schemas, developed since childhood, over years, guide humans' interpretation of reality and their behavior. Schemata serve several important functions, such as enabling individuals to identify entities as they encounter them and specify their relationships and focusing attention to grasp essential information in the flow of information. Schemata are not necessarily stable over time. Schemata guide the meaning-making of individuals in organizational contexts and affect the conduction of organizational interventions (i.e. change efforts) (see Bartunek & Moch, 1987; 1994).

yet it is acknowledged that employee involvement may cause conflicts (Bartunek & Moch, 1987: 487).

In the mid 1990s, Van de Ven and Poole (1995) introduced a useful meta-level theoretical scheme for classifying organizational change and developmental progressions. They present four basic types of process theories. Their typology of four accounts of change processes includes 1) life-cycle, 2) evolution, 3) teleological and 4) dialectical theories on organizational change, which each have specific characteristics. The four process theories, incorporated with other relevant literature, are presented in the following sections. According to Van de Ven and Poole (1995), the life-cycle and evolution theories apply prescribed (here respectively named as planned and top-down directed) modes of change and the teleological and dialectical theories apply constructive (here respectively named as emergent and bottom-up oriented) modes of change.

Life-cycle theory, including its different applications, is one of the most commonly used theories in the management literature to explain organizational development. The studies often focus on the development of organizations (i.e. the life cycle), involving stages such as the startup phase, growth, maturity and decline (Van de Ven & Poole, 1995: 513). The studies applying different life-cycle theories to change are usually psychological-developmental life-cycle theories and organizational life-cycle and evolutionary theories. Psychological-developmental studies are often well framed, focusing, for instance, on individual psychological development processes. Developmental theories, such as Piaget's (1975) stage theory of child development (i.e. Piagetian constructivism), include prefigured, irreversible steps in the life of an individual and provide examples of psychological life-cycle theories.

In addition to different kinds of stage theories, life-cycle theories include developmentalism, biogenesis and ontogenesis (Van de Ven & Poole, 1995), which are applied in studies in the fields of sociology, development, psychology, educational psychology and social psychology. Developmentalism stresses the progressive nature and causal role of ideas (i.e. historically developed motive forces) in human affairs. Multidisciplinary studies often take an extended view focusing on biographical (biogenesis) processes and individual developmental (ontogenesis) processes intertwined with environmental factors, such as socialization processes, cultural contexts of social and historical change, and population processes (see e.g. Featherman & Lerner, 1985).

Different kinds of linear, preplanned institutional change programs, aiming at organizational development, provide common examples of the use of the life-cycle theory of social change in contemporary organizations. The institutional rules, programs and projects and the logic guiding them are viewed as mediating organizational development. Change is viewed as imminent and expected to progress in a cyclical manner, through sequences or cumulative

implemented events following one another in a prescribed order. Life-cycle theories typically frame their unit of analysis into a single entity and its goals. The focuses in the studies vary from an individual's job and career to the life cycles of products or the whole organization. An organization is viewed by life-cycle theorists as a single entity with an inherent consensus and a congruent voice (Van de Ven & Poole, 1995).

Evolutionary theories view organizations as multiple entities and as driven by causation and proceeding stepwise, following a prescribed program or a code that regulates the process. The evolutionary theories of social change derive from the idea of the organic, intellectual growth of a society. The studies may focus on the micro- to macro-level analysis of, for example, intergenerational processes or learning and imitation in specific communities and in the broader society (Van de Ven & Poole, 1995: 518–519).

Evolutionary theories often follow the so-called punctuated equilibrium model in their studies of change. From this view organizations are perceived as rather static entities in which small, incremental changes normally take shape and slowly accumulate. Change can be depicted as statistical accumulation. Across a lengthy time period, as a consequence of the accumulation, the equilibrium is punctuated as incremental changes lead to radical changes. Scholars applying the punctuated equilibrium model, which is based on the planned view of organizational change, typically aim at radical transformations on the macro-level of societal changes and large-scale institutional changes, such as on the level of entire industries (Gersick, 1991; Romanelli & Tushman, 1994).

The practice of organizational development is interested in planning and achieving change. Organizational development studies orders of change which might result from development. The use of life-cycle and evolutionary theories usually creates what is called first-order change (on first-order change, see Watzlawick, Weakland & Fisch, 1974; Argyris & Schön, 1978; Bartunek & Moch, 1987; 1994). Among studies of organizational development, Argyris and Schön (1978) have made a distinction between the first-order or single-loop learning and second-order or double-loop learning facilitated by organizational consultants. First-order change means the conduction of modifications in the change model being used, i.e. in the representations of incremental change. Second-order change, on the other hand, means modification of the framework used and change in the understanding of the framework, i.e. a replacement of the old cognitive schemata with new, better schemata. According to the idea of single-loop learning, managers, for instance, need to judge whether first-order or second-order change is required in an organization and apply the best fitting level to the current change need (Van de Ven & Poole, 1995: 522–524).

Research on planned organizational change has rapidly grown in the last two decades. In general, the models based on the planned view can be characterized

as diagnostic and preventive, aiming at predicting changes in individual and organizational behavior. The models differentiate among various characteristics of change and, for instance, calculate the occurrence rate of change. The models then offer guidance and guidelines for successful change management. They normally offer simulation modules, which usually focus on strategies, organizational structures and systems (Beer & Nohria, 2000: 7), assist managers and other change agents in predicting individuals' behavior and reactions, address motivational issues, and help managers to create a better fit between the organization and its environment. For instance, different kinds of personnel reward programs and incentives from the management have been established to enhance the success of top-down change initiatives. This aims at maximizing the positive project outcomes and success and preventing and minimizing the negative consequences, such as failure, tensions, contradictions and resistance to change (Damanpour, 1991; Beer & Nohria, 2000).

The benefit of the planned view of change is that it sets well-framed time limits on projects and is therefore cost-effective (Beer & Nohria, 2000). The success of companies using the planned view of change has been widely recognized, especially in the US during the 1980s and 1990s. Top-down-directed, singular approaches following the planned view of change have been depicted as especially effective in complex settings and for firms struggling with deep crises, since in the attempt to overcome a crisis there may not be time for any kind of consensus-building efforts with the different organizational levels, for instance, with the employees. According to this view, in a crisis situation, decisions, tight restructuring⁹ and efficient resource allocation need to be carried out clearly from the top down (Pettigrew & Fenton, 2000; Ghoshal & Bartlett, 2000).

Those in favor of the planned view have argued that a well-planned change is more likely to produce desired results than a more spontaneous, emergent view (Ghoshal & Bartlett, 2000). An ongoing, emergent change approach would have difficulties in meeting a budget, as there is no clear ending to the change effort (e.g. Beer & Nohria, 2000). The planned view has criticized the emergent view for lacking coherence and for being diverse and fragmented in its model and technique provision (By, 2005: 375). It has been stated that planned change incentives that connect the management's and shareholders' interests are most

⁹ Organizational restructuring initiated from the top down, using the planned view of change, is a common way to change today's organizations, both in the private and public sector. The restructuring may involve mergers, acquisition, layoffs and other large-scale change efforts (McKinley & Scherer, 2000). Intended consequences (e.g. Bowman, Singh, Useem & Bhadury, 1999) and unintended consequences (e.g. Brown & Eisenhardt, 1997; McKinley & Scherer, 2000; Vaara & Monin, 2010) of organizational restructuring have been analyzed in previous studies.

likely to lead to organizational change (Jensen, 2000). However, the planned view of organizational change and its superiority has been debated by many scholars. The next presented alternative view of organizations and organizational change questions the planned view and focuses on the emergent, unpredictable and uncontrollable nature of organizational change.

2.2 Emergent organizational change

The planned view usually takes a macro-level view of change and focuses on managerial strategies and well-framed programs and projects that follow stage models (Burnes, 2004). Despite the advantages of the planned view, its superiority to other methods of organizational change has, since the 1990s, been questioned by many organizational scholars. The increasing complexity, unpredictability and uncontrollability of local organizational systems operating in turbulent environments make change efforts and their management increasingly challenging and call for the development of alternative, more flexible techniques (e.g. Kanter et al., 1992; Robertson, Roberts & Porras, 1993; Orlikowski, 1996; Beer & Eisenstat, 1996; Burnes, 2004). In recent years, for instance, proponents of complexity theory and chaos theory have, taking a critical view, addressed theories of organizational change and paid important attention to critical incidents and unintended consequences (on complexity theory, see e.g. Dooley, 2004; Styhre, 2002).

The frequently applied punctuated equilibrium model aiming at planned, incremental changes has been criticized for oversimplifying and overtheorizing change, being static, and not being able to meet the needs and challenges of practical management, which nowadays usually requires constant readiness, reinvention and adaptation. Organizational processes are often viewed as static or in a static state, which easily reduces the complexity of processes and neglects the dynamic movement between stability and change. Change is much more complicated, ongoing, distributed and multifaceted than the well-framed change models, such as the punctuated equilibrium model, depict (Burnes, 2004).

In the last two decades the *emergent* view of organizational change has gained leverage in the academic literature. The emergent view brings new angles and outlooks to the study of change and importantly emphasizes the unpredictable nature of change and the unexpected, unintended consequences of change efforts. In contrast to the planned view, the emergent view sees processes and change not just as devices of efficiency improvement, but as adding perspective and extending our understanding of organizational change and learning (e.g. Van de Ven & Poole, 1995; 2005).

Scholars taking an emergent stance state that the rapid and transformational organizational changes required in today's competitive business environment cannot be achieved using the planned change approach (Kotter, 1995). The desired outcomes may be achieved, but it is not possible to entirely define the consequences of the conducted interventions (White, 2000). Rather than static entities, organizations need to be depicted as nonlinear, dynamic systems.¹⁰ Taking a linear action in these systems often causes unintended consequences. Organizational change strategies should be flexible enough to allow both planned and emergent outcomes and to foster innovation (Senge, 2000).

The life-cycle and evolutionary theories emphasizing deterministic causation have been challenged with some alternative views, such as *teleological* and *dialectical* theories informed by constructivism (Van de Ven & Poole, 2005). Teleological and dialectical theories can be considered as emergent and usually apply a constructive mode of change. The constructive views emphasize the purposiveness of the actor in the change processes. Socially constructed purposes and goals are seen as engines of change. Teleological and dialectical theories emphasize the dynamically evolving, processual nature of reality and change, and often take a narrative stance on change. The focus is then on historical narratives, in which change and development evolve as a processual movement of phases of organizing processes and becoming (Polkinghorne, 1988; Tsoukas & Hatch, 2001; Tsoukas, 2005).

Next to life-cycle theories, teleological theories are commonly applied in the management literature. Like life-cycle theories, teleological theories also frame their unit of analysis into a single entity, with common goals, consensus and a congruent voice (Van de Ven & Poole, 1995). Scholars taking a teleological stance on organizational change expect that change efforts produce something novel and creative and lead to progress. Change is often unforeseeable and cannot always be fully planned or divided into phases in advance. Causality is only part of the process, as other forces influence the sequence of events taking shape in different temporalities (Poole, Van de Ven, Dooley & Holmes, 2000).

Social constructionists and representatives of symbolic interactionism often apply teleological theories as a resource. Teleological approaches typically state that social construction and sense-making are required to form a common goal and to proceed with change processes. The success of the project is usually evaluated in contrast to the original project goals, and the goals are reflected

¹⁰ As early as the 1950s, some scholars have emphasized system-level thinking. The system-level view transcends the view that focuses on certain parts of organizations, viewing an organization as a complex system of interacting elements and stakeholders, maintaining mutually exclusive structures, such as stability and instability (Hatch, 1997).

upon and reconstructed on the basis of the lessons learned from previous projects to enhance meaningful collaboration and consensus between parties (Van de Ven & Poole, 1995). The use of teleological and dialectical theories usually creates second-order change; however, the many scholars of these theories integrate multiple theoretical and methodological, explanatory resources that rarely exist in their very pure form (Watzlawick et al. 1974).

Emergence stands for bottom-up and interactive. A phenomenon originating from cognition, affect, behavior or another individual characteristic and manifested as a collective phenomenon is emergent. Emergence is important for understanding how individuals contribute to organizational phenomena, such as relationships and effectiveness (Klein & Kozlowski, 2000). From an emergent stance, change is viewed as ongoing and 'open ended'. Change is seen as emerging from the grassroots of the organization, i.e. from the ground up or the bottom up. It is characterized as a complex and uncertain learning process (By, 2005).

Scholars taking a planned view of organizational change have been confronted with various kinds of cyclic change models more suitable for dealing with the paradoxes and irrationality taking shape in organizations (Lewis, 2000). The models also include steps or stages, such as the models applied in the planned view of organizational change. However, change is not expected to take shape expectedly in a linear fashion, and it is accepted that the consequences of conducted change efforts can emerge as unexpected and multiple. Some organizational scholars suggest an open framework for change that emphasizes adaptation, adjustments and improvisation processes in local organizational contexts (e.g. Orlikowski, 1996; Van de Ven & Poole, 1995; also Hutchins, 1992).

The emergent view of organizations has asked what an organization actually is. Some scholars have stated that rather than *being*, organizations should be seen as becoming, emergent realities. An emerging need for process thinking in research on strategic organization has been addressed by several authors. From an emergent perspective, continuously evolving processes make up constantly moving (i.e. becoming) organizations. In this view, organizations are seen as an emergent property of change and "an attempt to order the intrinsic flux of human action" and "a pattern that is constituted, shaped, emerging from change" (Tsoukas & Chia, 2002: 570). From this viewpoint, processes need to be interpreted in relation to their organizational context (see Hernes & Weik, 2007).

Organizations are seen as continuing processes of self-realization or reinterpretations of themselves (Taylor & Van Every, 2000). A process orientation is currently widely adopted to organization studies focusing on organizational sense-making, change and development. Several change and innovation studies

have followed a process method (e.g. Van de Ven & Poole, 1995 & 2005; Pettigrew, 1995; Dawson, 1997; Weick & Quinn, 1999; Tsoukas & Chia, 2002; Langley, 2007; Langley, Dennis & Lamothe, 2003; Hernes & Weik, 2007).

Members of an organization react to organizational change in various ways (Kotter & Schlesinger, 2008). The planned view of change has paid relatively little attention to the sense- and meaning-making of those involved in change processes (Bartunek & Moch, 1987: 494). Studies taking an emergent stance have explored the affective and behavioral impacts of change efforts, looking, for instance, at the nature of employees' responses to top-down-initiated organizational changes (Armenakis & Bedeian, 1999; Piderit, 2000). Previous research has paid important attention to individuals' reactions to change, such as their feelings of ambivalence about the meaningfulness of change efforts. Some studies importantly point out that the changes people experience as meaningful and as making sense are more likely to proceed and be sustained (Weick, 2000).

Organizational change always disturbs the status quo and is therefore often feared by the employees and experienced as a threat (Kotter & Schlesinger, 2008). Organizational change efforts may fail if the participants involved do not understand, appreciate, commit to and try to make change happen (Kotter, 1995; Tenkasi, Mohrman & Mohrman, 1998; Mohrman et al., 2003). In order to implement top-down-initiated change, such as reforms, implementation needs to be experienced as meaningful among the practitioners. If the required changes do not make sense to those enacting them, they might strongly resist and refuse to implement the changes. The end result of the implementation process of change is rarely a total agreement between the management initiating change and the employees enacting it (Hubbard et al., 2006). Even the most detailed project descriptions do not usually take the exact form planned for them when they are enacted in real working life situations (de Rond & Bouchikhi, 2004; Jian, 2007).

Among the field of operational management, it has been widely recognized that organizational change requires the involvement and participation of practitioners (McKinley & Scherer, 2000). From an emergent viewpoint, organizational intervention techniques should be designed to include the participation of a large set of stakeholders representing different voices and local levels of the system (Emery & Purser, 1996). Managers emphasizing an emergent view of change conduct less central planning, try to enhance employee commitment to change and allow innovation (Beer & Nohria, 2000: 19).

Communication, negotiation and the reconstruction of meaning have become recognized as important aspects that affect the consequences of change processes (Jian, 2007). It is crucially important that managers communicate with the members of the organization involved in change efforts. A core managerial duty is to aid participants to make connections between change efforts

and their outcomes. Also, future visions need to be easy to communicate and to piece together (Kotter, 1995). The emphasis in the change efforts can be, for example, on enabling the self-organization and production of useful coping mechanisms (Emery & Purser, 1996; Brown & Eisenhardt, 1997). This bottom-up-directed process engages the system in double-loop learning in which feedback loops enable the participants to reflect on their actions and to change (Senge, 1990).

Past experiences and memories play an important role in the translation process, and how the meaning of change is communicated and negotiated between management and employees has impacts on the consequences of the change efforts. Change needs to be discussed and reflected upon with the employees to help them manage the uncertainty related to change. The new only starts to make sense to them when it is initiated in action (Jian, 2007: 22). According to some scholars, fundamental change requires a transfer of meaning systems, unlearning of the old habits and the creation of new organizational schemata and new behavior for the front line workers in order to appropriate the change and to fit it into the new situation (Tenkasi et al., 1998; Mohrman et al., 2003).

The emergent view sees successful change as dependent on the creation of a shared understanding of the surrounding complexity, identification of the organization's readiness for change, identification of the different change options and the facilitation of change (Burnes, 2004). In order for change efforts to succeed, it is crucial to build a psychological contract between the management and the employees (Hirschhorn, 2000). The experience of psychological safety is often achieved when a person can predict forthcoming events to a certain extent. A large amount of unpredictability often causes uncertainty, loss of control and even experiences of chaos. Both *stability* and *change* are necessary for organizations, and the core issue is to try to find ways to balance and manage the opposing forces. Stability enables adaptation and flexibility as the environment becomes more complex. The tension between stability and change is always a part of organizational life and needs to be acknowledged to view its opportunities and challenges (Carrie & Barry, 2000; also Tsoukas & Chia, 2002).

The emergent view is useful, as it represents a (self-) critical change management view focusing on the unpredictability and unintended consequences influencing organizational change processes and the challenges that they set for change management. Emergent process views highlight that organizational change is achieved as a combination of multiple variables (By, 2005). The recognition of multiplicity takes the emergent view beyond the planned view, focusing on single, well-framed processes.

It has been acknowledged that the planned and the emergent views both provide necessary frameworks for managing change in organizations and that both could benefit from each other (Beer & Nohria, 2000; also White, 2000). As the following section illustrates, the literature on organization studies has introduced promising combinatory approaches and concepts, constructs and discourses capturing features predominant in contemporary organizational change.

2.3 Combinatory approaches for studying organizational change

The field of organization studies focusing on change has become increasingly multidisciplinary. As the number of approaches has increased, the field of studies on organizational change has often become defined as dispersed, lacking coherence and shared theoretical models and concepts. A number of scholars view the theories, research and practice as diverse and therefore as complex to handle (Beer & Nohria, 2000; Glynn, Barr & Dacin, 2000; Poole & Van de Ven, 2004; By, 2005).

Some scholars have introduced combinations of two or more, even opposing, views to better capture the complexity issues and to more effectively produce changes (see Van de Ven & Poole, 1995 & 2005; Beer & Nohria, 2000; Burke, 2004; Adler & Heckscher, 2006). It has been stated that further theoretical development of an integrative conceptual framework has become an imperative in order to improve the difficult situation managers are facing in the ever-complex and unpredictable organizational world. Wider and more usable knowledge of organizational change would have significant payoffs, for instance, for the enhancement of work-related well-being (Beer & Nohria, 2000).

Handbooks and literature connecting the disperse field and building integrative change theories have become important, yet only a few exist (see Berger, Sikora & Berger, 1994; Poole et al., 2000; Poole & Van de Ven, 2004; Pettigrew, Thomas & Whittington, 2002; Tsoukas & Knudsen, 2003). Connections need to be established between the important new developments and concepts among studies of change. In the following, I will introduce some specific studies which importantly combine the planned and the emergent views of organizational change.

Beer and Nohria's (2000) framework combines the planned (E) and emergent (O) views of organizational change to solve the tension between the two views. 'Theory E' represents a planned view of organizational change, aiming at the creation of economic value, and 'theory O' represents a less planned view of change, aiming at organizational transformations through the development of the organization's human capability to implement organizational strategy effi-

ciently. In their combinatory approach, theory E and theory O both have some important objectives that management implicitly or explicitly intends to achieve; therefore, it is important to combine both sides. In addition, Beer and Nohria (2000: 8, 16) describe the dominant management approach, focusing on strategies, structures and systems as the “*hardware*” of the organization. In contrast, the “*software*” includes local experimentation that creates change and employees’ attitudes and behavior. Less formal attention has been paid to examining the software than the hardware of the organizations.

Correspondingly, Adler and Heckscher (2006) depict the history of corporate management as a zigzag path oscillating between two orientations, *control* and *commitment*, from emphasizing commitment to a stronger emphasis on control and back. In this movement, a trend towards collaborative interdependence can be depicted (Adler, 2001). *Efficiency* and *flexibility* both need to be viewed as important factors in achieving organizational change (see Adler et al., 1999).

Van de Ven and Poole (1995) importantly take a multiperspective view of organizational change. Their famous meta-level theoretical scheme distinguishes four different ontological and epistemological stances, namely the life-cycle, evolution, teleological and dialectical theories on organizational change, to explain why and how organizational change happens. The four basic theories may serve as building blocks for explaining processes of change in organizations. The life-cycle, evolution, teleological and dialectical theories on organizational change each represent different sequences of change events operating on different organizational levels and driven by different conceptual motors (Van de Ven & Poole, 1995: 515).

Van de Ven and Poole’s (1995) framework can be viewed as combinatory since the life-cycle, evolution, teleological and dialectical theories, which apply different quantitative and qualitative methods, are considered in a meta-level theoretical scheme as overlapping and as including processual explanations of organizational change. Van de Ven and Poole (2005) further elaborate their view on processual organizational research in their article “Alternative Approaches for Studying Organizational Change.” The study importantly combines epistemologically and ontologically contesting views on organizational change and raises issues of causality and temporality related to the different processual worldviews on organizational change. The scholars build their typology of alternative approaches for studying organizational change on variance approaches and process approaches, and conduct a comparison between the two stances. The authors see the competing views as complementary and suggest that a single analysis should combine elements from both perspectives. Their basic argument is that to better understand organizational change, combinatory views focusing on different issues are needed.

The combination of planned and emergent change strategies has increased in organization studies; however, it may lead to problems. Previous studies indicate that the combination of strategies may cause uneasiness, confusion, debilitation and tensions among the parties involved in change processes. The combining of the distinct views needs to be done carefully in a sequenced or simultaneous way, not arbitrarily or halfheartedly. The tension between the theories remains often unsolved when attempts to integrate the different theories take place. The combinatory approaches do not usually deal with the underlying, deep ontological and epistemological differences that the approaches hold. Mere combining does not necessarily mean that the organization is provided with a helpful solution. On the contrary, it may become even more confused. A solid conceptual framework which could potentially be used in transcending the opposing theories needs to be built (see Beer & Nohria, 2000: 20).

Van de Ven and Poole suggest that dialectical theories are especially useful in examining organizations as complex, heterogeneous systems consisting of multiple entities (Van de Ven & Poole, 1995; Poole & Van de Ven, 2004). The use of the dialectical perspective is, however, rare among process studies, and its implications need further examination (de Rond and Bouchikhi, 2004). This study contributes to this specific demand. In this study, a dialectical activity-theoretical methodology is seen as a potential framework for transcending the dichotomy between ontologically and epistemologically different approaches since it focuses on the analysis of the tensions and contradictions underlying them. In the following, I examine some of the previous dialectical studies conducted among organization studies.

2.4 Dialectical approaches in organization studies

The groundbreaking scholar who applied a dialectical view to organization studies, J. K. Benson (1977), depicts the core commitment and the dynamic nature of dialectical thinking in the following way.

A dialectical view is fundamentally committed to the concept of process. The social world is a continuous state of becoming –social arrangements which seem fixed and permanent are temporary, arbitrary patterns and any observed social pattern are regarded as one among many possibilities. Theoretical attention is focused upon the transformation through which one set of arrangements gives way to another. Dialectical analysis involves a search for fundamental principles which account for the emergence and dissolution of specific social orders.

(Benson, 1977: 4)

According to Benson (1977), the act of social construction and production in the whole of an organization is continuous, and an organization is always a product of its past constructions. An organization is part of a larger societal environment and pattern. The production of social structure is always guided and constrained by social context and social structure, which are intertwined. The components of an organizational system are partially controlled by authorities, such as management, and partially autonomous, operating in an unrationalized way. The direction of change is not only under the control of management.

Dialectical studies typically analyze organizational phenomena, such as systematic relationships, uncover tensions and contradictions emerging in production, and detect possibilities and mechanisms for change on the multiple levels on which participants arrange their activities. Dialectical approaches go beyond reflexivity by focusing on activity conducted in the transformation and reproduction of organizations, as well as on reflexive moments. The studies usually take a critical, emancipatory stance and aim at reaching beyond the dichotomic compositions in complex organizations. The analysis of processes involved in social production and reproduction, through which organizational arrangements are produced and maintained, is typical in dialectical studies. The studies are not interested in causal connections but collect evidence of historically formed relationships, the mediation of interests and social processes (Benson, 1977: 4–10).

Previous organization studies have often treated the resulting resistance and contradictions as a barrier to productivity (Wendt, 1998). However, resistance to change and contradictions can also be seen as potentially positive things enhancing organizational change (Kotter, 1995; Van de Ven & Poole, 1995; Kindred, 2000; Piderit, 2000). In fact, resistance to change maintains the status quo and is therefore manifested through different kinds of emotional, cognitive and intentional reactions in organizations (Piderit, 2000: 783).

Dialectical studies accommodate oppositions and view change as emerging from historically accumulated contradictions. The research interest is on opposition and resistance, rather than on expecting the direct, deterministic effects of implementation of change (Robey & Holmström, 2001: 27). As the following excerpt illustrates, a dialectical analysis applies the logic of opposition as a guiding principle that seeks to explain organizational change.

Dialectical analysis focuses on contradictions, the relations between them, and the opposites and relations that constitute them. In contrast to a logic of determination, a logic of opposition seeks to explain organizational change by identifying forces both promoting and inhibiting change.

(Robey & Holmström, 2001: 22)

Different approaches to organizations incorporate the logic of opposition. Dialectical research has been conducted among organization studies in the study of organizations and institutions. For example, organizational politics, organizational culture, institutional theory and organizational learning theories apply dialectical theories to explain social change (Robey & Holmström, 2001, also Powell & DiMaggio, 1991).

Previous studies have focused, for example, on institutional contradictions and praxis (Seo & Creed, 2002; Seo, Putnam & Bartunek, 2004), interorganizational relations and organizational networks (Zeitzi, 1980), strategic alliances (de Rond & Bouchikhi, 2004), governance transformations and analysis of social change (Robey & Holmström, 2001), individually experienced double binds (Kerosuo, 2011), employee reactions to organizational tensions (Tracy, 2004), and contradictory consequences of organizational efforts (Robey & Boudreau, 1999). One possible response to conflicting organizational tensions can be extreme indecision and paralysis of the activity (Watzlawick, Beavin & Jackson, 1967; Tracy, 2004). There is a need for further empirical studies on employees' reactions to organizational tensions and on how people deal with organizational contradictions in practice (Tracy, 2004).

This study produces theoretically grounded empirical knowledge on dialectical oppositions and human activity taking place in health care settings. The logic of opposition, which places the opposing organizational forces into interplay, is applied in this study. The principle of consequentiality directs this study. In the following section, before further positioning this study, I will illuminate what is meant by consequences in relation to organizational change efforts in the previous literature.

2.5 The consequences of organizational change efforts

Organization studies have paid attention to different types of consequences of organizational change efforts. In pluralistic, ever-changing organizations, the outcomes of change efforts and change processes can be positive and negative for employees and organizations; further, they may be intended and unintended (Eisenhardt, 2000). Organizational change literature traditionally emphasises survival and profitability as intended outcomes of change efforts (Armenakis & Bedeian, 1999). Intended consequences can be defined as “the objectives of the action, the targets toward which it is oriented, and the motives that stimulate it” (McKinley & Scherer, 2000: 735).

The planned view emphasizes the careful preplanning of change initiatives and pays attention to the intended consequences of the conducted efforts. The outcomes are measured against the original plans and evaluated, with different quantitative measuring systems, by assessing whether the goals were success-

fully met. The planned view perceives positive consequences as intended and negative as unintended. The consequences may, for example, be financial or emotional in nature (McKinley & Scherer, 2000).

As the planned view dominates organizational research, the intended consequences are the ones most often studied. Despite the fact that the intended goal-effect approach currently dominates strategic management and organization theory, it has been proved difficult to measure whether the intended outcomes are actually realized in real organizational contexts (White, 2000: 165). Some previous studies indicate that planned change approaches do not lead to long-lasting consequences and benefits. On the contrary, they often cause defensive behavior and needs for change (By, 2005).

It has been widely acknowledged and admitted that planned change projects or programs quite often face various kinds of unanticipated factors and consequences influencing the progression of the processes, such as unexpected external factors or issues rising from within an organization (Quinn & Cameron, 1988; Orlikowski, 1996; Streeck & Thelen, 2005). It is not easy to sustain change, and most planned change projects fail (e.g. Kotter, 1995; Balogun & Hope Hailey, 2004; Beer & Nohria, 2000; Burnes 2004; Kotter & Schlesinger, 2008). The question many distinguished organizational scholars have asked since the mid 1990s, “Why do organizational transformation efforts fail?”, is still by and large a mystery.

Unintended consequences can be defined as outcomes of an action that the actor does not expect in advance and therefore does not intend (McKinley & Scherer, 2000: 735). Unintended consequences can be seen as issues that would have not taken place if a social actor had acted in a different manner. Unintended consequences produced by human actors often shift the balance between dialectical tensions (Giddens, 1984). However, it is unclear how unintended consequences are produced (Latour, 1987). The process is still rather black-boxed. Unanticipated consequences can also have desirable subtle effects on organizations (McKinley & Scherer, 2000). Unintended consequences may be financial, such as unintended costs (Beer & Nohria, 2000: 4). Patterns of unintended consequences of change can be traced and analyzed (de Rond & Bouchikhi, 2004; Jian, 2007).

Some studies have taken a special focus on rare events and their consequences, such as unexpected crises, which are usually discontinuous, large-scale interruptions in routines, accidents, collapses and catastrophes that may deeply effect the organization and require recovery (e.g. Christianson, Farkas, Sutcliffe & Weick, 2009; Lampel, Shamsie & Shapira, 2009; Rerup, 2009). Importantly, attention has also been paid to the unanticipated consequences of the diffusion of innovations. The diffusion of innovations is not a one-way linear process, but a network of branched paths. The involvement and commitment of people who

become interested in innovation at its very beginning are important facilitators in the diffusion process of innovations (Rogers, 1995).

The implementation of change initiatives often causes tensions and resistance among the employees in organizations. Tensions, disturbances, resistance and contradictions produced by planned organizational change can be viewed as the unintended consequences of organizational change efforts (Jian, 2007). These unintended consequences of change efforts are often caused by obstacles, conflicts, tensions, resistance and contradictions that emerge as the change initiatives are implemented in organizations (see Piderit, 2000; Eisenhardt, 2000; Seo et al., 2004; Fairhurst, Cooren & Cahill, 2002).

Different kinds of organizational experiments may produce unintended consequences: dialectical tensions, disorder, conflicts, uncertainty, serendipity and ambiguity (de Rond & Bouchikhi, 2004: 68). It has been stated that resistance is a change-specific phenomenon and that different levels of resistance can emerge depending on the nature of the implemented change (Kotter, 1995; Tracy, 2004). According to previous studies focusing on adaptation and coping, some changes, for employees, are easier to tolerate than others. Some changes, especially those that are radical in nature and touch employees' self-interest, may cause stronger unintended responses, such as feelings of loss and uncertainty (see Armenakis & Bedeian, 1999).

Intended and unintended consequences can both be beneficial to an organization in its change attempts. The field of research focusing on the unexpected or unanticipated consequences of organizational change is still narrow, and they are less understood than intended consequences. Further research on the unintended consequences of change efforts is needed in order to provide social explanations or to promote organizational change (McKinley & Scherer, 2000). It has been stated that the successful management of complex organizations requires the acknowledgement of unintended consequences (Jian, 2007).

The long-term consequences of organizational change efforts are not often studied and are thus poorly understood (Pettigrew, 1995). Changing an organization to efficiently respond to environmental challenges and changes is far from easy; this process may take years (Kotter, 1995; Kotter & Schlesinger, 2008). Organizational change requires time, motivation and a coalition of leaders and believers who commit to change. The "sinking" of changes into organizational culture may take five to ten years. The consequences of organizational change efforts may become apparent years after a change project has officially ended (Kotter, 1995). The consequences of change efforts may diffuse in unexpected directions in organizations (Rogers, 1995) which sets challenges for their management.

2.6 Positioning this study in research on organizational change and development

This study applies activity-theoretical dialectical ontology and epistemology¹¹, which provides a theoretical framework outside the mainstream of organization studies. An activity-theoretically informed, dialectical approach is here viewed as having great potential to analyze the opposing organizational forces, tensions and contradictions taking shape in local organizational sites, on local organizational levels and within local organizational logics in health care. Activity theory is potentially useful in placing ontologically and epistemologically distinct views and logics into interplay since it pays special attention to the historical development and the underlying, deep differences that the approaches hold. This approach offers useful theoretical-methodological concepts to create an expanded approach to organizational change and change management. It importantly takes into account the unexpected nature of organizational change and inherently examines the tensions and contradictions within and between activity systems.

This study takes a system-level view of organizational change and emphasizes its processual and historical nature. The analyses conducted in the empirical articles are on the level of practical activity. Following the idea of developmental work research (see Engeström, 2005a), this study views historically accumulated oppositions, tensions and contradictions as important drivers of change and learning. An organization's ability to reveal and analyze the underlying consequences is crucial from the viewpoint of development and learning. Developmental work research offers a useful intervention methodology with theoretical-methodological tools for the analysis of organizational contradictions. The relationship between the organizational change efforts (i.e. interventions) and their consequences, which this study depicts and analyzes, has not been the core focus of studies conducted within activity theory and developmental work research.

The following figure (Figure 2) presents the location of this study among the four main process theories of organizational development and change. Van de Ven and Poole's (1995: 520) combinatory scheme for explaining development and change in organizations is used here as an organizational device for structuring the field of process theories of organizational change and development and for identifying their characteristics. I have modified and extended their scheme.

¹¹ Activity-theoretical dialectical ontology and epistemology offer a specific view and interpretation of dialectics to the study of changing work activities in local contexts (Engeström, 1987).

To highlight the dialectical view of this study, I have named the horizontal axis of Figure 2 the prescribed, planned, top-down–directed mode of change and the constructivist, emergent, bottom-up–oriented mode as two opposing modes of change. On the vertical axis, I have placed the units of change, which Van de Ven and Poole (1995) depict as single in studies applying life-cycle and teleological approaches and as multiple in theories applying evolution and dialectic approaches to change and development. The key characteristics of the four process theories of Van de Ven and Poole’s (1995) scheme were detailed in this chapter in the previous sub-sections.

In modifying the meta-level theoretical scheme of Van de Ven and Poole (1995), I have included a fifth “expansive” process theory to it, which this study represents, after the theory of expansive learning (Engeström, 1987; Engeström & Sannino, 2010). This study is located in the right corner of Figure 2. The theory of expansive learning is derived from a dialectical process theory in which the unit of change is always multiple entities and the mode of change is constructive. The figure has four fields, with open-ended axis arrows, to emphasize the continuing, dynamic nature of change and learning that is emphasized in the theory of expansive learning.

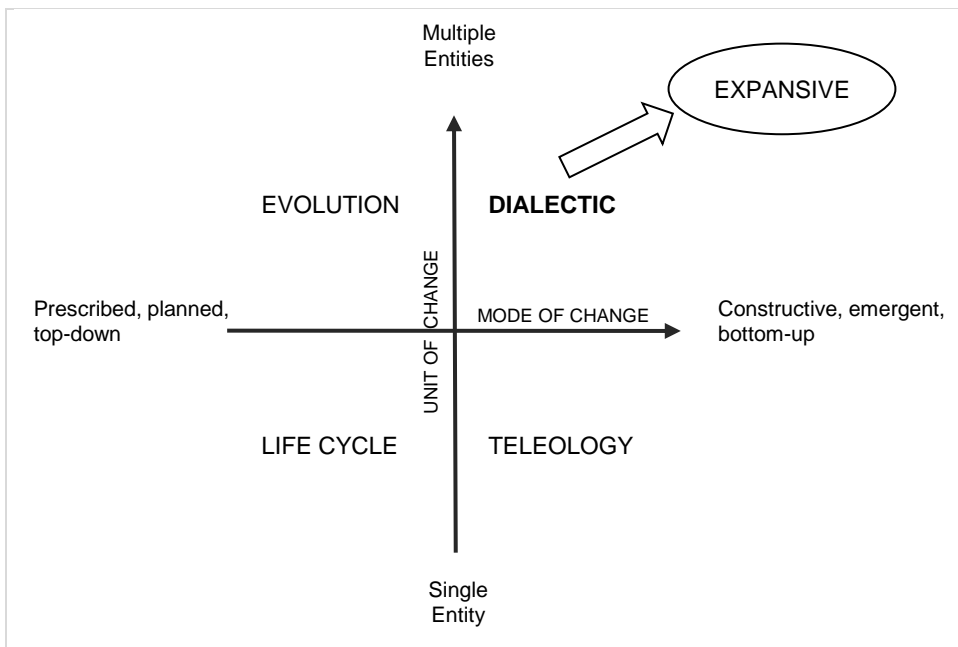


Figure 2. The location of this study among the four main process theories of organizational development and change. The figure is modified from the figure presented by Van de Ven and Poole, 1995: 520.

The following figure (Figure 3) presents the research gap that this study addresses. The left-hand side of the figure depicts the common concepts or terms characterizing the planned view of change, taken from the literature reviewed. The right-hand side of the figure presents common characteristics of the literature that takes an emergent view of change. The dialectical tension between the two opposing sides of Figure 3 forms the research gap that this study addresses and that is the starting point of the study. The area between the two sides is relatively unstudied among organization studies, which typically focus on either one of the sides and how they oppose each other.

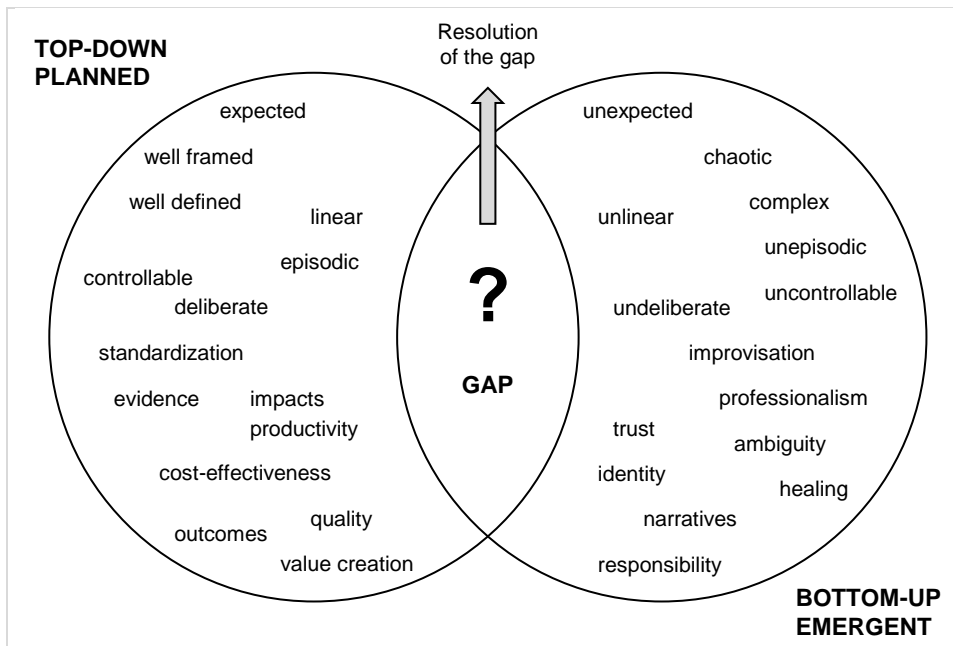


Figure 3. The planned and emergent view as the two distinct views on organizational change intersect, forming a research gap and the starting point of this study

The representatives of the two sides (presented in Figure 3) in health care organizations historically deploy different languages and rhetoric to express their interests and goals. The left half of Figure 3 represents hospital districts, national legislation and political decision-making, which emphasize the rhetoric and logic of process efficiency, such as productivity, evidence and impacts, outcomes, cost-efficiency, quality, value creation and the standardization of work processes. This side dominates and puts pressure on the lower levels of the managerial-administrative units of specific health care organizations. In contrast, the employees conducting practical work activity, represented by the right half of Figure 3, operate with the logic of community and development, which

stresses the issues and needs relevant to the people involved, such as the actual work activity, historically evolved professional narratives, professionalism, identity, trust, responsibility and ambiguity.

Previous literature indicates that in the context of public sector health care, the left side of Figure 3 represents the current historically evolved and legitimized paradigm created by health care administration and management. In health care, the current view of change is heavily influenced by the planned view of change, which emphasizes intended consequences and planned, stepwise models and focuses on well-framed tasks and processes as its object of change and development. In the following, I will present some examples from my data to illustrate the nature of the “intersection” and to illuminate the challenges and needs for change existing between the different, opposing views. The actual, systematic empirical analysis of the data is conducted in the five articles included in the second part of the book.

The following excerpts from the first session of a developmental work research project, facilitated by our research team in the autumn of the year 2006, illustrate the participants’ professionalism and aspirations for the provision of good quality care and the simultaneous, contradictory existence of the inability to meet the pressures and requirements for effective care. In 2006, when we started collaboration with this research site, the unit was in a near-crisis

situation, struggling to meet the external expectations and to handle the care of an increased flow of patients while coping with high turnover and alarmingly frequent sick leaves among its staff. The management had to execute expensive closures of operation theatres, and patients could not be operated on, which lengthened the waiting lists. As the following statements show, the situation was experienced as untenable by the medical professionals.

Professor, anesthesia: *“Well, there is still this big problem with closing the theatres – or I don’t know if it is a big problem – but at least there is the threat that the surgeons are often such women and men of action, so they want to operate. And if the theatres are closed, the surgeons don’t get to perform operations, and at some stage you probably reach the point when they start voting with their feet. I don’t know if there has been such a problem, but at least theoretically.”*

Researcher: *“Yes, how do the surgeons take it that the theatres are closed?”*

Surgeon (orthopedic): *“It is a red flag.”*

Anesthetist: *“It is really bad!”*

Surgeon (orthopedic): *“It is all the bad there can be on the earth!”*

Surgeon (thorax-vascular): *“It doesn’t make sense to educate people to work and then not let them work, and there are more sick patients than anyone can count, and then they don’t get treated, so it is a completely idiotic system. Generally, the reason to found hospitals is so we would get to treat the patients.”*

Senior anesthetist/operations manager: *“And this is not easy for me either, I find it a crazy situation, that we have to do it like this [execute closures of the operation theatres].”*

(The first session of a series of development sessions facilitated by our research team, August 28, 2006)

The following example illustrates how a senior anesthetist, who is also an operations manager of a surgical operating unit, feels caught between the requirements for the cost-effective care externally directed from the level of the hospital district (i.e. *the rock*) and the reliable provision of good quality care on the level of the community of professionals that she tries to manage to the best of her ability (i.e. *the hard place*). As the excerpt illustrates, the right half of Figure 3 reflects important dimensions of health care work communities. It is a matter of collective identity, responsibility, self-respect and professional pride.

Senior anesthetist/operations manager: *“It is a problem that many patients are on the waiting list for operations, and there is pressure [from the hospital management] to have them operated on. [...] you are caught between a rock and a hard place all the time, and it creates a continuous sense of failure among us who are conducting operations. Although we are conducting more operations than ever. We feel that we are doing badly because we do not get the operations on the waiting list done.”*

(The first session of a series of development sessions facilitated by our research team, August 28, 2006)

Due to medicalization, lifestyle illnesses and aging in Western societies, patients’ illnesses have become increasingly challenging for health care providers to manage. The following excerpt illustrates how care providers in the public sector receive patients who have multiple problems that are difficult to handle. In her talk, the head nurse of anesthesia refers to the outsourcing of

operations assigned to the hospital to private sector care providers who apparently have a choice of which patients to operate on. In the last sentence she refers to the complexity issue and the difficulties the surgical operating unit has in relation to its resources and the external pressures and demands placed on it by the hospital administration.

Head nurse of anesthesia: *“And then the patients that I already mentioned. It is worse, and it will remain worse because now the private sector combs out the easiest patients and operates on them there at a different time, when we get all the worst patients. Then a big problem for us is postoperative care, the immediate postoperative care, in other words, the recovery room, which gets not only all our patients, but patients from the central clinic, the emergency service, internal medicine patients and intensive care patients.”*

(The first session of a series of development sessions facilitated by our research team, August 28, 2006)

The historical distinctions between professions are a well-known factor in the health care sector and set challenges for collective development and change efforts. In health care, different kinds of tensions emerge within the different areas of medicine, such as in a university hospital between the historically distinct professional worlds of surgery and anesthesia as well as between doctors and nurses and among anesthetic nurses and surgical nurses with different statuses and competing positions in the community. It is important to note that tensions and conflicts also emerge *within* the right and left halves of Figure 3 since they involve representatives of different organizational levels and occupational groups, i.e. in activity-theoretical terms, distinct activity systems with fragmented perceptions of the object. The following excerpt illustrates how a head nurse experiences the distinction between different units.

Head nurse of surgery: *“There are as many different worlds present as there are representatives of those worlds. One does not necessarily understand what has been said. People are in the same room but do not understand what is being said. An interpreter would be then needed, especially when people representing interfaces [of the hospital unit under study] are having a discussion with us.”*

(An interview with a head nurse of surgery at the university hospital, February 26, 2008)

The evaluation of health care practices and the effects of care and conducted changes is difficult due to the boundaries between the professional groups and the complexity of the context. A statement of a representative of a quality department at the university hospital under study illustrates the complex situation that she is facing in her work as an evaluation professional.

Quality controller: *“There are so many variables that it is very difficult to measure activities and the quality of work in depth, it’s practically an impossible task. The effects of care are hard to measure also.”*

(An interview with a quality controller at a university hospital,
May 7, 2007)

The following excerpt shows that the border (here viewed potentially as an intersection) between the administrative-managerial half and the rest of the health care work community is hard to cross and is vulnerable. In the following excerpt, a nurse representing the work community of the surgical operating unit reveals to me a conflict which emerged as a consequence of an attempt to collectively create a new assessment tool together with the quality unit of the university hospital. This conflict was never brought under collective discussion and analysis, and led to an unintended consequence, the withdrawal of the new tool from use.

Staff nurse: *“We immediately took the [new assessment] tool out of use! We were pretty angry, actually we were very angry! They [referring to the evaluation professionals and the upper management] do not understand anything about our activity. We complained to the charge nurse, and she agreed with us that this [the disclosure] was not right.”*

(A follow-up interview with two staff nurses at the university hospital,
February 26, 2008)

The starting assumption of this study is that the rational, well-framed change paradigm, dominantly used in health care in the public sector, holds the risk of excluding the multiplicity of change and the oppositions between the administrative-managerial view and the view represented by the ones responsible for carrying out the everyday practice of patient care. When the oppositions manifested as organizational tensions and contradictions between different halves (represented in Figure 3) are not acknowledged and dealt with, this may create ambivalence, inhibit change and learning and even paralyze the work activity.

Overcoming organizational problems, such as the tension between cost-efficiency and the human needs of an organization, is usually seen as a managerial task (Beer & Nohria, 2000). This study emphasizes the significance of the participation of different organizational sites, levels and logics in organizational change efforts. Change is seen as a multi-story process (see Buchanan & Dawson, 2007) involving multiple, often contesting voices. Instead of being harmonious, organizations and work activities are seen as involving heterogeneity, various professional cultures, social positions, responsibilities and power relations. Thus, their study requires emphasis on multi-voicedness and collective reflective thought (Lorino, Tricard & Clot, 2011: 780). Multi-voicedness is here viewed as connected to the historical change of activities and social languages (Miettinen, 1999: 192, also Engeström, R. 1999).

This study emphasizes the significance of the recognition and confrontation of the dialectical tensions and conflicts in the facilitation of organizational change processes. The analytical focus needs to be on two or more entities, such as on the multiple voices mirroring different logics and the interaction between different professional groups and organizational sites, levels and logics. From an activity-theoretical view, to generate organizational change, contradictory organizational forces and opposing theses need to be analyzed to achieve a status quo and dialectical progression. However, according to the dialectical view, change efforts do not always lead to progress since the opposing, contradictory organizational forces may be too difficult to overcome.

In this study, the possibilities for dialectical interplay between the oppositions that may lead to an expansion of the object and transformations in organizations in need of change are explored. Taking an activity-theoretical stance, the tension-laden intersection between the planned view, including top-down-directed change efforts, and the emergent view, including the community enacting work activities and change, is here seen as potentially productive and a crucial location and driving force for change, development and learning. The depicted opposition represents a challenging contradiction in relation to theory, methodology and practice which cannot be easily resolved because neither of the two halves can be eliminated. From an activity-theoretical viewpoint, the creation of a shared perception of the object of work and new practices¹² requires questioning of the existing practices and analysis of the underlying contradictions causing tensions and problems. Powerful mediating devices such

¹² Practice is a commonly applied notion among organization studies (Miettinen, Samra-Fredericks & Yanow, 2009). From an activity-theoretical viewpoint, practice stands for a recurrent pattern of activity that consists of strings of actions (Engeström, 2008). An activity-theoretical study of patients with multiple and chronic illnesses defines practice as an intermediate level of activity between actions and activity (Kerosuo, 2006: 9).

as the collective development of new tools and instruments, division of labor, and rules which mediate human activity are also needed (Engeström, 1987).

Taking a dialectical stance, both halves of the figure 3 are considered here as equally important and as having validity, and neither side should be discarded. The planned and emergent paradigms view change from different but equally legitimate perspectives. Health care organizations need protocols and rules to guide the daily activity and division of labor in complex environments. Simultaneously, the recognition of the emergent nature of change and of unintended consequences is a crucially important issue. In order to place the views into a dialogue, the dialectical tension between them needs to be acknowledged and analyzed (i.e. unraveled). Metaphorically, the gap between the two distinct views can be perceived as an obscure, complex, multidimensional helix of organizational change. The following chapter introduces the research questions and the research design of this dialectically informed activity-theoretical study.

3 RESEARCH QUESTIONS AND RESEARCH DESIGN

In the following, I will formulate the oppositions and the research questions that this study explores. In so doing I will start unraveling the multidimensional helix of organizational change. The research questions are realized respectively in the five articles forming the second section of this book.

The overall research question of the study:

What kind of conceptual framework is needed to understand organizational change as transcending the currently dominant oppositions in management thinking, especially in the field of health care?

First, an opposition is depicted and analyzed (Article I) between the normative care pathway description and the actual work activities (called actual care pathways) as they take shape in real organizational contexts of Finnish health care. The first article of the dissertation challenges the notions of a standardized care pathway and patient-centered care, both of which provide only a partial view of care as a complex system. The study challenges and transcends these two notions in order to expand our knowledge of care pathways and to improve patient care. In exploring and contrasting the care pathway protocol and an actual care pathway, the study analyzes ruptures and their consequences in the actual care pathway and in the conceptualizations of care held by the actors involved in the actual care pathway.

The study takes a system-level view, focusing on the multi-perspectives in health care settings: the perspectives of health care governance and management, of different professional practitioners and of clients, i.e. patients. The conceptualizations of care (i.e. the care objects) held by the doctors, nurses and the patient were fragmented and clashed in their practical work activity. The article presents a dialectical model to expand care pathways and thereby to improve patient care and its management. The first research question of the study addresses the opposition between standardized care protocols and actual care activity by asking:

Research question 1:

How does a care pathway of a surgical patient appear in practice and how does it look in proportion to the care pathway protocol?

Second, (in Article II) an opposition between the process efficiency view and the community-building view is scrutinized. The opposition is depicted on three levels: in the current literature, in methods of organizational change and intervention, and in practice among public sector hospital management and staff. Process efficiency rhetoric is usually used by upper management and engineering consultants, and the community-building rhetoric of transformation in organizations is often used by human relations consultants and human resource developers.

The study depicts a developmental trajectory of a surgical operating unit which experienced a crisis. A process efficiency intervention in a hospital's surgical operating unit and its consequences are first examined. The process efficiency intervention was conducted to improve a pilot care process. The effort did not lead to sustained improvement. Thereafter, a community intervention applying developmental work research was conducted by our research team. The construction and consequences of the new organizational and leadership model, which was created in the community intervention, are traced, analyzed and contrasted with the process efficiency intervention. In this case, the unit managed to overcome the crisis and improve its practices and increase its efficiency in a sustainable way. The study outlines a dialectical view which transcends the opposition between the process efficiency view and the community view. The second research question addresses the opposition between different views on change and interventions by asking:

Research question 2:

Can the dichotomy between process view and community view be transcended and if it can, how?

The third article (Article III) depicts an opposition between the evaluation protocols designed and used by the administration and management in hospitals and the development taking shape in local, unit-level contexts. This study analyzes a solid boundary between the surgical operating unit and quality department of a Finnish public sector hospital, which delimited its organizational learning and development. The study examines whether the boundary between evaluation and front line work might be overcome and what kind of tools could both serve everyday front line work and provide useful information to management. An unexpected, rare, employee-initiated collaboration effort, which took the shape of conflictual boundary breaking, is analyzed here together with the

expansive learning actions occurring in the process. Initially, expansive learning actions were taken, but then obstacles started to emerge, and the collaboration between the two worlds was not sustained. The third research question addresses the opposition between evaluation and development by asking:

Research question 3:

Can a boundary between evaluation and front line work be overcome, and if it can, how?

The fourth article (Article IV) depicts and analyzes an opposition or a gap between top-down-initiated change and locally enacted change. Although management usually sets goals for development projects and pays attention to their design and implementation, resources are seldom directed into follow-ups of the projects. Development projects in health care tend to follow one after other and are often unconnected. The long-term consequences of development projects in work organizations are not often studied and thus are poorly understood. The study presents a methodological development of an activity-theoretically oriented narrative approach with which the long-term consequences of an organizational development project are traced and analyzed.

The study illustrates a case example from a hospital's ward for internal diseases that was experiencing a difficult situation in which employees were refusing to work in a room designated for the intensive monitoring of patients. The ward went through an intensive development effort to overcome the difficult situation and to improve its practices. The hospital management initiated a project to improve the situation and was interested in the project in its design phase but did not attend to its consequences. The needs of the ward undergoing transformation were not met. This created a gap between the worlds and temporalities of managerial activity and care activity. The fourth research question addresses the opposition between top-down-initiated and locally enacted change by asking:

Research question 4:

What does an analysis of employees' stories reveal about organizational change?

Longitudinal processes and the consequences of learning across multiple years and successive projects are not often studied, and they are poorly understood in organizations. The fifth article of this study (Article V) moves beyond the discontinuity of organizational change efforts depicted in the dominant punctuated equilibrium model. The study applies the theory of expansive learning (Engeström, 1987) in trying to overcome the prevailing adaptational and

dualistic biases in conceptualizing organizational learning as either continuous or discontinuous. The study analyzes traces of past organizational change projects in order to uncover the dynamics of continuity and discontinuity in organizational learning. The study explores the long-term consequences of two similarly motivated primary care interventions in Finland. The method integrates a narrative analysis of participants' accounts of past change efforts with an analysis of documents and material traces of change. The fifth research question addresses the opposing conceptualizations of continuous and discontinuous organizational change and learning by asking:

Research question 5:

What kinds of continuity and discontinuity may be identified from change projects and what are the implications for our understanding of organizational learning?

The following figure (Figure 4) illuminates the research design. In the figure, I have marked the five oppositions in health care which are depicted and analyzed in the empirical articles of this study. The oppositions are those between *normative/actual*, *process/community*, *evaluation/development*, *top-down initiated/locally enacted* and *continuity/discontinuity*. The five articles of the study unravel the oppositions and, from five different, intertwining angles, attempt to transcend them with the aid of dialectical activity-theoretical methodology. The oppositions named and numbered in Figure 4 follow the numerical order of the original articles forming the second part of this book. The oppositions relate to the multiple sites, levels and logics of change in health care.

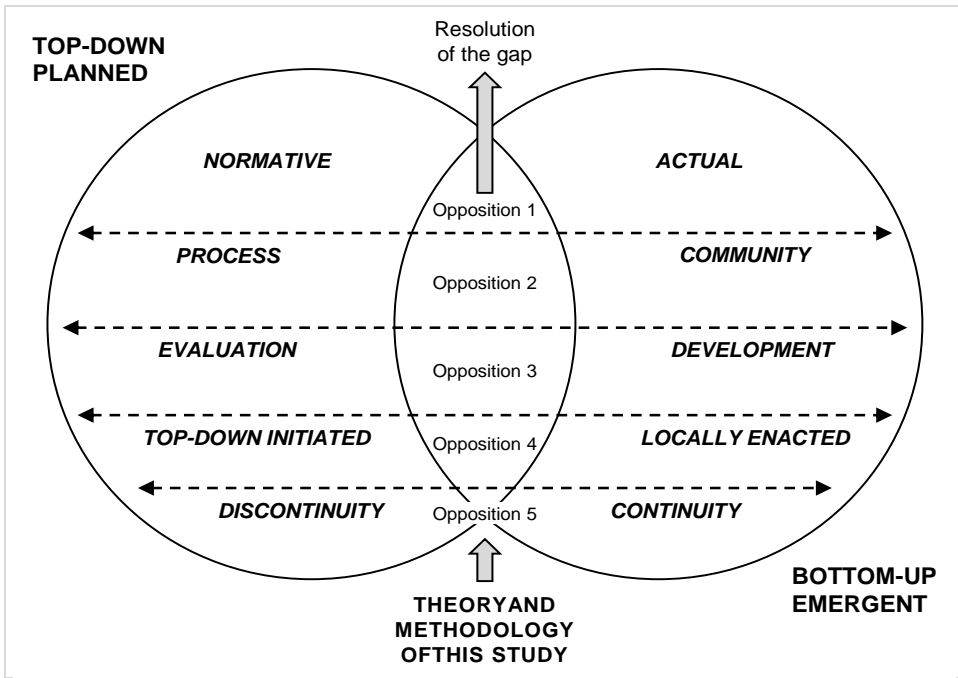


Figure 4. The helix of change, including five oppositions to be unraveled with the activity-theoretical methodology

The following table (Table 1) summarizes the titles of the articles of the dissertation, the oppositions presented, the specific research questions of the articles and the intermediate concepts of the study applied in the articles. The original publications (Articles I–V) are included in this book after the first nine chapters.

Table 1. Summary of the articles of the dissertation

Articles of the dissertation	The oppositions depicted in the articles	Research questions of the articles	Intermediate concepts of the study
<p>Article I Kajamaa, A. (2010), "Expanding Care Pathways: Towards Interplay of Multiple Care-Objects"</p>	<p>Between normative, standardized protocols and actual care activity</p>	<p>Research question 1: <i>How does a care pathway of a surgical patient appear in practice and how does it look in proportion to the care pathway protocol?</i></p>	<p>Consequence, rupture</p>
<p>Article II Engeström, Y., Kajamaa, A., Kerosuo, H. & Laurila, P. (2010), "Process Enhancement Versus Community Building: Transcending the Dichotomy through Expansive Learning"</p>	<p>Between process enhancement and community building</p>	<p>Research question 2: <i>Can the dichotomy between process view and community view be transcended and if it can, how?</i></p>	<p>Process, community</p>
<p>Article III Kajamaa, A. (2011), "Boundary Breaking in a Hospital: Expansive Learning Between the Worlds of Evaluation and Frontline Work"</p>	<p>Between evaluation and work development</p>	<p>Research question 3: <i>Can a boundary between evaluation and front line work be overcome, and if it can, how?</i></p>	<p>Boundary object, boundary breaking, obstacle, conflict</p>
<p>Article IV Kajamaa, A., Kerosuo, H. & Engeström, Y. (2010), "Employees' Narratives about a Development Project as a Resource for Managing Organizational Change"</p>	<p>Between top-down-initiated and locally enacted change</p>	<p>Research question 4: <i>What does an analysis of employees' stories reveal about organizational change?</i></p>	<p>Consequences, sustainability, diffusion</p>

<p>Article V Engeström, Y, Kerosuo, H. and Kajamaa, A. (2007), "Beyond Discontinuity: Expansive Organizational Learning Remembered"</p>	<p>Between continuity and discontinuity of change and learning</p>	<p>Research question 5: <i>What kinds of continuity and discontinuity may be identified from change projects and what are the implications for our understanding of organizational learning?</i></p>	<p>Continuity, discontinuity, break, bridging</p>
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In this study, the data analysis is conducted using the intermediate concepts in addition to the analytical models central to activity theory, which are the concepts of an object, the model of an activity system, which depicts the structure of human activity (see Engeström, 1987: 78), and the cycle of expansive learning (Engeström, 1987: 322). In Table 1, the right-hand column contains the intermediate concepts used in the five articles. Intermediate concepts are theoretical instruments providing explanatory power to the study and can be defined in the following way.

Rather than proving or disproving a present hypothesis, the idea is to bring the data and the hypothesis into such an interaction that the latter can be improved and gains in explanatory power. To succeed in this without acquiring a blind faith in the hypothesis elaborated, intermediate theoretical instruments are needed. The function of such instruments is to break the direct imposition of the hypothesis upon the data, to provide for detachment and possibilities for alternative explanations.

(Engeström, 1990: 93)

The intermediate concepts of this study are consequence, rupture, process, community, boundary object, boundary breaking, obstacle, conflict, sustainability, diffusion, continuity, discontinuity, break and bridging. These concepts function as analytical tools and as elements of working hypotheses for analyzing organizational change efforts and their underlying oppositions and consequences. I will return to explaining the use of the concepts in the seventh chapter on methodology. In the ninth chapter, I will reflect on the usefulness of these concepts. In the following fourth chapter, I will map an expanded approach to organizational change.

4 IN SEARCH OF AN EXPANDED VIEW OF ORGANIZATIONAL CHANGE

The five empirical articles included in this study examine health care change efforts and their consequences and managerial challenges with regard to multiple organizational sites, levels and logics. In this chapter, the notions of multi-site, multi-level and multi-logic change are presented through the previous literature, and this study is positioned.

4.1 Multi-site change

In this section, I will present what organizational researchers applying ethnography, actor network theory and network theory have said to widen our understanding about the multi-site nature of change. Previous literature indicates that organizations have become increasingly complex, having multiple sites with undefined boundaries. Typical of contemporary organizations is the constant movement of people and artifacts within and between different, multiple sites. The approaches presented below are frameworks for studying multiple organizational sites in which organizational activity and change take shape. The approaches importantly pay attention to the multi-site and networked nature of organizations and to the spatial and temporal aspects of organizational life, which are grounding aspects also in the methodology of this study. Actor network theory, the network analysis of organizations and activity theory can be considered neighboring approaches.

4.1.1 Multi-site ethnography

In the following, I will examine the contributions of some previous ethnographic studies applying a multi-site approach. Ethnography can be described as an eclectic methodological choice providing rich information for social sciences. Ethnography can be defined as a research strategy or a 'state of mind', offering methods for gathering empirical data on people's experiences, ways of life and local activities in different contexts (Amit, 2000; Falzon, 2009).

Ethnography derives from anthropology and is mainly used in anthropological and sociological studies. Anthropological studies traditionally focus on "eyewitnessing" cultural and social environments. In its traditional form, ethnography involves researchers' intensive participatory observation and participation in well-framed local contexts with relatively stable structures. Conventionally, ethnographers have stayed a long period, often months, in the

field site. The studies have provided rich descriptions and social scientific insights. These studies traditionally aim at making generalizations about a particular set of social relations (Amit, 2000; Falzon, 2009).

The focus in ethnographic research can be on a certain set of situated subjects conducting established social practices, such as routines. The results of single site ethnographic studies often provide detailed descriptions of subjects in oppressive positions, such as the resistance expressed by people under colonial power or studies examining social classes. Anthropologists have spent years studying certain groups of humans, often primitive tribes, in their living environment. The researcher's duty as part of the studied community was to provide written descriptions of the conditions the people lived in, places still unfamiliar to the Western world, such as the islands in the Pacific and Africa (Amit, 2000). Traditionally, an anthropologist would study the "entire culture and social life" to achieve a "real" image of the lives of the people in focus (Hannerz, 2003: 208).

The idea of the production of universal knowledge from single site studies has been a black spot for traditionally performed ethnographic research. Multi-site ethnography was created to break this convention and to focus on multi-site objects of study. In the mid 1980s, Marcus, who is considered one of the key figures in the field, made a distinction between single site and multi-site ethnography. Marcus (1995) depicts the emergence of multi-site ethnography in the following way.

Ethnography moves from its conventional single-site location, contextualized by macro-constructions of a larger social order, such as the capitalist world system, to multiple sites of observation and participation that cross-cut dichotomies such as the "local" and the "global", the "life-world" and the "system" to examine the circulation of cultural meanings, objects, and identities in diffuse time-space.

(Marcus, 1995: 95–96)

The multi-site approach represents a postmodern response to the rapid transformations in the world and to production. The increased complexity of the world has created needs for expanding ethnographic research to various sites and temporalities (Marcus, 1995; 1998). The use and development of multi-site ethnography has been justified for pragmatic and methodological reasons. In comparison to conventional ethnographic research, multi-site ethnography usually shortens the period of field visits. This spatial shift towards rapid ethnography shortens the fieldwork and eases the localizing strategies of researchers conducting ethnographic fieldwork (e.g. Falzon, 2009; Hasu, 2005).

Multi-site, or multi-local, fieldwork has increased in popularity in social sciences. Multi-site ethnography can be defined as an imaginary or as “an art of the possible” (Hannerz, 2003). Multi-site ethnography became a commonly applied methodological orientation in the mid 1990s as a new philosophical stance on or a revolutionary new, methodological-theoretical approach for conducting anthropological research (Marcus, 1995; 1998; Hine, 2007). The approach has shifted the anthropological research paradigm to multidisciplinary arenas and from single, closed communities (i.e. single sites) to the ethnographic research of multiple sites. Ethnographic research using participant observation as its main technique provides important non-linguistic understanding and spatial depth, which would be difficult to produce in interviews (Falzon, 2009: 9).

Multi-site ethnography pays specific attention to the construction of the ethnographic object, which has become increasingly complex as society and its phenomena has become increasingly mobile and global (Hine, 2007: 655). On the other hand, multi-site ethnography allows for crafting a research object specifically designed to engage in a particular argument or to be significant to a specific context (Marcus, 1995; also Hine, 2007).

Conventional ethnography is interested in *containing* and multi-site ethnography in *extending*. The emergence of multi-site ethnography is closely related to the so-called ‘spatial turn’ which took place in the social sciences in the 1990s when the relations between people and space and its connection to temporality increasingly started to interest social scientists. Space and time became viewed not as prior to human activity but as socially produced in culturally constructed human interrelations and interactions. Social scientists then began to pay attention to multiplicity, plurality, motion, diffusion and connections between social phenomena. It became important to search for connections between local phenomena (microcosms) and further social meanings (e.g. globalization) (Falzon, 2009).

Multi-site ethnography can include various mapping and tracking strategies in its attempt to discover phenomena such as cultural meanings and identities. The approach allows for unexpected trajectories and includes multiple sites of activity in the study (Marcus, 1995). In an ethnographic study, field visits, interviews, questionnaires, document analysis and data collection, including via the Internet, are used (Amit, 2000). The ethnographer is perceived (together with the participants of the study) as a responsible co-producer of space and the field under study. An ethnographer needs to develop ‘an ethnographic voice’ when reporting about studied phenomena to be able to convey the story to the readers. The meaning and understanding of phenomena and their transformation usually also evolves through time (Hannerz, 2003; Falzon, 2009). Multi-site ethnography always entails a selection of sites from among all the various

potential sites for conducting ethnographic field research (Hannerz, 2003: 207). It is always a challenge for an ethnographer to determine the length of the stay in the field and the number of sites followed (Falzon, 2009).

A researcher taking a multi-site stance follows people, connections, juxtapositions, diversity, associations and relationships, and moves in two or more sites (i.e. places) across a spatially dispersed field. The spatial displacement is requisite for ethnographic research. The moving can also take place conceptually by means of techniques of data analysis or between not just physical locations but also multi-site perspectives and spatialized cultural differences. The number of or distance between different sites is not crucial. More important is that the sites that the researcher moves in are different from each other (Falzon, 2009). An ethnographer who has established relationships with multiple sites often returns to the sites again and again over different periods of time (Hannerz, 2003: 213).

Multi-site ethnography is different from the comparative study of localities because of its particular interest in linkages. The fields studied by an ethnographer are not a mere collection of local units but need to be viewed as connected with one another forming translocal linkages, ties and relationships (Hannerz, 2003). An increasing number of studies are applying ethnography to the study of organizations (Chambers, 2000). For example, patients' illness trajectories have been observed in hospital contexts (Strauss, Fagerhaugh, Suczek & Wiener, 1985). Some recent organizational ethnographic studies have focused, for example, on the analysis of human-computer-interaction (Heath & Luff, 2000). Some studies view research and multi-site ethnography as an intervention (Hine, 2007; Zuiderent, 2002).

The defenders of multi-site ethnography highlight the importance of the ethnographic responsibility of how the research is conducted, a responsibility shared by the researcher and the participants who form a social whole (or a system) with various interlocking parts (Falzon, 2009). The strength of the ethnographic approach is that it carefully and concretely examines multi-site contexts and the human beings acting in them. The observations provide important information, for example, for organizational decision-makers (Chambers, 2000).

Using an ethnographic approach in data collection and moving in different contexts is usually time-consuming, which often conflicts with the current notion of producing evidence and results at a fast phase. Its critics usually call for well-framed analytical units and bounded spaces, which conventional ethnographic studies often struggle to identify. The sites and narratives that ethnographic research takes into account are often limitless, which makes the researcher's choices and handling of the methodology challenging both theoretically and in practice (Falzon, 2009).

The role of the informants sometimes comes into question when the ethnographer spends long periods of time among certain groups and often becomes closely connected with them (Hannerz, 2003: 208). Ethnography has been criticized for making generalizations and not being self-critical enough. Both conventional single site ethnography and multi-site ethnography have their limits as methodologies. Critics have claimed that ethnographic studies lack rigor and methods. Some scholars view multi-site ethnography as an imaginary approach and a buzzword, and claim that the approach is being used mechanically (Falzon, 2009). The position of the researcher is no longer taken for granted (Amit, 2000). Some fields may include a great many activities and can be difficult for an ethnographer to access (Hannerz, 2003). For instance, areas in working life involving confidential information or high risk activities may be forbidden to the ethnographer.

The next presented approach, network studies of organizations, takes a larger unit of analysis and thus goes beyond the local ethnographic descriptions and connects multiple organizational sites and entire networks. In comparison to the stance of multi-site ethnography, network analysis provides an institutional aspect and a macro-level view of organizational change.

4.1.2 The network analysis of organizations

The network paradigm emerged as an alternative to individualist, essentialist and atomistic explanations in organizational research, and it provided a more relational and systemic view. Network research originates in the 1970s and is based on a structuralist paradigm. The focus of the studies started to expand beyond hierarchies and markets to networks. The network analysis of organizations started to gain popularity in sociological and organization studies in the 1990s. In recent decades, the quantity and significance of building networks and conducting network research has increased in organization and management studies (Borgatti & Foster, 2003). In parallel with technological developments and globalization, organizational analysis has in general expanded from well-framed units to wider systems, such as relationships, partnerships, “whole” networks and polycentric and hybrid organizational forms (e.g. Nohria & Eccles, 1992; Doz & Hamel, 1998; Provan, Fish & Sydow, 2007).

Institutions and firms are increasingly dependent on and connected to their suppliers, customers and interfirm networks (Mohrman et al., 2003). The term “network” is used to refer to a particular type of organization which provides an alternative to the hierarchical or market forms of organization. In its ideal form, a network organization has properties such as flexibility, responsiveness, adaptability, extensive cross-functional collaboration, rapid and effective decision-making, and highly committed employees (Kanter & Eccles, 1992:

525). The next quote provides a more recent definition of the network paradigm in organizational research.

A network is a set of actors connected by a set of ties. The actors (often called “nodes”) can be persons, teams, organizations, concepts, etc. Ties connect pairs of actors and can be directed (i.e. potentially one-directional, as in giving advice to someone) or undirected (as in being physically proximate) and can be dichotomous (present or absent, as in whether two people are friends or not) or valued (measured on scale, as in strength of friendship).

(Borgatti & Foster, 2003: 992)

The network analysis of organizations does not commit itself to any specific paradigm and can be described as multidisciplinary in its search for different techniques for describing networks (Stevenson & Greenberg, 2000). Network analysis provides multiple methods and techniques for conducting organizational network research (e.g. Powell, 1990; Powell, White, Koput & Owen-Smith, 2005). A great majority of network analysis focuses on examining the structural properties of networks, such as network position (e.g. centrality) and strength (e.g. density) (Mohrman et al., 2003: 303). Previous network studies have, for instance, focused on the evolving structure of organizational fields (i.e. social networks), weak and strong network ties (see Granovetter, 1973), network configurations, network dynamics, network interconnections, competitive advantages, logics of attachment and power issues (see Powell et al., 2005).

Commerce and the key aspects of the economy have become ever more international, complex, hypercompetitive and turbulent. It is no longer possible for a single organization to develop a full range of scientific, managerial and organizational skills to survive in the increasingly competitive environment. To survive and to become central players, organizations require increasing numbers of partners, linkages, collaborative activities and complex strategies to perform the more complex, multiple organizational tasks with multiple, diverse partners. Different kinds of relations and ties are seen as defining different networks (Powell et al., 2005).

Network research is useful in highlighting key principles that guide interactions among the component parts. The notion of multiconnectivity (i.e. the idea of multiconnected components) applied in network research is an especially important feature of today’s organizational life. As the cast of participants increases, the multiconnectivity of a network expands, and over time, it becomes increasingly diverse and combinatorial or multi-vocal (see e.g. Powell et al., 2005: 30-31).

Network analysis may, for example, use archival and survey data. It usually studies change and relations between organizations and institutions interacting with the surrounding environments. Network analysis operates on the *macro* level, the core focus being on institutional changes above single organizations (Scott, Ruef, Mendel & Caronna, 2000). It often focuses on the evaluation of the consequences of networks, such as the benefits of networking for actors, e.g. access to resources, and the variations of success of the participants in a network. Studies typically try to answer how the behavior of actors or organizations of one kind affects other kinds of actors and organizations (Powell et al., 2005) and to specify reasons why institutional change happens (Scott et al., 2000). Network studies can focus on either the causes of network structures or the consequences of network variables (Borgatti & Foster, 2003: 1000).

Studies conducting network analysis provide useful descriptions of social phenomena, for example, by focusing on social positions and social capital (Adler & Kwon, 2002), the embeddedness of organizations in economic exchanges and social relations (e.g. Di Maggio & Louch, 1998), the structure and dynamics of collaboration in joint ventures, inter-organizational networks and interfirm alliances (e.g. Powell, Koput & Smith-Doerr, 1996), and knowledge management (Brown & Duguid, 2000).

A few network studies have importantly paid attention to social networks in planned change efforts, a topic which has not been a central focus among studies on organizational development. They indicate that social networks play an important role in the creation of change and learning in organizations. 'Learning networks' are considered to be crucial for the implementation of large-scale, fundamental changes in organizations. To develop their efficiency and competency, companies need to change behaviors, schemata, beliefs and values and to undertake new understandings and behaviors. This requires sense-making, self-designing and a learning process (Mohrman et al., 2003; Weick, 1995; Beer & Nohria, 2000). Interpersonal interaction and learning are seen as ways of creating lasting changes (Mohrman et al., 2003: 321).

In network and partnership research, the focus is often on the analysis of either the managerial, i.e. the strategic level, or on the operational level, which consists of specialists forming partnerships (Doz & Hamel, 1998). Network research indicates that effective organizational change can be achieved by simultaneous organization-wide and local self-designed networks. Change-oriented networks need to be connected with task-performance networks. Cascading change, which comes from the top down through organizations' hierarchical network linkages, has become insufficient in complex situations in which organizations try to respond to different kinds of challenges. Some network studies call for combining both internal and external networks and for establishing cross-functional, cross-unit and cross-level networks which,

according to these studies, enable better knowledge sharing, negotiation possibilities and the combination of capabilities (Mohrman et al., 2003: 320).

The establishment of interorganizational and other networks is often demanding and does not necessarily lead to benefits and success (Human & Provan, 2000). Evaluation of the effectiveness of interorganizational networks and network-like polycentric systems is, however, challenging. Despite the complexity of networks, evaluations are typically conducted in a narrow way, evaluating success and failure by using well-framed measures more suitable for individual firms (Sydow & Windeler, 1998; Provan & Kenis, 2007). Network research has been accused of discarding the issues of context specificity and situationality as well as of dispelling the agentive actions of the members of a network (Stevenson & Greenberg, 2000).

Network research uses rather static, snapshot quality methods and concepts, and the structural analysis is sometimes done without taking into account how networks are actually constructed and utilized by their members. Thus, the analysis of network structures needs to be complemented with an action perspective to study “networking activity” and the struggles of the managers and other members of organizations involved in networks (Kanter & Eccles, 1992: 526). More recently, Adler and Kwon (2002) have also called for empirical network analysis, focusing on the effects of networks in organizational *action*.

An interesting line of network research takes the analysis of organizational networks closer to learning and actual organizational practices. The research applying the theory of situated learning in communities of practice provides information on the creation of new practices and concepts in communities by focusing on micro-level practices (Lave & Wenger, 1991; Wenger, 1998). The studies of communities of practice view individuals as motivated to take part in a certain community of practice. In the community, people share ideas and mutually engage in collective activities, and as a result of the engagement, learning occurs. Local communities of practice provide spaces for the development of local understandings, knowledge and learning in organizations.

Boundaries refer to discontinuities and separation between the inside and outside of a community (Wenger, 1998). Among the studies of communities of practice, there is a lack of detailed analyses of the interaction between separate communities (Bechky, 2003) and their use of shared tools such as boundary objects. Some artifacts, such as material tools, documents and technologies, can function as *boundary objects*, linking sets of diverse interests in organizations (Star & Griesemer, 1989). Boundary objects enable coordination and collaboration across the boundaries between different communities of practice. “Boundary objects are thus both plastic enough to adapt to [the] local needs and constraints of the several parties employing them, yet robust enough to maintain a common identity across sites” (Bowker & Star, 1999: 297). Boundary objects

such as prototypes can aid negotiation processes in organizations by providing a common ground and a shared reference frame for the parties (Carlile, 2002). To function efficiently, different boundary objects require different conditions, which are not well understood (Carlile, 2004). The next theory presented, actor network theory (ANT), is a specific qualitatively oriented form of network theory for theorizing and practically studying organizations.

4.1.3 Actor network theory in the study of organizations

Actor network theory and the concept of an ‘actor network’ emerged in the field of science and technology research in the mid 1980s, pioneered by the scholars Michael Callon (1986), John Law (1987) and Bruno Latour (1987). Actor network theory is a critical social theory that uses the method of ethnographic field study to provide detailed information on actor networks. Studies in actor network theory aim at describing, explaining and widening our understanding of how social phenomena, social processes and organization happen. The focus is on the effects of actions, such as the situational, materially mediated social interactions taking shape in actor networks in constant transition. The concept of action nets, which is closely related to the actor network concept, represents an example of the development of the theory (Czarniawska, 1997).

Actor network theory can be used to connect multiple, different organizational sites and levels of actors (see Latour, 2005: 219). The concept of the ‘actor network’ and the concept of the action net applied in organization studies both originate from the new institutional theory and sociology of translation (Czarniawska 2004: 781). The approach is an analytical method and has recently gained attention and popularity in science, technology and society (STS) studies as well as in management and organization studies, especially in information systems and information technology studies (McLean & Hassard, 2004).

Like multi-site ethnography, actor network theory provides a useful approach to the examination of spatial relations. In Latourian (1990) terms, networks draw things together by gathering diverse places and times together. Places sharing common elements and heterogeneous network configurations are close together. They are linked and consolidated by objects, and reshaped time and again, allowing translation and action. Places sharing common elements become settled, ‘standardized’ networks, whereas those with different elements are disconnected and remain fluid and unsettled. Standardized networks define specific rules and formalized protocols (see Latour, 1990).

Space is understood as relational (not as a fixed entity), and spatial relations are seen as wrapped up in complex networks (Murdoch, 1998). Studies pay attention to spaces, sites and time, which are all viewed as the results of actions (Latour, 2005). Actor network theory goes against dualistic forms of thinking,

such as the distinction between local and global typically made in social sciences. Network building is seen as a multi-site phenomenon taking shape in various spaces simultaneously both globally and locally (Czarniawska & Hernes, 2005). Actor network theory interprets the notion of organizational space as something ‘in movement’, since contemporary organizing easily moves from one place to another and takes shape simultaneously in various locations (Czarniawska, 2004: 779). Time is required for sense-making of the changes, and over time in the sense-making process, time starts to become punctuated by meaningful events and a meaningful plot, and a point evolves (Czarniawska, 2007: 387).

Actor network theory discards the received distinctions and interrelations between local and global and micro and macro levels of social phenomena (Latour, 2005). Macro actors operate alongside the micro actors and influence, as translators and intermediaries, the micro-level decision-making processes (Hernes, 2005: 128). *Action* is perceived as a co-evolving of elements of a network (a collective) and as the establishment of links between the elements of a network (Czarniawska 2004).

The researchers applying actor network theory collect data by interviewing, observing and following different actants (or texts produced by actors). The analytical focus is on social production, consisting of connections, inconsistencies, negotiations and controversies between humans and artifacts in different social contexts. While in the field, descriptions of the local observations are written by the researcher as field notes.

In actor network theory, the unit of analysis is networks, including all kinds of human and non-human actants (Czarniawska & Hernes, 2005). Actor network theory speaks about the multiplicity of different temporal scales (e.g. Latour, 1996), which, in my view, takes the approach close to ethnographic research. The studies usually trace locally emerging issues in multiple spaces, sites and temporalities (Murdoch, 1998). Actor network theory has criticized the network analysis of organizations for neglecting how interactions take place in time and space (Czarniawska, 2004: 9).

Actor network theory is based on the principle of symmetry, meaning that heterogeneous human and non-human actors both play an equally important role in the studies (Callon, 1992). It goes beyond the normative definition of social held by most social scientists by viewing all things, both humans and artifacts, as significant *social actants*. The actants can be humans and non-humans, such as artifacts, things, ideas and technological innovations (Callon, 1992; Latour, 2005). The evolution of the world takes shape in the co-evolution of both material actants and environments, such as technology, texts, artifacts and semiotic aspects, such as communication, concepts, signs and symbols (Callon, 1986, 1992; Latour, 2005).

Material and human actants in networks together causally influence the functioning of a network and the humans in it (Latour, 2005). Organizational contexts, such as social groups, are constructed simultaneously with all kinds of technical artifacts. Actor-network theory bases its definition of an actor in the notion of mediation. Any entity having an authorship over an intermediary (i.e. something that circulates among actors) can be defined as an actor (Callon, 1992).

Society is viewed as networks of local actants. Networks are viewed as a result of organizing, network building or of the 'knotting of the action net' conducted by organizational leaders and managers, such as project managers who take over when actions are carried out. By building and maintaining large-scale environments (such as projects and technological systems), actants (such as project managers) tie together durable associations and allow action. Simultaneously, they transform society and may have an impact on local and global interaction and innovations as well as on political relations (Callon 1986; Latour, 1987; 1996; Law, 1992; Lindberg & Czarniawska, 2006).

Among organization studies, actor network theory studies often examine the organizing and reassembling of organizations located in institutional contexts. The world is seen as in constant movement and transformation. Transformation requires multiple, often contradictory, acts of translation (Czarniawska, 2004: 779). The process of translation is the most commonly used conceptual tool in actor network theory. Translation refers to processes of representation, negotiation and displacement between different actors and places. The tracing of trajectories and the act of translation are focal points in actor network theory (Latour, 1996: 267). Actants are seen as constantly in making, unmaking, organizing, reorganizing, shaping, reshaping, forming, reforming and becoming. A constant transformation, translation diffusion, non-diffusion, distribution and redistribution within and between actants can be depicted (Latour, 2005; Czarniawska & Hernes, 2005). A few studies in actor network theory have specifically focused on organizational consequences and change (Holmström & Robbey, 2005).

In the process of the formation of actor networks, irreversibilization, in other words, the stabilization and standardization (at least temporarily) of the relations of a network, takes shape. Ideally, as a consequence of nature and society construction, new artifacts, standardized forms, classifications and other symmetrical vocabularies are created. Organizations, actors and identities are viewed as products (not sources) of organizing. Czarniawska (2004) follows Karl Weick's pioneering idea of viewing organization as in a constant process of organizing, embracing the continuous, processual nature of organizations produced by and in action nets.

To study ‘organizing’ is to point out that ‘organizations’ are but temporary reifications, because organizing never ceases; to study ‘organizations’ is to deny this fact. An action net is a compromise devised to embrace both the anti-essentialist aspect of all organizing (organizing never stops) and its apparently solid effects (for a moment things seem unchangeable and ‘organized-for-good’).

(Czarniawska, 2004: 780)

Actor network theory is interested in organizational complexities and thus goes beyond the analysis of single events often typical among organization studies. Humans always belong to an institutionalized collective, such as an organization, and try to handle the complexity and instability inherent in their environment (Czarniawska & Hernes, 2005). The approach is also interested in politically driven connections in institutions, such as different kinds of power relations and other hierarchies (Latour, 2005).

Actor network theory represents a self-critical approach, which has reflected on and questioned its own core concepts and further developed them to better understand how actants form networks. However, actor network theory has been criticized for not being able to touch macro-level phenomena beyond its well-framed single case studies (Gherardi & Nicolini, 2005). The approach flattens the distinctions between the human and non-human entities which comprise networks, and thus easily ‘black-boxes’ humans and neglects the accounts of the ambivalent human members (Mordoch, 1998: 368–369). It has been claimed that the connections between micro-level phenomena and macro-level structures remain unclear in actor network theory (McLean & Hassard, 2004: 508). Actor network theory stresses the emergent or produced quality of things, granting agency to objects. Agency is not a specific interest of actor network theory and the network analysis of organizations. Actor network theory has been criticized for naturalizing human agency into exchangeable things (Berg, 1996). The following studies discuss multiple levels of organizational change and learning and change management.

4.2 Multi-level change

Organizational and interorganizational levels have lately increasingly been the focus of organization studies. In this section, I will present what organizational researchers have said to widen our understanding of multi-level research methods, the multi-level nature of change and the requirements that the multi-level nature of change sets for change management. As the world, organizations and occupations have become increasingly complex and dispersed, the focal

units of theory, measurement and analysis are sometimes hard to define. A researcher must choose where to focus and which level of analysis to adopt. It is crucial for researchers doing multi-level studies to explicate how the data collected on one level relates to constructs on other levels (see Hitt et al., 2007: 1388). In the following, I will provide examples of the research emphasizing the multi-level perspective in the study of organizational change. Some of the following studies use the notion of “multi-layered” in referring to multiple organizational levels. In this study the layers resemble levels.

4.2.1 Multiple levels of organizational change and learning

In the 1970s and 1980s the multi-level and cross-level views of conducting research came about as increasingly important perspectives. For instance, Rousseau (1985) has distinguished between three levels which intertwine and need to be considered in conducting research work. The level of theory is the crucial level on which generalizations are applied, the level of measurement represents the unit to which the data are attached, and the level of analysis refers to the testing and analysis of the data. The level of theory includes the notion of the focal unit, which refers to the entities about which the researcher makes generalizations (individual, collectives, etc.) (Rousseau, 1985: 4).

Bateson’s (1972) classical framework for transformative learning identifies the individual’s levels of learning. In his hierarchy, based on the historical, evolutionary analysis of processes of learning, Bateson describes the levels of Zero Learning, Learning I, Learning II, Learning III and Learning IV. An individual is able to move from a lower level to a higher level as he or she corrects mistakes made in the previous level. Zero learning is the lowest level and is characterized by the person’s response taking place in interaction, which is either a correct or incorrect answer and cannot be changed after the response. Learning I resembles unconscious habituation and means that an individual is given a set of alternatives and a choice to correct a given wrong answer.

Learning II (“learning to learn”) is a higher level of learning and requires a change in the process of Learning I. Learning II is acquired during childhood and usually persists over the individual’s lifetime. In Learning II an individual is faced with a problem, and she or he tries to solve the problem. The individual thus makes a corrective change in the set of alternatives from which the choice is made, or the sequence of experience is punctuated differently. This learning process takes place unconsciously, whereas in higher forms of learning (III and IV), consciousness is required.

In Learning III the task or problem is not pre-given but needs to be created or constructed by the individual. Learning III is a change in the process of Learning II, or a consciously made corrective change in the set of alternatives

from which the choice is made. Learning III is about learning how to control and flexibly direct Learning II. Learning IV is a rare change in the process of Learning III that is so complex that it, according to Bateson, probably does not occur in the human population on earth (Bateson, 1972: 293).

In his framework for transformative learning, Bateson (1972) importantly pays attention to the inner contradictions caused by the context and manifested in Level II. Outcomes of Learning II produce so-called double bind situations. According to Bateson, the inner contradictions and their resolutions generate or produce Learning III. In his studies of schizophrenic patients, Bateson introduced the term 'double bind', which refers to a contradictory communication situation which an individual faces in an interaction situation based on a relationship with another human. In the situation, two paradoxical messages, contradicting each other, are received. An individual is unable to respond to either one of them, and as a result experiences emotions of frustration and helplessness. Schizophrenia can be seen as a product of experiencing a constant double bind (Bateson, 1972).

Next, I will present the focal developments of research on multi-level change and learning. Bateson's (1972) classical framework for transformative learning has been applied and further developed within organization studies and activity theory. Organizational scholars have identified first-order, second-order and third-order levels of learning (see Watzlawick et al., 1974; Argyris & Schön, 1978). Argyris and Schön (1978) have made a distinction between first-order or single-loop learning and second-order or double-loop learning. A first-order change is the conduction of modifications in a change model in use, i.e. conducting incremental change. A second-order change, on the other hand, is a modification of the framework in use and a change in the understanding of the framework, i.e. replacing the old cognitive schemata with new better schemata. The goals of first- and second-order change are identified and preset by the management or a consultant functioning as a change agent (see Argyris & Schön, 1978; Watzlawick et al., 1974).

Activity theorist Yrjö Engeström (1987) expands Bateson's theory of levels of learning by reinterpreting them in terms of the concept of *activity* (Leont'ev 1978: 67). Human activity consists of three levels: the level of overall *activity* (Learning III), the level of constituent *actions* (Learning II) and the level of *operations* (Learning I), by means of which the actions are carried out. Activity is to be conceived of as "continuously proceeding transformations" between the levels. Learning I and II are embedded in Learning III, and individual and societal development takes place as a result of collective learning (Engeström, 1987: 140-143).

Bartunek and Moch (1987) have studied change efforts, i.e. intervention programs, and evaluated them using a three-level model following the distinc-

tions between types of change. First-order change (i.e. single-loop change) means the tacit reinforcement of the present understanding or the construction of established patterns to work more effectively. This means that changes tacitly take place in the already present organizational schemata. First-order change may endorse the utility of the existing schemata in culturally diverse organizations, among different interest groups and different functional areas or departments of an organization (Bartunek & Moch, 1987; 1994).

Second-order change (i.e. double-loop change) is a higher form of change and aims at changing the schemata themselves. Second-order change typically begins when an organizational situation, such as a crisis, is perceived as strong enough to “unfreeze” an accepted schema and to change it to improve the situation and the organization’s functioning. The new schema, developed in interaction, represents an antithesis to the original schema; both the old and new schema become modified and synthesized in the interpretation process. Second-order change is a conscious effort to modify existing schemata in a defined direction and represents planned, schematic change in organizations that can create shared cognitive understanding and which sometimes represents the individual’s ability to transfer new interpretative schemata to other similar situations (Bartunek & Moch, 1987; 1994).

Bartunek and Moch (1987) put the emphasis on a level which shifts the employees’ participation from the position of a receiver to a participatory role in the goal-identification process. In third-order change, the training of organizational members, the collective negotiation of shared meanings and new, shared understandings are emphasized. Schemata may change over time, and the managers’ or consultants’ role is to develop the employees’ own capacity to change their personal schemata. A consultant may reveal a crisis to the organization, or a crisis may be experienced by the participants themselves without a specific introduction. The goals of third-order change are identified with the help of a manager or a consultant by the employee participants themselves. Third-order change can be described as changing the schemata by activating the participants to be aware of their present schemata and to see beyond them. Humans can be made aware of their schemata, and change in their schemata can be stimulated and fostered in development interventions (Bartunek & Moch, 1987; 1994).

Third-order change is an especially demanding form of understanding since it requires the development of a transconceptual mode of understanding (i.e. a non-schematic interpretation or understanding), which provides the grounds for a conceptual human understanding of reality. Some forms of transconceptual understanding cannot be grasped or translated into cognitive categories or even communicated. In Bartunek and Moch’s three-level model third-order change requires experiencing, rising above particular conceptions and transcending

human cognitive capabilities by changing the existing schemata. Third-order change is the most difficult level of change to achieve in practice, and not all organizational systems are capable of achieving it. It is especially difficult to achieve without the aid of a change agent, who first facilitates lower-level changes and then fosters third-order change by providing contrasting alternative interpretations and understandings to the existing schemes and shared understandings (Bartunek & Moch, 1994: 25, 34).

The abovementioned studies on orders of change which might result from organizational development focus on levels of change in human schemata but do not explicitly connect the model to the larger analytical levels of an organization, such as to the level of a system. Some scholars, taking a wider system-level perspective, have focused on levels of learning in organizations.

Over the years, the multi-level perspective on organizations has been applied by different and competing disciplines and literatures offering different kinds of multi-level frameworks and analytic systems (Klein & Kozlowski, 2000). Previous organization studies have studied change and learning as taking place on different levels, such as on the level of individual psychological schemata and on the level of groups, teams, departments, organizations, interorganizational networks and industries (Beeby & Booth, 2000). Studies interested in multi-level research also pay special attention to the temporal nature of organizational phenomena and nested (at the system level) organizational arrangements (Hitt et al., 2007: 1387).

From a system-level perspective, organizations are viewed as multi-level systems (Klein & Kozlowski, 2000). Within organization studies, organizational scholars Van de Ven and Poole (2005) define 'multi-level' as being the various organizational levels under the analysis of scholars, all the way from individual people to the nation-state. Previous studies have importantly emphasized that tracing the trajectory of institutional (organizational) transformation, for example, the implementation of a reform, requires the study of different organizational levels, from leaders to interaction on the level of work practices. The different parties, i.e. those 'above' (top managers), 'around' (middle managers) and 'below' (employees) could, if brought together to have constructive discussions, greatly learn from each other and benefit from incorporating each other's ideas (Hubbard et al., 2006).

In the system-level view, which is applied in this study, organizational learning takes shape in a multi-layered system. Different learning communities can be seen as layers within a larger system. Change and learning never take place in isolation, and the intersection of encounters between the different participants are viewed as particularly important (Hubbard et al., 2006: 16–18).

Hubbard, Mehan and Stein (2006) have taken an important step towards the multi-site ethnography of organizations. They define change as taking shape on

different levels of a school system in the following way, which illustrates the multi-level nature of change and learning in organizational systems. In their study they call levels layers and dimensions.

It is a multifaceted process with technical, cultural and political dimensions. Change occurs along a technical dimension when reformers introduce resources such as labs, equipment, curriculum, and more highly skilled teachers into the system. Change is activated along a cultural dimension when reformers challenge participants to, first, transform their values, beliefs, and norms and, then transform their practices. Change traverses along the political dimension when reformers attack highly charged issues such as class- and race-based advantages by building productive professional relationships and galvanizing political constituencies.

(Hubbard et al., 2006: 86)

An exchange of meaning between the different layers, i.e. levels, often requires intentional negotiation, debate, the development of common thoughts and beliefs, and appropriation; however, the exchange between the layers can take place also unintentionally. Learning does not necessarily happen between the distinct layers, and miscommunication between the communities may even prohibit learning. For example, those affected by restructuring or from above, for example, through being exposed to a new reform or a procedure, do not usually respond passively, and tensions and conflicts are likely to emerge. The multiple layers hold a need to maintain the continuity of their own practices, which may create discontinuities between their members and non-members. The discontinuities are created since the nature of the work differs between the different parts (which I perceive as sites) of the system. Discontinuities are often considered harmful, but they can be important opportunities and locations for learning between the levels, i.e. of communities, within a larger system (Hubbard et al., 2006: 16-18). Some previous studies focusing on emotional ambivalence and resistance toward organizational change have importantly taken a multi-level perspective and view tensions and contradictions not only as harmful but simultaneously as important drivers of change (Kotter, 1995; Van de Ven & Poole, 1995; Kindred, 2000; Piderit, 2000). In the following, I will examine the contributions of some previous studies applying a multi-level approach to organizational change management.

4.2.2 Change management as multi-level phenomena

Multi-level management research can currently be described as diversified. The number and nature of layers examined among organizational theory and research varies from one study to another. The boundary between individuals and collectives is often hard to identify. It is not easy to state where one collective ends and another begins. Occupations have become increasingly mobile and hybrid, and it is sometimes hard to say who is a member of which organization. Making distinctions is especially difficult in networks, virtual and team organizations, and in communities of practice (Hitt et al., 2007: 1385–1390).

One area of multi-level management research is strategic management thinking, which has focused on different kinds of models for managing organizational change. Strategy implementation can be conducted in organizations in various ways and on various levels, depending, for example, on the size, structure and objectives of the organization. Bourgeois and Brodwin (1986) have defined five approaches to strategy implementation which reflect the chronology of strategic management thinking and can guide management's behavior in strategy development. Their classifications include the Commander, Change, Collaborative, Cultural and Crescive¹³ approaches, which apply different principles and chronologically build on each other. Each approach builds on the previous one and adds new tools to a manager's repertoire.

These classifications are meant to widen our understanding of different views and their essential elements, benefits and possible risks when these views are applied in different kinds of contexts. Importantly, the authors point out that none of the following approaches is correct for all companies. The categorized approaches often intertwine when in use in practice and can be applied with much more subtlety than what previous presentations of them indicate (see Bourgeois & Brodwin, 1986: 242).

The Commander approach follows the systems approach and an incremental approach to change. The changes are commanded and controlled from the top down and usually aim at economic improvements. It helps the managers to set a clear direction for the organization. The approach best suits organizations which have a very powerful leader and a relatively stable and simple structure and focus. The weakness of this approach is that despite the fact that it provides plans, it is not concerned with their implementation on the level of practice (Bourgeois & Brodwin, 1986). In other words, the planning and carrying out of implementation and change function as separate entities.

¹³ The term "crescive" is derived from the Latin word *crescere*, which means to grow (Bourgeois & Brodwin, 1986: 255).

The Change approach, on the other hand, specifically focuses on the beginning of the implementation of plans in organizations. The approach is used, for example, in mergers and acquisitions. It still requires a relatively simple environment to function well. The approach provides the management with a more extensive toolkit and techniques for change management than the Commander approach. However, the tools, being numerical accounting and control tools designed for monitoring implementation, are owned by the management and do not help the lower levels of an organization to proceed in change efforts. The Cultural and Crescive approaches use larger units of analysis, as they are focused on preset goals for strategy implementation (Bourgeois & Brodwin, 1986).

The Collaborative approach is a less centralized and a group-oriented form of strategic management thinking used in strategy implementation. It is based on rounds of negotiation and collective decision-making between multiple representatives of the managers. This strategy is seen as a negotiated outcome of a dialectical process. It is a powerful approach for gaining multifaceted information from different organizational units and aids managers to build a picture of the organization as a whole. Importantly, human factors, such as practical tasks and issues related to commitment and motivation, are scrutinized in the approach. The results of the use of the Collaborative approach have been promising. Previous studies indicate that it provides better chances for successful strategy implementation than the strictly top-down-directed Commander and Change approaches. However, it has been debated whether an organization actually allows for democratic decision-making despite the fact that a Collaborative approach is in use (Bourgeois & Brodwin, 1986).

The Cultural approach views strategy-making and implementation as intertwined with organizational culture. This approach is well suited for organizations which have to deal with complexity and in which power is decentralized. Growing expert organizations and high-technology industries, for example, can benefit from using the Cultural model. The approach importantly connects the strategy planners and the practical doers who share goals and create innovative solutions on the local levels of an organization. In this approach the employees also have a say in management decisions. Previous studies indicate that the use of this type of approach has led to successful results, for instance, to higher organizational cohesion and product innovations (Bourgeois & Brodwin, 1986).

The Crescive approach is well suited for large divisionalized firms in which the management is unable to handle the entire organization without the assistance of lower managerial levels in strategic thinking and strategy implementation. Strategy-making groups, for instance, may function as management tools in such organizations. In the Crescive approach, information

sharing, openness and bottom-up strategy formulation and implementation become crucial and need to be nurtured by the upper management. In the Cultural and Crescive approaches, strategy implementation is seen as participatory and as a continuous process. The risk in using a Crescive approach is that units may become disintegrated and the upper management may completely lose control over the different parts of the organization. Despite the fact that the Cultural and Crescive approaches embrace participation and negotiation as forms of strategy-making and implementation, the aim of managerial work and strategic activity, in a capitalist society, is still to generate new business opportunities and strategic advantages in comparison to competitors, for instance, by creating pioneering innovations (Bourgeois & Brodwin, 1986).

Recent management studies indicate that most management problems involve multi-level phenomena; however, management research typically narrows the analysis to a single level. The single level usually corresponds to an individual, a group/team, an organization, an industry, a country or a geographic region. Management studies are fractured into subfields and level-specific perspectives as they distinguish between the micro- (the individual) and macro- (organizations, interorganizational networks, environments and markets) levels in their inquiry and analysis. Combinatory approaches that conduct analysis across levels are still relatively rare. Approaches have mainly been developed in social psychology, education and communications, focusing, for instance, on groups and subunits. The micro approach is rooted in psychology, and the macro view is rooted in sociology and economics. Multi-level research incorporates the features of entities, processes, individuals, groups and organizations (Hitt et al., 2007: 1385–1386).

In recent decades, multi-level issues have been seen in the strategic change that traditionally focuses on problems, takes a single perspective and operates on the individual level, such as studying the experiences of executives in their attempt to solve problems. A single perspective provides a quite narrow view of the complex issues related to managing change in whole organizations, and wider focuses and combinatory and integrative multi-level approaches are needed (Cannella & Holcomb, 2005; Drnevitch & Shanley, 2005).

Resistance to change is often considered, in studies of change, as a one-dimensional phenomenon, i.e. employees resisting top-down-launched and desired change. This view is adapted from physics where resistance is seen as one-dimensional force. According to Piderit (2000), resistance to change, being a complex phenomenon, needs to be conceptualized in multiple dimensions. Management needs to pay special attention to resistance, take it extremely seriously and use it as stimuli for change and dialogue creation (Piderit, 2000). Paradoxically, the top leaders often distance themselves from the practice side of the organization and try to avoid dealing with the resistance. They focus on

large change initiatives, as viewing the organization as an economic institution makes it easier for top managers to make painful decisions, such as conduct lay-offs. Difficult decisions urge them to take distance to emotionally protect themselves from the organization (Beer & Nohria, 2000: 11).

Multi-level frameworks have proven to be useful, for example, in the governance of complex natural and cultural phenomena involving diverse groups of practitioners and researchers. Partnerships and collaborative management thinking can provide resources for better adaptation and enhance flexibility and learning in complex, rapidly changing settings that need governance. A shift from normative, regulatory models of governance towards flexible co-management models and strategies has been observed (Armitage, Berkes & Doubleday, 2007). Some network research has, for example, studied the role of networks in an organizational adaptation to change; however, a need for more profound knowledge exists (Mohrman et al., 2003).

Research on multi-level issues and problems provides organization and management studies with rich theoretical and methodological insights on the diversity of issues and problems among organizations. The studies have focused, for example, on the role of experience, knowledge transfer, and managerial and team-level decision-making in organizations (see e.g. Argote, 2003; Cannella & Holcomb, 2005; also Rousseau, 1985). Multi-level analysis is especially needed when the research is focused on social dynamics and social behavior and the implementation of change (e.g. strategy) in complex contexts. Implementation and human performance in organizational settings have multiple consequences that affect multiple levels. Scholars of strategic management usually take the macro-level view, focusing on links between a firm's strategies and the market characteristics of the environment. Explaining the interpersonal dynamics and relationships between strategy and performance also requires a micro-level analysis and an understanding of the larger socio-historical context influencing processes on the level of individuals (Hitt et al., 2007: 1385–1386).

Multi-level frameworks have been developed to theorize and analyze complex phenomena in management studies, such as inhibitors and stimulators for organizational innovation and innovation adoption (Frambach & Schillewaert, 2002), social change and social responsibility (Aguilera, Rupp, Williams & Ganapathi, 2007), and creativity and sense-making in organizations across long time spans (Drazin, Glynn & Kazanjian, 1999). One important focus of multi-level research has been innovation management in organizations. Recent studies have, for example, explored the conditions for and impacts of creativity and innovation on organizational performance on multiple organizational levels. The complex cross-level organizational relationships between levels, which have different requirements for innovations, and the cross-level interactions

seem to relate to innovation; however, the relationships between different variables and innovations are complex (Mumford & Hunter, 2005). Studies on strategic management have applied multi-level analysis in making connections between a competitive advantage and value creation and management. To understand and develop strategic management, it needs to be seen as a multi-level phenomenon by nature (Drnevitch & Shanley, 2005).

Multi-level analysis provides theoretical and analytical advances and possibilities for the development of an expansive management paradigm for studying organizations as systems. Previous multi-level studies have sought *quantitative* measures and used quantitative statistical methods and indicators, such as structural equation modeling techniques and the sampling of descriptive statistics and demographic characteristics and the functional backgrounds of organizational members. These techniques hold promise, but further research and development of *qualitative* methodologies that examine real-world problems are needed to accommodate the complexity of contemporary management theories. It has been stated that improving health care requires intervening in a complex, multi-level system. The field would benefit from management research, especially from research conducted on changes made on multiple levels of the health care system (Hitt et al., 2007: 1395). Thus, further multi-level conceptual models need to be developed. Next, I will present what recent important organizational researchers have said about the multi-logic nature of change.

4.3 Multi-logic change

In this section, I will introduce the meta-level concept of multi-logic change with the aid of the analytical concept of historicity. The previous studies presented here have examined multiple logics of organizational change and of learning, which is a related concept. Although contemporary organizations seem to be in constant flux, they still have relatively stable underlying structures or entities, such as logics. The logics have been studied on different organizational levels, such as on the levels of individuals and of larger systems.

4.3.1 The different logics underlying change and learning

In the individual-oriented studies, logics usually refer to the cognitive, interpretive schemes and practice-based norms that form the organizational structure. The underlying logics and their relationships are usually hidden and therefore hard to capture and study. Change can, for example, occur through the establishment and elaboration of logics, through the breakdown and replace-

ment of existing logics, or through the incorporation of logics underlying change (Drazin, Glynn & Kazanjian, 2004).

Among the individualistic approaches, it has been stated that the top managers and their subordinates live in “different cognitive universes” and that a gap between their schemata exists. For example, a bifurcation gap can be detected between the experiences of the cognitive order of top managers and the cognitive order of subordinates during changes such as restructuring (McKinley & Scherer, 2000). Dougherty (1992) calls this distinction between the top managers and subordinates a duality of “thought worlds.”

In planned organizational change the senior management and employees usually create two separate social integration processes. The employees need to mentally translate the managers’ control and rule-oriented change commands in order to deal with the uncertainty that the new brings along, to make sense of them, and to adapt to them or to resist. An interpretive tension can be depicted between employees and senior management that sets up conditions for the emergence of unintended consequences. The management’s plan for change, i.e. the ‘big picture’ of change, manifested via their rhetoric as the ‘management mantra’ and represented in organizational charts and authoritative written texts, seldom matches the ‘real picture’ of change the employees construct in their talk. Tensions arise when the two integration processes integrate at the system level, and the results of the processes are dependent on how these tensions are managed in “the moment-by-moment local situations. Thus future research should apply participatory, dialogic, approaches to the management of organizational tensions” (Jian, 2007: 22).

In institutional theory, individuals are seen as creators and carriers of institutional logic. According to institutionalist theory, institutions and organizations aim at providing coherence and stability to their members working in different settings. The concept of institutional logic is a vertical, macro-level notion emphasizing the significance of different kinds of principles and control and governance systems as well as symbols that provide coherence, guidance for practices and stability in health care and other fields (Scott et al., 2000: 20–21).

A combinatory, pluralistic view and a complementary approach offers different angles and new possibilities for studying complex organizational dynamics, development and change, and thus widens our understanding of organizational change (Van de Ven & Poole, 2005) and the issues underlying it. The opposing views (i.e. thought worlds or logics) could, if brought together, benefit and learn from each other and together try to contribute to solving the difficulty that managers of change are facing (Beer & Nohria, 2000; Burnes, 2004). A combination of the two models would enable an organization to pay attention to a wider range of issues beyond the short-term change efforts and would be needed when an organization tries to adapt and survive in the long

term (Beer & Nohria, 2000: 20). Health care change efforts that correctly anticipate responses from the many elements comprising the system (Hitt et al., 2007: 1395) and use combinatory approaches (see Esain, Williams & Massay, 2010) can be effective.

The combinatory views of distinct organizational logics expand the thinking related to the underlying logics of organizational change and interventions. However, the combinatory approaches to organizational change do not usually pay sufficient attention to the historicity aspect of organizational change, which grounds and maintains the logics in a persistent way. Activity-theoretical workplace interventions bring together representatives of the different thought worlds or logics. In the approach the focus is on the historical development of work and production and on the analysis of the accumulated contradictions between them. It is thus a useful approach for studying multi-logic organizational change. The following section presents the main transformations of the logics of work and production that have taken shape during the historical development of work.

4.3.2 The historicity grounding the logics of change

Historical forms of work and production have been analyzed to better understand today's organizations and work. Victor and Boynton (1998) have created a five-step model of organizational transformation. They have named the historical forms of work and production 1) craft work, 2) mass production, 3) process enhancement, 4) mass customization and 5) co-configuration. The forms are developmental, stepwise stages in which organizations try to adopt their activity to changing market conditions. Tacit, implicit knowledge, passed on from the journeyman to his apprentice, is the archetypical knowledge produced in craft, executing an organic type of production model. In hierarchically, top-down-organized mass production, knowledge is articulated to the employees, for instance, through written manuals, regulations and guidelines. In process enhancement, on the other hand, the knowledge is practical, and employees form teams and take part in the knowledge production from the bottom up. In mass customization, architectural knowledge is produced in local and global networks, often produced together with the end users of the products and the producers. These forms of work produce final products as the end result. In order to gain a competitive advantage, organizations have moved stepwise towards mass customization and co-configuration work (Victor & Boynton, 1998: 233).

Freeman and Louçã (2001) have studied the computer revolution's effects on Western economies and societies. They have depicted three previous waves of technical change: steam-powered mechanization, electrification and motori-

zation, followed by the technical wave. According to them, four economic waves can be depicted which have all had a typical method of production and have all been based on technological innovations. The first economic wave utilized water, the second steam power, the third electricity, and finally the fourth, innovations and knowledge (Freeman and Louçã, 2001).

Freeman and Louçã (2001) argue that hierarchical management models based on principles of mass production have become inappropriate in today's organizations. It has been stated that the development of working life and the major historical paradigm shift from mass production to flexible, collaborative learning systems require both stable periods and periods of qualitative transformation. The periods evolve through crisis over a long time period. The new paradigm does not simply replace the old, but the old and new paradigms co-exist (Freeman and Louçã, 2001; also Pihlaja, 2005).

The information and technology revolution began in the 1970s. The revolution in information and communication technologies and the new conditions of global competition have triggered a new wave in the development of the productive forces of society (see Perez, 2002; Virkkunen, 2006). Variant models of mass production, such as the socio-technical model, developed during the long wave of economic development and motorization (1941–1990). During this period, “one best method” for guiding the task performance of standardized, repeated tasks and optimizing the individual human performance was created and implemented. Later, alongside the ICT revolution, flexible manufacturing systems were introduced, emphasizing issues such as division of labor, social practices, human interaction, ICT-supported operations and distributed processes in flexible mass production (Pihlaja, 2005). The ICT industry has tried to provide quick tools and answers to the acute needs of the changing society. The intensive development, which started in 1990, can be called a computerization of the entire economy (see e.g. Adler, 2001).

The technological revolution and globalization have been especially rapid since the 1990s. This development was followed by the so-called ICT bubble, which burst in 2000, and a worldwide economic crisis. Since the 1990s rapid transformations have required that new management and organization principles change towards a knowledge and technology orientation (Perez, 2002; Virkkunen, 2006). A radical, historical shift from mass production to new forms of ICT-supported production can be depicted. The ongoing transformation of production has challenged organizational learning and ways of conducting organizational interventions (Bodrožić, 2008). In fact, learning related to production changes continuously and historically (Pihlaja, 2005; also Freeman and Louçã, 2001). The new technologies introduced have created many challenges and needs for change in organizations. Over the last two decades, organizations have faced significant changes in their organizational designs,

environments, processes, structures and technologies. Many have, for example, started to introduce horizontal organizational forms, multidimensional matrix structures, advanced information technology, teams and complex intra- and inter-organizational networks (Burns & Vaivio, 2001).

Western societies are in the era of the knowledge society, where innovativeness, information sharing and interaction have become imperative in order to succeed in the increasingly competitive global markets. The knowledge- and information-oriented mode of production has created learning challenges for organizations. Collective knowledge creation at work has become an essential feature of today's organizations. New technologies introduced by the computer revolution may enable new forms of distributed and collaborative knowledge creation and learning (Virkkunen, 2006; on knowledge creation, see Tsoukas, 2005). The familiar concepts and theories of bureaucratic settings are no longer adequate. The nature of work cannot be seen as a static phenomenon. Instead, communities of practice need to be studied, and work studies that implement ethnographical field studies need to be integrated into organization theory (Barley & Kunda, 2001).

The historical developments of health care as a professional field have been radical, which has caused tensions and contradictions. Health care has shifted from a traditional, individualistically oriented and craft-oriented profession into an industry expected to follow the principles of mass production and industrial management. The capitalist society sets the standards of cost efficiency and productivity, while simultaneously there is a strong need for patient-centered, high quality care. Health care is dominated by a formalized network of classification in which the relationship between the administrative-managerial actors and the personnel is defined by hierarchies and ambivalence. The dominant logic in health care management can be called a normative logic of control and efficiency. The logic follows a linear, goal-result-oriented causal view that assumes that change processes will be progressive and follow preset descriptions. The dominant logic applied in health care is derived from the historical development of health care connected to the historical transformation of work. The focus in health care is usually on the contribution of individuals, which reflects the contemporary emphasis on individualism. Health care seems to be an especially challenging sector to change and develop.

4.4 Positioning this study

This study aims at creating a new understanding of change efforts and their management in the field of public sector health care. The presented literature on ethnography, the analysis of networks and actor network theory sets the grounds for the new conceptual framework developed in this study, which explores

multi-site, multi-level and multi-logic organizational change. The approaches can be viewed as neighboring and can be used in a complementary way.¹⁴ The approaches, however, are based on different theoretical-methodological and philosophical underpinnings. In the following, I will position this activity-theoretical study in relation to these approaches. Then the contribution of this activity-theoretical study to the study of multi-site, multi-level and multi-logic organizational change will be discussed.

Multi-site ethnography, the network analysis of organizations and actor network theory are useful frameworks for studying multiple organizational sites. Multi-site ethnography provides useful ways of describing reality. Ethnographic studies usually make observations and detailed, concrete descriptions of the field under study. The studies reveal the activity of human beings in multiple local, organizational contexts. Organizational and intervention research, which this study represents, is not in the core focus of ethnography. What is usually missing from ethnographic research is the analytical modeling and theoretical conceptualization of the studied phenomenon. As the conceptualization of change is not the main focus of ethnography, the analysis of networks and actor network theory, conducting a theoretical conceptualization of multi-site change thus remains a challenge.

In activity theory, change is studied as taking shape as a multifaceted process, in multi-layered systems (Engeström, 1987; Toiviainen, 2007). The concept of nature and society production applied by actor network theory and the activity-theoretical concept of activity have much in common. Both views seek to transcend the dichotomies between subject, object, nature and society or man, artifacts and environment. The concept of material-artifact mediation is also central in both approaches (see Miettinen, 1999).

The particular distinction that activity theory makes in its conceptualization of the concept “activity” provides a multi-level basis for the examination of complex organizational settings and of multidimensional change, and thus, activity theory is seen as a powerful approach. In activity theory, activity is seen as socially and materially mediated. Activity theory applies a three-level scheme of “activity” in its definition: an “activity” is (1) a collective, object-oriented activity directed by motives, (2) actions directed by goals and (3) operations directed by the circumstances and tools at hand. Activity is conceptualized as “continuously proceeding transformations” between the three levels (Leont’ev, 1978: 52–54, 67).

¹⁴ Various activity-theoretical studies apply ethnographic fieldwork methods in their data collection (e.g. Saari, 2003; Toiviainen, 2003; Puonti, 2004; Hasu, 2005; Hyysalo & Lehenkari, 2005; Kerosuo, 2006; Rainio, 2010). Within activity theory some studies have contrasted activity theory and actor network theory (Engeström, 1996; Miettinen, 1999).

Network studies and actor network theory are especially interested in the positioning, ties and relationships of actants within a network. Activity theory, with its interventionist orientation, represents an interactive form of social science (see Engeström, 2000). Dialogue and intervention are used in activity-theoretical empirical research (Miettinen, 1999: 192). Activity-theoretical studies explore linkages between contexts and local, societal and global events, and allow for the analysis of organizations as distributed, decentered and emergent systems of knowledge, in other words, as networks of activity systems (Engeström, 2000). Activity theory has similarities with the ideas in communities of practice literature, which emphasize the difficulties and significance of horizontal and vertical integration between distinct communities of practice (Blackler et al., 2000: 282). In activity theory, interorganizational network dynamics and development and learning in networks have been analyzed to expand the network analysis of organizations (Toiviainen, 2007).

From an activity-theoretical viewpoint, organizations are viewed as consisting of multiple, historically evolved, interconnected and multi-voiced activity systems (Engeström, 2000). Studies analyzing networks of activity systems have increased as activity-theoretical studies have started, over the last two decades, to focus on examining the interrelations and interactions among multiple activity systems. A level of internal differentiation between individuals and groups is inevitable in activity systems of any size (Blackler et al., 2000). Activity theory is especially interested in tensions and contradictions. Change, development and learning are seen as deriving from historically accumulated contradictions. Change is a collective resolution to historically evolved tensions and contradictions (Engeström, 1987).

The focus on multiple sites and the emphasis on extension bring multi-site ethnography close to activity theory. In activity-theoretical studies, ethnography is usually applied as a method for empirical data collection. The studies conduct what can be called “developmental ethnography” (Engeström, 2000; Kerosuo, 2006). Activity-theoretically oriented ethnography expands the focus from well-framed localities to historically evolved networks of organizational activity. The line of activity-theoretical research that this study represents applies ethnographic methods in its data collection in various kinds of fields.

Previous activity-theoretical studies have conducted workplace ethnographies, ethnographies of organizational change (Kerosuo, 2006) and sensitive ethnographies of change (Hasu, 2005). One activity-theoretical ethnography has, for example, produced knowledge on critical aspects of processes of development, learning and change (Hasu, 2005). The ethnography of a multi-organizational field of activity has been conducted to make connections and disjunctions between multiple locations and to depict organizational development, learning and change in health care (Kerosuo, 2006).

As was already stated, the interventionist methodology differentiates activity theory from other approaches that carry out ethnographic field research. The methodology views humans as goal directed, agentic and volitional, capable of resisting, and sees human actions as embedded in collective activities and their development. The focus in interventionist methodology is on intentionality, the shared motives and agency characteristic of humans, human competences, the agentic contributions of participants in collective design efforts, and their division of labor (Engeström, 2005b). Cognition, volition and emotion are seen as distributed and historically accumulated in activity systems (Engeström, 1996: 262). In this study, intentionality and agency of the actors involved are seen as significant aspects in organizational change efforts and their consequences.

The interventionist methodology and the analytical tools and concepts that activity theory offers are here seen as powerful devices for analyzing and supporting the conduction of multidimensional health care changes. The theory of expansive learning provides conceptual tools and analytical models, such as the activity system model (Engeström, 1987: 78) and the cycle of expansive learning (Engeström, 1987: 322), which are used in this study and which potentially enable the transcending of ethnographic descriptions of organizations.

Actor network theory is useful in expanding the current view on organizational change and management thinking since it goes beyond the ideas of single site and multi-site ethnography by introducing the idea of relational (not absolute) space and time within networks. In actor network theory, space is only a partly physical and stable entity. Space can also be imagined as scripts and contingent networks of socio-material relations and social understandings. The forces of prescription and classification that order time and space need to be brought into interaction with ambivalent, fluid spaces for negotiation (Murdoch, 1998).

In actor network theory, spaces and times are seen as emerging from organizational processes and relations. The ideas of ‘multispatiality’ and ‘multitemporality’ and the co-existence of multiple space-times are here seen as useful in analyzing multidimensional change in complex organizations. This attitude takes us beyond the Newtonian notion of linear time and allows for the examination of the consequences of organizational change efforts in different temporalities. From an activity-theoretical stance, the idea of multiple space-times allows us to explore the different relations and disconnections between distinct organizational activity systems.

From an actor network theory point of view, connections between actions produce actors (Czarniawska, 2004: 781). Ideally, the transformation process under study leads to the stabilizing of strong relations and interactions in a network. Both actor network theory and activity-theoretical work research regard innovations as a stepwise construction of new forms of collaborative

practice or of techno-economic networks (Engeström, 1999: 383). It has been claimed that the emphasis that actor network theory has on issues such as irreversibilization, closure, stabilization, gaining and winning may make actor network theory incognizant of the unexpected, such as systemic contradictions and failed innovations. These are rarely empirically traced and analyzed in studies applying actor network theory (Engeström & Escalante, 1996: 342–344).

Network research is interested in changes in interaction patterns and organizational structures on the large-scale network level. Network analyses, which focus on techniques, hold the risk of ignoring the significance of the activity of human beings and the agency of the actors conducting work practices in local contexts. The view rarely focuses on examining the inner dynamics of local activity systems.

In developmental work research interventions, members of different organizational levels take part in the collective analysis and redesign of their activity (e.g. Kerosuo et al., 2010, Virkkunen & Ahonen, 2011). This interventionist idea differs from the stance of actor network theory, which often looks at networks from the viewpoint of stabilization and standardization. From an activity-theoretical viewpoint, the pursuit of stabilized networks and vocabularies may reduce the multivoicedness of interests and the future orientation of the activity systems involved in a network (Miettinen, 1999: 190–191; Engeström & Escalante, 1996: 345).

The historical transformations of work and health care have set needs for an expanded multidimensional change approach. In activity theory, the logic of change is based on the idea of the historical periodization of activity, work and production. Victor and Boynton (1998) and Freeman and Louçã (2001) provide useful categorizations of the historical forms of work and production. However, from an activity-theoretical viewpoint, the existing categorizations cannot alone function as a basis for analysis. They are here seen as heuristic devices. The historical logics of work need to be traced and analyzed by empirically examining the history of specific, actual organizational settings (see e.g. Mäkitalo, 2005). In activity theory, the historical logics exist within activities and have been established through the historical development of work and production. The logics can function as hypothetical devices for interpreting the contradictory nature of change and, on the other hand, for identifying the resources with which to conduct change.

The notion of multi-logic originates from and relates to the larger, historically evolved, underlying principles and operational logics of different occupational groups that guide the understanding of organizational change, learning and development. This study relates the top-down-directed logic dominating health care management and the dynamics of health care change and learning to the

large-scale historical transformations of work and production that have also concerned the health care sector. Health care has, over the years, shifted from craft to mass production and market-based models that follow the normative logic of control and efficiency. This logic follows a linear, goal-result-oriented causal view of change and evaluation which assumes that change processes will be progressive and follow preset descriptions.

In this study, the adopted activity-theoretical approach means that multi-site change is understood as a network of activity systems (Engeström, 2000). A network of activity systems is historically evolved, including boundaries between organizational sites in the studied hierarchical health care contexts. For example, in the case of the university hospital, the surgeons, anesthetists, surgical nurses, anesthetic nurses, operational management, quality personnel, upper management and customers (i.e. the patients) form a network of interconnected activity systems. The use of the notion of multi-sitedness is in this study intertwined in the model of the activity system. The unit of analysis is in this study the network of interdependent activity systems, which are located in different sites. This study explores the consequences of organizational change efforts in collective activity, in multiple sites and on multiple levels which both apply different logics to change.

The consequences of change efforts (i.e. interventions) are analyzed in this study. The analytical focus is on the inner dynamics, structures and contradictions of activity systems and the learning which takes shape within and between them. The articles of this study provide empirical examples of different sites, levels and manifestations of the historically evolved opposing logics of managerial-administrative control and the community of practitioners. The underlying logics guide the activities taking shape within and between the different organizational sites and levels. The distinctiveness of the various sites, levels and logics in health care are here seen as potentially creating oppositions, which were depicted in the first chapter of this study. It is here acknowledged that hierarchical organizational networks hold power structures; however, the analysis of power relations is not in the scope of this study.

Article I of the present study explores how representatives of different, historically distinct activity systems (i.e. sites) included in public sector hospital organization perceive the object of their activity: the patient. Multi-site ethnography is based on the method of following patients undergoing different surgical operations and staying by their bedside for the entire process of a care pathway. The study proposes a model for expanding care pathways towards an interplay of the multiple care objects held by the distinct organizational sites (i.e. activity systems).

In relation to the multi-sitedness of organizational change efforts and change, Article II of this study contrasts a process efficiency intervention and an

activity-theoretical developmental intervention, here called a community intervention, both of which concerned representatives of different distinct organizational sites. The managerially directed process efficiency intervention reported in Article II presents an example of a change effort which fell by the wayside. The participatory community intervention led to the overcoming of a deep crisis and the creation of a new organizational model, which has proven to be a functional and sustainable co-created solution for connecting sites and logics within a large organizational unit.

In this study, the notion of multi-level refers to the different activity systems that perform different functions which affect health care provision. Political decision-making, i.e. the legislation, reforms and regulations on the national level, represents the highest level in the hierarchy of the multi-level organization of patient care in Finland. This level is naturally not involved in the direct provision of patient care. Hospital districts and the hospital management and administration, which are responsible for implementing the given reforms and guidelines, form the following level in the decision-making hierarchy. The primary care and secondary care units conducting actual patient care represent the next level, and finally, customers, i.e. patients in need of health care services, are the lowest level. In hierarchically organized settings, in many cases, the “lower levels,” such as the employees, are not included in the design of change efforts and decision-making concerning organizational changes and work development. Thus, Article II, reporting a participatory developmental work research intervention conducted in a hospital, is an exception to this.

Article III illustrates how the extensive activity changes of a hospital unit led to the need for a collective creation of a new assessment tool to better manage daily patient care. The expansive learning actions between distinct sites, which initially emerged as a consequence and then stagnated due to the emergence of obstacles and a conflict between the sites, are examined. This specific study highlights the importance of including representatives of the upper management in change efforts conducted in lower organizational sites, such as the surgical operating unit under study. In this case, the head of the result unit participated in the conducted project meetings (analyzed in Article II) but did not acknowledge the tool creation process (depicted in Article III) which took place after the official project.

Article III of this study explores an unexpected employee-initiated change effort, which has rarely been studied in organization studies. A rare collaboration effort between the historically distinct sites of evaluation and the front line work in a hospital is examined. The boundary between the administration-management and front line nursing work is presented with the aid of the activity system model (Engeström, 1987: 78). In the process, boundary breaking across distinct organizational levels of quality control and front line nursing work took

place. This led to the collective design of a qualitatively oriented assessment tool. The study analyzes the expansive learning actions (Engeström, 1987: 322) which were initially taken, but then obstacles and a conflict undermined the process, and the new assessment tool, which first functioned as a potential boundary object, was taken out of use. In this study implementation of the assessment tool is viewed as a process in which design, implementation and learning are intertwined (Pressman & Wildavsky, 1984; Engeström, 2006).

Article IV of this study shows that the consequences of organizational change efforts may encapsulate to the level of local organizational units and not reach other levels, such as management and administration operating on a level responsible for resource allocation. The study uses the cycle of expansive learning actions (Engeström, 1987: 322) to depict phases of expansive learning and the long-term consequences of change efforts conducted in health care organizations. A story map¹⁵ is created to function as a methodological tool for tracing and mapping the overall view of change in different sites and on different levels. The study shows a separation between employees and managers operating with two distinct logics and in two distinct temporalities in relation to organizational development efforts.

In Article V, the continuity and discontinuity of organizational change efforts are analyzed with the aid of the expansive learning cycle (Engeström, 1987: 322) by depicting breaks and successive bridging efforts during change and learning processes in two health care organizations providing primary care. The long-term consequences of organizational change efforts are traced and analyzed. The method created and used in this study enables the bridging of different change projects, which can then learn and benefit from one another. In the study both representatives of management and employees were interviewed, and thus the study provides information on the different organizational logics.

The historical perspective and focus on long-term consequences temporally expands this study beyond most studies on management and most evaluation studies on the consequences of organizational change efforts. The consequences of change efforts are traced through different sites, levels, temporalities, materializations and spaces. The principle of consequentiality enables several distinct projects to be followed by identifying the breaks and discontinuities between them, and finding connections and possibilities for bridging them. The approach emphasizes the unpredictable and uncontrollable nature of organizational change, and is interested in the intended as well as unintended consequences of organizational change efforts conducted in health care.

¹⁵ Story maps are results of the analysis of ethnographic interviews, observation and document data (see Article IV, page 138, and Article V, pages 327 and 329).

5 HEALTH CARE AS A CONTEXT FOR ORGANIZATIONAL CHANGE

Health care is nowadays a broad concept which has been defined in various ways. Broadly, health care is any activity intended to improve the physical, mental or social function of people (Smith, Sinclair, Reine & Reeves, 2005: 7). Medicine as a practice can be depicted as “a vast array of activities; its division of labour is dizzyingly complex; its knowledge-base is vast and growing exponentially” (Atkinson, 1995: 22). In this chapter, the general, historical development of health care is depicted, and then the Finnish context for health care is described.

5.1 The general development of health care

Medicine has expanded its influence as diseases, methods and cures are discovered. Human problems have increasingly become defined in medical terms as “medical conditions”. The process by which the theory and practice of medicine become increasingly involved in new matters is called medicalization. Medicalization and its growing significance are connected to historical developments such as industrialization, the free market economy and urbanization (Dally, 2003: 69–70). In the following, I will illuminate some of the archetypical characteristics of medicine as a profession and of the practice of medicine.

Medical work has traditionally been seen as craft professionalism. Different kinds of historically evolved positions and power relations exist in the medical community, and it can be defined as heterogeneous. The professional groups in health care organizations maintain certain historically evolved professional discourses or rhetorics. The focus in health care has traditionally been on the contribution of individuals, which reflects the contemporary emphasis on individualism. In Western cultures, doctors working in the field have conventionally had strong individual and professional autonomy and expertise. The field of surgery and intensive care holds a strong position in the field of health care. The medical professionals working in the field treat complicated diseases and severely injured people, save human lives and relieve suffering (see e.g. Irwin & Rippe, 2008).

Health care maintains a silent “logic of care”, which is incorporated in practices but not often articulated. The “logic of care” is first and foremost practice oriented and concerned with actively and rationally improving life. Traditionally, this logic has been viewed as unquestionable and has not had to

justify or defend itself. In the main research site for this study, a surgical ward, the focus is usually on actions, not words. The profession is respected for its actions, which are not necessarily linked to verbal skills (Mol, 2008: 89-92; also Drife, 1998: 111).

Medicine can be viewed as both art and science. It aims at objective scientific measurements and also practices the “art” of clinical judgment, which includes subjective reasoning processes, imagination and narratives, including diagnostic plots. A narrative diagnosis often collides with the scientific, positivist, “objective” views and guidelines (Greenhalg, 1998: 261). The art and science features of medicine are intertwined and can be seen as complementary in health care professions (Berg & Timmermans, 2000). Previous studies have studied the practitioners and have focused, for example, on studying medical consultations, their discourses and the “voices” present in the doctor-patient interaction in the diagnostic processes (e.g. Mishler, 1984; Elwyn & Gwyn, 1998; Engeström, R., 1999).

The histories of surgery and anesthesia as professions have taken separate pathways. Surgery and anesthesia, the main research fields for this study, began to strengthen their positions through their activity and innovation development already at the start of the nineteenth century. Illnesses and diseases were attributed to a single area or organ of the body, which might be removed to cure the person. This created the attitude of advanced Western medicine that is still dominant. The development of anesthesia did not quite fit contemporary views and attitudes, and its development was slower. The new idea of using anesthesia to control pain first aroused anxiety, hostility and religious objections. People, even other doctors, were afraid of the consequences of administering drugs that were not well known. However, the techniques and drugs developed, and the practice of anesthesia grew in popularity and nowadays is a highly developed science (Dally, 2003: 80–88).

Surgeons as professionals traditionally hold a respected role in society, as they have had intensive training, conduct physically and mentally extremely demanding work, and are heroic lifesavers. Surgeons are usually perceived as the leading figures in the operation theatre, fully focused on the task at hand. Surgery is a technology- and male-dominated profession; for example, in Britain 90% of surgeons are men. This has been attributed to the career structure and historically developed male attitudes marking the profession. The others on the operating team, the anesthetist and the nurses (mainly female), are typically viewed as caring and nurturing characters in the operation theatre who make direct verbal contact with the patient. Normally, the anesthetists’ task is to maintain the oral narrative tradition in the operation theatre (Drife, 1998: 110–116).

Over its history, health care has evolved as highly professionalized. The individual professionals specialize in “doctoring” and collectively foster their knowledge and professional ethos (Mol, 2008). Medical practitioners usually meet with a patient to be treated and need to interact with them, for example, in medical consultations. Medical practitioners have increasingly started to function in teams of professionals, and medicine has increasingly become seen as a social act. Issues related to costs and efficiency have started to influence the practice and are setting requirements for the transformation of its operational logic. In recent decades, the shift from traditional craft-based medicine towards market-oriented models and market reforms began as competitive pressures started to become evident in health care (Clarke & Dawson, 1999).

During the 1960s and 1970s, health care providers such as hospitals started to expand and to structurally and also strategically differentiate themselves, and alongside these developments, costs started to increase. The changes taking shape in the hospitals reflected a stable external environment in need of a larger variety of services and can be characterized as evolutionary¹⁶ (Clarke & Dawson, 1999). The increased costs in health care provision started to catch the attention of policy makers, and different kinds of health care plans and government regulations were introduced and implemented in the whole health care sector to standardize and intensify care provision.

For example, the diagnosis related group (DRG) represents a protocol of standardization of services and is a system for classifying patients on grounds such as age, diagnosis and treatment. The protocol was first introduced in the US as early as the 1960s and then spread to Europe. Since the late 1980s, the new public management (NPM) reform and evidence-based thinking have been introduced and implemented (e.g. Lapsley, 1994; Sackett & Rosenberg, 1995). Public sector reforms emphasizing public involvement, accountability and transparency are meant to help organizations to cope with turbulently changing environments and increasing uncertainties in the public sector (White, 2000).

The change and management paradigm in health care in the public sector is based on a goal-effect-oriented logic and a hypothetic-deductive paradigm whose objective is controllability and rationalization, with cost-effectiveness as a guiding principle. Different kinds of projects, operations models and protocols have been introduced to intensify the productivity, cost-effectiveness, controllability and rationalization of health care services and processes. Health care advancement aims at guiding health care practices with standardized protocols. In health care, guidelines and process prescriptions, such as care pathway

¹⁶ Evolutionary theories view organizations as multiple entities and as driven by causation and proceeding stepwise, following a prescribed program or a code that regulates the process (see Van de Ven & Poole, 1995: 518–519).

descriptions, have been taken into use to provide standardized steps on how to conduct care processes effectively. In the early 1980s, care plans and care pathways, which are documents or standardized protocols that detail the essential steps in the process of patient care, were introduced in the US and later in Europe (e.g. Currie and Harvey, 2000; Panella, Marchisio & Di Stanislao, 2003; Renholm, Leino-Kilpi & Suominen, 2002).

These developments have led to a situation in which health care organizations are constantly beset with requirements for efficiency. The new public management (NPM) reforms in particular have strongly shifted public services towards entrepreneurial attitudes, where service users are redefined as demanding customers with high quality expectations. Alongside the quality requirements, guidelines for best care practices have been legislated. New quality systems have been developed to meet standardized quality assurance and quality control series (SFS-EN ISO 9000), accreditations (FINAS), certifications and quality auditing (ISO 200).

Health care reforms implemented in European countries have added both complexity and flexibility to health care practices. A large-scale study focusing on the implementation of health care reforms in Sweden, the United Kingdom and the Netherlands shows that the implemented reforms on one hand produce important system changes and on the other hand lead to unexpected consequences such as organizational and political obstacles (Harrison, 2004). The formal protocols, rules and guidelines introduced from the top down to local service providers also have a double function. They create a necessary order that keeps the practice going. On the other hand, they are often experienced by medical professionals as rigid and de-skilling, providing narrowly focused “single best answers” in complex medical situations (Berg & Timmermans, 2000: 59).

During the 1990s, industrial management principles, such as process thinking, lean manufacturing, the rationalization of care processes and process redesign using business process re-engineering techniques, have been brought into the change attempts of the service sector and health care (Sackett & Rosenberg, 1995; Daly, 2005). The value of processes as resources for management and for creating a competitive advantage has been recognized (O’Neill & Sohal, 1999). The rationalization of care processes and process redesign, focusing, for instance, on how to reduce idle times and work more effectively, have become standard elements in health care quality management (e.g. Cendán & Good, 2006; Harders, Malangoni, Weight & Sidhu, 2006; Peltokorpi & Kujala, 2006).

Organizations are facing increasing complexity due to multiple technological and sociological changes and from being required to operate with limited financial and human resources (Smith et al., 2005). It has been pointed out that streamlined processes requiring minimal patient variation and well-described

procedures cannot be seen as the universal answer to organizing health care organizations. Health care organizations operate in multidimensional, complex environments which are constantly changing and vulnerable to deviations and human errors, and the use of models based on industrial management principles for human “products” has been questioned (e.g. Edwards et al., 2009).

Changes in working life require that governance and management principles in the public sector also change (Burns & Vaivio, 2001). Health care has become increasingly challenging to manage due to its institutional, organizational and technological changes and to the increasing complexity of the field and health care organizations (Hitt et al., 2007). The shift in focus towards cost-efficiency was a revolutionary change in the health care industry. Ever since, employees’ responsiveness and adaptation to the changes and their resulting coping patterns have evoked organization researchers’ interest in building useful and efficient strategies for organizational managers to handle these issues (Mayer, Brooks & Goes, 1990).

In today’s economic reality, organizational resources are carefully allocated in the public sector. In cases where fewer resources are available, evaluation has become an important tool in providing evidence for decision-making and the planning of service provision (Smith et al., 2005). The evaluation results may be used in the workplace, for example, to enhance the manager’s ability to use financial resources effectively (Steiss & Cyprian Nwagwu, 2001).

Public sector organizations are increasingly expected to exhibit features of consumerism and private-sector style practices and management (White, 2000: 164). The capitalist society sets demands for cost-efficiency and productivity. Hierarchical and market-driven models have caused a general move away from traditional, individualistically oriented craft professionalism in health care. These models, based on the idea of mass production, were taken into use as a leading principle in health care service provision. The organizations maintain hierarchical organization cultures and linear models in mapping the provision of services such as care processes. Simultaneous needs for high quality and efficiency exist.

The results of public sector health care change efforts interest political decision-makers, funders, local care providers, the media as well as the public in the context of the ever increasing need for versatile services (Hitt et al., 2007). Public sector organizations have had to expand their evidence provision. The use of evaluation research techniques to measure performance and effectiveness has increased in health care and in the public sector in general (Clarke & Dawson, 1999). Public sector evaluations can be conducted by external or internal evaluators in organizations, typically by management, a quality department or external consultants or researchers, for example, engineers. Nowadays,

health care evaluation can be defined as the critical assessment¹⁷ of the value of an activity.

Previous studies indicate that despite the extensive and expensive efforts, health care is an especially challenging field to develop. It has been proven to be very difficult to change and manage health care with linear, predetermined techniques and models (McNulty & Ferlie, 2004). In health care contexts, implementation efforts often fail, and obstacles have been depicted in the implementation of different technologies, management strategies and reforms such as quality systems, evidence-based strategies and guidelines (e.g. Iakovidis, 1998; Shiffman et al., 2005).

The well-framed managerial tools and techniques that are in use, such as process descriptions, aid the care of ever complex illnesses and the continuity of care. However, studies focusing on the analysis of health care activity state that these techniques do not take into account the difficulties in the horizontal and spatial dimensions of care and the heterogeneous nature of change taking shape in the increasingly complex contexts of medical practice. In the multi-organizational field of health care, the historically established division of labor between levels of care and medical specialties outline the object of activity (see Engeström, 2001; Engeström, Engeström & Kerosuo, 2003; Saaren-Seppälä, 2004; Kerosuo, 2006). The historical developments of health care as a professional field have been radical, and this has caused tensions and contradictions, which causes fragmentation and poor coordination of the activity (Engeström et al., 1999; Kerosuo, 2006).

The provision of care takes place in multiple locations and is fragmented by multiple providers representing different professional fields. Single care providers focused on the aspects of objects included in their own tasks are not usually concerned about the uncoordinated character of care and the fragmentation of the overall object. The lack of an overall management of health care as a system may lead to breaks and disturbances in care provision. The contradictory demands create a multifaceted, fluctuating and challenging environment for practitioners to work in (on activity-theoretical studies on health care, see Engeström, 2000; Engeström, R., 2003; Engeström et al., 1999 & 2003; Saaren-Seppälä, 2004; Kerosuo, 2006).

The frequent failures of health care change efforts have been explained as due to the lack of rigorous evaluation methods and frameworks (Smith et al., 2005: 10) and to the obscurity of the consequences of the new implemented models and techniques (Hitt et al., 2007). The critics call for profound studies to

¹⁷ Assessment usually consists of the measurement of performance or the performance appraisal of individuals (Owen & Rogers, 2006).

provide a more complete understanding of the alternative views. The alternative approaches to the organizing of health services often provide a somewhat more humanistic notion of care that takes a personal approach to the patient, focusing on patient-centeredness as a care concept (e.g. Gillespie, Florin & Gillam, 2004).

Many of the critical challenges have continued to exist, and the field is in acute need of transformation. More profound empirical research on large real-world problems in health care is needed to map the specific ways in which organizations in the field can concretely benefit from management studies. This would also help management scholars to develop their theoretical-methodological understanding. Future research in management studies needs to systematically follow and evaluate the consequences of new, implemented management practices (Hitt et al., 2007: 1395–1396).

5.2 Health care in Finland

Public sector health care in Finland provides the research context for this study. Finland is a capitalist, socially democratic welfare state, which provides free access to public health care services for all its citizens. It is an advanced industrial and knowledge society participating and competing in the global market, especially in the fields of telecommunications and wood processing.

Finland has approximately 15 people per square kilometer and has a large proportion of rural areas. The population is centralized in urban areas, mainly in the southern parts of the country. The remoteness of those living in rural areas creates special challenges for health care provision. The rapid graying of the Finnish population also creates challenges. The complexity of illnesses and the increasing number of patients together with the decrease in the work force due to aging are current challenges (see Järvelin, 2002).

Between the 1940s and 1960s, the idea of equal service provision for all citizens dominated Finnish social policy. According to the Finnish Medical Association, the aim of the Finnish health policy is “to lengthen the active and healthy lifetimes of citizens, to improve quality of life, and to diminish differences in health between population groups” (Finnish Medical Association). To meet this challenge, a wide range of public and private health services are provided. The Finnish government distributes funds to the municipalities, and the allocation of the funds is decided by the municipalities. The “free” social services are funded through taxation and legislated and directed by the Ministry of Social Affairs and Health. The center of expertise in social and health care is the National Institute for Health and Welfare. Health care funding is multi-channelled. Health services are mainly financed by the tax revenue of municipalities (i.e. local authorities) (34.7%) and the state (25.2%), as well as

by health insurance (15%), households (19.1%) and some other sources, such as employers (6.0%). The total health care expenditure was 15 674 million Euros in 2009 (National Institute for Health and Welfare (THL), statistics from the year 2009).

Finnish citizens have a profound social security system, which includes, alongside free health care, a health insurance compensation for services in the private sector by the Social Insurance Institution, which administers health insurance in Finland. The public sector provides social services, primary care in health centers and specialized secondary and tertiary care in hospitals. In Finland, primary care covers maternity and child welfare, rehabilitation, health care for school students and dental care. Typically, in non-emergency situations, a patient in need of specialized care first pays a visit to primary care and there receives a referral to specialized care for further examination (see e.g. Järvelin, 2002).

In Finland, the organization of health services can be described as decentralized. Health services became decentralized in the late 1980s when the authority and power for the organization of health services was given to the municipalities by high-level decision makers. At this time, the management by results reform was implemented, which gave a great deal of economic responsibility and medical power to local clinical profit centers and their managers. Nowadays, social and health services are the responsibility of and organized by 448 municipalities. Some municipalities buy services from private providers (Häkkinen & Lehto, 2005).

Finland has 20 hospital districts providing care for the population. Each district has central hospitals, which are located in the major cities. Five of these are university hospital districts, which can include many hospitals, and the metropolitan district provides the most demanding, rare and expensive treatments. Seventy percent of physicians work in the public sector, in municipal hospitals or health centers, and only 11% work solely in the private sector (Finnish Medical Association).

There are over 21,000 licensed doctors in Finland, and over half of medical professionals are female (Järvelin, 2002). The authority of those working in management, often doctors and politicians, is high in the Finnish health care system (Vartiainen, 2008). In recent years, Finnish doctors and nurses have been striking to improve their wages, while simultaneously, the Finnish public health care system has suffered from a lack of nurses and doctors. The private sector has attracted many who work in the field of health care. However, the ongoing global and national economical crisis has led to the transfer of some nurses from the private sector to public sector organizations.

Public services have undergone many societal challenges and faced requirements for transformation in Finland since the mid 1980s (Vartiainen, 2008). At

the beginning of the 1990s Finland went through an exceptionally deep economic recession, which weakened the municipalities' capability of providing health services (Häkkinen & Lehto, 2005). Since the economic recession period, the Finnish health care system has faced many challenges and contradictory demands, such as demands for high quality and cost cutting. Somehow municipalities have, however, managed to maintain health services, but currently challenges and a lack of resources still exist.

Various change efforts have been conducted in Finnish health care to improve the efficiency and quality of care provision and to effectively manage patient flow. In the early 1990s Finnish health care administrators started to introduce the principles of total quality management and continuous quality improvement. This caused different efficiency-focused evaluation methods to be implemented in health care settings. A series of health care reforms have been introduced and implemented in the late 1980s and early 1990s. The promotion of quality started to raise its head, and guidelines for quality assurance were published in 1995 and 1999 nationally and locally in health care organizations. The implemented management reforms have followed international trends, which reflect fast-changing political and practical idealism (Vartiainen, 2008: 47–48).

New public management was introduced in Finland in the late 1980s, which meant an intensification of evaluation in administration and the beginning of the Finnish “outcome-oriented society.” The term ‘effectiveness’ has become a powerful organizing concept in the Finnish welfare state. Evaluation practices and evidence-based styles of reasoning have obtruded and diffused into Finnish society. Evidence is needed on the effects and impacts of conducted projects and other change efforts. The aim is to use the gathered information in decision-making and the development of services. Municipalities' economic interests as well as Finnish legislation obligate public sector organizations to evaluate the impacts of their practices (Rajavaara, 2007).

An example of a new public management reform and macro-level decentralization is the change in the resource allocation system in Finland. Before the reform, the state subsidized health care based on its actual costs. As a consequence of the ‘Finnish state subsidy’ reform, the state financing was reduced from 40% to 20% over ten years. The reform introduced new calculating systems for state subsidies, separating health care service provision and financing. Subsidies based on the age structure of the population, population density and land area were in use from 1993 until 1997, and thereafter the number of inhabitants, age structure, morbidity and the remoteness of the area have been, until today, the criteria for subsidies. The purchaser-provider model, which aims at efficiency improvement in health care, has been introduced as an implementation effort of the new public management reform (Vartiainen, 2008: 41).

Different kinds of health care protocols, such as care pathway descriptions, have been introduced to guide practices in the Finnish health care system. The protocols introduced to health care usually aim at quality assurance by providing normative guidelines. Medical staffs have been introduced to the guidelines in their workplaces. The fundamental aim of the reforms and specific protocols introduced in health care is to standardize and control care processes and improve their efficiency. The new legislation and other demands have created pressures on care providers to handle patient flow as effectively as possible. Due to the legislation, patient flows and the pressure to treat more patients have increased. Today, variations in the provision of care exist, and there are concerns about the possibility of patients to choose their own service provider (Järvelin, 2002).

Since 1993, patients have had the legal right to be involved in decisions concerning their treatment (Järvelin, 2002). A national agreement on access to care came into operation in March 2005, which means that time limits were legislated for non-emergency examinations and operations in the primary and specialized care provided in the public sector. The aim is to provide direct referral and standardize accessibility to health services and discontinue waiting lists across Finland. The public sector care institutions need to provide access to care to every Finnish citizen within these time limits, and failing this, the institutions are imposed a penalty from the Finnish health authorities. There is also legislation that emergency duties, such as tending to accidents and heart failures, need to be taken care of as soon as possible. Currently, patients in need of treatment are entitled to access to care within three to six months after the decision to treat the patient has been made by a care institution, for example, a primary health center (Research and Development Centre for Welfare and Health, 2006).

Recent trends in Finland are that patient's illnesses have become more complex, their awareness of care provision has increased and values related to care have changed. Flexible access to treatment, transparency and good quality of care are highly valued. New treatment technologies and clearly defined care pathways have been introduced in order to intensify operations. The private sector supplements the public sector in the provision of health services, and the use of private services has expanded and also attracts personnel from the public sector. Hospitals are competing for employees and trying to build an attractive image. Simultaneously, cost-effectiveness and productivity, i.e. an increased number of patients receiving treatment, are current demands for health care from the governmental level (Järvelin, 2002).

The Finnish context provides a worrying example of health care projects which have fallen by the wayside. New public management, quality management, decentralization and a patient orientation represent examples of more or

less successfully implemented management reforms. National projects in Finnish social and health care have been claimed to be fragmented, poorly coordinated, overlapping and not to give satisfying results. It has been claimed that health care policies, organizational structures and decision-making practices are often unclear when applied to real situations in an organization. For example, the management by results reform was implemented by clinical doctors lacking economic management skills, which might have caused the reform to fail. The implemented reforms often fail to resolve the targeted health care problems, which are usually more multidimensional than the creators of the reforms have expected (Vartiainen, 2008). Some studies have claimed that only a few doctors actually obey the guidelines (Nikkarinen & Brommels, 1998), and it is unclear whether the guidelines have impacts on practices in primary health care (Miilunpalo, Toropainen & Moisio, 2001).

Large-scale programs and projects such as the National Health Project have been carried out. The research results show that the effects of the project remain relatively insignificant in trying to improve the functioning of primary care. The project did not succeed in intensifying preventive care, in realizing the objectives related to the number of doctors and in trying to create concrete collaboration between hospital districts. It did not succeed in its leadership development aims either, nor did it succeed in trying to achieve structural, organizational and administrative solutions or in forming a merit pay system. The possibilities of creating a better functioning primary health care system have, in fact, weakened after the project (Tuomola et al., 2008: 22). The system has been criticized for lacking a legitimate democratic regional authority and for being too decentralized, institutionally path dependent and too much in the independent hands of small, local municipalities (Häkkinen & Lehto, 2005).

An example of projects that fall by the wayside was one of Europe's largest data system change projects in health and social care, which was carried out in Satakunta in Finland (Ohtonen, 2003). The reforms implemented in the Finnish health care system, for instance, have solved only some of the existing problems. This might be due to inadequate management skills and management tools, the creation and implementation of new reforms without a profound study, and a misunderstanding of the problems and their symptoms (Vartiainen, 2008).

An evaluation study on the implementation of a quality system at one of the Finnish university hospitals, for instance, indicates that the cost effects of such systems are very difficult to measure and that a longer-term approach would perhaps provide more comprehensive results (Siloaho, Naukkarinen & Penttinen, 2003). A wider national and regional as well as strategic and operational collaboration is needed among actors in the public sector to gain effectiveness in the provision of health services (FinnWell, 2009). The development of

services has concentrated on narrow sectors, providing only partial solutions, which easily locally encapsulate and do not necessarily benefit the system. Finnish health care seems to be in acute need of changes, and different actors are searching for new solutions to improve its functionality.

6 RESEARCH SITES AND DATA

In this study primary and specialized health care organizations are studied in the context of the Finnish public sector. A university hospital in northern Finland providing specialized health care forms the main research site for this study. Articles I–IV of this study present three studies from a unit for surgery and intensive care and one case from a ward for internal diseases located in a university hospital. Article V presents two cases from two primary care sites, namely a clinic of a health center and a health center consortium. The research sites and the collected data are introduced in the following. The descriptions of the research sites are based on the analysis of the interview and document data gathered from the sites.

6.1 A surgical operating unit at the university hospital as a research site

The first research site, which provides the data for Articles I–III of the dissertation, is a university hospital in northern Finland. The hospital is a public sector institution providing specialized care. The special health care region in which the university hospital under study operates covers the northern part of Finland, including approximately 729,000 inhabitants. The university hospital is responsible for the provision of highly specialized health care services such as open heart surgery, neurosurgery and radiation therapy in northern Finland. Its area of responsibility spans across five hospital districts and covers a vast geographical region, including almost half of Finland. The hospital district committee directs the provision of hospital services. The emergency unit of the hospital is on duty 24 hours a day, covering all areas of specialized health care in northern Finland.

The surgical operating unit in this study is in the Surgery and Intensive Care unit, which is one of ten medical result units at the hospital. The responsibility area of the unit encompasses general surgery, gastroenterological surgery, orthopedics, urology, cardiothoracic surgery, vascular surgery, plastic surgery and hand surgery, anesthesiology, and research and development. Patients are transferred to the surgical operating unit mainly from the wards and from the emergency units. Approximately 200 nurses and 100 medical practitioners work in the unit, which has 16 operating theatres shared among surgical specialties. Patients are treated post-operatively in two recovery rooms.

The work is highly challenging since the unit conducts the most demanding operations in the hospital district. Difficult and unexpected situations occur

frequently. The division of labor can be described as top-down directed and hierarchical in the result unit for surgery and intensive care. The upper management that designs change strategies is quite far removed from the front line work. Different professional groups, most importantly the nurses and physicians working in the unit, maintain their own professional roles and identities. These professional groups are further divided into the domains of surgery and anesthesia.

By 2005, a lack of personnel due to sick leaves and employee turnover had seriously eroded the unit's ability to respond to what was demanded of it, which pushed the unit close to a crisis signaled by closures of operating rooms and the simultaneous threat of sanctions due to long waiting lists and excessive waiting times for patients. At the time, the unit was divided into two distinct administrative departments: a department of anesthesia and a surgical unit. The surgical operating unit functioned under increasing pressure to perform more operations and to improve its organizational effectiveness. The unit faced many demands that had become difficult for the management and employees of a large-scale unit to handle.

Together with a research team, I started collaboration with the unit in 2006. The unit was in a near crisis situation, and our research team was invited to help its members improve the difficult situation. A change project, applying developmental work research methodology, was facilitated by our research team of three researchers (Professor Dr. Yrjö Engeström, Dr. Hannele Kerosuo and Anu Kajamaa). The project was funded by the Finnish Work Environment Fund from March 2006 to August 2007.

In order to study the activity of the surgical operating unit and to provide material for the facilitation of the project, during the years 2006 and 2007 I followed six care pathways of patients admitted to the surgical operating unit for different operations (reported in Article I). A working group including twenty representatives including representatives from all the professional groups, such as surgery, anesthesia and management, took part in six project meetings and two follow-up meetings. The group began outlining the contradictions of the work and as a result collaboratively created a new activity and management model. I followed the consequences of the project by interviewing the participants of the working group at regular intervals during the years 2007–2009 (reported in Article II). This study also reports a rare collaboration effort between the employees of the surgical operating unit and a member of the hospital's quality unit, which led to the creation process of a new assessment tool (reported in Article III).

Our research team, which is now expanded to ten researchers, has continued to follow the consequences of the conducted project. A second development project was started in 2010 to support the ongoing transformations in the

surgical operating unit. To discover the current state of the unit and the use of the activity and leadership model, fifteen care pathways were later followed by our research team in the hospital, but are not included here due to the space limitations of the study. However, the second project has provided valuable information and insights and has supported the making of interpretations in this study. All of the data collected from the surgical operating unit and its interfaces from 2006 to 2010 is presented in the following table.

Table 2. Data collected from the surgical operating unit and its interfaces during the years 2006–2010

Types of data	Amount and contents of the data
Observations	Over 30 days in the surgical wards and its interfaces, such as the wards and the quality unit of the hospital, observing work activities; audio recordings and written field notes
<i>In situ</i> interviews	123 <i>in situ</i> interviews while following work situations of 2 to 55 min. each; audio recordings and written field notes
Planned interviews	23 planned interviews of key informants at the surgical operating unit and its interfaces of approximately 2 hours each; video-recorded data
Developmental work research sessions	6 sessions of 2 hours each with around 20 representatives (September-December 2006); video-recorded data
Follow-up developmental work research sessions	2 sessions (June 2007 and February 2008); video-recorded data
The focal assessment tool design meeting	1 meeting with head nurses, staff nurses and the quality controller (May 2007)
Followed care pathways of patients undergoing different surgeries	6 care pathways (the autumns of 2006 and 2007) in orthopedics, gastroenterology, keyhole surgery, heart surgery and neurosurgery; audio recordings and written field notes
Phone calls and e-mails	Around 230 e-mails and phone calls phone calls with the surgical operating unit and its interfaces (2006–2010)
Documents of the hospital's previous change projects and activities	670 pages of reports and documents related to the activities of the unit, memos, evaluation and audit reports of the result unit (2005–2008), briefs, annual plans, annual reports
Statistical data	Key figures of the surgical operating unit (2006–2008)

Photographs	362, taken by the researcher during field visits (2006–2008); pictures of people, buildings and work premises
Field notes	480 pages, written by the researcher during the field visits and at the office
Information meetings (not analyzed in this study but used as support in making interpretations)	2 preparatory meetings with the hospital management and the researchers 1 information meeting with the whole result unit 2 activity area meeting 1 meeting with the operational management
Videoconferences (not analyzed in this study but used as support in making interpretations)	2 between our research team and the surgical operating units' management team
Preparatory meeting and board meetings for a second developmental work research project in the surgical operating unit (not analyzed in this study but used as support in making interpretations)	1 preparatory meeting (2010) 2 board meetings (2010) The new project is taking place during the years 2010–2012
Followed care pathways of patients undergoing different surgeries (not analyzed in this study but used as support in making interpretations)	16 care pathways have been followed in the same hospital by our research team (most followed by a colleague Päivikki Lahtinen) in relation to a new research project (2010–2011); audio recordings and written field notes

6.2 An internal disease ward at the university hospital as a research site

The second research site, which provides data for Article IV, is an internal disease ward in northern Finland. It belongs to the same university hospital as the first research site presented above. An internal disease ward had been established in 1975 as a geriatric ward nursing long-term patients, with many receiving end-stage care. In the mid 1990s the internal disease ward suddenly began to receive acute patients with multiple illnesses. In 1997 a monitoring room was set up in the ward to provide intensive care. With the installation of the monitoring room, the employees began to show signs of fatigue, frustration and an inability to master the changes in the working requirements. They refused to work in the monitoring room, for which substitute workers had to be found. The ward was in a difficult situation when researchers, acting as a research-assisted consultancy (not the authors of Article IV), arrived in 1998 to facilitate a piloting change effort which applied developmental work research methodology. I was not involved in the facilitation of the project.

The doctors and nurses in the site formed a working group in the piloting project and took part in ten project meetings and a follow-up meeting. They began by constructing a historical analysis of the ward, outlining the contradictions of the work there. The project involved training for employees of the university hospital interested in leading developmental work research interventions. The trained facilitators then were expected to start new projects in different result units of the hospital. The project was later diffused to other units, and eventually employees from eight result units took part in the project. According to the project reports, the hospital management's overall goal for the project was to transform the profit center into a team organization and to improve work-related problems that had emerged among the employees of the center.

In this site, I retrospectively studied the consequences of the activity-theoretically oriented intervention process. I interviewed the nurses and management who had taken part in the developmental work research project, wrote field notes and conducted field observations. The long-term consequences of the pilot intervention project are reported in the fourth article.

Table 3. Data collected from the internal diseases ward during the year 2004

Types of data	Amount and contents of the data
Observations	Over 13 days at the ward and its office and in the monitoring room; audio recordings and written field notes
Planned interviews	11 interviews of 6 employees, 3 representatives of management and 2 researchers of approximately an hour and a half each; video-recorded data (2004)
Phone calls and e-mails with the unit and its interfaces	45 (2004)
Documents	150 pages of reports and documents related to the developmental work research project (1998–1999), memos, evaluation and audit reports of the result unit (2001–2003), briefs, annual plans, annual reports, financial plans (2000–2006), annual reports of the internal diseases ward (1997–2002), floor plans used in a renovation
Photographs	Around 100, during the visits, pictures of people, buildings and work premises (2004)
Field notes	59 pages, written by the researcher during the field visits and at the office (2004)
Meetings (not analyzed in this study but used as support in making interpretations)	1 planning meeting (June 2004)

6.3 A clinic of a health center as a research site

The third research site, which provides data for Article V, is a clinic of a health center in a mid-sized city in northern Finland. A committee for social and health services, including various authorities, is responsible for the evaluating and developing of social and health services provided by this health center.

In the 1980s the health center operated as a functional sector organization. The populations' needs for health care provision started to expand in the area. The organizational model in use, which was based on sectors, did not support services that required collaboration between health care and social welfare services. The management of the health center believed that involvement in the nationwide development project could provide support for reorganizing the health center's functioning. The clinic thus took part in the nationwide Working Health Centre project¹⁸ during the years 1990-1993, which was carried out using developmental work research methodology. I was not involved in the facilitation of the project.

The aim of the project was to shift from an organizational system based on sectors to regionally based care and, through this, to improve the efficiency and quality of work from the patients' point of view. Putting regionally based care into practice meant assigning clients in their regions of residence to a team of social welfare and health care employees. Participants in the local project group represented both social welfare services and health care. The focus was on developing new ways of working with patients or clients with multiple problems. Towards the end of the project, in 1993, a model of multiprofessional teamwork began to develop, and it was experimented with in practice.

The multiprofessional teamwork expanded slightly in 1996 when a supportive teamwork project was carried out. Population-based care and the practice of assigning personal physicians were implemented in 1997 and 1998. Each inhabitant was assigned to a certain doctor with the idea of improving the continuity of the individual patient's care. In accordance with the model of population-based care, the local health center was divided into seven regionally based organizational units. In these units, six different multi-professional teams operated. A new reward system was implemented along with the new organiza-

¹⁸ Altogether 21 organizations from the Finnish health care sector participated in the Working Health Centre project in order to obtain support for difficult situations and to reorganize their operations. The project was divided into five subprojects focusing on different perspectives, for example, the development of data systems. The organization of services required collaboration between health care and social welfare services, and the aim of the Working Health Centre project was to facilitate multiprofessional teamwork and to improve the efficiency and quality of work from the patient's point of view (on the Working Health Centre project, see e.g. Saarelma, Launis & Simoila, 1994).

tional structure. In the new reward system, doctors were given salary increases, which generated some dissatisfaction among the nursing staff.

Largely as a response to a nationwide move toward supposedly more efficient and cost-effective models of health care, the management turned the development of the health center back in the direction of the sector model of organization. However, since 2004, the health center’s management has to some extent tried to reintroduce teams as there is an increasing demand for multi-professional work to respond to patients’ complex demands.

This study (Article V) focuses on following the consequences and continuity and discontinuity of organizational learning in two subprojects of the Working Health Centre project. The health center clinic presented above and the following fourth research site were chosen for the study because they represent different cities and different perspectives, which were included in the project.

I studied the health center clinic and thus provided the first case of Article V. I interviewed the doctors and nurses who had taken part in the Working Health Center project, collected documents and made field observations at the health centre. I collaborated intensively with my co-authors in the data analysis period and in the creation of the method presented in Articles IV and V.

Table 4. Collected data from the clinic of a health center during the years 2004–2005 (Case 1, Article V)

Types of data	Amount and contents of the data
Observations	Over 13 days
Planned interviews	11 interviews with 7 employees, 3 representatives of management and 1 researcher of approximately an hour and a half each; videotaped data
Phone calls and e-mails	38 (2004–2005)
Documents	180 pages of documents and reports related to the Working Health Centre project, notes of the employees in the project, reports of previous development projects such as the development of the phone services in 2003
Field notes	98 pages, written by the researcher during the field visits and at the office (2004–2005)
Photographs	Around 50, during the visits; pictures of people, buildings and work premises
Meetings (not analyzed in this study but used as support in making interpretations)	1 planning meeting

6.4 A health center consortium as a research site

The fourth research site, which provides data for Article V (forming its second case), is a health center consortium in Western Finland. The health center consortium provides health services for the populations of eight municipalities. A committee for social and health services that includes a number of authorities directs the provision of social and health services in the health center consortium.

The activity of the health center was organized according to the principles of sector organization in the 1980s. Services were provided in a bureaucratic manner, there were long waiting lists, and care providers changed from visit to visit. In the 1990s, the health center received more demanding patients from secondary care at the same time as social problems required more attention in the overall services for regional populations. In 1991 the nationwide economic recession and problems in funding health care services in Finland made the health center consortium management switch to a tight budgetary policy within a single year. This had consequences for the development and implementation of regionally based care. For instance, work premises could not be built, altered or rebuilt to fit the requirements of regionally based care practices. Some employees also resisted the new model of health care.

Due to the complaints from the customers, in the early 1990s this research site decided to participate in the Working Health Center project, which followed developmental work research methodology, to improve its situation. I was not involved in the facilitation of the project. During the initial project period, from 1990 to 1993, representatives of health care management, physicians and nurses created a new model of organizing and working as a solution to the observed problems. The new model applied the ideas of population-based care and multi-professional teams, and it was implemented in the health care consortium after the project had ended. Researchers assisted the project by providing help in the data analysis and modeling of the new activity. The project was organized in working groups, each responsible for a specific theme, such as changes in organizational structure, population-based care and teamwork, new computer systems, and quality of work.

The Working Health Center project led to the creation of four regional community health clinics in 1994. These community health clinics began to provide medical and preventive care to their regional communities. The new type of organization increased multiprofessional cooperation between doctors and nurses in health clinics. Teams of medical doctors, nurses and assistant nurses began to emerge. Cooperation with other professional groups in public services also increased. During that time, the management of the health center launched a new quality management approach. By the end of 1994, the consor-

tium returned to stable budgets. Changes in the service structure between primary and secondary care then took place, and demanding patients were transferred to primary care.

A population-based organization and the practice of assigning personal physicians were adopted in 1999 in order to improve the continuity of care for individual patients. The new model made the waiting lists disappear, but simultaneously time pressures and the working hours of the staff increased. The management of the health care consortium launched new training to support teamwork in 2001. The multiprofessional teams began to re-adjust the division of labor between doctors and nurses in the health care activity.

The decisive breakthrough in population-based care occurred in 2001 after the opening of a new clinic building and the renovation of the old clinic in the consortium's largest municipality. The updated work premises enabled proper teamwork in health clinics. In 2004 plans were made to expand the new clinic building. The population-based organization model continued to be used.

One of the authors of Article V, Dr. Kerosuo, conducted interviews of the management and nurses who had taken part in the Working Health Center project, collected documents and made field observations at the health center consortium. I visited the research site once to have a meeting with top management of the consortium together with my colleague. The colleague transcribed core parts of the data of the second case in Article V.

Table 5. Data collected from the health center consortium during the years 2004–2005 (Case 2, Article V)

Types of data	Amount and contents of data
Observations	The author, one day of observation. The interviews and observations for this case were conducted by a colleague
Planned interviews	12 interviews of 7 employees and 5 representatives of management of approximately an hour and a half each; videotaped data
Phone calls and e-mails	Numerous (2004–2005), the phone calls and e-mails for this case were conducted by a colleague
Documents	Documents and reports related to the Working Health Centre project, memos, briefs, newspaper articles, annual reports (1991–2001), activity plans and financial reports (2003–2007), collected by a colleague
Field notes	During the field visits, written by a colleague
Photographs	During the visits; pictures of people, buildings and work premises, taken by a colleague
Meetings (not analyzed in this study but used as support in making interpretations)	1 planning meeting (2004)

The data of the study includes 180 interviews, conducted as planned and as *in situ* interviews during ethnographic field research, 57 days of observation, 23 meetings, statistics from the years 2006–2008 provided by the surgical operating unit at a university hospital, around 1000 pages of documents, 637 pages of my field notes, 313 e-mails and phone calls, and hundreds of photographs. The following table (Table 6) indicates the research site of each article and respectively presents the data analyzed in each article of the dissertation. The data collection is presented in the following section.

Table 6. The research sites and data analyzed in each article of the dissertation

<p>Article I, the data collected from research site 1: a surgical operating unit at the university hospital</p> <p>Data:</p> <ul style="list-style-type: none">– Field observations, 6 days– <i>In situ</i> interviews (employees of the surgical operating unit, management and quality personnel), 84– Documents, 190 pages– Field notes, 120 pages– Phone calls and e-mails, 90
<p>Article II, the data collected from research site 1: a surgical operating unit at the university hospital</p> <p>Data:</p> <ul style="list-style-type: none">– Field observations, 13 days– Planned interviews (employees), 17– Documents, 150 pages– Field notes, 262 pages– Phone calls and e-mails, 62– The analysis conducted in Article I supported the interpretations made in Article II.
<p>Article III, the data collected from research site 1: a surgical operating unit at the university hospital</p> <p>Data:</p> <ul style="list-style-type: none">– Field observations, 11 days– Interviews (employees and management), 6– <i>In situ</i> interviews, 39– Documents, 330 pages– Field notes, 98 pages– Phone calls and e-mails, 78– The analyses conducted in Articles I and II supported the interpretations made in Article III.
<p>Article IV, the data collected from research site 2: an internal disease ward at the university hospital</p> <p>Data:</p> <ul style="list-style-type: none">– Field observations, 13 days– Planned interviews (employees), 12– Documents, 28– Field notes, 59 pages– Phone calls and e-mails, 11

Article V, the data collected from research site 4: a health center consortium

Data:

- Field observations, 11 days
- Interviews (employees and management), 22
- Documents, 56
- Field notes, 98 pages
- Phone calls and e-mails, 38
- The researcher collected data for and analyzed Case 1 in Article V.

6.5 Methods of data collection

The empirical data of this study was collected by conducting ethnographic field research. Field research is usually conducted to gain information on an unknown area about which the researcher wishes to develop an understanding (see Schatzman & Strauss, 1973). Ethnographic field research methods are commonly used in previous activity-theoretical studies and interventions to gather information on workplace practices (e.g. Saari, 2003; Toiviainen, 2003; Puonti, 2004; Hasu, 2005; Hyysalo & Lehenkari, 2005; Kerosuo, 2006) and educational contexts (e.g. Rainio, 2010). The data for the articles included in this study was collected using multiple ethnographic and intervention methods to provide rich insights on organizational changes in different contexts. The data collection of this study followed the schedule of the two developmental work research projects in which I was involved. In this section the “researcher” refers to the author of this book. As an ethnographer-researcher, she was the main research instrument (see Emerson, 2001: 113) in the study.

Since the 1990s, the use of qualitative methods has rapidly increased in organizational change research (e.g. Armenakis & Bedeian, 1999). Scholars focusing on organizational change have recently started to emphasize the importance of using multiple methods¹⁹ (Van de Ven & Poole, 2005). Interesting methodological expansions formed by integrating different approaches have been suggested. For instance, the integration of ethnographic and narrative approaches offers a promising development for qualitative researchers, even though the approaches derive from separate origins (Gubrium & Holstein, 1999). The importance of applying a longitudinal research methodology that widens our understanding of the dynamics of organizational change has been increasingly emphasized in organization studies (Orlikowski, 1996; Beer & Eisenstat, 1996).

¹⁹ A method refers to a specific research technique. Methodology refers to the general approach for researching a topic (see Silverman, 1993: 2).

Taking an activity-theoretical stance, health care is here perceived as a historically developing activity. In this study, the integration of narrative and ethnographic methods means “moving between” narratives, documents and observations in data collection and analysis. The narratives told by the interviewees in the local organizational contexts are here seen as carriers of the history of the organization and the professions. The conducted interviews are seen as places of inquiry and observation and as interventions, which offer the interviewees space for remembering the past and learning from it, and which may influence current work activities and simultaneously create new needs for change and development.

The data of this study is collected with multiple methods: by observing, interviewing and collecting documents and other data, such as e-mails, to support the making of the interpretations. The data is collected from multiple organizational sites, representing distinct organizational activities, levels and logics. Typical of developmental work research, the researcher moved between theory and practice during the research process, i.e. participated in the conduction of an intervention in a real work-life context (i.e. in the surgical operating unit) and collected empirical data (in the hospital wards and primary care settings) using multiple ethnographic data collection methods in trying to answer the research questions and for building new theoretical insights.

The methodology of the study includes following health care work activities and patients across organizational boundaries and units. The use of ethnographic data collection methods in this study means that intensive fieldwork was conducted in all of the organizations under study. By observing activities conducted by medical professionals in health care settings through interviewing them and collecting documentary data, information on the care activity was gathered and then analyzed. The ethnographic data enabled the understanding of health care as a research context, which was new to the researcher, and offered the possibility to develop insights on activities taking shape in the local research sites.

The study applies ethnography of change (see Hasu, 2005; Kerosuo, 2006) and, more precisely, multi-site ethnography (see Marcus, 1995; 1998; Falzon, 2009) as a research method and traces²⁰ multidimensional organizational changes. The focus on past organizational change projects extends the ethnographic method from observation conducted in a situationally and temporally bounded field to a multi-temporal and historically situated field (Des Chene,

²⁰ The method of tracing was used and developed in a previous activity-theoretical study that studied traces of historicity, objects of care, past activities and emerging futures in relation to the overcoming of boundaries in the health care of patients with multiple illnesses (Kerosuo, 2006: 94).

1997; Marcus, 1995). This study differentiates itself from previous studies by combining a narrative approach and activity theory and especially by focusing on the long-term consequences of developmental work research change efforts by integrating the narrative analysis of participants' accounts of change efforts with the observations and analysis of documents and material consequences.

Observation involves participation and interaction and is a collaborative process between the observer and participants (Angrosino & Pérez, 2000). Medical sociologist Anselm Strauss and his colleagues conducted a classical observational ethnography following episodes of patient care in a hospital (Strauss et al., 1985). They took an important step by trying to overcome normative care descriptions and introduced the concept of an illness trajectory. The term 'trajectory' expands the term 'course of illness' and refers not only to the physiological unfolding of a patient's disease but to the total organization of work done over the course of the disease, including the impact of those involved with medical work and its organization (Wiener, Strauss, Fagerhaugh & Suczek, 1997).

Observations were carried out in this study, as the researcher was present in the research sites. Observational ethnography (see Strauss et al. 1985) was conducted by following work activities in health care contexts. This study steps away from Straussian observational ethnography by collecting ethnographic narratives and making observations during my *following* of the course of an actual care pathway at the patient's bedside. The followed patients were undergoing different operations, which created diversity in the data. The bedside presence of the researcher differentiates contemporaneous narratives from narrative studies, which are often retrospective in nature. Taking an activity-theoretical stance, the observational ethnography is not considered here as objective, but as interventionist, since the observer's presence interferes with and affects what is observed.

In conducting the field research, patients were individually followed. The patients to be followed were met in the wards they were staying in. The researcher stayed in the ward together with the patient over different time periods, depending on when they were called for an operation. As the patients waited for the operation to begin, they were interviewed. All the nursing staff taking part in the care provision of the followed patients, whether they were from the wards, operation theatres or recovery rooms, were interviewed. The surgeon(s) conducting the operations were interviewed before and after the operation. The researcher observed the whole length of the surgical operation. After the operation, the patient was followed to the recovery room in which she or he would wake up. The patients were encouraged to tell their story every time they seemed to want to talk and were not asleep or in severe pain and

unable to interact. The interview situations are also considered here as sites for conducting workplace observations.

Interviews were conducted to find out about the conduction of care activities, organizational change efforts and their consequences. Since patients' illnesses have become more complicated and the needs related to their care have changed, it is crucial to explore the ongoing organizational activities not just from the managerial and employee viewpoints, but also from the patients' (or customers') perspective, to hear their "voice" in the care process. The method of following the patients by their bedside and actively interviewing and listening to them used in this study allowed the patient to become an active agent in the research process, instead of being a passive object.

Planned interviews were conducted with the employees and the patients in the health care contexts, usually in the wards or with medical personnel in their offices. The researcher had designed a list of research questions for this purpose. In order to follow the consequences of past change efforts, the questions focused on three themes: (1) the starting points of the development project, (2) how the development project proceeded in practice and (3) the results and consequences of the development project. More spontaneous *in situ* interviews were conducted with the employees representing different surgical specialties, nurses, other personnel, the management and the patients. *In situ* interviews were done, for example, in the regular wards, the operation theatres, the recovery room, the surgical operating unit's control room, the hallways and the cafeterias. The planned interviews, which were meant to uncover the consequences of change efforts, lasted about two hours each, and the *in situ* interviews varied from a couple of minutes to half an hour. The interview questions are included to this book as appendixes (Appendixes 1 and 2).

In addition to the collected data, the researcher experienced many informal occasions in the research sites in which the employees and patients talked to her or to each other. Unfortunately, not all of the information gained in this way was able to be included in this study as it would have expanded the length of the study and taken the focus away from the study of change efforts and their consequences. The interview situations seemed to provide useful moments of reflection in the midst of the busy daily schedule, and some of the interviewees shared feelings such as these with the researcher during the interviews.

Meetings were facilitated and followed in this study. A developmental work research project²¹ was carried out by our research team in the first research site,

²¹ Activity theory includes an interventionist methodology for the development of organizations. The methodology has various applications. Developmental work research is an activity-theoretical approach used by the researchers of the Centre for Activity Development and Learning in Finland and their partners. This application of activity theory uses a Change Laboratory method for developing organizations. Many profound research and development projects have been con-

the surgical operating unit. In developmental work research interventions (or projects), the work communities are encouraged by a team of interventionist-researchers to communicate their needs and problems in their work activities. The conducted intervention sessions included around twenty representatives of medical professionals and managers from different organizational levels and us three researchers. The project sessions and the two follow-up sessions conducted by our research team provide the data for this study (Article II). After the conducted project and its two follow-up sessions, the researcher continued to follow the consequences of the project. For instance, meetings within the surgical operating unit and between the surgical operating unit and the quality department of the hospital were analyzed to examine a rare collaboration effort and tool creation process between the two historically distinct worlds (Article III).

The descriptive findings of observational ethnography are contrasted with the managerial notion of a care pathway (Article I). The ethnographic, observatory findings and interviews are contrasted with *instruments and artifacts*, such as documents, instruments and other material tools existing in health care contexts (Articles IV & V). Tools or instruments act as mediators and triggers for remembering, providing a context for remembering. All of the interviews were conducted in the work premises of the interviewees. The interviewees were asked by the researcher to bring material documents to the interview situation from their personal files. They brought historical and current documents and project materials, such as project documents and flip chart drawings, and utilized them as memory aids and as providers of material ‘evidence’ of the changes that they considered important. The interviewees directed the researcher to meaningful documents, such as project documents, maps and annual reports, and to different kinds of artifacts and spaces.

Additional correspondence data was produced, such as e-mails and phone calls, which enabled agreements on the conduction of the fieldwork and enhanced the communication between the researcher and the sites, which were physically distant. The frequent correspondence enabled the establishment of long-term relationships based on trust between the researcher and the research sites. The researcher is currently still in close contact with the main research site of this study, the surgical operating unit.

In addition to the qualitative data, our research team has quite extensive *quantitative data* on the consequences of the change efforts in the university

ducted in various kinds of other institutionalized and non-institutionalized settings, which usually include Change Laboratory interventions involving both professionals and customers (see e.g. Engeström et al., 1996; Engeström 2005a; Kerosuo et al., 2010; Virkkunen & Ahonen, 2011).

hospital's surgical operating unit. These consist of statistics of the functioning of the surgical operating unit from the years 2006-2008 concerning the number and degrees of difficulty of conducted operations, the utilization rates of the 16 operating rooms, the closings of operating rooms, the numbers of sick leaves and the results of a nationwide comparison of the performance of surgical units in Finland (Intensium® Benchmarking, 2008). The statistical data is used in Article II.

During the field visits, the researcher made many detailed notes in her notebook on her observations, interviews and reflections during the visit to refresh her memory later when analyzing the data. She audio-recorded and videotaped all the planned interviews, audio-recorded the *in situ* interviews and saved the e-mail conversations. All of the sites were **photographed**, and **video-recordings** were made in all of the sites. Photographs are in this study considered as documentation and data. The multi-site ethnographic method guided the photography. In photographing and videotaping the health care settings, confidentiality and ethical issues were considered. The patients cannot be recognized in the photos. The employees of the surgical operating unit are usually wearing respirators and thus cannot be recognized, except in the hospital wards and primary care settings. The collected visual material has been used as support in the data analysis. The photographs have also been used in conference presentations and during teaching conducted by the researcher.

The eight developmental work research project meetings were audio-recorded and video-recorded and transcribed by a person outside the research project. The researcher videotaped and photographed activities in the research sites only with the participants' permission. Videotaping the meetings was especially important since there are many overlaps in the participants' talk. The researcher audio-recorded also some of the talk taking place in actual work situations being observed when she was given permission. The data crucial to the articles in this dissertation was transcribed by the researcher or by a person outside the projects. The planned interviews were transcribed. Some of the *in situ* interviews were transcribed, and some were only listened to from the recordings to enrich the researchers understanding of the cases. Data was also transcribed for the other related publications written by the researcher and her colleagues, which are presented at the end of this book but not included in this study.

7 METHODOLOGY AND METHODS OF ANALYSIS

The research strategy of this study is to explore a series of ethnographic case studies of change efforts and their consequences. A case study approach, providing useful information to be implemented in practice, is often used in the study of health care contexts (see Hammersley & Atkinson, 1995; Gomm, Hammersley & Foster, 2000). The articles included in the study present six cases from health care contexts, and the unit of research is a case.

In this study, theory and practice are tightly interconnected. A new type of method for following the consequences of change is created to produce knowledge on health care change efforts and their consequences. The methodology of this study integrates the theory of expansive learning (Engeström, 1987; Engeström & Sannino, 2010) and developmental work research (DWR) (Engeström et al., 1996; Engeström 2005a; Engeström et al., 2005; Kerosuo et al., 2010), which derive from cultural-historical activity theory (Leont'ev, 1978; Engeström et al., 1999; Sannino et al., 2009) and the narrative approach (Mishler, 1986; Czarniawska, 2004). The data analysis combines a narrative analysis of participants' accounts of change efforts with observations, the analysis of documents and material consequences, and analysis conducted with the aid of activity-theoretical concepts and models.

In the following, I will define the activity-theoretical concept of an object and present the models of an activity system and expansive learning used in this study. Then, I will explain the basic underpinnings of activity theory and its relationship to narrative thinking, which is based on remembering.

7.1 Methodological starting points of this study

Activity theory guided the epistemological premises of this research process. An activity-theoretical conceptual framework is developed and used to analyze the ethnographic data. The historical analysis of work activities and collectively focused units of analysis are emphasized in activity-theoretical studies. The capturing of qualitative transformations of work requires a historical perspective. In activity theory, socio-cultural, mental and material resources for action are viewed as intertwined. Further, activity is conceptualized as cultural, deeply contextual and oriented by historically specific social organization, local practices, their objects and mediating artifacts. Originating partly from Vygotsky's ideas (1978), activity theory stresses the central role of mediation. In this view, artifacts (tools and instruments) mediate actions between subjects

and objects. Cognitive instruments such as analytical models and concepts are also regarded as an essential part of joint collective human activity and as a way to understand the activity, to give it meaning and to develop it; these instruments must always be examined in relation to the context in which they are used (e.g. Engeström, 1987; 1999; Cole & Engeström, 1993).

Activity theory regards tools as essential mediating devices in organizational learning processes. New forms of activity often require not just single tools but multi-level instrumentality. New tools can be seen as mediating devices in the formation of a new, shared object, and the tools can also support the stabilization of the new expanded object (Engeström, 1987 & 2005a). As the organizational activities have become ever more complex, fragmented and difficult to define, institutional, organizational and technological changes have started to intertwine (Blackler et al., 2000: 293). New tools have been created as a consequence of the revolution in information and communication technologies. A qualitative transformation of an entire activity system may be triggered by the introduction of a new technology. However, the transformation is not reducible to the new technology (Engeström, 2004). Rather than devices of control, change efforts and evaluation tools need to be seen as dynamic, constantly developing, collective resources for practitioners in health care contexts (see also Kern, 2006).

Many discussions of activity theory deal with the concept of an object (Engeström et al., 2003; Miettinen, 2005; Engeström & Blackler, 2005). From an activity-theoretical view, activity is always collective and driven by a shared object-related motive (Leont'ev, 1978). The sense and meaning of actions are attached to the object of an activity (Vygotsky, 1978). Sense is an important concept in regard to activity, but not the main explanatory principle. The identity of any activity is primarily determined by its object, which includes a collective motive for the activity and emerges when human needs and the material-cognitive formations of the world meet. Object-oriented actions are always characterized by ambiguity, surprise and sense-making, and include the potential for change, i.e. the expansion of the object (Engeström, 1987; 2004).

Actors are not always aware of the object of their activity. The object of an activity is constructed and evolves over time, and needs to be identified and reconstructed again and again. People not only construct knowledge, but they also create their historical realities and collectives in object-oriented activity (Vygotsky, 1978; Engeström, 2000). The object holds the community together and gives it a long-term purpose (Engeström et al., 2003). On the other hand, the object is constantly molded, shaped and kept in movement by the processes which reproduce it (Engeström & Blackler, 2005).

In activity-theoretical studies, the analytical focus is on activity systems (e.g. Engeström, 1987 & 2000; Engeström et al., 1999). In his theory of expansive

learning, Engeström (1987) represents the structure of human activity as a dynamic model of an activity system consisting of a subject (or group of subjects), an object, mediating artifacts, rules, a community and the division of labor. Every organization forms a system, which consists of activity systems and their objects. In organizations, activity systems exist in relation to neighboring activity systems and their different objects of activity (Engeström, 1987).

Activity theory uses living movement as a source of development, and development may be defined as the “formation of qualitatively new ‘functional systems’, relatively stable patterns of conduct, within and between individuals or collective activity systems” (Engeström, 2006: 20). Activity systems are inherently multi-voiced since the participants form different conceptualizations of the object. The activity system model is designed to explore the tension-laden relationships between the elements of an activity system. Subjects act as parts of a community that performs object-oriented collective activity. Distinctions between activity systems are made by their conception of the object (Blackler et al., 2000: 282).

In the theory of expansive learning (Engeström, 1987), the fundamental focuses are on the analysis of contradictions in and between activity systems and on system-level changes and qualitative transformation in the object of the activity. The motivation for change always arises from tensions or contradictions in organizations. Contradictions manifest themselves as primary, secondary, tertiary and quaternary contradictions in and between activity systems (Engeström, 1987; 2001). In activity-theoretical change efforts (i.e. interventions) members of organizations are assisted in solving contradictions and analyzing their work activity to create a zone of proximal development²² and expansive learning. Contradictions in an activity can be captured with the model of an activity system (presented in Figure 5). The collective analysis of contradictions enables overcoming them and organizational transformation. As a result of the renegotiation and reorganization of collaborative relations and practices, and through actions such as the construction of new tools, expansive learning and qualitative transformations of the objects of an activity may take place (Engeström, 2004; 2005b). Figure 5 illustrates human activity as a dynamic model of interlinked activity systems (Engeström, 2000).

²² The zone of proximal development defines those functions that will “mature tomorrow but are currently in an embryonic state”, i.e. the ‘buds’ of development (Vygotsky, 1978: 86). Human children can “go well beyond the limits of their own capabilities”, they “are capable of doing much more in collective activity” (Vygotsky, 1978: 88, cited in Engeström, 1987: 169).

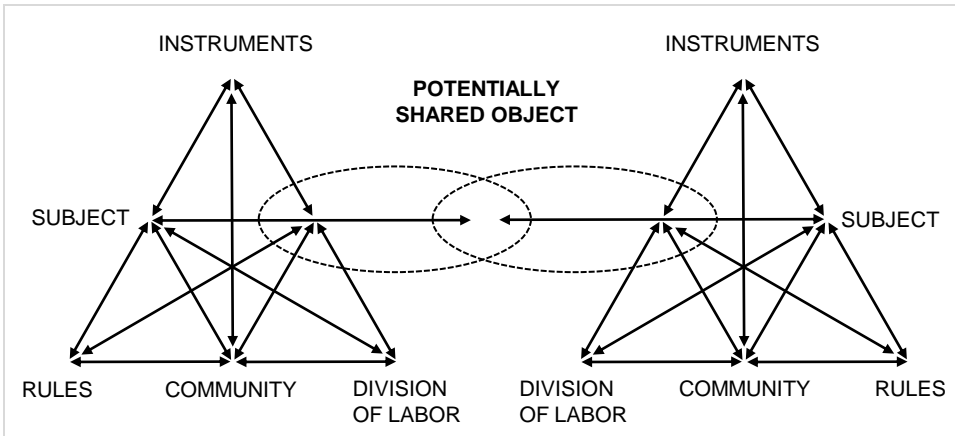


Figure 5. Activity as a dynamic model of interlinked activity systems (see Engeström, 2000: 306)

Activity theory attempts to investigate the gradual and overlapping nature of change in developmental cycles. The developmental cycles of an activity can be modeled on the cycle of expansive learning. The focus of expansive learning is on large-scale transformations in activity systems that may take several years to carry out in organizations. Expansive learning is triggered by disturbances, contradictions and concrete innovative actions, and it may lead to the redefinition of the object of an activity and to the reorganization of its structure (Engeström, 2000: 308–309; also Engeström, 1987). Developmental processes may involve local expansive learning on the micro and macro levels. Micro cycles, however, do not necessarily lead to expansive learning but involve the potential for it (Engeström 1999: 384–385). The object of expansive learning is the activity system to which the learners belong (Engeström, 2001). The following figure (Figure 6) presents the sequence of learning actions in the methodological cycle of expansive transition and developmental research.

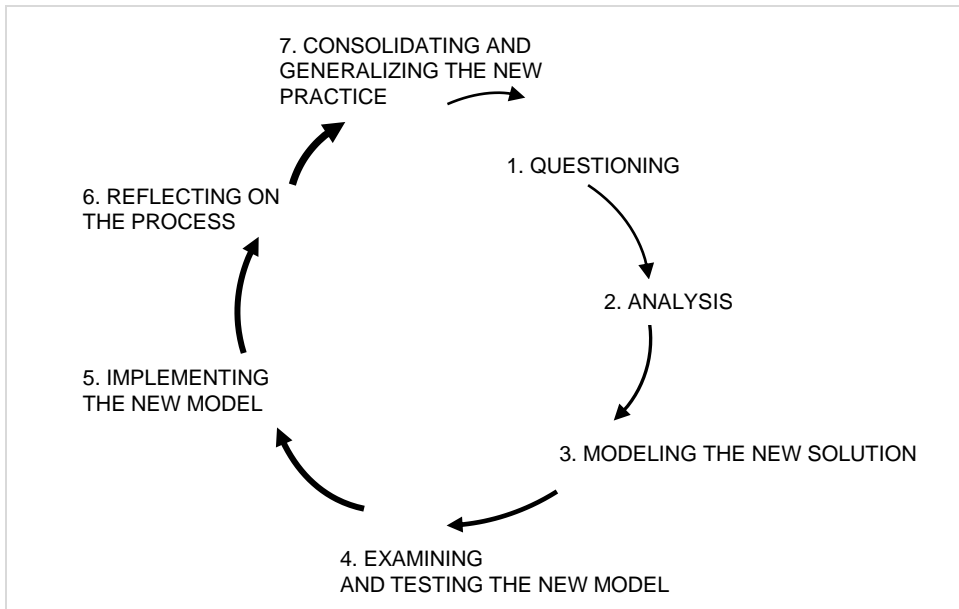


Figure 6. Sequence of learning actions in an expansive learning cycle (adopted from Engeström & Sannino, 2010: 8; see also Engeström, 1987: 322)

The basic principle of activity-theoretical dialectical thinking is the idea of ascending from the abstract to the concrete. An abstraction arbitrarily captures the smallest and simplest unit of the whole interconnected system (Ilyenkov, 1977; Davydov, 1990). Ascending from the abstract to the concrete happens through specific learning (i.e. epistemic) actions, which constitute learning activity (Engeström, 1999: 383). Expansive learning leads to the formation of a new, expanded object and pattern of activity oriented to the object. An ideal-typical sequence of epistemic actions in an expansive cycle may be described as follows (Engeström & Sannino, 2010: 7; also Engeström, 1999).

- The first action is that of questioning, criticizing or rejecting some aspects of the accepted practice and existing wisdom. For the sake of simplicity, it is called *questioning*.
- The second action is that of *analyzing* the situation. Analysis involves a mental, discursive or practical transformation of the situation in order to discover causes or explanatory mechanisms. Analysis evokes "why?" questions and explanatory principles. One type of analysis is *historical genetic*; it seeks to explain the situation by tracing its origins and evolution. Another type of analysis is *actual empirical*; it seeks to explain the situation by constructing a picture of its inner systemic relations.

- The third action is that of *modeling* the newly found explanatory relationship in some publicly observable and transmittable medium. This means constructing an explicit, simplified model of the new idea that explains and offers a solution for the problematic situation.
- The fourth action is that of *examining the model*, or running, operating and experimenting on it in order to fully grasp its dynamics, potentials and limitations.
- The fifth action is that of *implementing the model* by means of practical applications, enrichments and conceptual extensions.
- The sixth and seventh actions are those of *reflecting* on and evaluating the process and *consolidating* its outcomes into a new stable form of practice.

This study applies the analytical models of an activity system (depicted earlier in Figure 5) and the cycle of expansive learning (depicted earlier in Figure 6). The intermediate activity-theoretically informed concepts of consequence, rupture, process, community, boundary object, boundary breaking, obstacle, conflict, sustainability, diffusion, continuity, discontinuity, break and bridging that were applied in this study serve methodological, mediating and connecting functions in the empirical articles. The study carries out the analysis using these intermediate concepts and sets them in proportion to analytical models central to activity theory: the model of an activity system (see Engeström, 1987: 78) and the cycle of expansive learning (Engeström, 1987: 322). The activity-theoretical analytical concepts and models construct the theoretical frame of this study for unraveling multi-site, multi-level and multi-logic change.

The principle of *consequentiality* directs this study (see also Engeström, Kerosuo & Kajamaa, 2008; Kajamaa, Kerosuo & Engeström, 2008)²³. The focus on the multidimensionality and consequentiality of change does not refer to causal factors (dimensions) and their interaction-causing effects. In this study, the concept of consequentiality requires the tracing of temporal, localized or other interconnections. The principle of consequentiality directs the research to

²³ A previous study has evaluated functions of outcome guidance and its social impacts in research organizations. The authors have introduced a process for promoting learning between researchers and users of research. The impact evaluation method is based on the activity-theoretical theory of expansive learning (Saari & Kallio, 2010). In general, activity-theoretical studies rarely focus on issues related to the consequences of change efforts.

seek and explain the absence of and the prerequisites for connections, modifications and the diffusion of innovations to neighboring activities. This study embraces both the intended as well as the unintended consequences of organizational change, and does not identify them as either positive or negative. This study suggests that the consequences of organizational change efforts need to be traced and analyzed longitudinally to capture the expected as well as unexpected consequences of organizational change efforts and organizational learning. It is crucial to note that the consequences may not necessarily be caused by a particular change effort but may result from various change efforts and other factors.

Narrative thinking,²⁴ which is applied in this study, allows for the interpretation and analysis of meaning, social action, human experience, a multiplicity of meanings and knowledge, the illumination of human agency, the complexity of social elements and the moral elements of human life (Bruner 1986; Czarniawska, 2004). Narratives and antenarratives can be used as central discursive resources in unfolding organizational change and in analyzing sense-making and the construction of organizational identities and cultures related to organizational change (Vaara & Tienari, 2011).

Organization scholars Tsoukas and Hatch (2001) have explained the advantages of the narrative mode of thinking versus logico-scientific thinking, which underlies the dominant form of management thinking. Sense-making through a narrative process allows a wider understanding of complex systems and theorizing about complexity, which is grounded in the constructed narratives. Narrative thinking provides sequenced, contextualized statements that include connections between behavior, actors, history, local situations, tangible instances and their consequences (Tsoukas & Hatch, 2001).

Using the narrative approach enables the exploration of various paths and interconnections between actions in organizations. Narrative studies try to explain “why something happened in a change process and how individuals understood these events” (Stevenson & Greenberg 1998: 743). Narratives told in a work community are typical of that community, reflecting its culture (Gabriel 2000). Stories are the building material for norms and ways of action. Narratives reflect the organizational context in which they are told, and an organization can itself be seen as a socially constructed story that interconnects individuals and organizations. Different organizational voices are present in narratives, and much knowledge is mediated through narratives in the organiza-

²⁴ In 1986 Bruner identified two modes of human thought: logico-scientific and narrative. The logico-scientifically oriented researcher is rational and tries to attain truth and achieve logical proof through careful analyses. The narrative mode of thinking deals with human intentions and action, and locates experiences and their meanings in time and place.

tional world (Czarniawska, 1998; 2004). Storytelling in organizations is not just information sharing but meaning-making, identity construction and persuasion (Gabriel, 2000).

Narratives are important processual and temporal devices for humans with which to interpret and make sense of their own and other peoples' actions and intentions (Czarniawska 1998; 2007). However, explanations of past events are always complicated, and connecting real events and stories is challenging. The interviewee's memories might be inaccurate, and crucial information may be lost; there is also empty time in narratives (Czarniawska, 2000). Despite its strengths, narrative analysis has been criticized for being unclear about its epistemological commitments (Redwood, 1999).

In the activity-theoretical stance taken here, narratives are seen as intertwined with temporality and the material-historical surroundings of the interview situation. Activity theory is applied here as it offers epistemological premises and analytical tools for a research process studying narratives of organizational change. From an activity-theoretical stance, acts of remembering and narrating are culturally and materially mediated social and collective acts (Middleton & Edwards, 1990). In the act of remembering, subjects give "social sense" to their individual experiences and feelings about the past, and make their experiences accountable to their present social context (Shotter 1990).

The act of narrating is social in nature and involves the past, present and future (Engeström et al., 2003). Narrative thought is here understood as creative, multivoiced, purposeful and reflexive, including evaluation of the past, present and future actions (see also Lorino et al., 2011: 775). Collective remembering is essential to the identity and integrity of a community. Individual memory and social memory are interdependent, and context is a substance of collective memory (Middleton & Edwards 1990). Narration is a communicative act that links individual and organizational narratives as well as the interviewees and the researcher (Kerosuo, 2007). Individuals do not just store information in their minds passively for future use but actively and intentionally reflect on and remember things that are meaningful to them (Engeström, 2005b).

From the activity-theoretical viewpoint, artifacts such as texts aid the remembering of actions and the externalization of internal mental work. Previous research literature shows that acts of remembering are connected to particular physical spaces and to written documents (Engeström, Brown, Engeström & Koistinen, 1990; Radley & Taylor, 2003). Documents can act as containers of organizational activity and also be the documents in use (Prior, 2003). Next, I will explain the proceeding of the analysis in each of the five articles included in this book.

7.2 Proceeding of the data analysis

There were two steps in the narrative analysis of the interview data: identifying the narratives and constructing a story map from the analyzed narratives. In this study, planned and *in situ* interviews were conducted, and they both followed the principles of active interviewing (Holstein & Gubrium, 1998) and narrative interviewing (Czarniawska, 2004). The conducted narrative interview situations are viewed as social storytelling events. Special attention was paid to the interviewees' use of the material surroundings of the interview situation as memory aids during their storytelling. The narrators' stories are viewed as connected through the narration to the activity, actions and operations at work. Material artifacts and spaces function as mediating tools and mediate the acts of the care activity as well as the acts of remembering.

In conducting the narrative analysis, I first analyzed the interview data of this study using a narrative interview technique developed by Mishler (1986). Mishler's (1986) four categories were used in identifying and extracting the narratives from the transcripts. Those categories include 1) an orientation that describes the setting and character, 2) an abstract that summarizes the events or incidents of the story, 3) a complicating action that offers an evaluative commentary on events, conflicts and themes, and 4) a resolution that describes the outcomes of the story or conflict. An example of a narrative analyzed using Mishler's categories is presented in Appendix 3 of this study.

In extracting the narratives, the interviewees' experiences were organized into sequences with beginnings, middles and ends, or an emplotment of the narratives (Czarniawaska, 2004; also Ricoeur, 1984). The narratives were emplotted by writing short summaries of each story that was considered essential, labeling the summaries and placing them in a temporal map structure. I plotted the narratives using the "introduction of logical structure that allows making sense of the events" (Czarniawska, 2007: 388). I then recontextualized the narratives by combining them with the field notes of my observations and the photographs that I had taken at the research site.

A document collection and analysis (see Prior, 2003) was conducted to enrich the narratives and observations. Through the analysis of the documents and field notes, it was possible to capture the temporality of the development projects and try to fill in the gaps or the "empty time" (see Czarniawska, 2004) in the narratives, when it seemed like nothing happened. The data analysis program ATLAS.ti was utilized as a tool in organizing the narratives in the analysis of the qualitative data. The PowerPoint program was used to draw the story maps.

Then a repertoire of activity-theoretically informed intermediate concepts was taken into use to further unravel health care changes. The intermediate

concepts of consequence (applied in Articles I and IV), rupture (Article I), process and community (Article II), boundary object, boundary breaking, obstacle and conflict (Article III), sustainability and diffusion (Article IV), continuity, discontinuity, break and bridging (Article V) functioned as analytical tools and as working hypotheses for analyzing organizational change efforts and their consequences in the articles. Finally, the core activity-theoretical concepts of object, activity system and cycle of expansive learning were applied.

In Article I of the present study, the care pathways of patients undergoing different operations were followed in a hospital, and narratives were collected using a narrative interviewing technique. The narrative accounts of the interviewees were transcribed and analyzed using Mishler's (1986) categories and the method of emplotting (Czarniawska, 2004) presented above. The narratives were then recontextualized by combining them with the notes of field observations. The actual care pathways were contrasted with a normative care pathway description, which is a document provided by the hospital (Flink et al., 2005).

The analysis allowed the temporal and spatial proceeding of the care pathway as a whole to be clarified, and enabled the analysis of the care processes from the different actors' viewpoints. The intermediate concept of rupture was applied in the data analysis to identify points of rupture in the followed care pathways. The intermediate concept of consequence was used to depict the consequences of the ruptures in the course of the care pathways (see Article I, Figure 2, page 398). The concept of object, which is central to activity theory, was used in the conceptualizations of care, here referred to as care objects, of the actors representing historically distinct activity systems. Finally, a discursive change management model (or a tool) that aims at placing the different care objects into interplay was drawn (see Article I, Figure 3, page 400).

Article II contrasts a process efficiency intervention with a community-building intervention conducted in a surgical operating unit of a university hospital. The intermediate concepts of process and community were scrutinized. The activity system model was used in conceptualizing an expanded activity-theoretical notion of organizational processes. The model depicts both processes and community as necessary components of a larger system (see Article II, Figure 2, page 9). This co-authored article retrospectively analyzes a process efficiency intervention's consequences and identifies the reasons for its failure. The authors of Article II were facilitators of the community-building intervention. The transcripts of the intervention sessions of the project and statistics provided data for this article. The consequences of the project were followed by the author of this book from 2007 to 2010.

Two follow-up intervention sessions, observations and interviews, and documents (such as statistics provided by the unit) were analyzed to depict the consequences of the implementation of a newly created activity model. An

analysis of the construction of a shared activity model (i.e. object, see Article II, page 20) was conducted by analyzing the transcripts of the intervention sessions. Then the central concepts of an object and the cycle of expansive learning were used to form a model, which is a macro-level view of expansive organizational learning. The model depicts learning as an interplay of the expansive cycles of community building, process enhancement and a radical expansion of the object (see Article II, Figure 7, page 26).

In Article III, the activity system model was applied to depict a boundary between distinct organizational levels of evaluation and front line work (see Article III, Figure 1, page 365). The construction of a shared boundary object, i.e. an assessment tool, to better master the object of work was examined by analyzing a videotaped meeting between nurses and a quality controller. The model of expansive learning was used to analyze the change and learning actions (including questioning of the current practices, reciprocal analysis of a tool, collective modeling of the tool, and examination, testing, implementation and destabilization of the tool) taking shape in the rare collaboration process. The intermediate concept of boundary breaking²⁵ was used to analyze the process. Unexpected events and consequences were depicted in the learning processes. The intermediate concepts of obstacles, ruptures, conflicts and breaks were used in the analysis to conceptualize the events and consequences. The analysis of the implementation efforts of the new tool, which later destabilized, located the problems in the course of the learning cycle (see Article III, Figure 4, page 374).

Articles IV and V followed the same principles in their case analyses. In Articles IV and V narrative interviews were conducted and analyzed using Mishler's (1986) categories and the method of emplotting (Czarniawska, 2004) to find out the long-term consequences of change efforts. In this co-authored article, we recontextualized the narratives by combining them with documents provided by the interviewees, photographs and the field notes of my observations. In both of the articles, a document analysis was conducted, and matrixes were made to organize the documents into temporal and content categories. The narrative analysis and the matrixes produced intermediate research results and enabled the focal organizational changes of the studied sites to be outlined.

In Articles IV and V, in order to combine the narrative and ethnographic data, a story map representing an overall view of change was drawn (visualized in Article IV, Figure 3, page 138, and Article V, Figure 2, page 327 and Figure 3, page 329). The maps are structured on the basis of a temporal analysis of

²⁵ A couple of studies in educational policy analysis (see Webber & Robertson, 1998) have previously applied the boundary breaking concept. However, the theoretical underpinnings of the concept remain unclear in these earlier studies.

events, presenting timelines based on the narrative and document data. The maps illuminate the core changes and the turning points depicted in the analyzed health care changes and function as intermediate results (Articles IV and V).

More specifically, in Article IV, the transformations of the object were traced in the storytelling events. After the drawing of the story maps, analytical activity-theoretical intermediate concepts of consequences, sustainability and diffusion were applied in the analysis to discover what had happened to the new practices which had been created. The model of expansive learning was applied to theoretically deepen the analysis from the viewpoint of organizational learning. The processes of anchoring, resistance, stabilization, destabilization, cultivation, engagement and maintenance were depicted in the longitudinal course of expansive learning (see Article IV, page 141).

In Article V, after the drawing of the story maps of the two studied contexts, analytical activity-theoretical intermediate concepts and the model of expansive learning were applied. The analysis was done to capture the long-term consequences of organizational change efforts and to theoretically deepen the analysis from the viewpoint of organizational learning. The longitudinal course of expansive learning was drawn using the model of expansive learning. The intermediate concepts of break, bridging, continuity and discontinuity were used to depict a discontinuous, broken cycle of expansive learning and a successfully bridged continuous cycle of expansive learning (see Article V, pages 331–332).

8 CENTRAL FINDINGS

This section presents the central findings of the five articles of this study and answers the research questions presented in the third chapter. The findings are presented in respect to the different oppositions or the ‘threads’ of the helix of change unraveled in this study. This study is a series of explorative, ethnographic case studies of organizational change efforts and their consequences. The following table (Table 7) presents the units of observation and the intermediate analytical concepts, and summarizes the central findings of the articles of the dissertation.

Table 7. A summary of the articles of the dissertation and their central findings

<i>Articles of the dissertation</i>	<i>Units of observation</i>	<i>Intermediate concepts of the study</i>	<i>Central findings of the articles</i>
<p>Article I</p> <p>Kajamaa, A. (2010), “Expanding Care Pathways: Towards Interplay of Multiple Care-Objects”</p>	<p>Care processes across multiple organizational sites</p>	<p>Consequence, rupture</p>	<p>Patient care is a highly complex activity involving unexpected ruptures. It cannot be fully preplanned and subjected to managerially ideal care pathway descriptions.</p> <p>To expand care pathways, the distinct perceptions of care held by the different actors can be analyzed and brought into interplay in workplace interventions.</p>
<p>Article II</p> <p>Engeström, Y., Kajamaa, A., Kerosuo, H. & Laurila, P. (2010), “Process Enhancement Versus Community Building: Transcending the Dichotomy through Expansive Learning”</p>	<p>Design of a new organizational model</p>	<p>Process, community</p>	<p>The collective analysis of care activity in a community building intervention enables the transcending of the gap between managerial process efficiency and the community view of organizations.</p> <p>Community interventions take into account the multiplicity and complexity of work.</p> <p>Community building can lead to collectively created new activity models, responsibility and process efficiency.</p>

<p>Article III</p> <p>Kajamaa, A. (2011), "Boundary Breaking in a Hospital: Expansive Learning Between the Worlds of Evaluation and Frontline Work"</p>	<p>Design of an assessment tool</p>	<p>Boundary object, boundary breaking, obstacle, conflict</p>	<p>An employee-initiated change effort can lead to the boundary breaking of a strong organizational boundary.</p> <p>Co-created boundary objects can enhance collaboration and expansive learning across boundaries.</p> <p>Sustaining the collaboration between the distinct sites is demanding and requires not just boundary objects but also managerial support.</p>
<p>Article IV</p> <p>Kajamaa, A., Kerosuo, H. & Engeström, Y. (2010), "Employees' Narratives about a Development Project as a Resource for Managing Organizational Change"</p>	<p>Manifestations of the long-term consequences of change efforts</p>	<p>Consequences, sustainability, diffusion</p>	<p>Employees' stories provide rich information, useful for management, on the long-term consequences of organizational change efforts.</p> <p>The consequences intertwine with collective activities and material surroundings.</p> <p>The consequences of change efforts tend to encapsulate in local units and may vanish without managerial support.</p>
<p>Article V</p> <p>Engeström, Y, Kerosuo, H. and Kajamaa, A. (2007), "Beyond Discontinuity: Expansive Organizational Learning Remembered"</p>	<p>Manifestations of expansive learning and change</p>	<p>Continuity, discontinuity, break, bridging</p>	<p>Organizational change efforts can be continuous and discontinuous and can take unexpected courses. Breaks punctuate both continuous and discontinuous change efforts.</p> <p>The managerial bridging of distinct change efforts is crucial as it enables an organization to overcome the gaps and supports expansive learning and organizational change.</p>

In the following, I will summarize the articles that constitute the empirical findings of the study. The findings are summarized in relation to the respective article. Each summary repeats the research question of the article, crystallizes the central findings in relation to the research question and then unfolds the core findings.

8.1 Research question 1

In the first article of this study, the actual care pathways of real patients were followed and observed at the patients' bedsides. Narrative accounts of hospital employees and the patients were collected along the pathways, and an ethnography of change, or more precisely the method of multi-site ethnography, was applied. The article focuses on unraveling the opposition between standardized protocols and actual care activity. The research question and the central findings of the article are the following.

How does a care pathway of a surgical patient appear in practice, and how does it look in proportion to the care pathway protocol?

Patient care is a highly complex activity involving unexpected ruptures. It cannot be fully preplanned and subjected to managerially ideal care pathway descriptions. To expand care pathways, the distinct perceptions of care held by the different actors can be analyzed and brought into interplay in workplace interventions.

The study reviews literature on care pathways and patient-centered care. The notion of an administratively ideal care pathway is commonly used in health care literature, and it refers to the stepwise progression of the care process of a patient. The notion of patient-centered care focuses on the care of the individual patient. Neither concept offers a complete view of care as a system.

This study takes a system-level view and shows that the actors involved in care pathways hold different, fragmented conceptualizations of care, which often clash in their practical work activity, causing ruptures, delays and deviations from the managerially ideal care pathway protocol. The study contrasts actual care pathways with the managerial ideal care pathway description and shows that a prescriptive representation of a process and the actual execution of the process are not usually the same. The study depicts the complexity of the actual care pathways and identifies the ruptures and their consequences taking place in the course of the care pathways. All of the studied care pathways appeared as complex and ruptured, filled with unexpected situations and consequences such as time delays, stress, anxiety, fear and frustration, to one or another of the parties involved in the studied care processes.

The oral narratives produced by the participants in the care pathways (i.e. the doctors, nurses and the patient) provide useful windows on the different care objects. The studied narratives show that in a hospital organization, in the care of a surgical patient, the overall object for the surgical team ought to be the provision of good patient care and the recovery of the patient. In activity-theoretical terms, the object of activity (patient care) manifests to the practition-

ers in different ways. The general object of the patient is his or her own self and illness. Her specific object is to stop the intense pain. For anesthetists, the general object is the overall flow of patients, who are to be kept alive and pain free. The specific object for an anesthetist is the patient's back and spinal cord: to keep the patient alive and pain free and to prepare the patient for the operating surgeon.

For the surgeon, the general object is the flow of patients to be operated on. The surgeons involved in this study were obviously held in high regard by the other occupational groups and can be viewed as leader figures in the activity of the teams conducting the operations. For the surgeon, the specific object is the organ or body part to be operated on: to repair it and simultaneously to manage the constant patient flow. For the nurse assisting the doctors in the operation, the specific object is to take care of the patient in a humane manner. The distinct objects of the different parties taking part in patient care and organizational change efforts set conditions for unintended consequences, such as resistance, tensions, ruptures and contradictions. Organizational boundaries seem to foster the emergence of tensions and unintended consequences.

The unexpected nature of care pathways and the fragmentation of care objects set particular challenges for organizational change management. The activities that need managing and coordination are complex, often unpredictable, emergency-like and sometimes hard to define. Currently, it seems that health care organizations are occupied with responding to the existing demands for efficiency and quality requirements. It is not common to pay specific attention to the analysis of ruptures in care activities and to identify issues underlying them. The ruptures often seem to be bypassed due to haste and profit responsibility. This study suggests that in order to improve patient care in the public sector, the ruptures and problems in the course of the care processes need to be acknowledged. To expand care pathways, the multiple care objects need to be placed in constructive interplay.

The presented change management model is a tool (see Article I, Figure 3, page 400) that aims to place the different care objects into interplay and can be seen as a boundary object (Star & Griesemer, 1989) that can mediate negotiation, reduce fragmentation and enhance coherence, learning and understanding among the actors in the care pathways. The model can be used in connecting multiple organizational sites, levels and logics. It is thus seen as a useful device for unraveling the complex helix of public sector health care changes.

This study views the acknowledgement and collective analysis of ruptures and their consequences as a key issue in transcending the opposition between standardized protocols and actual care activity. To improve the management of patient care, the existence of multi-perspectives and of the unpredictability inherent in patient care needs to be acknowledged. In order to expand care

pathways, hospital management needs to facilitate multi-voiced negotiation and learning processes that may lead to the constructive interplay of care objects. Because of their complexity, the expansion of care pathways and organizational development and learning requires continuous, collective efforts and commitment over long periods of time. It is recognized, of course, that placing different care objects into interplay is a challenge in the training and development of nurses and doctors as well as in hospital management.

8.2 Research question 2

The second article of this study focuses on unraveling the opposition between process enhancement and community building. A process efficiency intervention is retrospectively examined by analyzing narrative accounts, documents and statistics. The process efficiency intervention is contrasted with a collective change effort called a community intervention that applies developmental work research methodology. The research question and the central findings of the article are the following.

Can the dichotomy between the process view and the community view be transcended, and if it can, how?

The collective analysis of care activity in a community building intervention enables the transcending of the gap between managerial process efficiency and the community view of organizations. Community interventions take into account the multiplicity and complexity of work. Community building can lead to collectively created new activity models, responsibility and process efficiency.

The historical changes in governance and management principles have created a situation where the linear, control-oriented logic is manifested as “efficiency rhetoric” in the strategic change management literature. The empirical work conducted in this study indicates that the “efficiency rhetoric” is also present in the discourse and change logic of the representatives of upper management (the head of the result unit on the level of the hospital district and political decision-making). The rhetoric is necessary for maintaining the linear goal-effect-oriented logic aiming at process standardization and rationalization in health care.

Moreover, the current intervention methods used in hospital settings usually focus on efficiency and the enhancement of single, well-framed processes. This study analyzes an unusual community intervention conducted in the unit and

follows the long-term consequences (during the years 2006–2010). The study shows that the linear goal-effect-oriented, process efficiency intervention logic was too narrow to enable the organization to overcome a crisis situation. The process efficiency intervention was focused on the enhancement of single processes. It did not provide sufficient support for the organization to manage the constant flow of intertwined processes and to recover from the loss of a shared object. The professional groups belonging to the surgical operating unit under study collectively experienced an identity loss, and as a consequence, the organization of 300 practitioners had fallen into a crisis situation.

As the crisis situation and the closing of operating theaters continued, the surgical operating unit under study decided to try an alternative way of conducting interventions and started a project applying developmental work research methodology. Activity-theoretical methodology specially focuses on enhancing collective learning through the analysis of contradictions and the reconceptualization and development of a shared object. With the aid of the activity system model, this study provides an alternative process view which tries to transcend the gaps between distinct organizational sites and the dichotomy between the opposing change views and the intervention techniques (see Article II, Figure 2, page 9). The medical practitioners of the surgical operating unit under study belong to different activity systems conducting care activity and simultaneously producing complex processes. The care of a single patient usually requires the involvement of many different professionals, and a single patient may also be involved in multiple, interdependent processes.

The consequences of a collapse in one process effects other processes, and therefore close attention should be paid not just to the handling of single well-bounded processes but also to interactive or horizontal, parallel processes. Activity theory represents a processual view of organizational change. From an activity-theoretical point of view, a process is a partially scripted string of actions toward the *object*, influenced by and interacting with other parallel processes which may have unpredictable lateral interactions. These interactions between processes can never be fully predetermined or planned. They are a source of disturbances and – perhaps more importantly – of new insights and innovations.

The discourse of the practitioners, who were observed and interviewed in this study, include emotional aspects, experiences, narratives and identity talk, which is here called community rhetoric. Community rhetoric reflects the logic of development necessary for community building and creating changes in practice on the local level. The study also addresses the issue of the importance of connecting the upper management, who are responsible for overall decision-making and resource allocation, to change processes in practice.

The study shows that an organization was able to overcome a crisis through a community intervention, which involved representatives of different distinct sites (i.e. activity systems) and organizational levels, from the leader of the profit centre to medical practitioners representing different professional groups. The new activity model presented in the article anchors the results of the change effort into a model useful in practice for both employees and the management. The model functions as a boundary object in connecting the multiple organizational sites, levels and logics.

This study illustrates how the analysis of the tensions and contradictions of actual work practices can lead to critical questioning of existing work practices and to significant improvements which can be measured both with qualitative and quantitative measures (see Article II). Critical questioning of the existing activity and leadership model took place in a developmental work research intervention. This eventually led to the overcoming of a crisis and to successful implementation of a collectively created new activity and leadership model, which is still in use in the surgical operating unit under study.

The article shows how the unit successfully managed to find its way out of the difficult situation. A critical symptom of the crisis in 2006 consisted in the closings of operating rooms for approximately 100 days during the year. By the year 2008, the unit had overcome this problem and had no closings. According to the statistical key figures of the hospital management, the surgical unit is conducting more operations than ever. In fact, the unit, which was previously under crisis, now leads nationwide comparisons between main public sector surgical units in Finland in the number of conducted operations and the utilization rate of the operation theatres. A significant decrease in sick leaves has taken place among anesthetic nurses. During the years 2006–2008, the decrease was approximately 30%.

The new model divides the large unit into four activity areas formed on the basis of surgical specialties. In the new model, the various managerial duties and powers of the unit were assigned to lower levels: to staff nurses, surgeons and anesthesiologists in the activity areas. Construction of the new activity model took a long period of time and was not an easy process. For instance, the staff nurses at first resisted the new organizational and management model created by their colleagues. The nurses did not, at first, participate in the working group and the design of the new activity model. Their resistance was overcome as they were invited to join the change process and were given the possibility to influence the construction of the new model and to enact it in practice.

The crucial missing element in the literatures of process efficiency and community building has been the object, which provides the core analytical concept for this study. In this study, following the ideas of Adler and Heckscher (2006), process management is endorsed as a key component of a collaborative

community. The study shows that the dichotomy between process efficiency and community views can be transcended by creating spaces for the collective analysis of work activities and their contradictions. This study views the collective construction of a community and the creation of shared objects as playing a crucial role in the process of drawing the distinct views closer together. In this case, a new activity and management model was created in a collective project, which then functioned as a boundary object aiding the unit to reorganize its activities and to widen the understanding of care as a whole. It is thus a useful device in unraveling the complex helix of health care change.

This study suggests that the currently dominant form of process management emphasizing process efficiency needs to be put into interplay with community building rhetoric and community interventions, which opens up possibilities for the expansion of the object of collective activity. Via the community intervention, a first step toward such an expanded object has been taken in the hospital unit as the physicians and nurses, from both surgery and anesthesia, have started to integrate their respective objects. The qualitative and quantitative analysis indicates that the activity and processes have significantly improved since the year 2006.

This study emphasizes that in a crisis situation, it is necessary to include different organizational levels in the collective working group that analyzes contradictions of the activity. The case example reported in this study has managed to maintain the successive developments and sustain the activity and management model in a way which has proven to be productive and efficient as well as meaningful to the practitioners who are responsible for the collective design of the model. Even though the results reached in the hospital unit have been impressive, they are also fragile. If the community of the unit is not able to step beyond its own boundaries and influence its neighboring communities, particularly the wards, the positive developments may quickly be overrun by crises. This calls for the construction of a radically expanded object that can be shared by the interacting, yet fragmented units to better manage the overall flow of patients throughout the hospital.

8.3 Research question 3

The third article of this study depicts a rare co-creation process and implementation of a shared assessment tool (i.e. a boundary object) which aimed at improving the monitoring of an activity and generating useful information for both the employees and management on the locally created development efforts. The article focuses on unraveling the opposition between evaluation and work development. The research question and the central findings of the article are the following.

Can a boundary between evaluation and front line work be overcome, and if it can, how?

An employee-initiated change effort can lead to the boundary breaking of a strong organizational boundary. Co-created boundary objects can enhance collaboration and expansive learning across boundaries. Sustaining the collaboration between the distinct sites is demanding and requires not just boundary objects but also managerial support.

The focus of this study is on examining the boundary between evaluation professionals, producing control-oriented evaluation tools for management as the object of their work and for nurses representing the front line work. The evaluations often manifest themselves to the employees as restrictive rules of cost-efficiency and standardization. Following the rules means that they need to try to avoid mistakes and deviations from standardized protocols, which is often hard if not impossible in complex situations. This study shows how organizational change efforts, such as the implementation of a new activity model, brings forth needs for further development, such as collective tool creation. As a consequence of a community intervention (reported in Article II), the nursing staff of the surgical operating unit felt the need for a new assessment tool (creation process reported in Article III).

The quality unit and the surgical operating unit of the hospital were separated by a strong, historically formed organizational boundary. The nurses self-initiated a boundary-breaking action and approached the quality unit of the hospital. As a consequence of this boundary-breaking activity, the evaluation professional and the nurses co-designed an innovative new assessment tool to further improve the care work. In the boundary-breaking collaboration attempt, the quality controller's talk started to reflect the widening of her understanding of the nurses' logic of development, even though she was trained to design tools that only follow the logic of control. To analyze the collaboration effort theoretically, the study presents a micro-level analysis of expansive learning actions depicting the course of the collaboration effort between the two distinct parties. Overcoming the boundary and developing a common interest between the logics required boundary breaking to enable learning to take place. Expansive learning actions initially took place, and a new logic of development emerged.

The study illuminates that the evaluation techniques used in hospitals are tightly focused on quantitatively measuring certain statistical key figures. It is challenging and almost impossible for management and evaluation professionals to grasp and to measure the consequences of the activities taking shape on the level of patient care. This may lead to a situation in which the

consequences of change efforts on the unit level are not analyzed, and where managerial decision-making and the needs of the employees do not meet.

The study shows that the historically established organizational boundary between evaluation practice and front line hospital work is tension-laden and therefore not easy to cross. In this case, as the implementation of the tool proceeded, obstacles and a conflict emerged in the collaboration effort between evaluation and front line work, arising from the collision of the different logics of the two distinct activity systems and the levels of organizational functions of evaluation and front line work. The existence of a potentially powerful boundary object by itself was not enough to ensure the overcoming of a historically strong boundary. Managerial support would have been required, but it was in this case missing.

The nurses were active agents whose engagement in the change process was deeply agentive, action oriented and influential. They carried deep knowledge and expertise about the care activities and should have been more often included in the design of organizational change, in the actual change processes and in the evaluation of the changes. This would bring the change projects and evaluation closer to the patients, with whom the practitioners deal with on a daily basis. Health care management is not always aware of this kind of rare, employee-initiated, local organizational change effort, and thus the efforts encapsulate and may vanish. In this case, the new evaluation practice and the use of the new tool were not sustained. This study shows that crossing boundaries and changing historically established evaluation practices is not easy. Innovative new tools, which may emerge in hierarchically organized settings, are especially fragile since they are not often recognized by the other organizational levels.

This study suggests that evaluations in health care need to be conducted at different levels, from the different perspectives of the parties involved, implying that the management also needs to be involved in the more practice-centered evaluation. Expanded assessment tools are needed to serve both management and the employees in the evaluation of daily activities. To overcome strong boundaries and transcend the opposition between evaluation and work development, boundary-breaking collaboration efforts need to be anchored with the help of a shared boundary object, such as the assessment tool in focus. This kind of assessment tool can be used as a means for connecting the multiple organizational sites, levels and logics. It is thus a potential tool for unraveling the complex helix of health care change and transcending the opposition between evaluation and work development.

8.4 Research question 4

The fourth article of this study focuses on unraveling the opposition between top-down–initiated and locally enacted change in a university hospital’s internal diseases ward. By creating and using an activity-theoretically oriented narrative approach, this study captures and analyzes the long-term consequences of organizational change efforts that had previously remained unstudied. The research question and the central findings of the article are the following.

What does an analysis of employees’ stories reveal about organizational change?

Employees’ stories provide rich information, useful for management, on the long-term consequences of organizational change efforts. The consequences intertwine with collective activities and material surroundings. The consequences of change efforts tend to encapsulate in local units and may vanish without managerial support.

The university hospital’s internal diseases ward had undergone a developmental project applying developmental work research methodology. The main objective of the development project, which was launched by the hospital management, was to improve work practices and also to support and increase employees’ work-related well-being. Work-related well-being is an abstraction and is usually measured with numerical inquiries. This study offers methods for depicting the qualitative consequences of change efforts, such as expansive organizational learning.

In this article, the narrative approach was used to ask the participants of the change effort to reminisce about the organizational change. The multi-level analysis of the data produced storylines and an overall view of the change, which is visualized as a story map (in Article IV). In creating temporally organized story maps, the narrative accounts were analyzed beyond the comments of the individual storytellers and enriched by collecting and analyzing document material and observing the work activities on the ward.

The study shows how employees recalled the organizational transformation in relation to the object of their work. As the project started, the nurses resisted working in the monitoring room of a unit for internal disease patients with increasingly complex illnesses. The interviewees all recalled that the main issue discussed in the project was the difficulties in relation to the monitoring room on the ward. The development of the monitoring room became the shared object of development for the employees. In the interview situations, the bridging of narratives and material artifacts took place when the interviewees physically pointed toward different artifacts and spaces. In the tracing of the consequences

of the past change efforts, the interviewees' memories captured essential physical "remains" left from the past change project, and they physically pointed towards them.

The results of the study indicate that the hospital management did not follow the pilot project nor create structures to diffuse its results, and the good practices thus encapsulated in a single unit. This situation was mostly due to the strict boundaries between the upper management of the profit centre and the front line workers of the internal disease ward as well as between the profit centers in the hospital. This result indicates that the management and employees had acted in different realities and distinct temporalities. The decisions made by the management reached the real needs of the ward only years later. This study calls for an active dialogue between management and employees in order to discover the consequences of past change projects and to support sustainable development across units.

Over the years, the employees, as they were given financial resources by the management, slowly managed to transform their work activity and innovatively turn the monitoring room into a functional space in which to work. The members of the unit successfully managed to reorganize their work and division of labor. The nurses' resistance was slowly overcome; they started to better manage their work and finally work in the monitoring room. The financial support played an important role in the maintenance, consolidation and stabilization of the change efforts. Nevertheless, the employees' agentive role in developing their work was the most important element in maintaining the consequences of the development project.

The study shows how promising, locally nurtured change efforts and new practices are not always included in managerial strategy-making and create discontinuities in organizational learning. The new, innovative ideas easily encapsulate in local levels, and their implementation becomes difficult. The crucial problem of locally produced change, new practices and tools is that they do not necessarily become included in the official management and evaluation system, and therefore do not easily sustain, diffuse and serve the whole.

The study illustrates the potential of bringing a narrative mode of thinking and narrative methods combined with activity theory to the study of the consequences of organizational development projects. This study illuminates the long-term consequences and local expansive learning that were not identifiable immediately after the development project. Some of the consequences became evident and emerged only years after the project. Sustaining the consequences of a development project requires strong commitment and engagement from employees as well as managers. Moreover, studying the consequences of development projects supports the linking and bridging of separate projects and promotes sustainable development in organizations. Therefore, it is important

that the managers recognize, interpret and make use of the long-term consequences of development projects.

The activity-theoretical narrative analysis conducted in this study can be used as a useful resource for transcending the opposition between top-down-initiated and locally enacted change. A retrospective analysis of the qualitative consequences of conducted change efforts can aid management in learning how to manage change and in connecting different development projects and their successive results. It is thus a powerful resource for unraveling the helix of health care change.

8.5 Research question 5

The fifth article of this study develops and applies an activity-theoretically oriented narrative approach. The approach is also developed and used in Article IV. This study traces the long-term consequences of activity-theoretical health care change efforts as far back as fifteen years. The article focuses on unraveling the opposition between the continuity and discontinuity of change and learning. The research question and the central findings of the article are the following.

What kinds of continuity and discontinuity can be identified in change projects, and what are the implications for our understanding of organizational learning?

Organizational change efforts can be continuous and discontinuous and can take unexpected courses. Breaks punctuate both continuous and discontinuous change efforts. The managerial bridging of distinct change efforts is crucial as it enables an organization to overcome the gaps and supports expansive learning and organizational change.

The study shows that it is possible to trace the local consequences, the diffusion of change and the sustainability of change efforts after a long period of time has passed. It also illuminates that often changes become concrete only slowly, a process that may take years. Achieving the consequences and profound changes of these cases required years. The study shows that the material attachment of the results of the development projects to employees' work practices and to shared boundary objects endorsed the sustainability, diffusion and continuity of the successive change efforts.

This study distinguishes between mundane discontinuity and directional discontinuity in the case examples. By identifying the two types of discontinuity, organizational learning can be analyzed and better understood. The former

may be mended by actions of bridging, while the latter requires joint historical analysis, modeling and argumentation. Directionality emerges as a decisive element of organizational learning. Profound organizational change requires the managing of continuity and discontinuity.

In the study, the continuity and discontinuity of organizational change efforts are analyzed with the aid of the expansive learning cycle. Breaks can be defined as stoppages, or cessations of a process when an effort is abandoned or simply fades away. The kind of mundane discontinuity which is punctuated by breaks is pervasively common in organizations where change efforts are fragmented into various projects and punctuated by all sorts of deadlines and arbitrary timetables. The study depicts breaks and successive bridging efforts during change and learning processes in health care organizations providing primary care. Successful bridging actions between the breaks are traced and analyzed. The article presents a discontinuous, broken cycle of expansive learning and a continuous cycle of expansive learning, successfully bridged by the management (see Article V).

The method of tracing the consequences of organizational change efforts used in this study pays special attention to the connections between narration and the use of material surroundings as memory aids. A focus on material surroundings and artifacts such as tools enriches narrative information and “controls” the often fragile memory-based narratives of individuals, thus providing rich information about the consequentiality of change efforts. The information provided is thus useful for unraveling the helix of change.

This study illuminates that change efforts do not always lead to progress since the opposing, contradictory forces may be too difficult to overcome. The bridging between change efforts and different organizational sites, levels and logics is challenging, and not all bridging actions are effective. Transcending the opposition between the continuity and discontinuity of change and learning and capturing expansive organizational learning requires a long-term approach to organizational change efforts and their evaluation. The continuity necessary for accomplishing radical longitudinal transformations is not something that can be taken for granted. It requires constant managerial support, learning from mundane discontinuities, bridging efforts and directional debates.

9 ACTIVITY THEORY AS AN APPROACH TO ORGANIZATIONAL CHANGE

In this chapter, I will make conclusions on the findings of this study and present the implications of the study for studies of organizational change and for activity theory. Then, the generalizability of the results of the study and the position of the researcher are considered.

9.1 Implications for studies on organizational change

The findings of this study contribute to activity theory and organization studies and provide information for health care management and practitioners. This study continues and further develops the application of the dialectical view in the field of organization studies. Previous dialectical organization studies often conduct the analysis of organizations on the level of abstractions: abstract systems and abstract contradictions. This study differentiates itself from most studies on organizational change and change management by taking a specific, activity-theoretical, interventionist perspective that operates on the level of practical work activity. The theory of expansive learning and developmental work research methodology, which are applied in this study, inherently include a constant dialogue between theory and practice and offer useful tools for the conduction of organizational change efforts. They are thus a useful resource for the study of organizational change efforts and their consequences.

Public sector health care provides the context for this study. In this study, health care is analyzed as a historically evolving activity. Simultaneous demands for cost efficiency and high quality care exist in health care in the public sector in Finland. Increases in the complexity of illnesses and the historical developments of health care as a professional field have been radical, and this has caused tensions and contradictions, which cause fragmentation and poor coordination of the activity (e.g. Engeström et al., 1999; Kerosuo, 2006). These developments have created a need for change in health care organizations.

Health care change efforts are usually carried out with well-framed techniques based on the linear logic of efficiency and a planned view of change. Many of these projects have fallen by the wayside. On the other hand, the consequences of the projects often remain unstudied and thus unknown. This study challenges the usual ways that health care change efforts are conducted and evaluated and takes a dialectical, system-level view emphasizing historicity, participation and the collective analysis of contradictions emerging in work activity. Atypical of organization studies, an activity-theoretical stance is taken,

and the contradictions manifested as tensions, disturbances and other problematic issues are viewed as triggers for organizational learning and change. The starting assumption of the study was that if the oppositions in the health care system are not acknowledged and dealt with, this can create ambivalence, inhibit change and learning, and even paralyze the work activity.

Activity theory is used in this study to create an alternative, expanded dialectical view for studying and managing organizational change efforts and their consequences specifically in the field of health care. The findings of this study present health care as a complex system consisting of multiple distinct objects, organizational sites, levels and logics of patient care and organizational change. By analyzing the empirical data from five cases with activity-theoretical conceptual tools, this study provides multifaceted knowledge on health care change efforts and their consequences. The study takes a special focus on the long-term consequences of change efforts which are not frequently traced in the organization studies focusing on health care. The conceptual framework of this study widens our understanding of health care change efforts and their consequences. The core activity-theoretical concepts and the intermediate concepts used in this study provide explanatory power to the study by connecting theory and practice and the multiple sites, levels and logics.

Methods which incorporate employees as agentic actors in the design and development of their work seem to be rare in health care. The logic of control and process efficiency in health care, focusing on well-framed short-term goals and expecting progress, is here seen as narrow and insufficient in its attempts to establish useful relations between distinct organizational sites and levels and logics. From an activity-theoretical standpoint, a wider historical perspective would benefit the change management in the public sector and aid the actors involved in understanding the demanding changes required.

This study conducts an extensive activity-theoretical workplace intervention in a surgical operating unit of a university hospital and illuminates that multi-voiced dialogue in an activity-theoretical intervention setting between different actors, which each hold distinct objects of activity (Article I), can enhance a constructive interplay between the objects and create possibilities for expansion (Article II). Employee-initiated change efforts can also form important resources for organizational boundary breaking, the expansion of the object and expansive learning (Article III).

The representatives of management and administration, who are responsible for productivity and cost efficiency in health care, and the community of practitioners of health care, who are responsible for the conduction of patient care, function separately in public sector health care. The dominant logic of managerial control and efficiency holds the risk of ignoring the multidimensionality of health care activity.

The emergent nature of change and the unintended consequences of care activities and change efforts seem to be neglected issues in health care. The present study shows that patient care is often emergency-like, unpredictable and vulnerable to unexpected events. Thus it is important to pay attention to emergent changes and to deviations from the official “scripts” providing guidelines for conducting care processes.

The oppositions underlying the conduction of health care activities, manifested as locally emerging ruptures, obstacles and tensions and other problematic issues in organizations, are here seen as connected to the historical development and transformation of work and production and to the larger societal contradictions of capitalism (see also Engeström, 1987: 82–91). This study argues that both the planned and emergent views of change when *used alone* may lead to only short-lived improvements, if any improvements at all. The two approaches require and repel one another, yet combining them is a great challenge. Thus, a dialectical view is needed to capture the dialectics between the planned and emergent change and to analyze the underlying contradictions, oppositions and interdependencies between the two opposing views.

In this study, the managerial-administrative “side” and the community “side” of health care organizations are considered as equally important and valid, and neither side can be or should be discarded. In order to achieve change on local organizational sites and levels, both distinct views need to be put into a dialogue. Most importantly, the dialectical oppositions between them need to be acknowledged, analyzed and transcended to enhance organizational learning and change in public sector health care. The oppositions depicted in the literature, in the intervention methods and in the health care practices are viewed as connected to the capitalist historical development of the field. The demands set by capitalism set requirements for a radical historical change in health care. The historically craft-oriented field is expected to shift to function according to market-oriented models and to use techniques based on industrial management principles, such as lean production (on lean production see e.g. Manos et al., 2006).

While hierarchical and market-driven models are the most widely used alternatives to organize the mass production of medical services, there is also an emerging direction that seeks team- and network-based models to achieve collaborative communities in health care organizations (see Kerosuo, 2006; Maccoby, 2006). Still, in practice, it seems that health care organizations are being trapped into traditional organizational models and evaluation methods that push for stability and optimization (Plsek & Greenhal, 2001). The alternative emergent views have not gained an established position in the organization of health care activities. Figure 7 below depicts the general move away from traditional craft professionalism in health care.

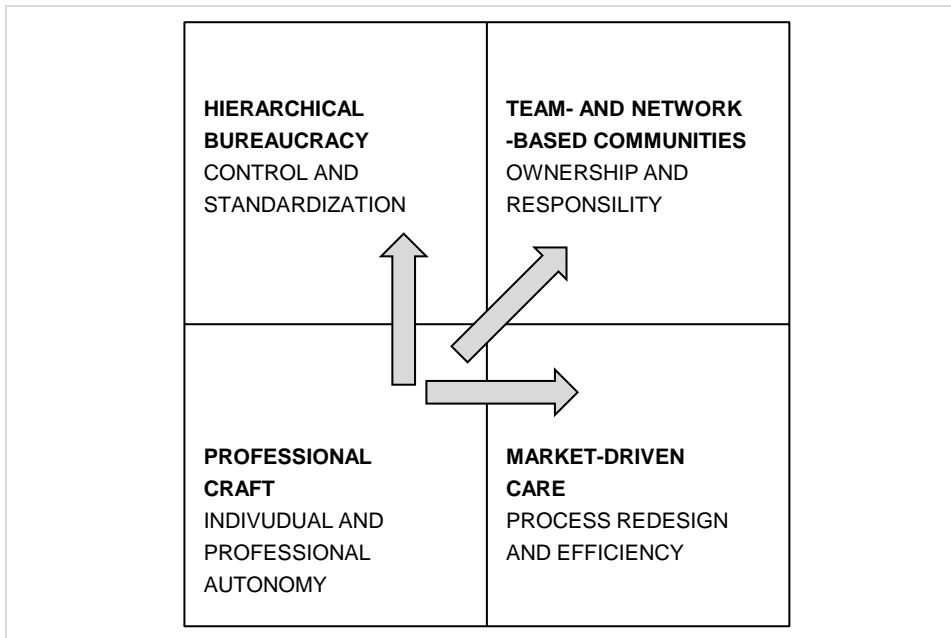


Figure 7. The alternative directions in the transformation of health care organizations (modified from Article V, Figure 1, page 322)

When an organization applies an intervention methodology which tries to shift it from one box to another (in Figure 7), resistance, ruptures, obstacles and discontinuity are likely to emerge. When the high failure rates of conducted change efforts are considered, many of the public sector health care organizations facing multiple demands seem to be in a state of ambivalence and disorientation. Currently, it seems that the historical visions and shared object in health care provision and its management are quite ambiguous and that developmental efforts are needed to improve the situation.

From the viewpoint of management, the capitalist organization is paradoxical, since the management must simultaneously coercively control employees and collaboratively cooperate with them. The reaction of employees to bureaucracy is ambivalent and alienating, even when its enabling function is salient to them. This is due to the contradictory and dual role of bureaucracy in the capitalist enterprise: being simultaneously a powerful set of facilitating collaboration and organizing techniques enabling planned coordination and a part of the capitalist relations of production, the enforcement of exploitation and coercive control (Adler, 2011: 12).

The ambivalence needs to be viewed, not on the level of individuals, but on the organizational and community levels as the sociological ambivalence of bureaucracy (Adler, 2011). From the point of view of this study, the paradox between efficiency, typically requiring bureaucracy, which impedes flexibility,

and the simultaneous need for high flexibility (see Adler et al. 1999) is not well understood and managed in public sector health care organizations. The dialectical, interventionist stance of activity theory takes the large societal contradictions seriously and analyzes their manifestations in activities in developmental efforts conducted in local work contexts and can thus provide useful insights.

It is important to note that none of the directions in the health care transformation presented in Figure 7 should be discarded. They all have emerged for a historical reason, and the hierarchical and market-driven models in particular have gained legitimacy through the capitalist needs that created them. The organizations need hierarchical structures and rules to operate; however, as this study shows, the valuation of professionalism, professional autonomy and communal aspects is high in health care organizations.

This study depicts health care as a multi-site, multi-level and multi-logic organizational field, with historically established organizational boundaries. The increasing demands for productivity, cost-efficiency and high quality care require the crossing of organizational boundaries. Activity theory provides a system-level view and views organizations as consisting of multiple activity systems. The organizational field of health care consists of multiple distinct activity systems, such as of political decision-makers, hospital districts, management and administration, and care units that include different groups of medical professionals and customers, i.e. patients in need of health care services. The activity systems, i.e. sites, and the operational functions, i.e. levels, are quite far apart in health care and hold distinct perceptions on the care activity. Different kinds of boundaries exist between the various sites, levels and logics involved in health care service provision (see Article III).

The perspective this study takes on organizational boundaries, boundary objects (e.g. Bechky, 2003; Brown & Duguid, 2001; Brown & Eisenhardt, 1995; Carlile, 2004; Krishnan & Ulrich, 2001; Wenger, 1998) and rare events (e.g. Christianson et al., 2009; Rerup, 2009) in public sector organizations is novel to organization studies. Crucial managerial issues in the development of health care are the management of boundary breaking, the co-existence of the distinct existing views and the resolution of the contradictions between the different organizational sites, levels and logics.

Managing issues of complexity, such as the organizational boundaries and multiple parallel processes that form patient flow and its imminent increase, and better preparing for unpredictability, are difficult managerial challenges. This study emphasizes that public sector health care management needs to increasingly move beyond the dominant logic of efficiency and seek expanded management methods and models which enable participation and better connections between the distinct sites, levels and logics. The new models that are created need to allow for greater flexibility, reveal also the qualitative

consequences of actions and enhance organizational learning. It is crucial for health care managers to create platforms for collective interventions and to also support emergent attempts to create collaboration and shared tools (i.e. boundary objects) between historically distinct organizational activity systems.

9.2 Implications for activity theory

This study combines the core activity-theoretical concepts of object, activity system and expansive learning with a large repertoire of intermediate concepts, such as the concepts of rupture, consequences, process, community, boundary object, boundary breaking, obstacle, conflict, sustainability, diffusion, continuity, discontinuity, break and bridging in a novel way. The conceptual constellation of this study forms a multidimensional framework for studying organizational change. The study examines organizational activities and changes with the concepts in relation to multiple organizational sites, levels and logics. The multidimensional view is here seen as a useful device for the construction of a shared object and the development of an expanded historical vision of health care provision and management.

The study provides multifaceted insights on the notion of an object in health care and the attempts made in health care to change its practices. The study applies the concept of object-oriented activity in the tracing of objects of activity in action in real health care practices and in analyzing the distinct care objects held by the doctors, nurses and the patient (Article I). The concept of an object is applied in the analysis of a workplace intervention which led to the construction of a shared object, i.e. a new activity and management model (Article II). It is used in analyzing expansive learning in the construction and implementation of a shared boundary object to better master the object of work (Article III). The notion of an object is used in analyzing the collective “recalling” of the transformations of an object (Article IV) and also in the analysis of the expansion of an object through continuous organizational expansive learning (Article V).

Organizational boundaries have been in the focus of previous activity-theoretical studies (see Engeström, Engeström & Kärkkäinen, 1995; Kerosuo, 2006). In this study, the model of interconnected activity systems was used to depict the boundary between evaluation and work development in specialized care (Article III). The notion of boundary breaking introduced and applied in this study (see Article III) is new to activity theory. The collaboration effort under scrutiny took shape as conflictual boundary breaking between two distinct organizational sites and levels and was analyzed in terms of sequences of expansive learning actions taking shape in a demanding creation process of a shared boundary object (Article III). Breaking of the historically established

boundaries is here seen as crucial for the collective development of a historical vision and a shared object in health care.

From an activity-theoretical viewpoint, obstacles, conflicts and ruptures can function as driving forces for organizational change and learning if analyzed collectively. The study enriches the theory of expansive learning by pointing to the multidimensionality of change. The special focus this study takes on the notions of process and community as necessary components of an organizational system and expansive learning has not been in the core focus of previous studies (Article II). The cycle of expansive learning is used to evaluate the implementation processes and consequences of organizational change efforts in the articles of the study in a novel way.

Both micro cycles (Article III) (on micro cycles see also Engeström 1999: 384–385) and macro cycles of expansive learning (Articles II, IV and V) are analyzed in this study. This study contributes to the theory of expansive learning and developmental work research by conducting longitudinal follow-up studies of activity-theoretical interventions and depicting their consequences, such as the life spans of collectively created organizational models (Article II) and tools (Article III). A successfully bridged continuous cycle of expansive learning is depicted in one of the case studies (Article V, Case 2). The study shows that the theory of expansive learning and developmental work research methodology are useful frameworks for enhancing and analyzing learning processes aimed at overcoming organizational crises and at radical health care transformation (especially Article II).

This study provides empirical evidence on continuous, expansive learning processes that have evolved as underlying oppositions and contradictions, which have been acknowledged and analyzed in research-assisted developmental work research intervention sessions (cases reported in Articles II & IV and Case 1 in Article V). The successful consequences of change efforts are often those which become anchored to activities and materialize in collectively created activity models and tools powerful enough to span across organizational sites, levels and logics (Articles II, IV and V).

The study enriches the theory of expansive learning by pointing to the importance of obstacles, conflicts and destabilization as phenomena in need of further elaboration and conceptualization (Article III). This study analyzes and provides multifaceted knowledge on contradictions, ruptures, resistance, conflict and breaks in organizational learning processes (Articles I–V). A discontinuous, broken cycle of expansive learning is depicted, which is new to activity theory. The discontinuities depicted in the case examples mainly relate to the lack of activity-oriented models and tools and the absence of managerial support (Articles III, IV and V, Case 2).

More specifically, unexpected ruptures are analyzed along the courses of care pathways (Article I). A contradiction between the provision of cost-efficient care and community building through object construction is focused on, and an aggravated contradiction between the logic of control and the logic of practice is made visible (Article II). Obstacles and a conflict taking shape in the implementation of a new tool and paralyzing a potential development of a shared assessment tool are scrutinized (Article III). A gap between the temporalities of management and front line work and its consequences on project implementation and sustainability are analyzed (Article IV). Articles II, III and IV provide examples of manifestations of resistance in organizational change processes. Breaks are depicted in change and learning processes (Article V).

Our research team was invited to one of the research sites, the clinic of a health center in northern Finland, to present the results of our study to the local health care policy makers. A gap also seems to exist between the political decision-making and the level involved in the management and direct provision of patient care in local contexts. The policy makers the researchers met were almost totally unaware of the locally conducted health care change efforts and their consequences. The further study and management of the gap is a crucial future challenge for work researchers as well as for the Finnish public sector health care organizations.

The managerial nurturing of the continuity of innovative new work practices and tools is an essential learning challenge for health care managers. This requires supporting change efforts and allowing for flexible movement within and between the sites, levels and logics involved in health care service provision. The radical expansion of the object entails that the entire staff are given tools for monitoring and assessing the overall patient flow and its ruptures and bottlenecks. Some tools of this nature are already at the disposal of the management. These existing tools need to be opened up to front line practitioners, and new tools and models need to be co-created (see Articles I, II and III).

Managerial bridging actions over the breaks in the collective learning processes are here seen as preconditions for sustaining transformations and learning in organizations. This study suggests that managerial bridging actions need to be done in successive waves that include the stabilization of the new activity (e.g. the activity model) in material forms. Creating a shared historical vision and a shared understanding of the object of work, i.e. patient care, requires collective, expansive learning, boundary breaking and the creation of shared boundary objects.

The study shows that the expansion of the object is not a quick process and that multiple cycles of expansive learning are required for health care changes to take shape (Articles II, III, IV and V). Changes within multiple organiza-

tional sites, levels and logics often take shape at different times, which may cause gaps and clashes, and then the management of change becomes complicated (Article IV).

The present study combines activity theory and the narrative approach in a novel way. Activity theory provides a well-established theoretical frame and tools to analyze the descriptive data provided by the narrative approach, which often lacks solid epistemological groundings (see Redwood, 1999). The created approach contributes methodologically to both narrative and activity-theoretical studies by integrating the two approaches. Rare to narrative studies, the study provides multifaceted information about the material and documented consequences of projects (Articles II, III, IV and V). The study shows how material artifacts, tools and spaces in organizations function as mediating tools and mediate acts of remembering organizational changes (Articles IV and V).

The emotional experiences of patients have been analyzed in activity-theoretical studies (Kerosuo, 2006). This study continues and expands this line of research through the analysis of narratives told by the patients, employees and managers. The focus is here on the experiences reflected in the narratives of being a patient and of taking part in organizational activities and change efforts.

The present study shows that activity-theoretical interventions and shared tools such as boundary objects enhance the transcending of oppositions between the planned and the emergent organizational change and organizational expansive learning. However, this is not easy due to historical reasons and the dominance of the planned view. As this study shows, change efforts do not always lead to progress since the opposing, contradictory organizational forces may be too difficult to overcome. Allowing for an alternative logic of community and practice to gain a legitimate position in a health care organization, however, enables successful change efforts to be sustained. Creating profound changes requires a long period of time and is a continuous learning process.

This study proposes that organizational change needs to be viewed as a continuous learning process between multiple organizational sites (i.e. activity systems), levels, logics and learning cycles. Figure 8 below presents the core idea of the activity-theoretical approach to organizational change and to transcending the dichotomy in management thinking developed in this study. Organizational change is here viewed as taking place in multiple organizational sites, on multiple organizational levels and with multiple organizational logics, which all form a system. The model represents not just a combinatory view but a dialectical synthesis of the planned and the emergent views of change. Change is viewed as a dynamic interplay of multiple expansive learning cycles of community building, process enhancement and the radical expansion of the object across multiple organizational sites, levels and logics and across multiple intertwined and interdependent organizational processes.

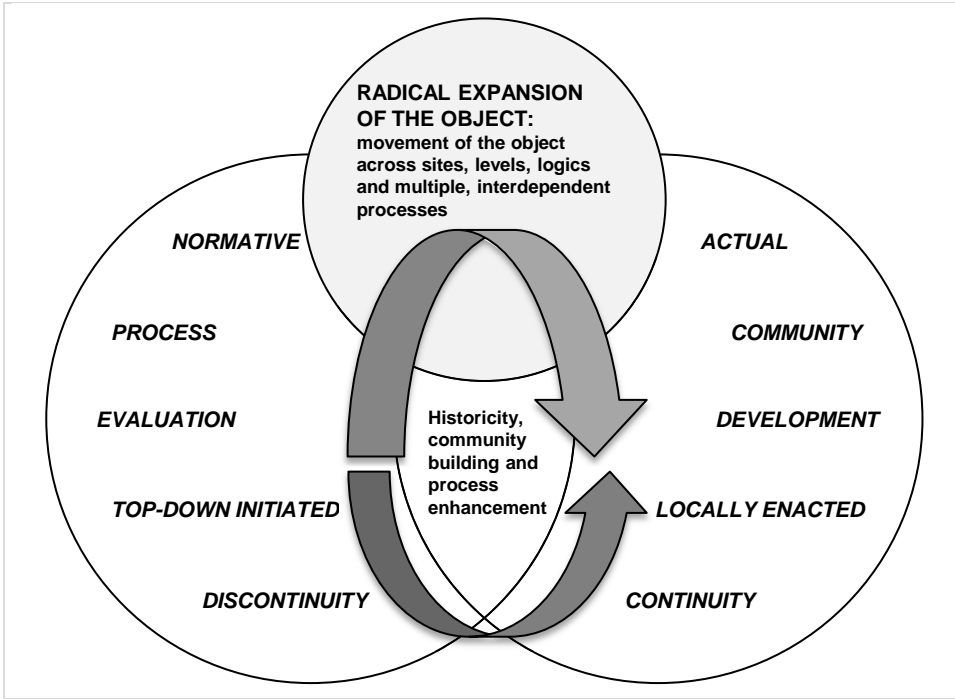


Figure 8. A multidimensional activity-theoretical approach to organizational change as an interplay of expansive learning cycles of community building, process enhancement and the radical expansion of the object (modified from Article II, Figure 7, page 26)

9.3 Generalizability of the study

The articles of this study mainly provide qualitative information on organizational change and learning. The issues of generalizability,²⁶ transferability, validity and reliability are different in qualitative, ethnographic research and in quantitatively oriented natural sciences. The longitudinal ethnographic approach enabled asking many questions and clarifications from the interviewees during the data collection, which enriched the information gathered and increased the

²⁶ Scholars conducting qualitative studies usually speak about the generalizability and authenticity of the research findings, rather than about validity and reliability as they are referred to in the natural sciences. The generalizations of qualitative research do not make quantitative, statistical generalizations but provide information on specific cases by synthesizing their results. The reliability of the study usually improves when data is collected at different times and from different places, or as the size of the data and its diversity increase (Emerson, 2001: 299–300). In this study Article II includes statistical data; other articles include only qualitative data.

validity²⁷ of the study. Observing the actual care activities and conducting *in situ* interviews increased the validity of the narrative information, for example, in repeated actions in the care processes. The researcher usually spent a whole day with each patient, which enabled getting to know them, and they usually openly shared their thoughts with the researcher. Numerical data such as documents and statistics are used as support for the conducted qualitative analyses, such as narrative analysis, to evaluate the consequences of change efforts (Articles II, IV and V), which increased the validity of the research findings.

My ‘anthropological attitude’ (Des Chene, 1997: 77) for locating the past, present and the anticipated future and the use of narrative interviewing methods allowed obtaining profound information on change efforts and their consequences. However, it is here acknowledged that despite the use of the longitudinal ethnographic approach it is not practically possible for an ethnographic interventionist-researcher to capture everything that is happening in the research sites or to trace and depict all the essential consequences of change efforts. The identification of narratives was challenging in the analysis of the data. It is simply not possible to gain inclusive results in extracting the narratives from a large corpus of data. Further, the narrative accounts do not carry the whole truth or a true experience of what really happened in a development project, but rather are co-constructions of the interviewees and the interviewer.

It is important to note that the interpretation of the data is always subject to the assumptions of the researcher. The assumptions of the researcher guide the selection of the observations and analytical methods (Mishler, 1984: 48). Scholars coming from different disciplinary backgrounds highlight different issues in the data as focal (Czarniawska, 2004: 61). The aim of this study is not to provide objective “truths” about health care change efforts and their consequences that would be generalizable and transferable²⁸ to all health care contexts. The aim is to provide rich, dialectically informed knowledge to widen our understanding of health care changes and their managerial challenges.

In this study, the analysis of the individual narratives enrich narrative research and its core idea of emplotting (Czarniawska, 2004). In this study, document analysis, observations and the repertoire of activity-theoretical concepts combined with the narratives, provided rich, multidimensional, multi-temporal and multi-voiced information on change efforts and their

²⁷ The validity of the research findings means their correctness (Silverman 1993: 149). In qualitative research the validity of the research results is tested in practice in conducting ethnographic fieldwork and data analysis. A detailed description of the research process, including the research context, research design, theoretical underpinnings and the methods of data collection and data analysis, usually increases the validity of the study.

²⁸ Transferability refers to the similarity between the studied context and other research contexts (see e.g. Denzin & Lincoln, 2000).

consequences and thus enriched the narratives. The analysis of documents provided by the interviewees is here seen as “controlling” the often fragile, memory-based narratives of individuals and therefore increases the validity of this study. The analysis of the narratives told by individuals provides important insights on the temporal aspects of change and especially on the sense-making, opinions and emotions of the individual subjects conducting and experiencing organizational change.

The intermediate concepts functioned as theoretical instruments and analytical tools and as elements of working hypotheses for analyzing organizational change efforts and their underlying oppositions and consequences. They enabled the analysis of the empirical exploration of health care settings to provide intermediate results, which were then scrutinized with the core activity-theoretical concepts of an object, an activity system and the cycle of expansive learning. The intermediate concepts were functional in connecting the central activity-theoretical concepts to specific, local organizational contexts and enabled the use of the core activity-theoretical concepts.

The use of the core activity-theoretical concepts of an object, an activity system and the cycle of expansive learning in the five articles included in this study first required an exploration and a discovery of the repertoire of intermediate concepts, which connect the core concepts to the special local needs and features of the empirical research sites and objects. The intermediate concepts can also function as useful tools in the creation of a dialogue and a collective data analysis between researchers and the professionals operating in the field under study. The long-term and close collaboration with the research subjects enabled the testing of the theoretical ideas and the conducted analysis time and time again. This increased the validity of this study²⁹.

This study conducted field research in multiple sites and thus provides information from different health care contexts, which increases the generalizability of the results. Still, the study focuses on single cases, and the results produced are contextualized to certain organizational contexts and cities in Finland, which makes the results context dependent and to some extent sets limits on the wider generalizability of the results.

²⁹ A senior anesthetist who had the overall responsibility for the operations conducted in the surgical operation unit of the university hospital under study played an important role in this study. She contributed to the study by participating in the eight developmental work research intervention sessions that were conducted. She gave feedback to the analysis conducted by the researchers, corrected misunderstandings and contributed to the study by co-authoring Article II with our research team. Her active involvement in the research process over the years increases the validity of this study. She is currently a member of the board of the ongoing new research project of our research team called Implementation Conditions of Health Care Innovations: Organizational Volition and the Voice of the Client.

Stake (1978) introduced the term “naturalistic generalization” to describe the intuitive nature of making generalizations in qualitative research. Activity theory, which involves participants as collaborators in the research processes, produces results that “promote transfer and naturalistic generalization rather than statistical inference and the identification of lawful regularities” (Yanchar, 2011: 186). The generalization in this study is not understood as just making intuitive naturalistic generalizations but is seen as “formative generalization.” This means that the generalization of the research findings and of the used conceptual frameworks takes shape in developmental efforts. The generalizability is tested in using them as tools in new change efforts aiming at organizational development and learning.

The developed multidimensional conceptual framework forms a potential vocabulary for studying organizational change efforts and their consequences. On the grounds of this study, the created vocabulary seems to be a good beginning and useful for exploring organizational change in hierarchically organized and simultaneously complex organizational settings, such as public sector health care. The vocabulary, however, dynamically evolves and needs further testing and developing as the objects of work and the situations in local organizations change, and it is not meant to be a fixed toolkit to fit all organizational contexts.

The generalizability of the vocabulary will be defined as information is gained on the transferability of the conceptual framework to other contexts and on how the framework is stabilized in those contexts. The vocabulary needs to be further developed in dialogue with practitioners in the field of health care to receive feedback for its further development and to provide the research sites with practice-oriented tools to further develop their work.

In this study, the intervention conducted by our research team in one of the research sites helped the organization to identify local problems and contradictions (Article II). The collaboration on and cultivation of the implemented new practices has continued for about six years. This provides an example of how the promotion of transfer and formative generalization can be facilitated. The generalizability also involves the long-term follow-up study of the sustainability, stabilization and diffusion of the results of the change effort (Articles III, IV and V). This forms an exciting task for future research.

A two-year long research project in which I am engaged as a project manager continues the developments of this study. The project, Implementation Conditions of Health Care Innovations: Organizational Volition and the Voice of the Client, is financed by the Finnish Funding Agency for Technology and Innovation (TEKES). In the project, the conceptual vocabulary of this study is further tested as a tool in a practical research process. The newly started project investigates the conditions (e.g. obstacles and prerequisites) of implementing

integration innovations in three health care organizations in major cities in Finland. It pays special attention to the voice of the clients, to organizational volition and to the sustainability and further cultivation of service innovations. The research sites for the project are from the Finnish public sector, namely the surgical operating unit of the university hospital which formed the main research site also for this study, elderly care and the care of patients with multiple chronic illnesses.

Altogether fourteen publications have been published by the researcher and the research team in relation to this study. The research sites in the other publications are mainly the same as in this study. The studies take different angles on the collected data, and some of these studies analyze different data than were analyzed in the articles included in this study, which increases the validity and reliability of the interpretations made in this study as well as the generalizability and transferability of the results. Some of the other publications have been published in Finnish, which eases access to the results and possibly increases the utility of the research results among the research sites and also among the professional developers in Finnish working life.

9.4 The position of the researcher

During the years 2004–2011, I worked in three large-scale work research projects in the Center for Activity, Development and Learning (CRADLE) at the University of Helsinki. The data for this study has been collected in these projects. A university hospital in northern Finland providing specialized health care forms the main research site for this study. Articles I, II and III of this study present two cases from a unit for surgery and intensive care in that hospital. The data was collected in a health care project in which I worked called From Disjointed Projects to Sustainable Development, which took place from 2006 to 2008 and involved a large-scale intervention in the university hospital's surgical operating unit.

Data for the case presented in Article IV from the ward for internal diseases located in that hospital was collected in a project called Stabilization and Diffusion of Innovative Forms of Work and Learning: Traces, Consequences and Bridges, which took place from 2004 to 2006. The other research sites in the study are from primary care, namely a health centre clinic and a health centre consortium. Article V presents two cases from the primary care sites. The data for Article V was collected also in the Stabilization and Diffusion of Innovative Forms of Work and Learning: Traces, Consequences and Bridges research project. Both of these research projects were funded by a third party, the Finnish Work Environment Fund, not by the research sites or by the university.

I started field ethnography as a bachelor student in the autumn of the year 2004 with no previous experience in conducting ethnographic research. My colleagues in the health care research project introduced me to the methods of conducting ethnographic research in practice, and we conducted some of the field visits together. Later, my attendance in the doctoral school on developmental work research and adult education taught me important things about field research. My role has slowly developed from a novice to an interventionist-researcher.

Entering the four research sites was relatively easy. The activity-theoretical developmental work research methodology used in this study was known to the sites from previous projects, the Working Health Centre project and a large-scale university hospital project in which a pilot project was conducted and internal interventionists were trained. I had not personally been involved in the previous change efforts, and all the contacts in the sites were new to me, as I was new to the research field.

My colleagues in the research project knew a person working in the personnel administration of the university hospital as an internal developer and contacted her to obtain access to the site when the Stabilization and Diffusion of Innovative Forms of Work and Learning: Traces, Consequences and Bridges project began. Later she led the researchers to the unit for surgery and intensive care in the university hospital. The previous change efforts had not helped the unit to improve its practices, and since it was in a crisis situation, it needed to try something completely new in its development efforts. The unit was in need of external help and became included as a research site in the second From Disjointed Projects to Sustainable Development project.

I believe that the fact that the sites were familiar with developmental work research methodology eased the entrance of our research team into the sites. In the case of the hospital, the fact that it is a university hospital which is used to the presence of medical students and different kinds of agents eased our entrance. The employees were mostly very welcoming towards me and willing to cooperate with the study. The interviewees volunteered to participate in the study.

As I met new people in the research sites, I always first explained that I am a researcher specialized in education. I asked all the research subjects for permission to observe them in their workplace and to interview them and ask for documents from them. The interviewees and patients whose care pathways I followed were chosen with the help of representatives of the operational management and other medical professionals who were participants of the research projects in which I was involved. The permission needed for conducting research was officially obtained from all of the research sites and from each

patient. In collecting data, I always asked for permission to audio- or video-record events in the research sites.

The data collection at the university hospital required things of me which I had not expected. The hospital under study has strict safety procedures, such as rules for hygiene. I was requested to wear a nurse's uniform at all times when present in the hospital (as illustrated in Figure 1). Before entering the field, I was not expecting to actually be taken into operation theatres to follow operations. During the first visit I was suddenly taken by an operations manager I had just interviewed to follow an open heart surgery. I almost blacked out while observing the operation.

Over time, I became used to seeing blood and was able to approach the patient being operated on and to conduct *in situ* interviews during operations. As I followed the conduction of operations, I was commanded wear a respirator at all times. At first this felt a bit peculiar, but I soon became used to it. I soon realized that the hospital staff and the patients sometimes mistook me for the hospital staff as I was wearing a nurse's uniform. I always corrected this misunderstanding when I came across it in interaction situations. I did not face any major conflicts in the research sites in relation to my data collection.

The work of the hospital staff is emergency-like, full of surprises and acute problem-solving and is very hectic. The surgical operating unit and also what was called the monitoring room situated in the ward for internal diseases usually receive severely injured patients. The sites I studied represent high risk environments, since anything can go wrong and the patients may die during their surgical operation or during the hospital stay. The employees are not always willing or allowed to reveal everything to a researcher, which sets certain frames and can cause limitations to the study. The patient's personal and medical data, for example, always needed to be confidential. These aspects set ethical concerns for the conduction of this study, which I tried to take into account sensitively when collecting data. Fortunately, no patients died during my field visits.

Collecting ethnographic data in a health care environment is challenging and emotionally and also physically demanding, especially in a hospital environment and in surgery and intensive care, which provides the main research site for this study. In the two primary care sites under study, the atmosphere was quite calm, and the work was easier to follow than in the university hospital. Viewing the activities in the hospital exposed me constantly to new information and various simultaneous events, which was at first a great challenge for a layman in medicine like myself. I slowly learned about the processes and the terminology, which made the conduction of the field study easier.

My conduction of the fieldwork required sensitivity and good social and communication skills. In the data collection, I always tried to be very sensitive

and careful in trying not to disturb the patients and the medical professionals when asking questions. I soon learned when it was not appropriate to approach someone with a question, and in these cases I merely observed the care activities. My whole personality was involved in the fieldwork; for instance, I felt sympathetic towards the patients whose care I studied who were in pain. Being involved in health care developmental projects meant going into 'the wild' and seeing the practice 'from within' while conducting ethnographic fieldwork and being involved in facilitating workplace interventions. Following activities such as open-heart surgery were incredible experiences. The interactions I had with the patients and seeing them in pain and hearing their stories emotionally touched me. I am grateful to the patients and all my informants in the research sites for allowing me to study them.

I had many intertwined roles during the years of field research and data collection for this study. I primarily acted as a doctoral student conducting a university-based research project as well as my doctoral dissertation. I acted as an interviewer and observer. I also acted as one of the facilitators in the developmental work research project carried out in the first research site, the surgical operating unit.

I studied change efforts which had been conducted using the same activity-theoretical research tradition which I myself represent. However, I also explored change efforts which I had not taken part in, and I was able to experience an employee-initiated change effort (reported in Article III). My background as a student of developmental work research and adult education naturally influenced the focus of my observations, the formulation of interview questions and later the choice of excerpts for analysis and the interpretation of the data. However, in following the consequences of developmental work research projects, knowing the theoretical underpinnings and background of the methodology used in the conducted change efforts is here seen as a strength. The choice of the research sites is justified by the fact that this study aims at developing activity theory and developmental work research.

In applying the activity-theoretical orientation, I view all field research conducted as interventions affecting those researched. I as a researcher took a more active role than a mere data collector (see Engeström, 2000). My presence in following the consequences of the projects may have interfered with the responses and the activity. It is crucial for the reader to note that my attempt in this book is not to address any specific issues concerning the substance of medical work but to, as a work researcher, assist the health care practitioners requiring external help to analyze and to reconceptualize their activity. In addition, I theoretically scrutinize health care change efforts and make their consequences visible to widen our understanding of the multidimensional field and its change management. Studying change and change management in health care

contexts has been a fascinating journey and a rewarding learning experience for me. I am very happy and enthusiastic to carry on this exciting journey!

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APPENDIXES

Appendix 1. The questions the researcher addressed in the narrative interviews conducted in the wards and during the course of the care to the actors taking part in patient care

1. Questions addressed to the patient in conducting the narrative interviews in the wards and during the course of the care:
<ul style="list-style-type: none">- Tell me about yourself.- You are going to have an operation. What led to this situation?- Have you been treated in a hospital before?- What are your expectations in regards to this visit?- What will happen after the operation?
2. Questions addressed to the nurses in the wards in conducting the narrative interviews:
<ul style="list-style-type: none">- Tell me about your work in this ward? What is it like?- When did the patient (that I am following) arrive? What do you know about the patient?- What kinds of procedures will you carry out on the patient?- Will the patient be brought back here after the operation, and what happens then?
3. Questions addressed to the surgeons in conducting the narrative interviews:
<ul style="list-style-type: none">- Tell me about your work as a surgeon. What is your surgical specialty?- Tell me about the forthcoming operation on the patient that I am following.- What kind of an operation is it?- How does this kind of operation typically proceed?- Did the operation proceed as you planned?- What kind of care will the patient receive after the operation?
4. Questions addressed to the anesthetists in conducting the narrative interviews:
<ul style="list-style-type: none">- Tell me about your work as an anesthetist. What is it like?- Tell me about the patient (that I am following). What type of anesthesia will the patient receive and why?- Describe what you do during the operation.- Did the anesthesia proceed as you planned?- What kind of care will the patient receive after the operation?

5. Questions addressed to the nurses in the operation theater and in the recovery room of the surgical operating unit:

- Tell me about your work as an anesthetist/surgical nurse.
- What kinds of procedures will you carry out (in the operation theater/in the recovery room) on the patient?
- What was the situation here when the patient arrived/was about to leave?

Appendix 2. Interview questions in the follow-up interviews in tracing the consequences of the conducted change efforts

1. Starting points of the project:

- How and why did you get involved in the project?
- What is the first thing that comes to your mind as you think back about the project?
- How did the project start? What was your own work like back then?

2. The project/process in practice:

- How was the project/process as a whole?
- What kinds of issues/themes did you go through in the sessions?
- How were the new ideas (models) created and then introduced to the whole unit/organization?
- Did the activity of the unit change in practice?
- How do you feel about the DWR methods and consultants facilitating the process?

3. Consequences of the project:

- How is your work now? Did you personally gain something from the project, and if so, what?
- Has the project aided the unit/organization in general?
- Can you name the main results of the project?
- Are the implemented new practices/tools/models still in use?
- Has the project been followed by anyone before?
- Have you had any other development projects after this one?

Appendix 3. An example of a story analyzed using Mishler's (1986) categories. The interviewee is a nurse in a university hospital

Categories in the story	Emplotment of the story, core plots, turning points and changes
<p>Orientation: The ward was divided into two modules, and substitutes were running the monitoring room. We experienced nurses did go there once in a while to do a round, but basically the substitutes took the responsibility of the room. The substitutes had less work experience than us, and they had difficulties trying to cope with the difficult situations there. They were often all alone there. It was more difficult for them than for us here in the regular side of the ward.</p>	<p>Problems in the functioning of ward for internal diseases and especially in its new monitoring room</p> <p>Substitutes lacking adequate skills, working in the monitoring room. A need for change</p>
<p>Abstract/ Summary: The fact that we had the substitutes in the monitoring room was a terrible thing. I wonder how the patients actually survived it. The substitutes did not have enough competence. They come from units in which they have nothing to do with these types of acute patients. Then (as the change project started) we started to think about how the regular staff could be encouraged to work in the monitoring room. During the project we began to develop the division of labor and our rotations to take the monitoring room better into our responsibility.</p>	<p>Changes in requirements, acute patients with multiple illnesses</p> <p>The change project was started to improve the difficult situation.</p>
<p>Complicated action: Members of our regular staff started to take shifts in the monitoring room. However, it was still very complicated as they refused to work there for more than two days in a row. The nurses outside the monitoring room were not motivated to come and help when difficult situations emerged in the monitoring room or when the nurses working there needed to go for lunch. The nurses taking care of patients in the monitoring room asked the nurses in</p>	<p>The room is still experienced as a disorderly and stressful place.</p> <p>New challenges and requirements cause resistance to change.</p>

<p>the regular ward for help but did not receive a helping hand. They were basically on their own there.</p>	
<p>Resolution: In the project we came up with an idea to form a third module, which was the monitoring room that had caused trouble. We now switch between the modules. We stay around a year in one module to gain expertise, and then switch to one of the other two. Sometimes we, of course, flexibly transfer staff from one module to another if needed. It has been good for us! We added staff to the rotation of the monitoring room. We now always have two nurses present in the monitoring room. We also have developed an extra night shift so no one needs to be there alone. Our head nurse was committed to the project, which aided in getting the resources to the ward, such as an increase in the number of staff.</p>	<p>Establishment of a new, third module to organize the activity in a new way</p> <p>Changes in the work distribution. Permanent workers started to work in the monitoring room.</p> <p>New functional rotation plan. More employees</p> <p>Managerial support</p>

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- Kerosuo, H., Kajamaa, A. & Engeström, Y. (2010), "Promoting innovation and learning through Change Laboratory: An example from Finnish Health care", in *Central European Journal of Public Policy*, Special Issue on Knowledge Governance 4 (1), <http://www.cejpp.eu>.
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