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Practice-based Improvements in Healthcare

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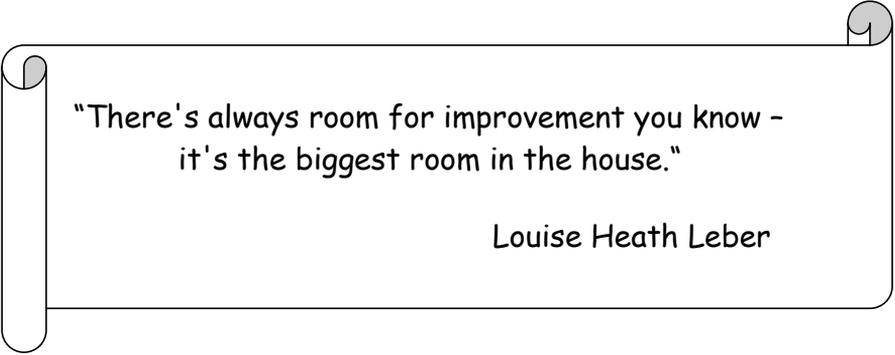
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"There's always room for improvement you know -
it's the biggest room in the house."

Louise Heath Leber

Abstract

A central problem for the healthcare sector today is how to manage change and improvements. In recent decades the county councils in Sweden have started various improvement initiatives and programs in order to improve their healthcare services. The improvement program of the Kalmar county council, which constitutes the empirical context for this thesis, is one of those initiatives.

The purpose of this thesis is to contribute to a broader understanding of large-scale improvement program in a healthcare setting. This is done by analyzing practitioner's improvement ideas, describing participants in the improvement projects, revising and testing a survey to measure the development of improvement ideas and describing the improvement program from a theoretical perspective. The theoretical change model used looks at change from two opposing directions in six dimensions; *Goals, Leadership, Focus, Process, Reward system* and *Use of consultants*.

The aims of the county council improvement program are to become a learning organization, disseminate improvement methodologies and implement continuous quality improvements in the organization. All healthcare administrations and departments in the county council were invited to apply for funds to accomplish improvement projects. Another initiative invited staff teams to work with improvement ideas in a program with support from facilitators, using the breakthrough methodology. Now almost all ongoing developments, improvements, patient safety projects, manager and leader development initiatives are put together under the county council improvement program umbrella.

In the appended papers both qualitative and quantitative research approach were used. The first study (paper I) analyzed which types of improvement projects practitioners are engaged in using qualitative content analysis. Five main categories were identified: *Organizational Process; Evidence and Quality; Competence Development; Process Technology; and Proactive Patient Work*. Most common was a focus on organizational changes and process, while least frequent was proactive patient work. Besides these areas of focus, almost all aimed to increase patient safety and increase effectiveness and availability.

Paper II described the participants in two of the initiatives, the categorized improvement projects in paper I and the team members in the methodology guided improvement programs. Strong professions like physicians and nurses were well represented, but other staff groups were not as active. Managers were responsible for a majority of the projects. The gender perspective reflected the overall mix of employees in the county council.

Paper III described a revision and test of a Minnesota Innovation Survey (MIS) that will be used to follow and measure how quality improvement ideas develop and improve over time. Descriptive statistics were presented. The respondents were satisfied with their work and what they had accomplished. The most common comment was about time, not having enough time to work with the improvement idea and the difficulty of finding time because of regular tasks. This was the first test of the revised survey and the high use of the answer alternative “Do not know” showed that the survey did not fit the context very well in its present version.

Trying to connect the county council improvement program and the initiatives studied in papers I and II with the change model gave rise to some considerations. The county council improvement program has an effort to combine organizational changes and a culture that encourages continuous improvements. Top-down and bottom-up management approaches are used, through setting out strategies from above and at the same time encouraging practitioners to improve their day-to-day work. Whether this will be a successful way to implement and achieve a continuous improvement culture in the whole organization is one of the main issues remaining to find out in further studies.

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Lund, November 2010

Ann-Christine Andersson

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Introduction

In recent decades quality improvement made its entry into the public healthcare sector. In Sweden, county councils started various improvement initiatives and programs in order to improve their healthcare services. The Kalmar county council was one of them. In 2007 a large-scale improvement program was initiated through a political decision to invest money in improvement work. The aim of the county council improvement program was to become a learning organization, spread improvement methodologies and implement continuous quality improvements in the organization. This county council improvement program constitutes the context for this thesis. The thesis aims at contributing to the understanding of large-scale improvement programs in healthcare settings.

A central problem for many healthcare systems today is how they can organize and manage large-scale changes. The pressure for initiating such changes generally originates from demographic changes (Nolte & McKee 2003), medical and technological advances (Blomqvist 1992, Anell 2005, Quality and Efficiency in Swedish Health Care – Regional Comparisons 2007) and the expectations of citizens as demanding and well-informed healthcare co-actors (Anell 2005, Sorian 2006). There also seems to be general agreement that financial resources will not be the solution to these problems. Other alternatives need to be considered.

Quality improvement is considered one of the central strategies for handling pressures for change as mentioned above (Stenberg & Olsson 2005). Many concepts and methods have been developed (see Stenberg & Olsson 2005), but there has not been much research focused on large-scale improvement programs. However, the Institute for Healthcare Improvement (IHI) as well as the Swedish Association of Local Authorities and Regions (SALAR) have

developed guides consisting of questions to consider when initiating such large-scale change and improvement programs (McCannon et al. 2008, SALAR 2007).

When quality improvement initiatives are implemented, how do we know whether they are sufficient and generate the intended results? Healthcare has developed tools to measure medical outcomes, such as surgical mortality rates, tests of new therapies and even patient satisfaction (Berwick et al. 2003). But there is also a need to measure quality not solely connected to medical treatments (Grol 2001). Both Grol (2001) and Counte and Meurer (2001) state that healthcare organizations are highly complex and this complexity makes measurements even more difficult. Nevertheless, to be able to manage, improve and implement more general quality initiatives and improvements it is necessary to observe, measure and evaluate. If there are no mechanisms to measure the changes, how can it be known whether they lead to improvements (Donabedian 2003, Batalden & Davidoff 2007)? Finding and/or developing measurements and instruments to evaluate implementations and outcomes of improvement initiatives is a component in quality research that needs to evolve.

The overall aim of this thesis is to contribute to knowledge about large-scale change and improvement programs in the Swedish healthcare sector. For this purpose I start by presenting some quality initiatives and previous research, followed by an overview of the empirical context, the Kalmar county council, historically and today, which gives a background to why the topic is so central in healthcare organizations. Then I present the theoretical model for change that guides the analysis of the large-scale improvement program. This is followed by some theoretical issues about quality improvement and management. In the discussion I use the theoretical model to discuss the county council improvement program. Finally, I present important findings in the large-scale county council change and improvement program.

Regulations, initiatives and measurements concerning quality in healthcare settings

This section elaborates upon various regulations and initiatives that push healthcare organizations in the direction of improving their quality. One important agent within the context of quality improvements in healthcare is the Institute for Healthcare Improvements (IHI) in the United States. IHI works with improvements by offering knowledge and methodology development to support healthcare organizations, as stated on their website: *“works to accelerate improvement by building the will for change, cultivating promising concepts for improving patient care, and helping health care systems put those ideas into action.”* On the website they publish improvement stories from all around the world, to encourage others and spread ideas (IHI website).

Recently Swedish society and public authorities have paid more attention to the fact that quality is important. In 2005 the National Board of Health and Welfare published a regulation about management systems for quality and patient safety in healthcare settings (SOSFS 2005:12). Since 2006 the Swedish Association of Local Authorities and Regions (SALAR) has made comparisons between the county councils concerning a number of parameters in the healthcare sector, in a report titled *“Quality and Efficiency in Swedish Health Care – Regional Comparisons”* (2007). After the first comparison SALAR arranged a workshop and formulated a report to help the county councils use the results as a management tool (SALAR 2007). The report emphasizes the importance of leadership to make quality improvement work turn out to be a success.

The Swedish Society of Nursing (SSF) published a report in 2005 called *“Strategy for quality development in nursing care”* (SSF 2005). In this report they state that the overall aim of the quality work within the society is *“to take systematic advantage of improvement possibilities*

within the healthcare environment to give the patients and caretakers qualitative nursing care at the right level” (p. 5, author’s translation).

National quality registries are another phenomenon that has been established in Swedish healthcare and medical services in recent decades (accessible from SALAR webpage). There are some older registries, established in 1975 (artificial knee) and 1979 (artificial hips), but most of those registries were established starting in the late 1980s, with new ones still being added, e.g. “Senior Alert” in 2009. These are not simply registries, but also an opportunity to measure and compare. In 2009 the “OmVård [About Care] — comparing Swedish healthcare” website was established. Their aim is to make healthcare results and measurements easy to access for “*ordinary people*” as they claim. Probably the future will see more of those, and they will act as a motivating force for improvement.

Another movement associated with quality and improvements in medical care is Evidence Based Medicine (EBM). Optimally used it is supposed to improve medical and healthcare while integrating the use of the best available treatment according to existing research with the clinical expertise of practitioners. Sackett et al. (1996) defines EBM as a clinical form of best practice or standardization through the production and use of guidelines and checklists, basing decisions on the best evidence available, a definition adopted by the Swedish National Board of Health and Welfare. In 2006 the Swedish Society of Nursing published an offprint about evidence-based care and how and why scientific knowledge is used in daily nursing care (Bahtsevani et al. 2006).

Important concepts and definitions

In this section important concepts and definitions related to quality and quality improvement are presented. First I would like to point out, as stated by Bessant et al. (2001) that *“there is a considerable and unhelpful confusion in the way the term ‘continuous improvement’ is used.”* (p. 68). Researchers use a number of different expressions (e.g. quality improvement, continuous improvement, quality assurance), so I fully agree with this statement. The consequence is that many different expressions concerning the concept of quality improvement appear. Below I will address the most frequently occurring terms in this thesis and define how they are used.

Dean and Bowen (1994) define quality management, or what they refer to as total quality, as a *“philosophy or an approach to management that can be characterized by its principles, practices and techniques. Its three principles are customer focus, continuous improvement, and teamwork”* (p. 394). Classical theory in quality management and improvement proposes that the key principles are customer focus, continuous improvement, process orientation, teamwork and decisions based on facts (Dean & Bowen 1994, Hackman & Wageman 1995, Sousa & Voss 2002, Schroeder et al. 2005). Over the years the concept of quality developed from industrial control thinking (Bergman & Klevsjö 2002) to a comprehensive view based on the principle of continuous improvement (Batalden & Davidoff 2007).

The American Institute of Medicine (IOM) defines quality in healthcare (medicine) as the extent to which health services increase the likelihood of desired health outcomes consistent with current professional knowledge for individuals and citizens (Soriano 2006). The Swedish Healthcare Act (SFS 1982:763) states what good care is and how to work to develop and maintain it, but quality is only briefly and generally mentioned in language about methodical

quality improvement. The National Board of Health and Welfare defines quality as the extent to which the organization fulfils its commitments (SOSFS 2005:12).

In this thesis the term “quality improvement” is referred to in healthcare settings and used in the more comprehensive meaning, as the intention by everyone inside the organization to improve processes and achieve satisfactory results regarding performance and patients (see Batalden & Davidoff 2007). Quality management is a leadership model related to quality improvements and includes strategies, methods, and ways of working to archive continuous improvements in goods, processes and services (see Hackman & Wageman 1995).

The concept of change is also essential to the work in this thesis. Martin (2000) states that “*To understand change, we must first understand the status quo*” (p. 456). By that he means that to change is to act differently than before, and if we fail to understand where we are today there is a risk of undermining the change efforts. Arenfeldt (1995) speaks of two forms of change: first and second order. First-order change is doing more of what you are already doing, while second-order change is transforming or converting what you are doing and the way you are doing it. Svensson et al. (2008) speaks about sustainable change concerning research on working life, but the requirements to reach change are the same as for improvements: strong managerial support, high degree of participation and necessary resources available, to name a few. Change in this thesis is defined in line with the change model used, expressed as doing things (acting) differently than before (Martin 2000).

Previous Research

In the following section, previous research related to quality improvement and quality management in healthcare settings is presented. The section starts with a brief description of the origin of the quality concept and its originators.

Quality Improvement (QI) and Quality Management (QM) originate from the industrial environment. The modern origin of the concept is to be found in an industrial setting, aiming to produce better and more effectively. The groundbreaking works of Edward Deming, Joseph Juran, Philip Crosby and Kauro Ishikawa provided an early platform for what it means to work with quality management. The domain is now generally considered a mature and accepted field of study (Sousa & Voss 2001).

Due to the increased pressure for change, there are a number of different improvement initiatives going on, at least in Western countries (see e.g. special issue of *Health Economics* 2005:14(S1)). A study investigating the implementation of quality improvement strategies in Europe found that all participating countries used different strategies (Lombarts et al. 2009). The study investigated four sections of quality improvement strategies. The first section focused on a general hospital level, including hospital-wide quality improvement policies, procedures, structures and activities and the organizational (governance) structure. The other three sections were about quality management for specific medical conditions. Patient-related activities were least implemented and external quality standards, commonly ISO (International Organization for Standardization), were applied the most (ibid.).

In a Swedish context some recent studies and dissertations indicate increasing interest in quality initiatives. Olsson (2005), Thor (2007) and Kunkel (2008) are some of the researchers writing dissertations about quality improvement and quality management and its entry into the Swedish healthcare sector.

Olsson et al. (2003a) has developed a model (Swedish Organizational Change Manager) to study factors influencing successful improvements in Swedish healthcare settings. The model

can be used to predict factors that could undermine (diagnose weaknesses in) improvement initiatives, and to measure an organization's potential to reach successful improvements or prioritize considered initiatives. A survey was conducted of all managers of primary healthcare centres and hospital departments in Sweden (Olsson et al. 2003b). The majority reported a positive response to improvement work. Main areas that the managers wanted to improve concerned intra-organizational issues, such as leadership development, education, and work environment. Extra-organizational factors, such as patients and using measurements to compare results, were found to be less important. The studies in the thesis (Olsson 2005) indicated that there is a need for support and for facilitating the implementation of improvement work.

Thor (2007) studied a large-scale improvement program in a healthcare organization in Sweden. His study consists of different views of quality improvements in healthcare, from introduction of the quality improvement initiatives, identifying the main issues/problems, collaboration between multi-professional teams and managers, how methods and facilitators could help during the process and what the outcome was after the study period of four years. One conclusion was that improvement methods and principles can not be "installed" and simply expected to work. Instead quality improvement programs can be established in the organization through an evolutionary process, involving adaption (*ibid.*).

Another area connected to improvement research and of great immediate interest is patient (customer) involvement in improvement initiatives in healthcare. In his thesis Nordgren (2003) describes the patient's dislocation from being an object (collectively taken care of) to becoming a subject (demanding individualized care). He means that the purpose with this displacement in the view of patient to customer is to delegate more power, responsibility and

rights to users. This may, according to Berwick et al. (2003), result in the possibility for customers to compare and select care and caregivers, leading to change and improvements.

Empirical context

Swedish healthcare is a public enterprise, governed by a political organization. The Swedish constitution gives the mandate to manage healthcare to the county councils. The Kalmar county council is one of 21 county councils and regions in Sweden. It consists of 12 municipalities, and over 200,000 citizens. The county council has approximately 6,200 employees, 80% of which are women. The county's responsibility is mainly healthcare; there are three hospitals, 28 primary healthcare centres and many dental care services. The county council also governs four folk high schools integrated in the organization. In a demographic perspective the elderly population is higher than the national average. Before the ongoing county council improvement program was started in 2007, the county council had been working with quality and improvement issues for a long time, in different ways. In the subsequent section this will be described from a historical perspective.

History and progress

This section aims to give a background to and a development perspective on the ongoing county council improvement program. The intention is not to describe every detail, but to highlight important milestones. The data is based on interviews and county council documentation, further described in the method section.

Quality circles were one of the earliest documented quality initiatives, starting in 1992. About 450 staff members were educated in the tools. However, after some time, the initiative died out by itself. In the mid-1990s representatives of the Federation of Swedish County Councils (as of 2007 the Swedish Association of Local Authorities and Regions, SALAR) went to the

Institute for Healthcare Improvement (IHI) bringing back influences from what is called the Breakthrough Series (IHI website). The result of this was that almost all county councils in Sweden started to work with QUL (Quality, Development and Leadership), a management program for customer-oriented business development (www.skl.se/web/QUL.aspx). In the Kalmar county council there was a political decision to start working with QUL, and the work began in 1997.

In 2001 the Swedish government granted funds aimed at improving patient accessibility mainly through encouraging the county councils to shorten the queues. At the same time the Federation of Swedish County Councils, together with some county council directors and some of their managerial staff, organized a workshop called “accessibility and renewal” mapping and defining the most important problem areas in the healthcare sector for improvement. The workshop defined four areas to focus on: open measurements (showing results in public); proactive patient safety work; open quality registers; and accessibility. In the Kalmar county council those areas were formulated in a plan of action (County Council of Kalmar 2003). At the same time the county council was forced to review the finances, due to the economic crisis during the late 1990s. Beginning in 2003 there was a quality improvement focus in the political management. The political and managerial meetings started with a report from the Development Director, to start with only a few minutes, but this has evolved over the years.

In 2005, after some years of savings throughout the public sector, management started to think that all improvement initiatives had been eliminated as a result. An external audit was initiated looking at an overall county council level (Audit report 2005). The audit stated that some improvement projects still existed, but only as isolated islands. There was no systematic

all-embracing control or distribution. That audit report led to a county council plan to start a drive on “Learning and Renewal”. The central development unit got more specific responsibility to be the driving force in this work. The patient safety project was restarted, and the external webpage *ltkalmar.se* was created to more easily share results with the customers, patients and citizens.

Another important milestone in the improvement work in the county council is related to the established transparent comparisons of Swedish healthcare. This initiative started in 2006 whereby the Swedish Association of Local Authorities and Regions (SALAR) carried out and published the first report “Quality and Efficiency in Swedish Health Care,” containing comparisons of the quality results in Swedish healthcare (see e.g. Quality and Efficiency in Swedish Health Care – Regional Comparisons 2007). The comparisons aim to help the county councils in their improvement efforts, making it possible for them to compare results. In November 2006 SALAR followed up the report through a workshop involving the management of all county councils. This workshop resulted in a document, “Strategies for Increased Efficiency and Effectiveness” (SALAR 2007). After the Swedish election in 2006 the county council elected members were concerned about quality problems, in part because of the SALAR report “Quality and Efficiency in Swedish Health Care” mentioned above. This resulted in the current county council improvement program.

The most important milestones were impact from outside the organization, like the transparent comparisons of Swedish healthcare accomplished by SALAR, and management and staff at the development department taking active part and collaborating in SALAR initiatives described above.

The ongoing county council improvement program

This section describes the empirical data that constitutes the context for this thesis. The aim is to give an overview of the ongoing county council quality improvement program, called “Every day a little better — the power of working together” (author’s translation).

The county council improvement program was initiated to encourage quality improvement initiatives and to spread improvement knowledge in the organization. The decision to grant SEK 30 million was made by the county council steering board in April 2007. A document stating the overall strategies, based on the SALAR document “Strategies for Increased Efficiency and Effectiveness” (SALAR 2007), was produced as well as documents stating the aims to be reached through 2011. A large amount of information about the initiative, visions and aims was formulated and communicated out in the organization through management and webpages (“Kvalitetswebben”). The county council official management and the development department were assigned to implement this political decision. All healthcare departments, primary healthcare centres, dental clinics and other units in the county council were invited to apply for money to accomplish improvement projects. A steering board committee was created, with delegates from the different departments and administration, including some external researchers. The strategy document stated the requirements for the applications. The steering board committee considered the applications and recommended to the decision-making board which ones to approve and why. To date (autumn 2010) there have been five application batches, for a total of 230 applications. Eighty projects have been granted awards and are in progress and 27 of those have been completed. The improvement projects are categorized and described in paper I and the participants in paper II.

Another initiative in this county council improvement program was started in spring 2008. It is called Improvement Programs (IP), and invites staff teams to work with improvement ideas in a program using the breakthrough methodology (IHI website). With support from

supervisors/facilitators the teams meet four times over a six-month period, and between meetings they do team work at home. The aim of these programs is to spread the improvement knowledge and methodology in the organization. To date six of these programs have been started, involving about 130 teams and 610 staff members. The latest improvement program was started in autumn 2010 with a focus on two areas stated in advance, patient safety and preventive care, and is being done in collaboration with participants and teams from the county council and some municipalities. The earlier improvement programs had no definite focus; the teams were free to find out the issues/problems they wanted to work with. The participating staff members are described in paper II and some results from a survey following the development of the improvement program teams in paper III.

Over the years more and more initiatives have been placed under the umbrella of the county council improvement program. Almost all ongoing developments, improvements, patient safety projects, manager and leader development initiatives and some other care and medical projects are now facilitated in the county council improvement program. Initiatives and projects connected to the county council improvement program are e.g. intensified patient safety initiative “safe care in the county council of health,” with the aim to prevent patients from getting injured inside healthcare organization, care preventive initiatives, such as minimizing care-related infections, the VRISS (hospital/care related infections) project, and care programs in medical prioritized patient groups as well as the regular measurement of the presence of pressure ulcer and the measuring of how the staff follows the basic rules of hygiene. Results are publicly reported every month.

There are also initiatives aimed at managers and leaders, such as trainee programme for future leaders and annual days where managers are invited to meet, get information and discuss. To support and help managers in their responsibilities to be a force in the work of change and

improvement a university program for managers (Management Education in Change and Improvement Knowledge) has been introduced. The education is accomplished in cooperation with Linnaeus University. The aim of the course is to support and give managers knowledge and methods in their roles as change and improvement leaders.

Theoretical perspectives

In this section some theoretical perspectives will be addressed. The structure of the discussion section later in this thesis is borrowed from a model for change developed by Beer and Nohria (2000a, 2000b). The dimensions in this model will be used as a framework discussing the county council improvement program and some of its initiatives/projects. This theoretical section will start with a description of the model, some perspectives on quality management, and then focus on quality management and quality improvement in healthcare settings.

A theoretical model for change

The theoretical model for change used in this thesis was the result of a conference bringing together a number of important researchers in the area of change (Beer & Nohria 2000a). The model focuses on industrial settings, but there are important aspects that can be just as relevant for accomplishing large-scale change and improvement programs in public settings. In the discussion section I will apply this theoretical model in an attempt to understand large-scale improvement programs.

The model aims to provide some understanding of organizational change, addressing the question: *How can change be managed effectively?* The model consists of two opposing theories of change. The E theory is based on the goal of economic values and financial motivations and a top-down management through structure and planning, often by means of staff reduction, streamlining and downsizing. The opposing O theory is built on organizational capabilities from a bottom-up perspective with commitment as driving force and focusing on evolution and culture building. The model tries to provide strengths and weaknesses of each theory along the six dimensions of change: *Goals, Leadership, Focus, Process, Reward system* and *Use of consultants*. In the model, Beer and Nohria argue that the key to solving the paradox of change is to integrate the two opposing theories (Table 1). At

the same time they state that combining them is not an easy challenge, and must be done in sequenced order, starting by changing the culture and making use of employee's ideas and initiatives. If change begins the opposite way, with downsizing and many employees terminated, it could be difficult to obtain trust and commitment from the remaining staff. On the other hand, the soft line could make it difficult for managers to make tough decisions, after increasing commitment had occurred (ibid.).

Table 1. Change model Theory E, Theory O and combined. Source Beer and Nohria (2000b) p. 137

Dimensions of Change	Theory E	Theory O	Theories E and O Combined
Goals	maximize shareholder value	develop organizational capabilities	explicitly embrace the paradox between economic value and organizational capability
Leadership	manage change from the top down	encourage participation from the bottom up	set direction from the top and engage the people below
Focus	emphasize structure and systems	build up corporate culture: employees' behaviour and attitudes	focus simultaneously on the hard (structures and systems) and the soft (corporate culture)
Process	plan and establish programs	experiment and evolve	plan for spontaneity
Reward System	motivate through financial incentives	motivate through commitment — use pay as fair exchange	use incentives to reinforce change but not to drive it
Use of Consultants	consultants analyze problems and shape solutions	consultants support management in shaping their own solutions	consultants are expert resources who empower employees

Quality management top-down and bottom-up perspectives

Many scholars agree that quality improvement is connected with and needs leadership and management to succeed (see e.g. Batalden & Stoltz 1993, Ahrenfelt 1995, Beer & Nohria 2000a). On the other hand they disagree as to how management would be applied in change

and have different opinions about where improvement initiatives arise. Some see management from a top-down perspective while others advocate a bottom-up approach.

Do large system-wide changes need to be led from the top? Conger (2000) argues that only top-management, e.g. a CEO team with an organization-wide perspective, resources and power, can manage change. He makes a comparison with the great generals of history always sitting above the field with an overview of what has happened. He admits nevertheless that there are also essential needs for engagement at lower levels in the organization, but upper management must always be “in charge” to accomplish successful changes within an organization. Bennis (2000) asserts the opposite, that change arises from those who need it, and leadership always needs staff contributions to be successful. He illustrates his perspective with some social movement changes, and states that the story of the heroic leader managing everything is a myth. In his thesis Sonesson (2007) concludes that service innovations benefit from the involvement of front-line employees but that it is important that their participation in the innovation process is supported by local managers who need to set aside the time and resources for the employees to take part in the development process.

Dunphy (2000) tries to tie these two different views together by embracing the paradoxical relationship between leadership and staff participation to achieve an efficient change. He argues that both could be relevant at different times and in different situations. The key is to determine what change level is appropriate for the situation. If one can work that paradox out, a more robust ongoing capability for change can be built in the organization.

Quality improvement and quality management in healthcare settings

Improvements in healthcare have been going on for a long time, mostly directed towards technical innovations and medical treatments (Grol 2001, Anell 2005). Now quality

improvements have become more general at an organizational level (compare e.g. Lombarts et al. 2009). Different methodologies and methods have been introduced, most of them originating in industry, such as TQM, Balanced scorecards, Lean production, Six Sigma and Breakthrough (see Stenberg & Olsson 2005). Quality improvement, or at least the idea of it, has become a factor for competition. Different researchers have tried to develop frameworks or models of quality improvement in healthcare. Some of them are discussed below.

Healthcare organizations are complex. In their *Framework for Continual Improvement of Healthcare* Batalden and Stoltz (1993) advocate the need to transform healthcare organizations to make them capable of continuous improvement. The leaders need a theory to combine professional knowledge and improvement knowledge and they need tools and methods to be able to achieve this. Donabedian (2003) argues almost the same way when he describes quality in healthcare settings as combining the science and technology in healthcare with their application in practice. The combination (what he calls the “product”) is characterized by attributes, efficacy, effectiveness, efficiency, optimality, acceptability, legitimacy and equity.

Batalden and Stoltz (1993) speak of a policy for leadership in healthcare, answering the question *What is the organization for?* with reference to customers as citizens and the community as a whole, as well as specific patient groups. Leaders need guiding principles and tools to help them manage change and improvement within a knowledge-intensive organization like healthcare. Improvement should become an overall organizational program that people do alongside their regular work. Staff members are expected to improve work processes constantly (Batalden & Davidoff 2007).

Donabedian (2003) states that to be able to establish quality one has to measure and monitor, and use that information to act properly. Without doing this, how do we know what to improve and whether we have succeeded? There is a need to find “evidence” for improvements to be able to spread and implement them as part of healthcare. Batalden and Davidoff (2007) discuss further the challenge of healthcare in terms of a linkage between various aims of improvement, which include clinical results and professional development as well as system performance.

Changes in an organization are affected and carried out by its people (Ahrenfelt 1996). Strong professions, as in healthcare, always influence and have their own agendas (Adler et al. 2008). To manage change and improvements, management must be aware of and take advantage of this. Professionals are the key actors, often with a strong identity and common occupational status (ibid.). Quality improvements require teamwork and the teams must be made up of different professions. Adler et al. (2008) stated that a number of healthcare services had introduced collaborative teams consisting of physicians, nurses and other staff to improve quality and cost effectiveness. At the same time they emphasize the difficulties that will arise in a strong professional organization. Leape and Berwick (2005) explain that one factor for why the quality progress within healthcare is slow is the strong and persistent commitment to individual and professional autonomy, e.g. among physicians.

Considering that all quality improvement models and strategies can seem overwhelming, it is important to consider the risk of projects that are too ambitious. Hackman and Wageman (1995) discuss some things worth considering, such as overly fundamental alterations of social systems, or the fact that in time changes become window-dressing more than useful

tools. People revert to their old behaviours. The key is “*to achieve fundamental change without changing the fundamentals*” (ibid. p. 336).

Purpose

The purpose of this thesis was to contribute to a broader understanding of large-scale improvement program in a healthcare setting. This purpose is attended to in three ways:

- To describe improvement ideas, activities and participants involved in the county council improvement program.
- To revise and test a survey intended to measure how improvement ideas emerge, develop, grow or terminate over time.
- To describe the linkages between the improvement ideas/projects and the county council improvement program from a theoretical perspective on change.

Material and Methods

This section describes the material and methods used in this thesis and in the appended papers. First a description of the methodology used in the *Empirical context* section will be made. The shift in focus, from the appended papers reporting on some of the initiatives within this county council improvement program to a more theoretical perspective on change, is described. The different methods used in the three papers are described, and a section reflecting on methods used, research traditions and some thoughts on pre-understanding at a more all-embracing level will end this section.

This thesis is based on the Kalmar county council improvement program described in the *Empirical context* section. The data for that section was collected using unstructured interviews (Kvale 1997) with two business development staff members that have long experience in working with development issues in the county council. In addition, different types of documentation were used, old documents searched in the archive and newer documentation located on the intranet and websites. The search was for overall strategic documents, the county council annual plans and strategy documents while old improvement initiatives might be concealed in strategic planning documents. After reading the documents, additional information and clarification was obtained by a short second interview. All sentences including words related to quality or improvement in some way were compiled in chronological order.

The papers included in this thesis focus on some of the initiatives included in this county council improvement program. In the thesis I have tried to shift focus to discuss those initiatives in the light of the county council improvement program (see Figure 1). The historical description presented in the *Empirical context* section also provides an overview of

the main activities and events that have influenced present conditions. The discussion section mainly focuses on the links between the county council improvement program and the projects studied in the papers and their connection to the change model described in the *Theoretical perspectives* section. This is an attempt to see the projects in a wider perspective, and in that way try to contribute to a wider understanding of large-scale improvement program in a healthcare setting.

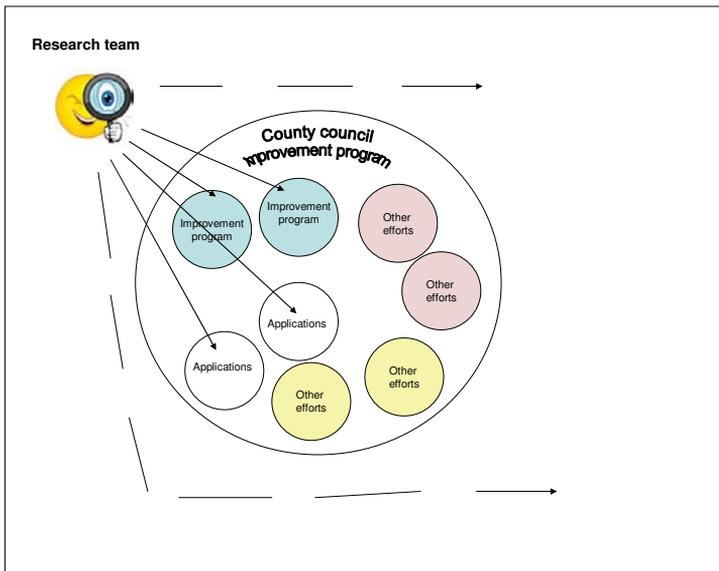


Figure 1. The empirical context and the research focus for this thesis

In paper I the data consists of the applications from all the different healthcare departments within the county council improvement program from 2007 until 2009. In paper II all participants, both from the applications and in the methodology-guided improvement program, were used. Paper III describes the revision and test of a survey to be used in the improvement program.

In the first study (paper I) a qualitative content analysis were performed, influenced by Burnard (1991). The applications, n=202, describing the purpose and aims of the improvement initiative, were independently analysed by two of the authors. The analysis is described in detail in paper I. A matrix containing the category system was established (see paper I).

The next study (paper II) aimed to evaluate the participants in the county council improvement program. Participants from the applications and in the methodology-guided improvement programs were used as data, resulting in n=230 and n=477 respectively. Synthesis was done from different views of participants belonging to the eight different administrations, different professions and gender, as well as to the categories established in paper I.

To evaluate the county council improvement program and the processes and progress of innovations a longitudinal study is planned. A survey was adapted and revised with an existing survey as foundation, the Minnesota Innovation Survey (MIS) (Van de Ven et al. 2000). The adoption was done in several steps, fully described in paper III. Descriptive statistics were used to show results from the survey.

Reflections on research approach

Research emanates from different traditions and that leads to different research approaches. Due to the different research questions, this thesis takes an interdisciplinary approach using both qualitative and quantitative methods. The purpose is to describe practice-based improvement ideas and healthcare personnel that are involved in improvement projects and to revise and test an instrument intended to measure how such improvement ideas develop over time within the scope of a large-scale improvement program. In this thesis the focus is

expanded to encompass the links between the projects studied in the papers and the county council improvement program. The reflections in this section will not repeat the methodology discussions in the papers, but will try to give some more comprehensive considerations.

The qualitative method in paper I consists of a content analysis influenced by Burnard (1991). Content analysis deals with the objective description of a phenomenon, sometimes trying to go one step further and include interpretations of a latent context (Graneheim & Lundman 2003). Dealing with qualitative analysis, Miles and Huberman (1994) call attention to the phenomenon of pre-understanding coming from prior experiences, values and knowledge, and request researchers to describe their point-of-view and be aware of it and how it can influence your research process. My background as a nurse in the healthcare sector will of course influence this thesis. But at the same time my previous experience working at a large international pharmaceutical company will give me other perspectives and possibilities to look at organizations and change initiatives.

The interviews done in the empirical context section were unstructured, discussing issues concerning quality and improvement work that had occurred (and that the person interviewed could remember). Kvale (1997) stated that discussions about specific topics are a good method to acquire knowledge about a course of events. This material was then complemented by some documents and presented in chronological order. To validate this data the person interviewed revised the description and some clarifications were made. This method of allowing interview participants to revise findings and comment on them is called member checking and provides the interviewee the ability to correct errors at the same time that it validates the data (Miles & Huberman 1994). The historical description aims at placing the county council improvement program in a developmental context. Following the generation

of quality improvement work to where the county council is today could give useful insight in the quality development in the Swedish healthcare sector from a local perspective.

In all the papers included in this thesis I have had a leading and active role in data collection, analysing and writing together with my supervisors and co-writers. The fact that my appointment as a PhD student is funded by the county council must be considered, as well as my connection to the university. My background, not having worked in the county council before this appointment, and having experience working in the private (pharmaceutical industry) sector helps me take an outside approach to this county council improvement program, while the connection to the university brings focus on and training in research. I think that being aware of those facts will minimize the risk of being partial and biased. However it is up to the readers to judge if I managed to do so or not.

Summary of papers

This thesis consists of three papers, with the aim to contribute to the understanding about improvement projects in the public healthcare sector. The first paper analyzes which types of improvement projects practitioners are engaged in. The second paper is a continuation of the first paper, looking at the participants from different points of views. The third paper is a description of the revision of a survey, intended to be used in this county council improvement program.

Paper I: Practice-based improvement ideas in healthcare services

Background

Improvement ideas can be seen as innovations that emerge from different kind of needs and problems, sometimes even compulsory based on external pressure. A criterion for many definitions of innovations is that it must be a specific change that leads (at least locally) to improved effectiveness and/or efficiency. A central question concerns the types of improvement projects practitioners engage in. An implication of this is an increased relevance for studies of which quality improvements practitioners are working with.

Purpose and Method

The purpose of this study is to contribute to the knowledge of how practitioners in a healthcare region engage in quality improvement initiatives. Based on the county council improvement program, the aim was to empirically identify and present the different kinds of practice-based improvement ideas developed in healthcare services. All healthcare departments and primary healthcare centres in the county council were invited to apply for money to accomplish improvement projects, and the 202 applications received from various healthcare departments and primary healthcare centres are analyzed using qualitative content analysis. Five categories and seventeen subcategories were agreed upon.

Result

The analysis resulted in an empirically defined taxonomy. Five main types (categories) of improvement projects were identified: *Organizational Process*; *Evidence and Quality*; *Competence Development*; *Process Technology*; and *Proactive Patient Work*. *Organizational Process* was the most common and focused on clinical or administrative pathways. Initiatives about coordination and/or collaboration as well as mapping and streamlining to improve care processes occurred frequently. The next category, *Evidence and Quality*, relates to different quality registries, national standards and guiding principles, sometimes described as using

evidence-based research and evidence-based medicine (EBM) to develop and implement best practice care. *Competence Development*, which was the next category, involved training and education, wanting to learn from and among each other or even to train other staff to increase the safety for patients. The *Process Technology* category was about implementation and development of new methods and technologies. Some issues were about IT systems, developing solutions to work smarter and more effectively and to increase accessibility for patients. The last and least common category was *Proactive Patient Work*. It concerned issues such as training for different patient groups, prevention and screening to identify risk groups before they become ill, and to some extent patient self-care proceedings. These projects point to the various problems and experiences professionals encounter in their day-to-day work. In addition, a common characteristic among the studied project applications was to increase patient safety, effectiveness and accessibility together with care ranges and education/training. Those intentions are found in many of the applications and therefore give the impression of being most important to caregivers today. One view missing in this study is patient/customer involvement. No patients took part in any project, but “patients as an end-point” was a common focus. This paper provides valuable insights into which improvement efforts are going on in Swedish healthcare today. It can and will serve as a foundation for further studies in this county council quality improvement program.

Paper II: Who conducts quality improvement initiatives in healthcare services? An evaluation of an improvement program in a county council in Sweden

Background

Major improvement initiatives presuppose and demand participation and engagement to be successful. The obvious hierarchic structure in the healthcare organization is a barrier in the improvement work and it is crucial to attract important professions (stakeholders) to accomplish successful improvement projects. To improve quality in the healthcare sector cooperation among people from different disciplines and organizations is needed, as well as support and commitment from the managers within the organization. The professions within healthcare sector are strongly gender coded. This gender segregation affects the different professional group's freedom of action and limits the frames in developments and reorganizations. Earlier quality improvements in healthcare were connected with technical development. This was not even called quality improvement, but simply medical progress. Compared with/versus Evidence Based Medicine, quality improvement often seems fuzzy and without a solid evidential basis, sometimes accused of using only "anecdotal evidence."

Purpose and Method

The aim of this paper is to contribute to the knowledge of who engages in quality improvement initiatives and describe whether staff professions or gender are relevant variables. The material in this study is a total sample collected from the free applications (FA) and the improvement program (IP) in an overall county council-wide improvement program in southeast Sweden. The improvement program was initiated by county council officials to encourage improvement initiatives and to spread the skill of improvement knowledge in the organization, financed by special grants. The program is conducted both from top management level and individual departments/clinics/primary healthcare centres. Data was collected from the special applications (called Free Applications, FA) and from participants in the methodology-guided program (called Improvement Program, IP) containing information

about profession and gender. In an earlier study the applications (FA) were analysed by qualitative content analysis (see paper I). Later, further processing regarding participants' profession and gender was done. The result was compared to the general number of employees in the county council.

Result

Changes in participation occurred over time. The FA part shows a higher share of leaders and managers, but their participation in the IP fluctuated. Physicians were proportionately more represented in the FA than in the IP. The largest single group in both FA and IP was nurses. Assistant nurses, the second largest group of employees in the county council, were proportionately underrepresented. The gender perspective almost reflects the conditions of the county council but in FA men dominated and the representation of women was lower.

Mirroring the five types of improvement projects identified in paper I (*Organizational Process; Evidence and Quality; Competence Development; Process Technology; and Proactive Patient Work*), a number of applications had managers as responsible applicant, and most managers were found in the first category, *Organizational Process*. The largest difference was seen in the category *Proactive Patient Work* which was most frequent among women (86%) but less among men (17%) and managers (21%).

The biggest administration, Healthcare, represents most people engaged in both FA and IP. Most applications in the FA come from the largest hospital. All administrations were represented in the FA but two administrations (IT and Dental care) have no teams represented in the IP. Many teams collaborate across units, or between different primary care centres and hospital units. There were no actively contributing patients taking part. At the time this evaluation was done, only 17 of 75 funded projects were finalized and had presented a final

report. This material is thus too small to draw any conclusions, but of those finalized 75% were led by women and 30% by managers.

This study showed differences in participation between free applications and methodology-guided programs when it comes to professions and gender in the country council quality improvement program. It can be stated roughly that FA are driven from a top-down perspective and IP from a bottom-up perspective, although there a number of mixes between.

It may be useful for the future to know who is participating to successfully work for and implement improvements and changes in healthcare environments. Not much is written about who is accomplishing quality improvements in terms of profession and gender. The study discusses and wants to contribute to further knowledge of whether profession, hierarchy and gender have impact (obstructive or as an asset) in performing improvement work in healthcare settings.

Paper III: Adapting a survey to evaluate quality improvements in Swedish healthcare

Background

Healthcare has succeeded in developing tools to measure medical outcomes, such as surgical mortality rates, tests of new therapies and even patient satisfaction. But there is also a need to measure general quality not solely connected to medical treatment. To be able to manage, improve and implement quality initiatives and improvements there is a need to observe, measure and evaluate. If there are no instruments to measure the changes, how is it possible to know if they lead to improvements? To our knowledge, there are no surveys today in a Swedish context that can answer questions about how quality improvements develop and improve over time within Swedish healthcare. This study aims to contribute to such an evaluation through conducting longitudinal studies on innovation development.

The Minnesota Innovation Survey (MIS) has proven to be a comprehensive survey including different dimensions of innovations and at the same time developed to measure over time. The survey is built on a concept (process theory) of innovation management that consists of five basic concepts: *ideas; people; transactions; context; and outcomes*. Those concepts are seen as central factors concerning managers directing innovation processes.

Purpose and Method

The aim of the study was to translate, revise and test the MIS survey to be used in a Swedish healthcare context. Revision of the survey was done in several steps, including translation, validation through focus group interviews and an expert's opinion. The survey was entered into the web-based survey program esMaker NX2. Data from the two most recent of the six improvement programs, with a total of 210 participants, employees within the county council (n=171) and the municipalities (n=39), with a survey sent out during December 2009 and

June 2010. Data was analyzed using Statistica version 8.0 (StatSoft, Tulsa, OK). Descriptive statistics were presented as percentages, mean and standard deviation (SD).

Result

The revised survey consisted of 72 items in the dimensions, “Perceived Innovation Effectiveness” (n=3), “Internal Dimensions” (n=24), “External Innovation Dimensions” (n=18) and “Other Indices” (n=27). Participation from county council employees resulted in a response rate of 45% (n=77) and municipal employees of 38% (n=15). The participants’ ages ranged from 24-63 with the mean age of 46.3 (SD 10.0). Experiences in profession range between 0.5-41 years with the mean of 19.2 (SD 12.0) years. The largest group participating were nurses.

Most respondents were satisfied with their work and what they had accomplished. The most common comment was about time, not having enough time to work with the improvement idea the difficulty of finding time because of regular tasks. The time spent on working with the improvement idea differed between 0 and 80 and in average the participants had spent 12 (SD 10.6) hours on this work. Suggestions on improving the work concerned getting more knowledge and using development days to work with improvements. The dimension “External Innovation” had 12 respondents, which may indicate that there is not much cooperation between teams.

This paper is the first evaluation of the revised survey. The survey is quite comprehensive, although shortened. The high use of the answer alternative “Do not know” showed that the survey did not fit the context very well. There is a need to do more testing to get the survey to apply to the Swedish healthcare context.

Discussion

This section presents and discusses the county council improvement program from an organizational change perspective. The aim is to illuminate the county council improvement program and some of the included projects/initiatives from a theoretical view. The basis for the discussion is an organizational change model presented by Beer and Nohria (2000a, b).

Introduction

All improvement initiatives (that lead to change) affect the organization to some extent. One of the more essential questions in large-scale change and improvement programs is how to manage the process, whether top-down or bottom-up (see e.g. Dunphy 2000). In this discussion, some interesting points and challenges in the county council improvement program will be highlighted. The discussion takes its structure from Beer and Nohria and the model described in their works *Breaking the Code of Change* (2000a) and *Cracking the Code of Change* (2000b). This is an attempt to apply a theoretical model for change to understand large-scale change and improvement programs, and highlight important change dimensions that can help clarify connections between the county council improvement program and some of the projects/initiatives within it.

This model, described in the theoretical section, is built on two opposing approaches of looking at change, see table 1 (Beer & Nohria 2000b). This change model tries to connect the opposites to find “the golden mean” and the best way to manage changes. The dimensions of change in the model are: *goals; leadership; focus; process; reward system* and *use of consultants*. All dimensions in this theory will be addressed in some way, but the main focus will be on leadership, and that dimension will be discussed last. The theory has its origin in an industrial context, which means that it must be used with caution. It is always problematic to translate theoretical ideas between different sectors. The main argument for using the model is

that, on a general level, I consider these dimensions to be important in all change, independent of the context. There are, however, aspects of the model that I believe need to be reconsidered in the healthcare section. Therefore the dimensions will be introduced by an attempt to discuss the meaning they could have in a healthcare context. A brief overview connecting the theory with the county council improvement program and the studied initiatives/projects in the appended papers and the links between them is found in table 2.

Goals of the improvement program

As discussed by Beer and Nohria (2000b) the goal of change is either to reduce costs (maximize shareholder value) or increase competencies (develop organizational capabilities). If it is easy to point out stakeholders in industrial settings as shareholders or owners, those who will profit from saving, it is more difficult in a public, mainly tax-funded healthcare organization such as the Swedish one. Translated into healthcare I prefer to use the term stakeholder and strictly speaking those stakeholders would be the taxpayers. In addition, there are a number of other interested and important parties both inside and outside the organization such as county council members, citizens and employees that can and would benefit or be unfairly affected by reduced costs and more effective use of existing resources. It is nonetheless important to know who you need to bring on the train, so to speak, to be able to accomplish successful change (Thor 2007).

The opposite pole, developing organizational capabilities, is easier to apply in the healthcare context. In knowledge-intense and highly professional organizations this has always been important. Physicians and other healthcare professionals are required to keep up with the development. Evidence Based Medicine can be seen as one initiative to manage this. But it is necessary to develop more than just the individual staff members; to accomplish the goals of improvement and development the organization as a whole has to change (Batalden & Stoltz

1993). In the report *Strategies for Increased Efficiency and Effectiveness: From Financial Management to Knowledge Management* (SALAR 2007), the Swedish Association of Local Authorities and Regions (SALAR) stated that there will be no additional money to spend in healthcare service, and therefore the challenge is to do better (become more effective *and* increase quality) with the same (or even less) money.

Based on this distinction in the model, one can ask whether the goal of the county council improvement program is related to maximization of stakeholders' interests or to increase in competence. As presented in the *Empirical context* section, the county council improvement program does not express any intention or demands for streamlining/increasing effectiveness or cost reductions. Instead there is an investment in improvements and improvement knowledge. Probably, one can argue, there are expectations that this investment will lead to improvements that will reduce costs in the long run. On the project level there is a mix of increasing capabilities and reducing costs, mirroring both opposing poles in the change model. Separate projects have the goal of effectiveness, such as getting increased value for the same money. Those results are shown in paper I, in the categories *organizational process* and *process technology*.

The vision of the county council improvement program is to become a learning organisation and this corresponds well to developing capabilities in the model. This could also be found in the work practitioners are doing; the category *competence development* was about learning and knowledge in different ways. There are needs for an organization to provide tools for learning and improving (changing) to be able to encourage their people (staff) (Batalden & Stoltz 1993, Batalden & Davidhoff 2007). The main issue is, just like in the model, how to combine economic challenges with increased organizational capabilities.

To sum up, in connection with this dimension the goals of the county council improvement program are related to development of organizational capabilities. The improvement work within the county council is accomplished in accordance with the aim of the county council improvement program, however patients as contributors are missing in the projects. Almost all projects work to make improvements for the benefit of patients; they are seen as an “end-point”. No projects are trying to benefit from letting patients contribute in the improvement teams (this will be discussed in the section *supporting the change*). One difficulty that is seen is that the county council improvement program aims at continuous improvements, but the improvement projects are driven in a project form.

Focus of the improvement program: structure, systems or culture?

As discussed in the change model (Beer & Nohria 2000a), the focus of a change can be either on the “hard” organizational level or on the “soft” level, building a culture and/or facilitating behaviors. This dimension is not difficult to imagine in healthcare settings. There have been many organizational changes and reforms in recent decades (Anell 2005). A healthcare organization is a large entity, encompassing many different sub-organizations with different structures, sub-cultures and (unofficial) agendas. It is difficult to change behaviors in strong professions, with their attachments to the profession rather than to the organization (Adler et al. 2008). Ahrenfelt (1995) thinks that to accomplish permanent change you need to change the system (culture), i.e. the way the organization and its people behave. Batalden and Stoltz (1993) also emphasize the mix between structure and culture, and the need to build the culture of continuous improvements into the structure (day-to-day work). They propose that the way to do so is to think of healthcare in processes (flow) instead of as a (hierarchical) structure. This would mean not concentrating on improvements within a unit or department but between them.

The projects in this county council improvement program mostly focus on improving organizational systems and processes. Not a single project studied so far in this county council improvement program had changing culture as an explicit goal. As presented in the *Empirical context* section, the county council improvement program is trying to focus on both organizational structure and culture simultaneously, aiming at achieving continuous improvements but managing the program through projects. Offering fixed methodology-guided programs to learn improvement knowledge and requiring a report at the end puts focus on system structure more than on building a culture. Future research within this county council improvement program can perhaps answer the question whether it is possible to achieve a culture of continuous improvements by using projects as the form for work.

To sum up, the goals of the county council improvement program to create a culture for continuous improvements is not fully manifested, neither in the county council improvement program focusing on structure and projects nor in the projects mostly focusing on organizational processes.

Processes of change and improvements: planning and evolve

The change model implies processes to focus either on structured planning and programs or change evolving from an experimental approach (Beer & Nohria 2000a). In healthcare, plans and programs are common, like care plans concerning different diseases or national care programs. Perhaps the word “experimental” is frightening. On the other hand, hasn't healthcare and medicine (and almost everything else) evolved through experiment? Today, with the existing knowledge no one has to start from scratch, but using the breakthrough methodology (PDSA wheel), trying new ideas and new ways of solving a problem in a controlled way, can be seen as a kind of planned experimental evolution.

The county council improvement program is plan-driven, and several indices point to this. There are strategies that the applications have to follow to get funds and improvement programs offering a fixed methodology. At the same time there is encouragement to solve practical problems in the day-to-day work, see paper I, but the ideas are forced in a planned project process. There are probably more experimental projects in this large organization, but those are not to be found within this county council improvement program. The county council improvement program still has quite a long way to go to reach the highest level in the continuous improvement development model developed by Bessant et al. (2001), experimentation and empowerment. The development of improvement ideas will be studied in the survey study, see paper III.

To sum up, there is encouragement and support from the county council improvement program for practitioners solving practical problems in their day-to-day work. At the same time those improvement ideas are forced into a structured project process.

Reward systems and motivation

The theoretical change model used as the foundation for this discussion was developed in an industrial context, and rewards concentrate mainly on financial incentives. Even if the main motivation is commitment, payment is used as fair exchange (Beer & Nohria 2000b). One example from the healthcare sector is Sorian (2006), who discussed reward incentives and their possible impact on improving quality. He stated that there must be incentives to improve quality other than money (pay system) and efficiency (saving).

When trying to translate this dimension into the Swedish healthcare system, the financial motivation is the most difficult. Payments and bonuses as rewards are not common in Swedish healthcare settings. Lately this issue has come up for discussion as more privately

managed clinics are being started. Are they permitted to earn profits, or what are their incentives to be more effective and improve? This discussion will probably increase in the future. On the other hand, the healthcare system has always benefited from committed employees. Are there ways to reward commitment other than money?

The county council improvement program was started with an investment of SEK 30 million to be used for improvements. The money is not used as rewards but as compensation for additional costs, e.g. to hire substitute staff when team members need time to work together, comparable with the fair exchange motivation in the change model. A competition for the best improvement projects in the Kalmar County Council in spring 2010 can be seen as a reward or encouragement. An advertisement was sent out in the organization, requesting teams and managers to make nominations (themselves or others). Sixty ideas/projects were nominated, all of them included in a report published as “Good Examples.” Ten of those were rewarded with a diploma from the county council director and the three top positions were also rewarded with an amount of money to use in the unit.

At the project level it is not known whether there are rewards. This is an item in the survey, and will therefore be further studied, see paper III.

To sum up, the county council improvement program uses commitment as motivation; money is not used as a reward but as compensation for additional costs.

Supporting the change

Beer and Nohria (2000b) call this dimension *Use of consultants*. They refers to external consultants that either analyze the problems and help to find solutions or support (facilitate) the organisation in its improvement initiatives. In healthcare consultants sometimes are used

in both ways. The audit conducted in the county council in the past (see *Empirical context* section) was at the same time both a problem analyzer and a source of suggestions for further improvements (Audit report 2005).

Another aspect, frequently discussed lately, is the role of patients (customers). In the change model used there is no dimension concerning or focusing on customers, but Galbraith (2000) speaks about customer teams as a way to produce customer strategies and plans. Those teams consist of employees rather than customers, and can be used to change structure in globally oriented firms. Other researchers (see e.g. Hackman & Wageman 1995, Lengnick-Hall 1996) assert that customers are an important part of quality management and improvement.

The county council improvement program has not used external consultants very much. Knowledge from outside is used in the sense of co-operation with others doing similar things or as inspiration, especially before start some external input was obtained. The committee judging the applications (see paper I) had some external representation by affiliated researchers. One of the initiatives, concerning patient safety, has had a hired expert connected with it since the beginning of 2010 (working time about one day/week).

Instead of hiring consultants the county council improvement program has invested in building internal knowledge, having business developers in the organization and using them as support staff in the improvement programs. These internal consultants function as an important link between the county council improvement program and the project level. At project level the category *Competence and Development* focuses on outside knowledge, to benefit from best practice and evidence-based medicine (see paper I).

A part of the county council improvement programs' vision is about patients: increasing value for them and working on improvements in collaboration with them. As mentioned above, the change model used does not address the customer aspect. Other researchers, however, see patients as resources in supporting change and improvements (see Lengnick-Hall 1996, Nordgren 2003). There were no patients involved at either the county council improvement program level or in any projects. The same view of patients (customers) is found in this county council improvement program as in the change model, i.e. customers (patients) are thought of as an "end-point". According to Berwick et al. (2003), increased customer possibility to compare and select care and caregivers will result in pressure for change and improvements. The question for the future is how patients can be involved and viewed as resources within improvement initiatives.

To sum up, the county council improvement program has focused on building an internal support organization and those internal consultants function as an important link between program and project level.

Leadership for change and improvements

Leadership is an important part of all organizational change. Many researchers focus on how change and improvements are best carried out, all of them stressing the importance of leadership (see e.g. Beer & Nohria 2000a, Batalden & Stoltz 1993, Svensson et al. 2008). The change model used the top-down vs. bottom-up perspectives and advocated in the end a mix between them, directions from above connected with engagement from people (staff) below (Beer & Nohria 2000a). This dimension does not need any transformation or explanation to fit into healthcare settings.

The main issue is from which perspective change is to be realized, top down or bottom up. The county council improvement program has tried to combine the two, as recommended in the change model. To start with, the decision to invest in this program was made from the top, by the county council elected members. The strategy was then to invite all employees to participate in different ways. Some directions were set out, and strategies to which the projects were to adhere (formal criteria, resources allocated and methodology guided program, see *Empirical context* section), but from the beginning there was no pressure from above to participate or decide which ideas to work with. This has changed slightly over time; working with some main issues (patient safety and care prevention) was a requirement to participate in the most recent (autumn 2010) improvement program. By making participation voluntary and soliciting applications, the county council improvement program tried to take on a bottom-up approach. Beer et al. (1990) found that the most successful change initiatives did not come with company-wide change programs, but started locally. The top manager's role was to facilitate change without pointing out specific solutions. In that sense this county council improvement program is trying to combine an organization-wide initiative with local projects, although there is no expressed plan for how to tie the different efforts together in a long-term view (see further discussion of "isolated islands" below).

An important question to consider (Svensson et al. 2008, Brulin et al. 2009) is the ownership of a change process. In a report about knowledge structure as a source for regional expansion, Brulin et al. (2009) stated that a requirement for development is leadership (steering). This implies engaged management with clear ownership responsibilities. In large-scale programs that means that the change (development) has to be steered, or at least coordinated from a top-down approach to lead to long-term effects. Svensson et al. (2008) distinguish between owning, steering and realizing, emphasizing the ownership issue. Ownership implies an

overall accountability to give assumptions and take responsibility for managing the results. Brulin et al. (2009) also argues that it is necessary to combine support and steering, in order to find balance between bottom-up initiated processes and top-down decisions.

This county council improvement program does not have a coherent expressed and communicated ownership. Instead the ownership is distributed among different actors in the organization. The decision to start the county council improvement program was made by the county council elected members who in one sense are the owners of all issues within a county council. The county council director and the development department then got the mission to fulfil the politician's decisions. As the county council improvement program is built up, driven from different initiatives, you can not claim that the development department owns the issue. Instead there is an implied strategy to involve the managers at department levels by requiring that they sign off on all projects before they are approved. Whether or not this results in an ownership relation is not clear. Do the managers feel like they own the improvement work going on at their unit/department, and at which management level does this ownership exist? Lack of an overall and coherent management/ownership for the entire program, which can capture and spread improvements in the whole organisation, increases the risk of developing "isolated islands" of improvements in the organization (Svensson et al. 2008). It is too early to say whether or not this will be a problem in the long term in this particular county council improvement program, as the program is still ongoing as a project and will probably continue that way for a long time.

The leadership perspective is quite clear in the aim of the county council improvement program, "*managers are to demand results and work with improvements,*" and this is obvious when looking at participation. A number of applications have a unit, department or division

manager named as responsible. Other strong professions are well represented but at the same time there is an underrepresentation of some staff categories, see paper II. A challenge for the future is to find strategies to involve all staff in the organization. As Batalden and Davidoff (2007) claim, *“everyone in healthcare really has two jobs when they come to work every day: to do their work and to improve it”* (p. 3).

To sum up, the county council improvement program are trying to take a combined approach on leadership, at the same time setting directions (strategies and formal criteria) from the top and encouraging professionals to conduct improvement initiatives within their own practices. This is in line with the combined approach recommended in the change model used (Beer & Nohria 2000b). There are some issues to consider: the somewhat vague ownership both at county council improvement program and project level, and whether that creates a risk leading to development of “isolated island” problems.

Summary of discussion

The county council improvement program:

- combines top-down and bottom-up management
- has an effort to change both structure (organization) and culture (processes)
- is plan-driven, but encourages improvement of day-to-day problems
- aims at investing in improvement knowledge, both at program and project level
- uses money as compensation, not as reward

Table 2. Dimensions of change, borrowed from Beer and Nohria (2000b) p. 137. Theoretical emphasis, empirical observations, and future questions

Dimension of change	Theoretical emphasis	Important references	Main observation county council improvement program level	Main observation project level	Links between project/program level	Research questions for the future
<i>Goals of the improvement program</i>	Reduce costs or increase and develop organizational capabilities	Beer & Nohria (2000a, 2000b) Batalden & Stoltz (1993) Batalden & Davidoff (2007)	<i>Vision:</i> To become a learning organization with focus on increased value for the patients <i>Aims:</i> All leaders and managers will demand results and are working with improvements in collaboration with employees and patients. All units are measuring and showing results continuously and publicly	A mix of increasing organizational capabilities and reduction of costs through improvement work (effectiveness, improvements and knowledge creation) focusing on: Organizational processes; Evidence and quality; Competence development; Process Technology; Proactive patient work	Improvement work is accomplished by employees in accordance to the program aim, however, patients are missing The program aims at continuous improvements, but the improvement projects are projects coming to an end.	How to combine economic challenges with increased organizational capabilities? How can patients be viewed as a resource and be involved in improvement initiatives?
<i>Focus</i>	Emphasize structure and systems or build culture	Beer & Nohria (2000a, 2000b) Batalden & Stoltz (1993)	Focus simultaneously on the hard (organizational structure for improvements) and the soft (create a learning organization) culture	Emphasis on creating new organizational systems , e.g. through organizational processes	The program's ideas of creating a culture for improvement is not fully manifested in the projects	In what ways is it possible to combine improvement initiatives that emphasis structures and systems as well as continuous improvement and culture?
<i>Process</i>	Emphasis on plans and programs or experiment and evolving change	Beer & Nohria (2000a, 2000b)	Program controlled, through breakthrough methodology and selection of improvement projects	Encouragement for solving practice based problems Will be further studied with the survey	Structure at program level support improvement projects	How are improvement ideas/projects evolving over time?
<i>Reward system</i>	Motivation through financial incentives or using commitment	Beer & Nohria (2000a, 2000b) Soriano (2006)	Motivation through commitment - pay used as fair exchange Contest of "Best Improvement" rewarded with a diploma from the county council director	Unknown Will probably be studied with the survey	Unknown	How are project team members motivated and rewarded for their commitment in improvement projects?

Dimension of change	Theoretical emphasis	Important references	Main observation county council improvement program level	Main observation project level	Links between project/program level	Research question for the future
<p><i>Supporting change</i></p> <p><i>Use of consultants/ knowledge from outside</i></p>	<p>Consultants analyze problems and shape solutions or they support improvement initiatives</p>	<p>Beer & Nohria (2000a, 2000b)</p>	<p>Internal consultants support improvement initiatives.</p> <p>Co-operation with other improvement initiatives outside the county council</p>	<p>The category Competence and Development focus on outside knowledge</p> <p>The improvement support staff (<i>Förbättrings-supporten</i>) support mainly breakthrough methodology projects</p>	<p>Internal consultants function as an important link between program and project level.</p>	<p>How can the work of consultants be organized so that it facilitates both improvement projects and the transfer of improvement knowledge among staff?</p> <p>Can patients be viewed as a resource supporting change and improvement initiatives?</p>
<p><i>Leadership</i></p>	<p>To understand the leadership aspects (e.g. top down vs. bottom up; professions involved; ownership).</p>	<p>Beer & Nohria (2000a, 2000b)</p> <p>Batalden & Stoltz (1993)</p> <p>Svensson et al. (2008)</p>	<p>Top down and bottom up: Set direction from the top and encourage and invite professionals from within their own practices to conduct improvement initiatives (formal criteria, resources and methodology).</p>	<p>Managers at unit, division and/or department level</p> <p>Strong groups/professions: -nurses and physicians</p>	<p>A middle-out approach with connection between top-down and bottom-up, but some staff-groups are underrepresented</p> <p>No clear ownership either at program or project level</p> <p>Some risks to develop an "isolated island" problem</p>	<p>What type of support and resources do participating and not-participating managers experience within the program?</p> <p>What are the consequences of a vague ownership structure?</p> <p>How can weak staff groups be better involved in improvement projects?</p> <p>How can top-down and bottom-up leadership approaches support improvement programs?</p> <p>How can the management of change be organized as to avoid the risk of "isolated island" problems?</p>

Conclusions

This thesis aims to contribute to a wider understanding of large-scale improvement programs in a healthcare setting. The ambition has been to try, through a model for change, to identify and discuss some issues affecting such large-scale programs. This section will address conclusions connected to the included papers as well as overall perspectives connected to the county council large-scale improvement program and the linkages (Table 2).

The categories and projects found in paper I point to various problems and experiences healthcare professionals encounter in their day-to-day work. The taxonomy (paper I) showed that change and improvement initiatives are directed mostly towards organizational processes and least towards patients. (How) To involve patients (customers) in the quality improvement work is a frequently discussed issue right now. Despite this, no patient involvements were found in the county council large-scale improvement program. Different ways of looking at patients' contributions are described and discussed by researchers. The county council large-scale improvement program also has this question on its agenda and as an aim. This will be a future challenge within this improvement program.

The survey adopted and tested is used to follow some of the methodology-guided improvement programs. The study is going on and will not end until summer 2011, but the results so far already supports that the survey needs to be further revised for it to work optimally in Swedish healthcare settings. There is a need for such instruments to be able to tell if improvements are effective, and to measure not only "hard facts" as medical outcomes. The model Minnesota Innovation Research Program (MIRP) shown in paper III is quite comprehensive. Perhaps a survey should not be that exhaustive, since it will then be too long,

and scare respondents off, especially when they are supposed to answer it repeatedly. Those and some other questions concerning specific items need to be considered in the future.

The county council improvement program aims at continuous improvements, but it is driven as a structured program with the aim and vision stated from above, and with the improvement projects driven as projects. How to combine those approaches and go on to implement and achieve a continuous improvement culture in the whole organization is one of the main issues remaining to be solved.

Future research

An important part of quality improvement is management. The discussion section has mentioned some important questions concerning this. The papers in this thesis have focused on projects within a county council improvement program. The natural continuation is to change focus towards the management and steering of the county council improvement program. Issues about risks and consequences of an unclear, vague ownership and its connection to the risk of developing “isolated islands” are important. Other questions concerning support and resources directed towards managers would be interesting to look into more deeply, as well as the issue of all managers participating, as stated in the vision and aim of the county council improvement program.

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