

Facilitation of Change in the Healthcare Context

Learning from an Action Research Project at an Operating Unit

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MASTER THESIS

Design Sciences
Lund University



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Arvid Boström



LUND
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I rörelse

Den mätta dagen, den är aldrig störst.

Den bästa dagen är en dag av törst.

Nog finns det mål och mening i vår färd -
men det är vägen, som är mödan värd.

Det bästa målet är en nattlång rast,
där elden tänds och brödet bryts i hast.

På ställen, där man sover blott en gång,
blir sömnen trygg och drömmen full av sång.

Bryt upp, bryt upp! Den nya dagen gryr.

Oändligt är vårt stora äventyr.

Karin Boye, 1927

ABSTRACT

Healthcare is under pressure and a development towards a more integrated and efficient healthcare requires better communication and collaboration across boundaries. This thesis is about facilitation of change process in the healthcare context with learnings from an authentic project, carried out with the clinic for reconstructive plastic surgery at the Karolinska University Hospital. The methodological approach was based on action research. The project deals with improving the utilisation of a clinic's operating rooms through promoting cross-boundary collaboration and finding new ways to structure work and counter deficient cultures. Through collection of qualitative data from interviews, workshops and observations a comprehensive picture of the organisation and its individuals was acquired, along with a legitimacy of the facilitator. By interpreting the data and concurrently facilitating a process of formulating and implementing change initiatives at the clinic, reflections could be made on the complexity of challenges in interprofessional teamwork and decisive factors in change processes. Based on participative leadership and empowerment the clinic staff was supported to enhance their cross-boundary collaboration and capacity to problem-solve. The clinic staff did, among other changes, improve the communication in the process of planning surgeries and introduce a systematic and formalised process on following up on the surgeries' time consumption to deal with root causes for delays and cancellations. A representative challenge at the clinic, related to interprofessional teamwork, proved to be the difficulty of getting started in the morning in time with everyone present. This challenge requires cultural change with conviction of the problem and a willingness to improve the cross-boundary collaboration. Throughout the process of formulating the problem and solution paths as well as initiating implementation, the facilitator's role constituted of gathering the group and guiding the progress with an approach of humbleness and diplomacy. The learnings from the study are relevant when discussing the approach and involvement of external actors in healthcare in order to pursue organisational development and change management.

Key words: change process, action research, healthcare, facilitation, change management

PREFACE

This paper bundle is the result of a master thesis project carried out throughout the spring of 2015, as the final part of my engineering education at Lund University. The project was carried out in collaboration with the clinic for reconstructive plastic surgery at Karolinska University Hospital and the department of Design Sciences at Lund University's Faculty of Engineering.

The thesis project has been far from a solo journey and effort. Many people have contributed with valuable input and support on the way, for that I'm really thankful. Foremost, the inspiring and supportive supervision of Christofer and Per has constructively pushed me throughout the project and helped when in need. Also the supervision provided from Fredrik was valuable for the process and motivation. To have someone follow up on the actions and critically discussing the progress showed to be crucial to carry out a good and enjoyable project.

Further, I want to express my gratitude to the people around me who supported me on this journey and kept the insights and progress moving forward, thanks to good discussions. I especially want to thank Britta for the patience and endurance in the phase of completing the project. Also my (researching) parents Ola & Maria and my siblings deserve a grateful thanks for wanting to discuss and give feedback. The clinic personnel and especially the interview and workshop participants deserves a grateful thanks, not least Katarina and Sylvi taking their time to explain the complex organisation of the clinic to me.

My fellow master thesis colleagues at the clinic also deserve a warm thank you for the mutual interest and support along the way. Thanks to Marina, Tove, Amanda, Eric and Olof. And thanks to their supervisors Francesco, AnnaMaja and Helena who inspired and motivated our common progress at the clinic throughout the spring. I also want to thank for support from Theo and Gudela who, during my studies in Zürich inspired me to undertake my master thesis in the context of healthcare and organisational development. A special thanks I want to direct to Philip and Louise who both prepared me for the task to carry out the two workshops in the project. Also Jan deserves a thanks for guiding me with his experience of a similar project. And, for inspiration I also want to thank Niklas who made his doctoral dissertation in the context of change processes in healthcare. A warm thanks to you all!

Lund, June 2015

Arvid

TABLE OF CONTENTS

ABSTRACT	II
PREFACE	III
LIST OF ABBREVIATIONS	1
INTRODUCTION	2
Challenge	2
Background	4
HEALTHCARE OF TODAY	4
PROJECT PLOP - IN BRIEF	5
RATIONALE FOR THESIS PROJECT	6
Purpose	7
Theoretical Framework	8
HEALTHCARE - ORGANISATION & DEVELOPMENT	8
CHANGE MANAGEMENT	9
CHANGE PROCESSES IN HEALTHCARE	9
LEADERSHIP & FACILITATION	10
METHODOLOGY	12
Design	12
ACTION - FACILITATION OF CHANGE	14
RESEARCH - STUDY OF CHANGE PROCESS	14
Sample	14
INTERVIEW PERSONS	15
WORKSHOP PARTICIPANTS	16
Data Collection	17
INTERVIEWS	18
WORKSHOPS	18
SYSTEMATIC COLLECTION OF EXPERIENCES	20
Analysis	20
RESULTS	21
Facilitation Process	21
PROCESS - PHASES AND OUTCOMES	23
FACILITATOR ROLE	30
Interviews	31
PRESENTATION OF CATEGORIES AND TOPICS	33
Project PLOP Summary	45
DISCUSSION	50
Results Discussion	50
	iv

FACILITATION PROCESS	50
ROLE OF THE FACILITATOR	53
INTERVIEWS	54
Methodology Discussion	56
Scientific Contribution	57
Future Research	57
CONCLUSION	59
REFERENCES	60
APPENDIX A	62
Recommendations to the Clinic	62
APPENDIX B	64
Intervjuguide för intervjuer i projekt PLOP	64

LIST OF ABBREVIATIONS

CIF	Clinical Innovation Fellowship
CTMH	Centre for Technology in Medicine and Health
PLOP	Plastikoperation – refers to the operating unit at the clinic in the study as well as to the project that the author participated in at the clinic
WHO	World Health Organization
ORBIT	Electronic system for planning surgeries, used at the Karolinska University Hospital

INTRODUCTION

Challenge

The healthcare system constitutes an essential cornerstone for a sustainable society to thrive and prosper. In reaction to changing demographics and new technology the organisation and management of the healthcare system need to be evaluated and developed continuously in order to maintain a good quality of life. When change processes are taking place in organisations, the processes need to be managed with adequate dedication of encouragement, support and resources (Yukl, 2006). Management in the context of change can take different forms with varying focus, impact and quality. For change to happen it can be suitable to talk about facilitation as a means to enable and drive change (Paton & McCalman, 2008), although on many occasions the change can occur by itself through self-management in the organisation (Yukl, 2006). A management function can to different degrees consist of facilitation of change, depending on the circumstances and actors involved. Leadership practice can to varying extents and in different ways be characterised by participative leadership through involving and empowering the people of the organisation (Yukl, 2006). Implementation can come top-down or bottom-up, with varying results dependent on the process.

Taken the challenges and the complexity in healthcare practice (Kannampallil, Guido, Schauer, Cohen & Patel, 2011), there is reason to invite and involve perspectives from outside the system, in order to gain another perspective. In this case it enabled the author to be involved in a change project at a clinic with the approach of action research. Action research is understood through the definition provided by Reason and Bradbury (2008):

"Action research is a participatory process concerned with developing practical knowing in the pursuit of worthwhile human purposes. It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities." (Reason & Bradbury, 2008, p4)

This thesis approaches the question about how facilitation of a change process in a healthcare context can be exercised, with a certain emphasis on the involvement of an external actor. This challenge can be divided into two parts, linked to each other. First of all, the thesis sets off to explore the role of the facilitator and the process of facilitating change in healthcare. Within the research, a project is carried out at a clinic, in which facilitation is exercised by the author in collaboration with the clinic staff and management. The second challenge consists of the specific question asked in the project, which deals with a holistic improvement of operating room utilisation, with consideration of the work environment and patient safety.

The approach of facilitation in the project is based on the strong conviction that the organisation itself knows best in regard of its challenges and how to deal with them, which justifies the

author's role as facilitator and approach of participative leadership (Yukl, 2006). Additional supporting factors suggesting the exercise of facilitation is the limited time span for the author's involvement as well as the limited knowledge in the science of medicine. The task of facilitation constitutes of summoning and utilising the knowledge and experience in the organisation, to guide a journey set to solve experienced challenges and find ways to develop the collaboration and communication taking place in the everyday work at the clinic. The thesis will explore the role of the facilitator as catalyst, igniting change and guiding a process based on empowerment and participation to achieve a real change anchored in the whole organisation.

Background

HEALTHCARE OF TODAY

To experience quality of life for people, the individuals' health is important. The care of this health constitutes a key function of a well-functioning societal system. The healthcare system is put under stress today due to various reasons (Anell, 2005). Not least is the economic pressure a factor that bothers both the people working in the healthcare sector but also the rest of the population, considering that everyone is a potential patient requiring care. But can the cost reduction measures be superior to the focus and development of a good healthcare service accessible to all? In the future the demographic changes of an aging population will require an adapted healthcare (Anell, 2005), challenging the system to already today prepare to be ready for the change. An Achilles' heel of the Swedish healthcare system are the long waiting times for treatment (Anell, Glenngård & Merkur, 2012). To counter the length of the waiting times a new care guarantee was introduced in 2005, promising the patient to wait no more than 90 days to receive treatment after being diagnosed (Anell et al., 2012).

An important node in the healthcare system is the hospital, providing healthcare to the people. It is in the context of a hospital clinic that the thesis is based. The complexity of healthcare in general and a hospital in particular is described by Glouberman and Mintzberg (2001) to be "*one of the most complex systems known to contemporary society*" (Glouberman & Mintzberg, 2001, p1). This complexity makes it especially challenging to manage the healthcare system and enable effectiveness and efficiency in the operations with the overall aim to care for the patient's needs. Further, to change and improve the system and the interaction of its components can be argued to be even more challenging. Nilsson (2007) describes the complexity of how the healthcare system is built up by individuals that are part of teams, part of units that cooperate and are part of a larger organisation. The variance in properties and aims of the different entities makes the coordination and management of the system as a whole challenging. In the context of the operating room also the social structures affect the capacity of the surgical team to orientate towards their common task (Rydenfält, 2012).

In addition to the internal management of hospitals, several actors outside the system does also have a say and wish to influence. The healthcare can be argued to be subject to an extraordinary discussion on how it should be managed and how it should be changed. This causes not the least a lot of political debate (Anell, 2005) as well as stress among the people working in the system. Throughout the past years several different concepts have been introduced with the aim to change and improve the quality and efficiency of healthcare operations. Lean and Value based healthcare are two concepts that are very much present today (Modig & Åhlström, 2012) (Nordenström, 2014) and are subject to discussion, both on the political level and within healthcare itself. The main principle of lean and specifically lean production in the healthcare context is to eliminate waste in the form of non-value-adding activities. Lean in the context of

healthcare can be argued to provide guidelines to improve the process from the patient's perspective and decentralise the power for the co-workers themselves to optimise their work organisation. The implementation of lean production can take different forms with various complexity. An illustrative example of a relatively simple implementation is *just-in-time*, a measure that for example can be taken for the adequate provision of material for an operating unit, avoiding too much material stored as well as allowing the care staff to focus on the care instead of the material storage. Critics of lean emphasise the risk of increased stress among the workforce when lean production is implemented (Anderson-Connolly, Grundberg, Greenberg & Moore, 2002). Nordenström (2014) explains Value based care to have a primary focus on the patient and her experience and to be a new direction for the healthcare to both make it more cost efficient and also improve the care on the long term. Nordenström (2014) discusses a new *care culture* and emphasise the importance of the starting-point being among the care staff.

PROJECT PLOP - IN BRIEF

As part of the thesis an authentic project was carried out. The project name *PLOP* is the name of the operating unit where the project had its main focus. The project was set at the clinic for reconstructive plastic surgery at Karolinska university hospital in Solna. The desire and aim of the clinic was to improve the utilisation of the clinic's operating rooms, after identifying and realising that the utilisation was sub-optimal and could be increased. The patient diagnosis dealt with at the clinic are relatively heterogeneous varying from top to toe and the surgery time varying between 30 min to 12 hours depending on the surgery type.

The project was brought about as a result of the work of an interdisciplinary team, carried out at the clinic before the project. The team was put together in the Clinical Innovation Fellowship (CIF), a 9-month program part of Centre for Technology in Medicine and Health (CTMH). The team consisted of one engineer, one designer, one physician and one economist. The work carried out by the team was a kind of need mapping based on observations at the clinic, guided by an innovation process used at Stanford Biodesign (Zenios, Makower & Yock, 2009). Throughout the time of the work the team regularly gathered a reference group at the clinic to meeting forums to discuss the progress. The forums continued during the time of project *PLOP* as well, providing input along the way. One primary need, concluded by the team, was that of improving the operating room utilisation taken a current sub-optimal use in combination with excessive waiting times for the patients and economic pressure on the clinic. This need constitutes the aim of project *PLOP*.

The approach employed by the author, carrying out the thesis alone, was that of an action researcher (Reason & Bradbury, 2008). That is, the intent was not to avoid intervention but to actually intervene, in the role of facilitator contributing to create an effective change process and concurrently reflecting on the process. The task at hand was outlined by the clinic and the facilitator in discussion. In parallel to project *PLOP* three other student driven projects were

taking place at the clinic, focusing on different needs and topics though with synergy effects in interaction to each other. The projects dealt with effective communication and configuration of the complex schedule for the physicians at the clinic, improving the information and interior that the patient meets in the reception process at the clinic and mapping the patient process from the patient's own perspective as well as designing a handbook to guide and support the patient throughout the process.

RATIONALE FOR THESIS PROJECT

Taken the many challenges that the healthcare is dealing with and its struggle to deal with change, based on participation of its members, there's reason to dedicate time and energy to investigate the change processes, in this case with the perspective of facilitation. Thanks to the clinic project the author had accessibility to an entity within the Swedish healthcare system ready to participate in a change process with a clear aim on what to improve.

Purpose

The purpose of this research is twofold. The main purpose is to develop and test a process for the facilitation of change within healthcare. The secondary purpose is to critically evaluate a project in which the process is applied with the aim to improve operating room utilisation. More specifically these matters are manifested in the following two sets of research questions, dealing with the main and secondary purpose respectively.

Questions regarding the main purpose:

- How is an effective change process brought about?
- What is the role of a facilitator in the change process?
- How can the organisation be supported to continue the change process in a sustainable manner?

Questions regarding the secondary purpose:

- What are the root causes for sub-optimal operating room utilisation?
- What measures are relevant to be taken to meet the challenges?

Theoretical Framework

Taken the nature of the research project, the theoretical framework consist of an interdisciplinary set of contributions, together laying a solid foundation for carrying out the action research project in the context of healthcare and change processes. The framework consists of the following topics:

- Healthcare - Organisation & Development
- Change Management
- Leadership & Facilitation
- Change Processes in Healthcare

HEALTHCARE - ORGANISATION & DEVELOPMENT

In order to act in the context of Swedish public sector healthcare it's relevant to study the healthcare organisation and its management. With a sound understanding, the author can exercise facilitation anchored to the context and its history.

Healthcare in general and a hospital in particular is a complex matter. The service to the patients in need of healthcare is provided by a fascinating collaboration by several different professions, everyone with a certain responsibility and role. This interprofessional teamwork can induce several challenges for the team to achieve its task (Kvarnström, 2008) which can depend on the professional cultures constituting barriers for effective teamwork (Hall, 2005). In order to comprehend the complexity of how healthcare is built up, one can attempt to divide different functions of the system. To make a division can be problematic since several actors can have influence on the same function. Anyhow, one relatively straight-forward approach to make this division is done by Glouberman and Mintzberg (2001). They suggest that healthcare is made up of four domains: Cure, Care, Control and Community. Further, in a rather simplified way, the professions are assigned to the different domains. Physicians being responsible to cure, nurses to care, managers and administrators to control and owners and other influencing external actors to make up the community. Although this way to portrait healthcare is simplified and does not take all the overlaps into consideration it can anyway work as a means to understand the complexity and the interactions across the boundaries between the different domains. That the healthcare organisation, to a certain degree, is made up of separate interacting domains is argued to make holistic management very challenging to exercise. (Glouberman & Mintzberg, 2001)

The different domains within can be argued to have their own set of agendas which can contribute to a sub-optimisation of the system rather than the system as a whole having one common agenda. Källberg (2013) explains the sub-optimisation further with the phenomenon of silo-thinking taking place when individual functions or units are optimised alone. Källberg

argues that this “*is partially due to the financing system, which often does not encourage innovation and process development across boundaries*” (Källberg, 2013, p77, Trans.).

CHANGE MANAGEMENT

With the task to facilitate a process of change it was natural to consult relevant theories on change management to be aware of and act in consideration of the complex dynamics of change processes in an organisation.

The change process described by John P. Kotter was consulted to acquire one perspective of how leading change can look like. Although leading and facilitating differ to some degree there are still interesting aspects from the leader perspective to be aware of. Kotter’s approach can be argued to be from the perspective of leading change with a certain emphasis on the leadership being top-led. Although that model of leadership is not always preferable or effective it is still interesting to study the steps that the framework is based upon, as a contribution to actors assigned a responsibility of leadership in a change process. Kotter's 8-stage process for leading change, presented in table 1, is argued to support a consistent and holistic approach engaging the workforce effectively. (Kotter, 1996)

1	Establishing a sense of urgency
2	Creating the guiding coalition
3	Developing a vision and strategy
4	Communicating the change vision
5	Empowering employees for broad-based action
6	Generating short-term wins
7	Consolidating gains and producing more change
8	Anchoring new approaches in the culture

Table 1: Kotter’s 8 step process for leading change (Kotter, 1996)

Another framework on change processes relevant to consult is the one constructed by Kurt Lewin. Lewin (1947) describes the social change process with an analogy of an ice cube that needs to unfreeze before the form can be changed and then freeze again. Together the two change models provide a comprehensive understanding about the change process, both in organisational and social regard. Kotter's framework can be said to have a certain focus on organisational change while Lewin's theories emphasise and look deeper into social change.

CHANGE PROCESSES IN HEALTHCARE

In the context of change processes in healthcare Källberg (2013) provides insights about the challenge of enabling different perspectives and different professional domains to collaborate and create “*energetic engagement and interesting dynamics*” while avoiding “*antagonism and conflict*”.(Källberg, 2013, p347) Further, Källberg (2013) reasons about change leadership as a crucial component in change processes in healthcare with a certain mention of the importance

of the change leader to be trusted and perceived legitimate. Källberg (2013) also emphasise the importance of understanding both the subject part and the people part in order to be able to manage a change process. That is, it's not sufficient to understand the posed challenge without having an in-depth understanding of the emotions and opinions on it of the people involved and vice versa. Based on this comprehensive understanding Källberg (2013) adds the relevance of considering the effect of the context and the organisation's history on change processes taking place. Källberg (2013) identifies the following 6 change competences which are important in a change process: 1. Project management and project work, 2. Process development, 3. Changes in organization and structure, 4. Understanding and integrating competencies and worlds, 5. Managing emotional processes, 6. Communication and co-ordination. (Källberg, 2013, p345)

A certain area of change processes in healthcare deals with efficiency. Norbäck and Targama (2009) describes the opportunity to increase the efficiency of the system as a whole rather than focusing on the efficiency of individual activities by *“analysing larger patterns of work activities and improve the linking and interaction between them.”* (Norbäck & Targama, 2009, p82, Trans.)

Rydenfält (2014) describes the source of challenges posed to the teamwork in the operating room to be twofold, *“from within the team (often with causes that appear easy to pinpoint), and from the team's dependencies on its surroundings.”* (Rydenfält, 2014, p4). Rydenfält (2014) further explains that the capability of the team to exercise teamwork comes from designed and emergent structures, the former with an influence from management and the latter based on social connections. This description provides valuable input when trying to comprehend the complexity of the challenges experienced in the context of surgery and teamwork.

LEADERSHIP & FACILITATION

In the context of group processes, leadership plays a certain role. The concept of leadership used by the author is based on Yukl's (2006) definition:

“Leadership is the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives.” (Yukl, 2006, p8)

Yukl (2006) states that a certainly important responsibility, though difficult, that is part of leadership is guiding and facilitating a change process in an organisation. An especially interesting kind of leadership is participative leadership which seeks to encourage the group and facilitate their active participation in making decisions (Yukl, 2006). With participation and empowerment of the group, decisions taken will be approved and change enabled to be implemented, with support from the group. Participative leadership is based on decentralization of decision making and empowerment of the individuals (Yukl, 2006).

Facilitation in a context of organisational change is described by Schwarz and Davidson (2005) to consist of helping a group to increase its effectiveness. This is achieved by developing the group's processes, how the members interact and works together, and structure, what the member's roles are and stable recurring group processes that occur (Schwarz & Davidson, 2005). Sunding and Odenrick (2010) contributes with a description of the facilitator's influence of enhancing the problem-solving capacity of a group and introduce the concept of the interventionist (in the role of facilitator) as a *liberator*.

METHODOLOGY

The methodological approach taken in this thesis project is primarily based on action research. The author is active in the role of facilitator involved in an authentic project in the context of a healthcare clinic. The process of the project is systematically reflected upon by the author in the role of researcher. The author seeks to understand the system through observations and experiences and subsequently involve relevant scientific theories to bring the reflections further forward to a scientific contribution.

Design

Central in the thesis was the clinic project, in which the author facilitated a change process with the aim to improve the utilisation of the clinic's operating rooms. To approach the experienced challenges at the clinic the facilitator took the starting point in the clinic and its staff. Based on empowerment and participation a process was shaped with generation and implementation of effective and sustainable solutions. By understanding the organisation through observations, gathering all relevant perspectives present at the clinic in semi-structured interviews and facilitating solution paths to be constructed during workshops the author attempts to contribute to the change process at the clinic. Schein (1988) emphasise the external actor's need for exhaustive and time-consuming study of the organisation in order to make reliable interventions. This need motivates the time dedicated to get to know the clinic and its individuals.

The facilitation of a change process, as applied in the clinic project, relates to the methodology of action research. In addition to the active facilitation, concurrently learning about the process and developing new knowledge based on the experiences constitutes the other half. The idea of action research is that action and research works hand in hand. Throughout the process the action will learn from the research and the research will learn from the action. Action research is a broad topic that, depending on the aim and circumstances, can be used in many different ways.

In this case the issue of pressing concern is a potential to improve the collaboration and better utilise the resources at hand at the clinic. To deal with this issue a participatory process is chosen in order to create the most value for the clinic by building on the existing ideas and knowledge rather than introducing new ways of thinking from outside the system. Reason and Bradbury (2008) describes the process of action research to be *"a living, emergent process that cannot be predetermined but changes and develops as those engaged deepen their understanding of the issues to be addressed and develop their capacity as co-inquirers both individually and collectively."* (Reason & Bradbury, 2008, p4). This statement emphasises the need to be flexible in the process and not rely on a plan to be the optimal one but rather allow

for an iterative process continuously adapting the focus and procedure to utilise the engagement and progress that occurs.

Another relevant dimension of action research is its emancipatory character. Reason and Bradbury (2008) describes it as leading to new abilities to create knowledge. This since, "*in action research knowledge is a living, evolving process of coming to know rooted in everyday experience; it is a verb rather than a noun.*" (Reason & Bradbury, 2008, p5). This input emphasise the relevance of not limiting the focus of the project to generate specific knowledge but also to incorporate the ability and skill to generate knowledge, an ability that can develop further and does not have an absolute end in time but is rather about a way of doing things.

Malterud (2011) explains action research as a strategy in which "*we work for change, at the same time as using the process for us to learn and develop new knowledge.*" (Malterud, 2011, p187, Trans.). So at the same time as contributing to change in the clinic project, the experiences from the process will provide the foundation for developing new knowledge that can be transferrable and be benefited of by others. This synergy constitutes a cornerstone and provides motivation to both the researcher and the clinic to dedicate resources to the project and make as good attempt as possible to bring about effective change to the better. Further, Malterud (2011) reasons about the importance for the action researcher to consider the elements of interaction, context and values. The interaction in this case is indeed desired, in opposition to an experimental design which requires no intervention. The context plays a key role, which supports the outline of the action researcher spending a relatively long time on the location of the project in order to understand and be able to act in the context. When it comes to facilitating change, understanding the values of the organisation constitutes a crucial step taken the sensitive nature of change processes.

Different organisational factors will have an impact on the process and outcome of the project. Meyer, Spilsbury and Prieto (1999) made a systematic review of action research in health and came up with the key facilitators and barriers listed in table 2.

Key Facilitators	Key barriers
Commitment	Lack of time, energy, resources
Talking/supportive culture	Lack of multidisciplinary team work
Management support	Reluctance to change
	Unstable workforce
	Lack of talking/supportive culture

Table 2: Key facilitators and barriers for action research applied in healthcare (Meyer, Spilsbury and Prieto, 1999)

ACTION - FACILITATION OF CHANGE

The clinic staff is ready and motivated to change in order to improve their utilisation of operating rooms. The author's role is to contribute to a facilitation of that change to be initiated and proceed. The task of facilitation can, in simplified terms, be explained by the four steps of designing, inviting, hosting and harvesting (Mahy, 2012). In the project these stages are repeated iteratively. Design refers to the preparation and outline of an organised event, be a workshop, meeting or alike. Invite is to summon and motivate the participators to engage and be part of the events and the larger change process. Host refers to the active part when an event is taking place and the participants are interacting and moving forward in the process. The last, though crucial, stage is to harvest the outcomes of the events and interactions, done by documentation or experiences to be brought along to the next steps in the process. Based on the ideas of action research the outline of the project *PLOP* are described in the following 5 steps:

- Establish relationship to and understanding of the context
- Collect data through observations and interviews
- Host workshops concretising the challenges and generating ideas on solution paths
- Guide a process of change projects being implemented, with adequate intervention
- Evaluate progress and follow up

RESEARCH - STUDY OF CHANGE PROCESS

In parallel to the project the author will describe and analyse throughout the process, interpret the outcomes and finally compare acquired insights with relevant research. (Malterud, 2011) To achieve the research the author will in connection to every step of the project reflect and interpret what came out of the progress so far, a reflection that is then brought along to the following steps. Through systematic reflections and evaluations the properties and details of the project will be taken care of and incorporated in the reasoning done in the discussion in the thesis. Throughout the project a continuous attitude of validation, reflecting about the relevance, will contribute to learn from the experiences and allow the design to be modified along the process (Malterud, 2011).

Sample

The thesis was carried out in the context of the clinic for reconstructive plastic surgery at Karolinska university hospital. The clinic is distributed over three units on three separate floors in the hospital building. See overview of the clinic in figure 1. At the reception unit the patients arrive for consultation or polyclinic surgery, it is also the unit where the administration and management are primarily situated. At the care unit the patients are being taken care of before and after surgery. At the operating unit, called *PLOP*, the operating rooms as well as the pre- and post-surgery spaces are situated. The staff at the clinic were involved primarily through interviews and workshops, but also in general in the change processes in different ways.

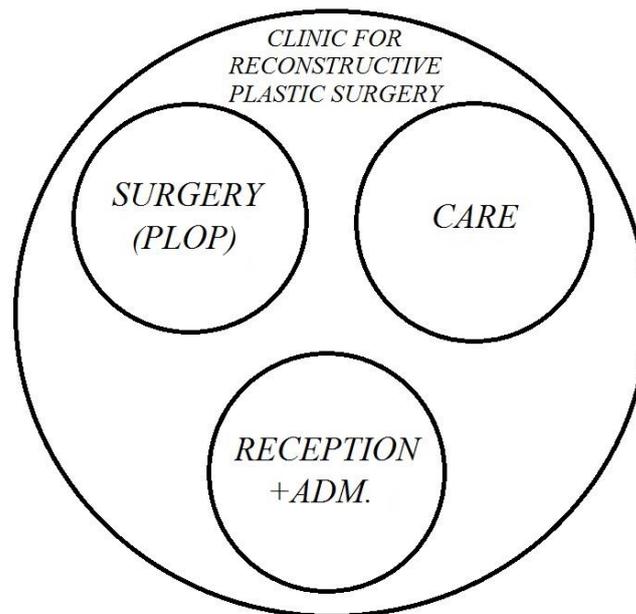


Figure 1: Overview of the units at the clinic

INTERVIEW PERSONS

The interview persons had different professional roles, see table 3, and varied in age, see table 5. Two thirds were nurses and the last third were physicians, see table 4. Out of the 15 interview persons 12 were female and 3 male. The selection of interview persons was made on the basis of the relevance of the person's role as well as to have a representation of two people from the same role, when applicable, to acquire a broad basis of inputs enabling a more comprehensive picture.

Role	Number of interview persons n=15
Physician and Surgeon	4
Physician and Anaesthesiologist	1
Surgery assistant nurse	2
Surgery scrub nurse	2
Anaesthetist nurse	2
Anaesthetist assistant nurse	1
Nurse and surgery planner	1
Nurse manager	2

Table 3: Roles of interviewees

Profession	Number of interview persons n=15
Scrub nurse	2
Assistant nurse	3
Anaesthetist nurse	2
Administrative nurse	3
Physician	5

Table 4: Professions of interviewees

Age span	Number of interview persons n=15
30 - 40	3
40 - 50	3
50 - 60	8
> 60	1

Table 5: Age span of interviewees

WORKSHOP PARTICIPANTS

On the occasion of the first workshop 10 people, out of the 15 that were interviewed, were selected to participate. The selection was made based on the relevance of the participants' roles and interest in participating. See the participants' roles in table 6.

Roles
Clinic manager
Nurse manager at Surgery and Reception
Surgery nurse
Surgery scrub nurse
Physician and Anaesthesiologist
Surgery planner
Responsible physician at Surgery
Responsible physician at Reception
Responsible physician at Care unit

Table 6: Roles of workshop 1 participants

On the occasion of the second workshop the whole clinic workforce, in total about 100 persons, participated in a planning day at which they were spread out randomly, to achieve a mix of professions, on 9 separate tables. Three of these tables, involving 30 persons, participated in the second workshop. The workshop participants consisted of surgeons, other physicians,

anaesthetist nurses, surgery nurses, nurses from the care unit, scrub nurses, medical secretaries and administrators, though not all professions were represented in each group.

Data Collection

The primary source of data consisted of semi-structured interviews. In addition to the interviews, data was continuously collected throughout the project, by observations of the system and the interaction of its components. The author made observations at the clinic over a time period of two and a half months with presence on in average two days per week, depending on the activities undertaken. In total, roughly the equivalent of three work weeks were spent at the clinic. To decipher the organisation required the author to approach the complexity with curiosity in a systematic manner, with similarity to the steps depicted in table 7 provided by Paton and McCalman (2008).

1	Visit and observe.
2	Identify artifacts and processes that puzzle you.
3	Ask insiders why things are done that way.
4	Identify espoused values that appeal to you, and ask how they are implemented in the organization.
5	Look for inconsistencies, and ask about them.
6	Figure out from all you have heard what deeper assumptions actually determine the behaviour you observe.

Table 7: 6 steps to decipher an organisation (Paton & McCalman, 2008)

Several occasions played important roles when it came to getting to know the organisation and the activities. Through being present at these occasions the action researcher was able to both connect and to comprehend the complexity to a certain degree. The following were the foremost occasions in which observations were made:

- Surgery (in total about 8 hours)
- Coffee breaks
- Lunch breaks
- Corridor activities
- Morning meetings at the operating unit
- Planning meetings
- Management meetings
- On the occasion of registration of surgery by physicians

In addition to these occasions there were several forums held at the clinic in which the project PLOP was presented, throughout the different stages. An initial forum was used to present and collect input on the project plan, a second was used to give an update on the progress and

collect input on how to move forward and a third was used to discuss the completion and the handing over of the project.

Beyond the vast collection of unstructured data from the many observations, structured approaches in form of semi-structured interviews and workshops were also employed to contribute to the project and the research. The interviews were initiated after acquiring a relatively solid understanding of the organisation and activities as well as trust among the staff. By integrating data from interviews, observations and workshops a triangulation of data was achieved ensuring a sound foundation for analysis and conclusions.

INTERVIEWS

The semi-structured interviews were made up of questions related to:

- The role of the interview person and his/her involvement in the planning and execution of surgery
- Experience of challenges and problems in the context of the efficient utilisation of operating rooms
- Experience of the planning and coordination of surgeries
- Work environment and patient safety
- Change projects and processes

The full interview guide used can be found in the *Appendix B*.

The 15 interviews had an average duration of 45 minutes and varied between 30 and 60 minutes. The interviews were recorded and later transcribed. In connection to the interviews a formal approval from each interview person was collected, allowing the material to be used for research purposes. The interviews were carried out under a time period of about four weeks, the majority done before the two workshops took place. It was therefore possible to use relevant data from the interviews as input to the workshops, to support the process as well as the knowledge of the author.

WORKSHOPS

As part of the project two workshops were organised to involve the staff of the clinic in establishing a common understanding of challenges experienced related to operating room utilisation as well as in the development of how to deal with these challenges.

At the first workshop 10 persons, representing all of the different units and relevant professions, participated in a two-hour interactive session in which experienced challenges were listed and categorised and ideas for solutions were generated. The structure of the workshop was created with consideration of providing the opportunity for everyone to reflect and then discuss in groups of two to three people before having a discussion in the whole group. This structure was chosen with the aim to allow the ideas of everyone to be expressed before a common discussion is initiated, with inspiration taken from Johansson (2004). Based on previous observations and experiences, adequate dimensions were constructed to be used in the workshop. The two dimensions *Surgery* and *Conditions* were used for the participants to categorise the thoughts on the challenges experienced in the present state. Each dimension was divided into two parts: *Surgery* was divided into *Planning* and *Execution* and *Conditions* into *Cultural* and *Organisational*. This provided four boxes with the respective combination of the four aspects. See overview of dimensions in figure 2. That is, cultural conditions for planning surgery, organisational conditions for planning surgery and vice versa for the execution of surgery.

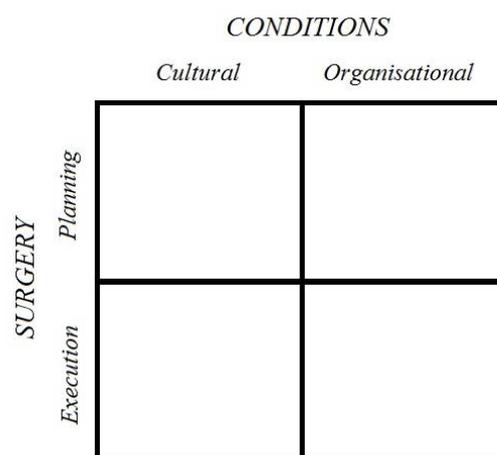


Figure 2: Overview of dimensions

After filling out the boxes with input on the present state, the inputs were clustered to groups with a topic in common, where after each participant distributed four separate points to the, in their view, most relevant topics. Based on this evaluation of importance, four topics were selected to move forward with. The next step undertaken at the workshop was a generation of specific actions and changes that would deal with the challenges in the respective topics.

At the second workshop the aim was to assess and discuss the material that was generated and put together in the first workshop. Each table, the workshop included three tables, was assigned one of four topics, the fourth topic all three tables discussed. The assigned task was to discuss what considerations were relevant to make in regard of the suggested solution paths, from the perspectives of the efficiency, the work environment and the patient. The participants of each table documented their thoughts and comments on paper, which was then collected.

SYSTEMATIC COLLECTION OF EXPERIENCES

Continuously in the process of facilitation, experiences were systematically collected and interpreted. On the occasion of the many observations at the clinic the author took notes on what was happening, why it was happening and who was involved. On the occasion of participating in weekly or monthly meetings notes were taken on what the purpose of the meeting was, what the agenda was, what was discussed and how the different participants interacted. On the occasion of the facilitated workshops the author made notes on how the process went, the emotions expressed by the participants and the insights made. Based on the experience from the informal meetings and interviews the author took notes on relevant details of the organisation as well as the culture expressed.

Feedback, on the involvement and actions of the facilitator, from the clinic staff was collected throughout the project to be able to reflect on the process with the perspective of the organisation.

Analysis

The method used to interpret the interviews was qualitative content analysis (Graneheim & Lundman, 2003). The interviews were audio taped and transcribed by the author. Already when listening to the interviews an interpretation was made and an initial idea of categories was constructed, later to be developed. The transcriptions were read through to acquire a sense of the whole and note down key words and reflections. All interview transcripts, except for the first question on the role of the interview person, were considered as unit of analysis. The physical transcripts were cut into pieces, each piece containing one or a couple of linked sentences. Then, each piece was assigned a code. The coding process started with one interview and then went on with the rest one by one, checking the codes already formulated. The pieces with the same code were clustered in a group, with the different viewpoints of the interview persons gathered. The groups of codes were classified into categories constituting areas of content. The analysis process often went back and forth in the construction of categories and subsequently topics and subtopics. To illustrate the meaning expressed in each topic, quotations were chosen from the interviews.

No formalised method was used to analyse the data collected through observations of formal and informal interactions and the experience of the workshops' process. The data was however interpreted and theories were constructed on how the organisation and culture functioned, theories that were iteratively developed when new qualitative data collections were made.

RESULTS

The results of the study will be presented in the following three parts:

- *Facilitation process* - How the clinic project was facilitated and carried out
- *Interviews* – A compilation of the interviewees' individual and collective responses
- *Project PLOP Summary* – An overview of the outline and content of the clinic project, including the workshops

Facilitation Process

The participation of the author in the clinic project can be described and presented as a process of facilitation. Although inspiration was acquired from other sources the applied process was constructed and shaped throughout the time of the project by the author self in interaction with the clinic staff. The resulting process can work as an example for inspiration and guidance for a facilitator to carry out a process in a similar context. An overview of the process timeline is depicted in figure 3.

Throughout the time of the project the facilitation process was iteratively developed to adapt to circumstances at the clinic and events occurring with an impact on the process. The process presented here is the resulting one, complemented with insights from the learning process of the facilitator. At every step of the process it is described in general what the step consisted of and its purpose for the process, which events and measures that took place, what the outcomes were and which insights that the facilitator as researcher acquired.

After the description of the process there is a summarising section on the role of the facilitator. An overview of the project and the deliverables from the workshops is presented in the *Project PLOP Summary*.



Figure 3: Process timeline

PROCESS - PHASES AND OUTCOMES

Step 1 - Identify

A process of change naturally starts with realising and identifying a problem, whereupon adequate action is taken. In this project the problem area was identified by an interdisciplinary team participating in CIF that carried out a need mapping of the clinic, during the months prior to the initiation of the project. The team identified a sub-optimal utilisation of the clinic's operating rooms and the involved resources. To deal with the identified problem, the facilitator was brought in to act in the format of a master thesis project. The organisation had a clear and strong conviction of the need of change and was ready and motivated to allocate resources and provide time to the cause of the project.

Events & Measures

- CIF need mapping
- Call for facilitator

Outcomes

- Identification of problem
- Conviction of necessity to change
- Clear and common goal

Insights

A very positive factor setting good conditions for change processes to occur was that the organisation had a readiness and motivation to act and change the present state. Although the aim with the project was clear the process to reach there remained to be designed and carried out, which justifies the project's existence and the involvement of the facilitator. Before the project initiation it is important to ensure enough dedication from the involved organisation in the form of allocation of resources to the project. Without a proper allocation the impact and quality of the project would be at risk.

Step 2 - Initiate

At the initial stage of the project the facilitator was introduced to the clinic and its staff, both the management and the staff at the different units. A contact person was assigned to the facilitator to introduce and explain the activities and processes taking place, to acquire an overview of the organisation. Shortly after the introduction of the facilitator a discussion forum was held with the reference group of 10 people from the clinic to discuss the outline and aim of the project. Staff from the different units and professions were represented in the reference group.

Events & Measures

- Introduction of facilitator
- Reference group meeting - Discussing outline of project

Outcomes

- Clear and agreed outline and aim of the project
- Organisation acquainted to the facilitator

Insights

Essential for the quality of the project is the motivation and enthusiasm of the involved actors. The facilitator was warmly and respectfully welcomed to the clinic which contributed to motivation and inspiration to carry out a good facilitation. An alignment of motivation clearly has a positive contribution to the chances of the project being successful. In addition to motivation also the outline of the project is important to be aligned and agreed upon, to avoid future conflicts.

Taken the circumstances of involving an external actor it's crucial that the facilitator acts in a humble and respectful way, open to learn about the organisation without prejudices. To be able to listen to understand should not be underestimated. One can imagine that one's own knowledge is sufficient but that is often not the case, why openness is key to finding out all relevant information and avoid neglecting important pieces. Furthermore, curiosity can play a certain role for the facilitator to really get to know the organisation, asking all kinds of questions. The initial phase and the first interactions is a time of establishing a confidence in the facilitator, a confidence that can show decisive for further engagements. With an inadequate action at an initial stage the facilitator might even spoil the chance of acquiring confidence at a later stage. Therefore it's important to take enough time to walk around and talk to the people, with an authentic interest in what they do. Further, there's reason to have a fair time allocation between the different groups at the clinic, in accordance to that all perspectives have equal relevance.

Step 3 - Acclimatise & Learn

This stage is all about learning the context and the people, both the formal parts and the informal, structures and cultures. By being present and asking questions, which requires time taken the complexity, it's possible to start understanding the complex processes taking place. Based on the time taken to acquire a relatively solid understanding the facilitator can move on and have a trustworthy and adequate intervention. Parallel to learning and getting comfortable in the environment, also during surgery, this stage also consists of establishing a confidence relationship to the clinic and the people.

Events & Measures

- Observation of surgery
- Informal interviews and encounters in the corridors
- Participation at and in between weekly meeting forums, for example the Friday morning breakfast meeting with the operating unit staff

Outcomes

- Initial understanding of structures, cultures and individuals
- Knowledge of terminology and internal language
- Confidence in facilitator and conviction of good intent

Insights

In the process of learning, the complexity in healthcare operations became obvious. The different professions interacting and collaborating around the patient, not least the teamwork during surgery, requires a high degree of self-management and independence of the teams to organise the work and be ready to act in case of an extraordinary event. In order to really understand the context it showed decisive not only to be present and participate on the formal and structured activities but also to attend the many informal occasions in between. When trying to understand, it's crucial to ask questions without prejudices and to dare to show lack of knowledge, in order to really comprehend and to avoid missing out on relevant aspects due to negligence.

Step 4 - Map & Study

After learning about the structures and cultures the next step was to map and more systematically study the organisation and processes taking place. It was necessary to break down the complex interactions in order to understand the coordination in depth. To get a good width and depth in understanding, semi-structured interviews were held with representatives from all units and relevant professions at the clinic, 15 people were interviewed. Based on the perspectives and ideas gathered in the interviews the facilitator was able to put a puzzle on the current state incorporating input from all relevant angles.

Events & Measures

- 15 Interviews with staff from all units and relevant professions
- Participation at additional meeting forums

Outcomes

- Opportunity for all representatives to provide their perspective
- Collection of input from all angles providing a comprehensive and balanced picture
- Acquisition of holistic overview of the organisation and processes
- Acquisition of depth in understanding the structures and cultures

Insights

In order not to get too confused in the complexity the facilitator need to acquire a holistic overview including understanding the different points of view. Taken the existence of several different professions every profession has a different perspective and is able to see different things. It is therefore crucial to collect inputs from all perspectives in order to understand different experiences depending on the viewpoint. No one knows and can provide all perspectives. It takes time to build confidence and get a good conversation. In order to get the

most out of the interviews it showed to be important that the interview person was relaxed and comfortable of talking, also about sensitive aspects related to colleagues, attitudes and cultures. To have sufficient time and a good isolated environment was key to get an in-depth discussion during the interviews. Furthermore, the primacy of listening should be mentioned, which is especially important when interviewing.

Step 5 - Summon & Concretise

Once the facilitator had collected input from all relevant perspectives the next step was to host a workshop, in which all units and professions were represented. 10 out of the 15 interview persons were selected to participate in the workshop. The amount was reduced in order to achieve a coherent group and a good discussion.

The workshop aimed to concretise the characteristics of the experienced challenges and generate ideas on how to deal with them. This was done through the formulation of *Today - Challenges* and *Solution Paths* for four topics that were found to be the most relevant. Not least did the workshop also provide the opportunity to establish a common agreement thanks to the process of the participants contributing to a comprehensive understanding of challenges and ideas on opportunities to change.

Events & Measures

- Workshop 1

Outcomes

- A common understanding across boundaries
- Four topics, see *Project PLOP Summary* for details, to bring to workshop 2

Insights

A decisive factor to deal with the challenge at hand was to achieve a common agreement on what the experienced challenge was due to and how it could be dealt with effectively. The workshop enabled this common agreement to come about, although it was not an easy task. To agree across the boundaries required the action of putting the problem on the table and constructively discussing the topics with respect for one's own experience but also for other's experiences that might differ. To create the atmosphere of having a common goal and the willingness to co-operate, setting protectiveness and pride aside, enabled the workshop group to develop ideas based on relative mutual understanding. To moderate and set-up these interactions across boundaries required a certain degree of delicate diplomacy from the facilitator.

To prepare for the workshop it was necessary to reflect on the experiences from all previous steps. Furthermore, the structure and degree of instructions that the workshop was prepared to be built upon showed to be very difficult to implement. Instead it was necessary for the facilitator to adapt to the group and exercise a clear and concise guidance in order for the

desired outcome to be generated. To be flexible and adapt is a very important skill of the facilitator, though foremost it need to be balanced with confidence and sufficient preparation. The skill of workshop facilitation requires practice and is built on experience, to be able to better understand the group processes. On this occasion the planned outline did not work out fully which required the facilitator to reflect until the next time. Regardless of how good the structure of a workshop or meeting is, often the most fruitful and interesting discussions take place during the breaks in between, when the participants relax and focus on what they think is key. It is therefore crucial to plan and allow breaks to occur, rather than to avoid them. The intervention of the facilitator need to be handled with delicacy.

Step 6 - Involve & Develop

Once the challenges and solution paths, see *Project PLOP Summary* for details, were generated by the participants at the first workshop, the next step was to involve participants across the whole organisation. To achieve an effective involvement, the generated material was brought to the clinic's planning day, at which the whole workforce participated, to be developed further with the opportunity for everyone to have an input. At the planning day, gathering in total about 100 people from the clinic, four workshops took place in parallel. One of the four was the workshop part of this project, which involved 30 persons. The 30 persons were divided on three tables and each table was assigned one of four topics, the fourth being discussed on all three tables. The focus of the session was to critically evaluate and discuss the suggested solution paths in the respective topics, all with the aim to improve the utilisation of the operating rooms.

Events & Measures

- Workshop 2 at clinic planning day

Outcomes

- Effective anchoring and cohesiveness
- Developed topics and solution paths

Insights

To open up and invite the whole organisation to have an input to the project had a very positive impact, both intrinsically during the process and instrumentally for the content, incorporating perspectives from the larger group. An open process, in opposition to a closely monitored behind locked doors, allows for critical voices to be expressed which can be crucial to bring about effective change. Feelings are there for a reason and instead of avoiding or muting them they can be interpreted and considered in the development process. It is through broad participation that the facilitator can gain confidence and legitimacy.

At this second workshop the groups needed to be self-managing, due to the amount of people, and therefore have instructions that were relatively intuitive and self-explanatory to manage the process on their own, with guidance from the facilitator when necessary. The instructions provided showed to be more complex than was possible to comprehend and use efficiently,

instead it was necessary for further explanation from the facilitator as well as smaller changes adapting the complexity. Once again, the balance of intervention of the facilitator is in this case a topic to be discussed. Every group was put together of different professions who needed to collaborate and find their own way of doing so, it was therefore reason for the facilitator not to take part of their process except for explaining the task and the topics they were assigned. By doing so the groups could find their own preferred way of doing things which motivated them to carry out the task.

Step 7 - Move forward

After developing solution paths it was time to embark upon them and deal with the challenges on the way. The starting point for this stage took place in the format of another discussion forum with the reference group that met in the initial stage of the project. This time the questions dealt with how to move forward as well as what involvement that was desired from the facilitator. As a result of the discussion forum a project group of four people was put together to systematically organise implementation and continuously evaluate the progress in a couple of key change projects. During this stage the facilitator also communicated back to the organisation the experiences and conclusions from the process, in order for them to acquire the knowledge of the facilitator. The communication was made in combination with feedback on the progress and the opportunity to ask questions, on occasions with the surgery staff and the participants from workshop 1.

Events & Measures

- Reference group discussion forum - How to move forward?
- Start-up meeting with project group
- Discussion forums with the surgery workforce and the workshop 1 participants

Outcomes

- Several change projects initiated
- Organisation strengthened in their capability and independence

Insights

The effective implementation of desired changes is a clear and natural part of a change process. It also plays a role since without actual implementations and changes a lot of frustration can arouse based on the investment of time and energy in the project and subsequently an expectation for it to lead to real changes. Walk the talk is a strong notice in this regard. The changes need to be implemented with care, consideration and not the least with a participatory process ensuring long-term effectiveness and a sustained change. Although short-term wins can play a role the long term wins outrun them by far.

For the staff, when participating in a change project in the context of a relatively large group of people it's natural to expect feedback on the progress, to be kept in the loop, otherwise a lot of enthusiasm and willingness can be lost. To know that what one told also was taken seriously

and considered in the process of developing changes should not be underestimated, when building a change process on empowerment of the people. It was therefore very important to take enough time to give feedback that reached everyone in the organisation interested in it. To be confirmed and heard strengthens the democracy which is a fundamental value for a well-functioning organisation.

Step 8 - Phase out & Hand over

Since the facilitator was to step back it was necessary to gradually phase out the involvement and hand over the acquired knowledge to the organisation, for it not to be reliant on the presence of the external actor. To transfer the acquired insights, the facilitator summarised a set of guiding recommendations to support the future progress at the clinic. The insights were essentially built upon all collected data, structured and unstructured, throughout the project.

Events & Measures

- Hand over guiding recommendations to clinic
- Say good-bye

Outcomes

- Clinic equipped and ready to move on and develop the project

Insights

Rather than just recommendations on a piece of paper, what really is relevant in this context and stage is to strengthen the capability of the organisation to deal with change. Therefore providing tools rather than guidelines is an appropriate action of the facilitator, contributing to the organisation's readiness for future challenges. The recommendations to the clinic need to be in an adequate format adapted to the specific receiver, why also different receivers can be provided with the information most important for them and in a format that they can assimilate.

Step 9 - Follow up

After the end of the active involvement of the facilitator another dimension becomes important, namely to collect feedback from the organisation on the process of the project as well as the involvement and actions of the facilitator. In addition to feedback it's also important to follow up on the progress of the change projects that were initiated in order to be able to evaluate the effectiveness and quality of the process.

Events & Measures

- Collection of progress status
- Evaluation by organisation of facilitator's involvement

Outcomes

- Learnings for the facilitator of the process and involvement

Insights

Crucial in the project's final stage and afterwards, successful or not, is for the facilitator to follow up and be self-critical in order to be able to discuss the process and its pros and cons. To do that requires to ask the organisation for their experience and for them to be honest about what they think. Change does not limit itself to a short period of time but develops over longer time, why follow up is needed to understand what the impact and effect was after a while.

FACILITATOR ROLE

The following roles were taken by the facilitator in the project:

- Summon participants to a common cross-boundary forum.
- Moderate forums in a diplomatic manner and with a delicate hand.
- Put the comprehensive puzzle, striving to incorporate all relevant perspectives.
- Objective guidance of the development of solution paths.
- Be a good listener, take your time and be humble in the interaction.
- Research about relevant and applicable science in parallel to the project.
- Discuss the process and progress with professional actors outside of the organisation to remain objective and incorporate further viewpoints.

Interviews

The interview questions, found in detail in the *Interview Guide* in the *Appendix B*, focus primarily on the utilisation of operating rooms, approached from different points of view. However, the questions do also deal with change processes and relevant cultural aspects. The structure in figure 4 shows the categories and topics that arouse based on the interviews. This structure should guide the reader to understand the context of the subsequent topics and to be able to practically assimilate the comprehensive picture. In connection to each category a description is provided of the topics of that category and for every topic relevant information from the interviews is summarised and exemplified with quotations from the interviews.

CATEGORIES	<i>Topics</i>
PRE-SURGERY	<i>Planning Process</i> <i>Doctor Scheduling</i> <i>Pre-operative process</i>
SURGERY	<i>Efficiency - Activity Factors</i> <i>Efficiency - Actor Factors</i> <i>Non-utilised Surgery Time</i> <i>Cancellation</i> <i>Teamwork</i>
POST-SURGERY	<i>Capacity Constraints</i>
CULTURE & ATTITUDES	<i>Work Environment</i> <i>Patient Safety</i> <i>Efficiency Increase - Attitude</i> <i>Cultural Properties and Issues</i>
CHANGE - PROJECTS&PROCESSES	<i>History - Experience & Perception</i> <i>Today - Ongoing Projects</i> <i>Future - Expectations and Ideas</i> <i>Influencing Factors</i>

Figure 4: Interview structure

PRESENTATION OF CATEGORIES AND TOPICS

Pre-Surgery

Based on the interviews a comprehensive understanding of the pre-surgery activities was acquired. Prior to a surgery several measures are to be taken. The patient is registered to surgery by a physician, the patient is investigated and sent to necessary tests and the surgery is planned for when it will take place and which surgeon/s will participate. Once a surgery is planned for, several activities remain prior to the execution of surgery. The patient arrives and is prepared for surgery and is then transported to the operating unit. Based on the interviews the following structure of three topics, covering the pre-surgery activities, came about:

- Planning Process
- Surgeon Scheduling
- Pre-operative Process

Planning Process

Throughout the continuous process of planning surgeries several actors are involved in different stages. One person has the overall task to coordinate and construct the surgery schedule, which is the surgery coordinator although many others also have an opinion about how they think that the planning should be made. In the interaction between the different actors several conflicts exist, taken the difference in preference and opinion depending on the role of the actor. A nurse describes the general challenge of collaboration across different units and functions:

"Everyone belongs to different units, which becomes a problem. We are like our own small companies in the company and then everyone looks at one's owns. That patient comes in between."

In general the planning is perceived as relatively complex and not always clear in regard of the guidelines and the procedure. The perception from the physician perspective is that the process is very complex and the guidelines for how to register are not clear. A perception shared across the different professions is that the surgery coordinator has a very strenuous task and is under a lot of pressure from the actors somehow involved in the planning process. Another aspect is the variability of the surgery schedule making it difficult to plan early beforehand and stick to. A physician describes the variability this way:

"It's so dynamic the whole surgery schedule, it changes all the time, patients get sick or a surgery is moved around, it's not possible to plan it three months in advance and think that it will be like that."

A certain conflict mentioned by several of the interviewees is that many surgeons put pressure on the surgery coordinator and intervene to a degree that is not fair. A nurse explains the situation this way:

"My experience is that sometimes the surgeons control the surgery coordinator and makes changes although the coordinator is very systematic and tries to make a schedule with a distribution of the different diagnosis planned for surgery and tries to have an even division between the surgeons that are on the surgeon schedule."

The communication between the care unit, responsible for taking care of the patients prior to and after surgery, and the surgery coordinator is experienced to be very limited. The anaesthesia side experience a lack of communication between them and the surgeons, which results in frustration when problems arise due to this lack. The anaesthesia and the surgeons do not attend the same planning meetings.

The final surgery schedule is constructed week by week. Before providing the final version of the schedule the surgery coordinator collects input from the relevant functions, which is done primarily on two weekly meetings, held on Tuesdays and Wednesdays. On Tuesday the surgery coordinator assess the schedule together with representatives from the anaesthesia group and the responsible surgery nurse. On Wednesday the surgeons are gathered to provide their input on the allocation of surgeons for the planned surgeries and the required preparation. On this occasions no one from the anaesthesia group is represented since a couple of years due to the experience that what was discussed was not relevant for them.

The general perception is that the planning meetings, especially the one on Wednesdays, is not working very well and the outline is not very clear. This has resulted in lack of participation in the meeting which further decreases the possibility to have a good outcome. A nurse describes the low participation numbers:

"Unfortunately it (the Wednesday meeting) is not very well attended, it has become a lack of discipline."

Since no surgeon is attending the Tuesday meeting several surgeons experience that the most is already set prior to the Wednesday, which can decrease the motivation to participate further. Several interviewees would wish for there to be a surgeon attending the Tuesday meeting. The surgery coordinator is often in between different profession groups and need to act as mediator, a role that is not always appreciated.

Prior to a surgery the surgeon will provide the details of what is needed for it and what circumstances that need to be taken into consideration, these details are then communicated to the relevant functions involved in the surgery. The details do however not always match with the real requirements which results in delays of the initiation of the surgery and frustration among the nurses. A nurse explains it this way:

"A potential time gain is if they (the surgeries) are correctly registered in ORBIT, that everything is registered so that we can prepare it. Every delay is little but together it can become longer times."

An improved communication between the surgeons and the surgery coordinator is requested, to solve the experienced problem related to lacking quality in the surgery registrations.

A special area of interest in the context of the planning process, is the estimation of surgery times. Different surgeries require varying length of time and depending on the surgeon they are carried out different fast. The estimation of time is either made by the registering physician or the surgery coordinator scheduling a surgery. The adjustment of surgery time to the specific surgeon is sometimes done in an arbitrary manner, which results in either a too tight surgery schedule for the surgeon or long time gaps when the surgery is finished ahead of plan. Therefore the estimation of surgery time plays a role when discussing the utilisation of operating rooms. The variation of how fast the surgeries are carried out depending on the surgeon is described well by a nurse:

"Everyone has different competencies. As people we are good at different things. Some are really fast, everyone are equally good but some require a bit more time to make a certain operation, because we are different as people. So, except for the patients being different also the workers are different in speed and so."

Relevant to mention is also the variability of how long time a surgery when carried out really requires. Depending on the difficulty and the contributions of the rest of the surgical team the time will vary, it is therefore practically impossible to plan the exact time. In connection to the experienced challenges several ideas were mentioned, here are some of them:

- The surgery planning could to a larger extent consider the accessible capacity of the care unit when scheduling surgeries
- Introduce the option to have a relatively short surgery at the end of the day if there's a time gap in one of the rooms, have a patient on call who is aware that the surgery is not fully sure to occur on that occasion
- The surgery coordinator should be more anchored to the operating unit and have a better communication
- The allocation of staff to the surgical team should be made in consideration of the experience level of the team members, to avoid too much delay due to a combination of low experience levels
- On Tuesdays when two rooms are occupied by longer surgeries, the third room could be dedicated to shorter surgeries, to use the capacity of pre- and post-surgery facilities
- The planning process should, to a larger extent, be aware of when students are planned to participate, to avoid unnecessary delays

Surgeon Scheduling

The main challenges related to the surgeon schedule refer to the surgeons occasionally not having dedicated days at the operating unit but also have work tasks at other places, which can cause problems during the surgery day. Although the aim is to plan full days at the operating

unit this is not always kept. Although the surgeon schedule is made to have a certain level of staffing for surgery, it is expressed that it could potentially be improved to better match the surgery schedule. The capacity of surgeons required per day varies due to the variation of how many are required for different surgeries. This is experienced to constitute another challenge.

Pre-operative Process

In parallel to the planning process a pre-operative process is taking place comprising the investigation of the patient and the communication with the patient prior to surgery. An especially interesting topic in this context, raised by the interviewees, is the physician - patient continuity. This continuity which is not always prioritised, due to resulting inflexibility, has several positive effects when in place. The patient is more relaxed when the same physician is present throughout the process, the physician has better knowledge of the patient and duplication of work can be avoided. Another relevant aspect relates to the patient investigation which if not done properly can lead to postponement of surgery if the correct tests are not made for example.

On the day of surgery there are two major aspects constituting challenges, according to the interviewees. First of all, the patient need to be sketched on prior to the surgery, this activity is experienced not to be standardised or clear exactly when it should take place. Secondly, the patient need to be transported to the operating unit, a transport that can be delayed due to different reasons. An initiative introduced recently is a version of DOSA-patients, Day Of Surgery Admission, which means that some patients go directly to the operating unit without being assigned a bed at the care unit prior to surgery, in order to simplify the process.

A factor influencing the morning activities at the care unit is the experienced stress when the physicians arrive to make their round to the patients. The structure for how this should be coordinated is experienced by some to be mal-functioning.

Surgery

The second category is *Surgery* and deals primarily with the efficient use of the operating rooms and the factors enabling or hindering this efficiency. Efficiency and utilisation is not that simple to understand, due to the complex assortment of different factors influencing and potentially causing an inefficient activity, non-utilised time or cancellation. Therefore the factors need to be broken down in order to get an overview and understand also which factors can be dealt with to create improvements. Based on the interviews the following structure of 5 topics came about:

- Efficiency - Activity Factors
- Efficiency - Actor Factors
- Non-utilised Surgery Time
- Cancellation

- Teamwork

Although separated the first four topics are somewhat linked, for example an inefficiency due to an activity factor can potentially lead to a later cancellation of a planned surgery due to lack of time left which can cause a time gap at the end when the room is not utilised but another surgery would not fit in the schedule. The fifth topic of teamwork deals with different activities during surgery and takes up potential improvements related to improved collaboration across the professions involved.

Efficiency - Activity Factors

First of all, several activities influence the efficiency in regard of getting started in the morning and avoiding unnecessary delays. The activities mentioned all have a purpose though could potentially be carried out in a more efficient way, according to the interviewees.

At the initial stage of surgery all participating staff need to be gathered in order to get started. The coordination and summoning of the different participants does not always function fully optimal, leading to delays. A certain activity in this regard include calling for the surgeon in time, an activity which partially lack a standardised routine and is therefore adapted depending on the prior experience of the specific surgeon. However, in the case of the surgeon having the experience of having to wait when arriving to the operating room he or she might not react to the call immediately but wait for a while. In combination this occasionally causes late starts and subsequently delays. One aspect involved in the activity of calling the surgeon is the call system and its occasional mal-functioning, then private mobile phones are used instead which cause both irritation for the surgeon having to use the phone and also for the rest of the surgical team when the surgeon is operating and a private phone call is ringing on the phone. A nurse summarises the challenge this way:

"Regarding the start, the surgeon should be called upon much earlier, one should not be afraid of the surgeon standing and observing, the surgeon should be focused on what is to be done, one should not have to call for the surgeon, it should not come as a surprise that they are planned to operate, even if I understand that it can be like that sometimes when a lot of things are going on. Just that is a time gain, that everybody is gathered in the beginning."

An especially interesting aspect in the context of efficiency is expressed to be the difficulty to get started in the mornings. Taken the required presence of all functions participating, the first surgery in the morning is on a regularly basis delayed, in relation to the target time. This delay more or less constitutes an established culture and although it's not easy to solve it practically, due to the many actors involved, there's a clear potential to improve the present state. Further, to get started fast in the morning also have several positive effects throughout the day, leading to less delay, frustration and stress. The majority of the interviewees mention the challenge of getting started in the morning and many emphasise the potential benefits that are achieved when the start is made in good time. A nurse explains:

"It's important to get started in the mornings, it's really important. Because the minutes in the morning becomes half hours and hours in the afternoon."

Another nurse describes the potential to improve this way:

"We could get started much earlier in the mornings, if everybody arrived content in the morning and got started."

A couple of activities related to preparing the patient can cause delays. First, the patient is occasionally delayed when transported from the care unit to the surgery, which can be due to stress and lack of time among the staff at the care unit. Secondly, sometimes the patient is not sketched on which is required before the surgery starts and is to be done by the responsible surgeon. Thirdly, other kinds of preparations of the patient such as the position and the cleaning, takes a certain time and can sometimes need to be redone due to the wrong information being provided in the first case. Based on the surgery registration the assistant nurse will prepare the required material and equipment for the surgery. When additional material or equipment is needed the assistant nurse needs to go and collect it which can cause a waiting time for the surgeon, often justified but sometimes avoidable due to incorrect surgery registrations.

Before the next surgery takes place the room needs to be cleaned and then prepared. This activity consumes time which it needs to. Anyhow there seem to be a potential to improve the efficiency by a better cooperation between the anaesthesia group and the surgery nurses. A surgeon explains their perspective on the time consumed in between surgeries:

"I experience that there's a wait between the surgeries but that is a classic surgeon viewpoint when we are waiting for the next surgery."

In consideration of this statement it's important to mention that every profession has a certain involvement and therefore also viewpoint. An assistant nurse explains the challenge to cooperate in the activities between surgeries:

"The switches are something we could work on. It feels like we are so divided, the anaesthesia does their thing and the surgery their thing."

Another kind of delay occurs when the surgery time is extended. Most often this delay is righteous and is due to complications during surgery that requires more time. It also depends on the quality of the estimated time.

Efficiency - Actor Factors

Efficiency in regard of the influence of different actors includes the surgeon-bound surgery time, the arrival of the surgeon, anaesthesia-related waiting times, patient-related factors and students participating during surgery. The latter three might induce experienced waiting times but are anyhow required and expected. On the other hand the aspect of the arrival of the surgeon

is both mentioned very frequently and often stated to be possible to solve, although the practical solution might not be clear. A surgeon explains it this way:

"That could be made more efficient, that the surgeon really is there, but that requires that the surgeon needs to be called upon in time and be given a time to arrive, one can't stand outside the room and look through the window for 5 minutes, that is also inefficient, then one could make administrative work."

Non-utilised Surgery Time

Several reasons exist causing the operating rooms not to be used fully, some more valid than others. If a surgery is cancelled the room can be empty for a certain time due to the difficulty to insert a new patient in the time slot on short notice. If the patient has not arrived from the care unit the room will be empty, although this seems not to happen very frequent.

Another reason for the room to be non-utilised is that the surgery schedule is finished in advance and there is a gap of up to a couple of hours, though often closer to one hour. That it's finished in advance can depend on different things such as a cancellation earlier the same day or the estimated time being larger than the required time. In the latter case there seems to be a potential to better follow up the time required in relation to the time estimated to make a more adequate adjustment, avoiding the room to be empty at the end of the day. A surgeon explains the phenomenon:

"Sometimes it can be rather short days on one of the rooms. It can be due to that the surgeon has been faster than calculated or that one has stated a longer time than the actual in the surgery registration, consciously or unconsciously, or the switches or anaesthetics have been fast."

A nurse states that:

"..was finished really early, four surgeries were planned on the regular surgery time but the surgeon that got the room is fast like the lightning, he had probably managed a couple more. Then it is empty too early in the day."

Cancellation

Due to different reasons a cancellation of a surgery can occur. The reason could be medical due to the health of the patient, making a surgery impossible. On seldom occasions the reason could be incorrect investigations of the patient or the reason could be due to lack of capacity at the care unit. A reason that can be understood in the context of the topics mentioned earlier is when the surgery schedule is delayed and there is not enough time to manage the last patient of the day.

Teamwork

The atmosphere in the team cooperating in the operating room is in general perceived to be very good, thanks to lack of hierarchies and a culture allowing critic to be spoken out. A surgeon describes the teamwork:

"What is fun with surgery is the teamwork, it's really fun. It's really nice when it flows. It's fantastic when it is working."

The teamwork represented in the activity of the World Health Organization (WHO) Time-Out process is experienced to have been working fairly badly but is now moving towards working better, thanks to the surgeons also being convinced of its importance. There is an opportunity to improve the collaboration between the anaesthesia group and the surgical team by helping each other out to a larger extent and working together rather than separate.

Post-Surgery

Capacity Constraints

In the post-surgery stage relevant aspects relate to the capacity constraint of the facilities which the patient stays at after surgery. The post-operative area, where the patient is waking up, is the same area as the pre-operative area and depending on the time of the day the occupancy is on its limit, in the worst case additional beds are put in the corridor to manage the surgery schedule. A nurse states:

"The pre-/post-operative area is really a bottleneck /.../ The area becomes a bottleneck when patients are coming out from the operating rooms and new patients are arriving, since the area is mixed pre- and post-operative."

After waking up, the patient is transported to the care unit which also has a capacity constraint that occasionally is experienced to cause problems for the surgery.

Culture & Attitudes

Relevant topics discussed in the category of culture and attitudes relate to the work environment, patient safety and the attitude towards increasing efficiency as well as general cultural aspects. The different topics are often mentioned together with each other, for example many point out that work environment and patient safety have a lot in common and are dependent on the culture. Based on the interviews the following structure of four topics came about:

- Work Environment
- Patient Safety
- Efficiency Increase - Attitude
- Cultural Properties and Issues

Work Environment

The work environment at the clinic, and especially at the operating unit, is experienced to be relatively good thanks to beneficial working times and a positive culture allowing people to speak-up. A nurse describes it this way:

"We have a relatively good work environment, people work for the same thing, people help each other out, you laugh at work, I think it's fun to go to work. Four weeks of vacation is almost too much."

Experienced issues related to the work environment are primarily concerned with stress, a factor expressed especially by the physicians but also among nurses. There are also some physical conditions that could be improved in the operating room to create a more ergonomic working space. A nurse mentions another wish of improvement:

"Sparkling water please, as they have down in the lunch room, it's better than normal tap water."

Patient Safety

Among the interviewees the perception is that the patient safety is high, thanks to a speak-up culture allowing criticism and follow up procedures when something goes wrong. A nurse explains it like this:

"There is a basic philosophy on how we are working, there are work descriptions and guidelines for work procedure and that results in a patient safety, I think."

Potential improvements, for the patient safety, are expressed to be achieved by a better continuity physician and patient, a more continuous follow-up on incidents in the forum of the surgeons and to deal with the high staff turn-over of nurses at the care unit.

Efficiency Increase - Attitude

The general perception is that an increase in efficiency, effectively leading to more patients being operated, is definitely possible to achieve without the addition of new resources. However, several challenges are mentioned as obstacles in the process of achieving that. A nurse states the following regarding an increase in patients operated:

"I think that there is space within the frames, think that a more efficient schedule planning is possible, certain kinds of surgeries are easier to calculate exact surgery time for, if a couple of those are put up and gone through as a queue then many more can be done. Sometimes you have to rethink a bit."

Positive outcomes of an increase in efficiency are mentioned to be shorter patient queues, less stress among the workforce and stimulation when being able to operate more. A surgeon problematizes the efficiency:

"The best thing is not always to be fast, it should be accurate and with a good result."

Cultural Properties and Issues

Regarding culture a surgeon explains:

"Healthcare staff are fundamentally conservative towards change, I think. One should work with scientifically proven methods."

A tendency, expressed, is the culture to blame a problem on another unit or profession. This tendency seems to be more or less general, taken the division between units and professions. The difference in perspective of physician and nurses is explained by a surgeon:

"Think it's a cultural difference between me as a treating physician with direct patient responsibility and the nurses who don't have a responsibility more than when the patient is at the operating unit."

Change - Projects & Processes

In the context of change the interviewees explained their experience from prior change processes, described ongoing projects, their view on the future and finally provided input on what the decisive factors are in change processes. Based on the interviews the following structure of four topics came about:

- History - Experience & Perception
- Today - Ongoing Projects
- Future - Expectations and Ideas
- Influencing Factors

History - Experience & Perception

In general it can be said that, although very few major change projects have taken place at the clinic there are, on a continuous basis, small changes being made dealing with problems and improving the operations. A surgeon describes the experience of change projects:

"It's like this that slowly and gradually a lot of changes occur in the healthcare since I entered in the 80s. A lot of time is spent on change projects and everything does not lead to much. I believe that in the recent years it has become a bit more anchored in reality, when it started it was very far away, we were to call the patients customers and such things, but customers and patients are not the same thing."

Although the general experience is that change is occurring with a relatively high degree of participation of the workforce, the perception among some is that the management team have had a tendency of making decisions of change without anchoring them in the process. A nurse explains the behaviour of the management team this way:

"Some changes were attempted to be made last year, then they decide certain things and then we are informed that we should do in a certain way. /.../ There one would have appreciated to be able to contribute in a project group so that we could create common changes of routines and that the management doesn't decide themselves, that they are not using us as a resource."

Another nurse explain the participation in change projects this way:

"I think that our clinic is good at involving the workforce in the change project which leads to that one is most often a bit more positive. Sometimes we are negative from the beginning but if we can own the question then it usually becomes better."

On the level of the operating unit alone the general perception is that it's rather easy to make changes, due to the small size and the good atmosphere. On the clinic level involving also physicians and additional management is trickier.

Regarding the introduction of working with the concept of lean and improving the patient flow a nurse comments:

"Since we got the change process, the lean process, a clear improvement has been achieved. We follow up on problems and give feedback, develop and improve whole processes."

A surgeon explains the positive effect of acquiring a better understanding across boundaries thanks to the process project:

"For example, when we had the change project with the process of the patient's journey from first visit to surgery, it might not have resulted in so many concrete changes but the sign-in nurse is relatively concrete and also the initiative on contact with the anaesthesia on the first visit. But what it did was that they who participated in the group acquired a better understanding of what is done on the different units and also a higher respect for each other and although it's relatively limited to the group it can also spread further."

Today - Ongoing Projects

At the time of the interviews three certain change projects are underway. A major one, introduced on the level of the whole hospital, is Value based care. A surgeon describes the new concept this way:

"I'm involved in value based care which I don't know in which direction it is actually heading, I'm afraid that things are being reinvented that we have already done. Everything with a commendable purpose but that pulls us from the work."

A relatively large project at the clinic is about expanding their day surgery, when the patient does not stay overnight. The third project concerns the Time-Out process which has not been adhered to fully but is now being made more adequate, thanks to that also the surgeons are now convinced of its importance.

Future - Expectations and Ideas

Regarding the change project, that the author of this report is facilitating, the expressed wish is to get one or two more patients operated per week. Specific expectations on the contribution of the author relates to identifying bottlenecks, applying a helicopter perspective, identifying crucial factors for efficiency and in the end provide feedback to them about the conclusions made. A nurse summarises the expectations this way:

"I hope that you can detect things, as outsider, and can see other structures and see what can be done to make it better, to make us manage better and that it should be a better flow. So that we get rid of the long queues."

Most important in the project, emphasised by several, is to achieve concrete change and results.

Specific ideas on things to improve involve the following:

- Feedback loop regarding when and why the operating room is empty
- To improve the agenda and quality of the planning meetings
- To introduce a fast-room with a larger amount of easy patients

A nurse concludes that:

"But I think that if we would just begin in time and get underway in time and get the surgeon there in time, and get sketched in time and get surgery started at half past 8 then I think that it's running pretty well to add two or three patients more perhaps."

Influencing Factors

When discussing the process of change several relevant factors are mentioned. One is the complexity of the organisation which makes change difficult to anchor and implement holistically across the different units and professions. Another factor relates to the involvement of external actors, both with the view on the opportunity and benefit but also the challenge of accepting and trusting the intention of the external actor. A nurse says:

"We have tried ourselves to get some things through, sometimes it's difficult, then it's easier when someone from the outside comes as well who can help and demonstrate that this is probably pretty smart because it leads to more surgeries."

The foremost decisive factors in a change process were expressed to be:

- Participation - to be part of the process and contribute
- Meaningful purpose - that the workforce can accept and agree on
- Information of changes and decisions - kept in the loop
- Concrete improvement - that the change process really has concrete positive results
- Support from management - sufficient and adequate

In regard of what is decisive in a change project a nurse says:

"That everyone are engaged and are joining in. That everyone understands what the purpose is, that it has been explained, and then follows up and tells how it went."

Another nurse says:

"Information, is educational and asks us what we think about it and does not only put a piece of paper, this is the way, do it. That the workforce feels as part of it."

The concrete improvements is emphasised by a nurse with these words:

"The most important thing in a change project is that it becomes better of course, that the change project is not made for the sake of it, that's the worst thing I know."

Project PLOP Summary

Aim: Improve the utilisation of the operating rooms, with consideration of the work environment and the patient safety.

Time plan: January to May 2015.

Participants: The workforce at the clinic of reconstructive plastic surgery and the facilitator, a master thesis student from Lund University.

Reference group: 10 participants from the clinic that met continuously prior to and during the project.

Workshop 1: 10 participants representing the three units and the management at the clinic, not the same participants as in the reference group.

Workshop 2: 30 participants, among a total of approximately 100 persons at the clinic planning day, with a mixed representation from all units and professions at the clinic.

Implementation project group: Four key persons with representation of the operating unit, the surgery planning administration, and the anaesthesia group working at the operating unit.

Deliverables from workshops: During two workshops four topics were constructed consisting of *Today - Challenges* and *Solution Paths*. As comment to the solution paths *Considerations* were provided at the second workshop.

TOPIC A: SURGERY PLANNING

Today - Challenges

- Difficult to make correct estimation of surgery time
- Sub-optimal registration of surgery in the IT-system, lack of relevant information
- Difficult balance between elective and prioritised patients
- Difficult to push in emergency surgeries fast
- Variable factors, for example when patient makes cancellation just prior to surgery

Solution Paths

- Weekly feedback of what went well and what could be done better, in regard of the surgery planning, to be discussed in appropriate forums reaching all relevant actors
- Introduce operating room dedicated to quick surgeries
- "Day-surgery" room at the operating unit
- Develop the procedure on how to estimate the surgery time
- Improve the communication of the surgery schedule

Considerations

- More patients will lead to more work for the surgical team, the surgeons and also for the care unit
- Appropriate to have many but short surgeries in parallel to a longer surgery, to balance the number of patients
- The surgery planning need to be in balance with the staff scheduling to avoid unnecessary stress
- If more surgeons could attend the Wednesday planning forum then the feedback from last week would reach more and have a better effect
- When registering surgery, the estimated time and the number of surgeons required should be provided

TOPIC B: STAFF SCHEDULING

Today - Challenges

- Uneven staffing of surgeons
- Many different work tasks for the surgeons in addition to surgery
- Inflexible working times of the staff

Solution Paths

- Clarify guidelines for the allowance of booking meetings during surgery day
- Change the layout of the surgeons' schedule to better match with the surgery operations
- Adjustment of working times enabling more flexibility for the surgery schedule
- Avoid deviations from planned surgery schedule, stick to what is planned
- Shorter time horizon for staff scheduling

Considerations

- The physician-patient continuity could be improved
- The surgeon's schedule makes it difficult for all to attend the Wednesday planning forum
- How about occasional Saturday surgery schedules to deal with the long patient queues?

TOPIC C: RHYTHM, PACE AND FLOW IN THE OPERATING ROOM

Today - Challenges

- Delayed initiation of surgery, due to different factors
- The time in between surgeries experienced to be inefficient
- Bottlenecks for the flow of patients before and after the operating room
- Delayed sketching of the patient with a negative impact on the surgery schedule
- Students present during surgery can delay the schedule

Solution Paths

- Develop better guidelines for the activity of calling the surgeon for surgery, as well as clarifying when the surgeon should arrive
- Improve guidelines for the delivery of patients from the care unit to the operating unit
- Plan the surgery schedule with a better consideration of the specific surgeon
- Introduce "In case of necessity"-staff ready to stay beyond the regular working times on certain days

Considerations

- The estimated surgery time should be mentioned on the occasion of the TO
- The surgeon is not allowed to book in other meetings when having surgery day

TOPIC D: COMMUNICATION & RESPECT

Today - Challenges

- The time-out process not utilised fully
- Irritation when changes are made to the surgery schedule
- Difficult to get a hold of surgeons during certain time/days

Solution Paths

- Communication across units could be increased and improved
- Better cohesiveness of the whole clinic by additional common forums and occasions for interaction across boundaries
- Increased flexibility of the staff, by putting the patient first

Considerations

- Experienced lack of respect when a surgeon books in other meetings on the day of surgery

Impacts & changes: As a result of the project several initiatives were taken to change things that were experienced to be sub-optimal and had a potential to be improved. The major changes made were the following:

Follow-up of the time consumed by a surgery, in relation to the estimated time. If not the same, the reason for it is specified. Before this was not done in a formalised way and although many reasons for delays were known among the different actors, the frequency of occurrence of different reasons was not measured. With measurements the reasons can be discussed with statistical support. This allows for a continuous improvement by identifying and quantifying reasons for delay. Additionally, the time consumed for certain surgeries by a specific surgeon can be measured in order to make a more appropriate time estimation for the next time. Also,

the fact that this follow-up occurs increase the adherence of the surgeons to arrive on time to avoid the reason to be due to the surgeon being late.

Follow-up time and reason brought to planning forums. On the occasion of the planning forums the reasons and certain cases are discussed among the participants with different professions in order to have a continuous improvement over time.

New guidelines for registration of patient for surgery. What information should be provided when the physician registers a patient for surgery is clarified to improve the adherence and for the information to be more correct and complete. The information involves estimation of surgery time, number of surgeons required and if a certain surgeon is required among other details. This initiative is complemented with communication to the individual physicians of the importance of making complete registrations.

Surgeon participating on the Tuesday planning forum. This enables a structured and regular communication between the anaesthesia and the surgeons. Further, it prepares the participating surgeon to organise the Wednesday planning forum with the rest of the surgeons participating. The Wednesday forum had a varying rate of participation and the agenda was experienced not to be fully optimal for the participants. With the new layout the participation rate is indicated to have risen and the initial experience is that the forum is more well-functioning.

Time-Out process adherence has increased. In parallel to the project *PLOP* the Time-Out process has been subject to discussion and has developed to be more established and accepted. Today the organisation of the process is clearer and the adherence is experienced to have risen.

Clarified procedure on when to call the surgeon for surgery. The activity of calling the surgeon prior to surgery has been a source of irritation taken that depending on the timing of the surgeon's arrival the surgical team can have to wait or the surgeon has to wait for his/her activity. Depending on the specific surgeon the call has been made with a certain time left before surgery can start. The initiative now is to make this procedure more clear, to avoid delays as well as irritation.

Clarified guidelines for when to make sketch on the patient. It has not been fully clear for all the surgeons and nurses what the guidelines are regarding this activity, in regard of when it can be carried out. The patient is delivered from the care unit to the operating unit and can depending on the timing either be sketched on at the care unit or at the pre-operative area.

Initiation to establish an improved communication between surgery coordinator and the care unit. In order to better match the surgery planning with the accessible capacity of the care unit the communication in this regard has been initiated to be improved, though not yet fully established.

Cultural changes. In addition to the specific organisational changes mentioned, the project's impact on the culture and attitudes of the clinic workforce can be discussed, although these changes might not be as clear and do develop over a longer time. The attitude changes could however be related to an increased willingness to cooperate over boundaries, a more respectful approach towards arriving in time for surgery and a changed attitude regarding reporting and following up on factors that cause delays in the surgery schedule.

Additional impact by the presence of external facilitator. The clinic staff and especially the ones participating in the interviews and workshops held by the facilitator reflected on the project to have made them more critical about their work. Further, it was expressed that just by putting words to the problems a step can be taken towards a solution.

Impact by the provision of recommendations of the facilitator, are yet to be investigated and measured taken the timing of this thesis in relation to the end of the project.

DISCUSSION

Results Discussion

After establishing an understanding of the results of the study, they were subsequently subject to discussion, incorporating relevant view points and attempting to investigate and find answers to the study's purpose. In this section the following three result parts will be discussed:

- *Facilitation Process* – Critical evaluation of how the clinic project was facilitated and carried out
- *Role of Facilitator* – Discussion on what approach, responsibility and actions that were taken by the author as facilitator in the clinic project and what impact they had
- *Interviews* – Reflecting upon the interviewees individual and collective responses

In addition, *Recommendations to the Clinic* are presented in *Appendix A*.

FACILITATION PROCESS

The aim of the carried out process was to emanate from the capability of the organisation and its individuals and facilitate a process of opening up, discussing and initiating change. To achieve this facilitation it proved to be essential to focus on the collaboration and communication across unit and profession boundaries, to create conditions to work with a common aim and avoid sub-optimisation. The conditions were dealt with both in regard of structures: organisation, guidelines, policies and procedures and cultures: attitudes, values, hierarchies among other aspects. To approach both the organisational structure and the social culture proved to be necessary since both are needed to bring about change in the context.

In regard of Lewin's change process (Lewin,1947) of *Unfreeze*, *Action* and *Freeze*, primarily the two first parts can be reviewed in the progress of the project, taken that the third step of institutionalising the change is difficult to evaluate shortly after a change implementation but requires more time. Regarding *Unfreeze*, in the project this stage consisted of identifying the key challenges, realising the need to change, involving and making the organisation participative to effectively achieve a melted condition. Regarding *Change*, ideas were constructed and the first steps to initiate them were made by changing the planning process, improving procedures and upgrading guidelines. Worth to point out is that Lewin's model is simplified in the way that it talks about change in three distinct stages when in reality the change process is usually disruptive and iterative.

In view of Kotter's 8-stage process (Kotter, 1996), the resulting process of the project had certain similarities as well as differences. Not all steps of Kotter's process can fully be taken into consideration since the research project did not last longer than the change projects being implemented but not yet sustained, which takes longer time to evaluate. This limitation was both intended and reasonable under the circumstances of the external researcher and the limited

time frame. Anyhow, at the initial stage a clear sense of motivation to change existed, perhaps not as an emergency but still with a shared conviction of the reason to change as well as having a clear goal. However, exactly what was to be changed to reach the goal was not clear and many different ideas emphasising different approaches were expressed, often focusing the required change to belong to a different profession group than one's own. In difference to Kotter's relatively top-led approach the author found it adequate to rather focus on the foundation of the organisation and the operative staff and, with support from management, work bottom-up to achieve an effective change, this difference is also emphasised by Pollack & Pollack (2015) who chose to engage at many levels of the organisation to achieve change implementation. By approaching bottom-up the change process can originate and be anchored to the roots of the organisation which enhances both the quality and the sustainment of the change.

In regard of the 6 change competencies that Källberg (2013) lists, the change leadership present in the project can be discussed. The leadership can be referred to the several change initiators, the clinic and unit management and to some extent the external facilitator. All the 6 competencies proved to be relevant in the project, although some were more focused upon than others that got less attention. The aspect of *Understanding and integration of different competences and worlds* was central in the project by the fact that the most changes discussed needed to be based on improved collaboration and integration across boundaries.

When discussing the organisational measures and changes that were made in the project it's important not to forget about the blank spaces in between the visible structures. These spaces are manifested in informal structures, habits and other aspects not obvious at the first glance from the outside and can often play a certainly important role. Regardless of how well the planned structured parts of a project are made, the most fruitful occasions often take place "in between". Therefore it was in the project not sufficient to only identify and deal with the challenges and structures on the surface but also go deeper down and comprehend the underlying factors in order to take them into consideration. Based on this view it can be understood that some of the *best* interactions often take place during breaks in between meetings, when the participants relax and focus on what they think is most crucial and urgent to discuss and deal with. It is probably on these *unstructured* occasions that many innovations come about, between structure and chaos. Further, change can be seen as twofold, where organisational changes play one part and the other part is about social change. Both parts are required to achieve real change and with one part lacking the overall cannot be achieved. Therefore they need to be balanced so that they support each other. In social change, leadership can often play an important role when it comes to influencing individuals and collectives to act and move in a common direction. Participative leadership requires a good understanding of the emotions of the individuals and can contribute to get everyone engaged, as explained by Yukl

(2006). In this context it proved in the project clear that it's not enough with having a solution on the paper without having a process with a balanced leadership and participation of the staff.

A key factor for facilitating change as well as achieving effective change on the long term became clear during the project, namely the value of everyone's voice and how crucial it was to listen and involve everyone. This emancipatory approach enabled to collect the views from the many different perspectives present in the organisation. Due to social hierarchies people can tend to underestimate their input and its relevance, it was therefore crucial to convince everyone of the relevance of gathering all views in order to solve the task at hand. For example the different professions are generally able to see different aspects, the physicians with their medical responsibility of the patient will focus primarily on the patient, the nurses can have a much broader perception of the operations and flows of patients and the management are able to have an overview although occasionally without in-depth understanding of the different components. Due to these differences, to initiate a change project and anchor it in the whole organisation requires the participation of all perspectives. Based on this reasoning it was natural and highly important to gather all relevant perspectives in the interviews and workshops carried out in the project. Further, the cross-boundary participation can counter "we-and-them" attitudes and contribute to cross-boundary understanding. In addition to shaping a participative process it's important that the structures and cultures of the organisation are supporting positive attitudes allowing for cross-boundary interaction and understanding, as a response to the barriers due to professional cultures as described by Hall (2005). In the project, as well as in general, common forums for cross-boundary interaction play a key role for developing organisations. Without these forums every separate group can tend to optimise their operations and naturally focus primarily on the direct outcome that they can influence and not to the same extent care of the optimisation of the whole system. In common forums it's crucial to achieve a balance between the representation of one's own perspective and the contribution to a common process finding ways to improve collaboration and communication. The division and assignment of responsibility in the organisation of work is necessary though needs to be handled with care to avoid protective behaviours and instead promote self-management with a will to be part of and contribute to the whole organisation.

A key insight from the project is that improvements are incremental, not revolutionary. The process needs to take time and focus on dealing with one thing at a time. Although the approach is holistic the specific measures taken should be concrete and limited in their focus. Already from the start of the project it was outspoken by the researcher that larger changes were not intended. Instead the process would focus on identifying key things to change, based on the experience of the workforce, and creating a participative process effectively dealing with those things. Further, the project did consider and deal with change initiatives relating to both improving efficiency and effectiveness. A certain aspect of change psychology is the resistance to change, which is especially present in the context of healthcare. The insight from the project

was that change resistance is best dealt with by effectively making the affected people *own* the question and be part of shaping the change required, consistent with the description of Yukl (2006) on the role of empowerment in participative leadership. So when people are not forced to change but rather feel that they are part of a change the resistance can often be smaller. Thus the expression of resistance is both natural and should be interpreted constructively, trying to understand the underlying reasons for its existence.

ROLE OF THE FACILITATOR

The role of the researcher in the clinic project developed over time to adjust iteratively and adapt adequately to facilitate a change process contributing to the organisation's well-being and effectiveness, as described by Schwarz and Davidson (2005). Several skills and approaches proved to be key for the facilitator to act in the project context. First of all, the ability to be humble and respectful with an openness and curiosity enabled the facilitator to get close to and get to know the individuals and groups in the organisation to a certain extent. This relationship enabled the actions and contributions of the facilitator to be relevant and anchored to the organisation and its characteristics. Further, professionalism and progressiveness with a clear optimism was important for the facilitator to have a positive impact and contribute to enthusiasm rather than destructive disappointment. It should be mentioned of course that this evaluation of the facilitator is bias taken that the author and the facilitator is the same person and can't have an objective point of view.

Based on statements from the interviews, a key role of the facilitator was to see the whole picture and avoid a bias of one perspective. This whole picture was collected through the interviews and observations carried out. The facilitator tried, to the largest practically possible extent, to involve all in the process of identifying challenges and constructing solution paths. The input was thus not limited to the management team. In the role of seeing the whole picture a certain amount of diplomacy was required by the facilitator to bridge across different perspectives and contribute to a common understanding avoiding the guilt to be put on one actor when it usually belonged to everyone. The responsibility and challenge of contributing to a cohesiveness and cross-boundary understanding required the facilitator to find a balanced way and shape a fair process.

The contribution of the author as facilitator can be illustratively described as preparing the scene for gathering around a fireplace. The fire representing the core value created by the organisation. The intention of the facilitator to act in the way of building upon the knowledge in the organisation can be depicted as the facilitator arranging the benches around the fireplace and providing tools to chop the wood and ignite the fire. However, the members of the organisation are let to do the actions themselves in a collaborative manner to prepare the fire, sustain the glow and create a good atmosphere for the occasion, countering protective behaviour and promoting cross-boundary interaction. In the project, the facilitator did

primarily have a focus on the process rather than creating specific outcomes. This balanced guidance and intervention required delicacy and resistance from constructing and providing a solution on the paper but rather focus on the process of constructing and implementing solutions with the starting point in the organisation. Although there was a clear aim to achieve concrete improvements the facilitator's role was primarily to facilitate rather than solve. The sole presence of the facilitator who observed and listened most likely had a very positive effect in regard of the individuals reflecting and being able to speak out to someone that is not involved in the organisation. That is, the problem solving for the facilitator is primarily about how to solve the problem of facilitating a good process. Through building up a relationship to the organisation and its individuals and acquiring enough confidence a lot can happen and be done by the organisation itself, in similarity to the facilitator's role as a liberator described by Sunding and Odenrick (2010).

Finally, the relative independence of the facilitator most likely contributed to the creation of a relevant outcome. As student, not part of the organisation and without economic dependence on or incentives from neither the clinic or any other actor present the researcher can be argued to be independent and thereby be flexible to focus on what showed to be the most interesting and beneficial for the clinic and the research. It also enabled the clinic staff to easier trust the will and intention of the facilitator. This trust and legitimacy played a key role in the interaction between the facilitator and the organisation and its individuals.

INTERVIEWS

The comprehensive picture provided by the representation of all relevant professions and units allowed for an in-depth analysis of the situation. The process of acquiring the overview picture and analysing it can be described as assembling a jigsaw puzzle. By collecting pieces making out the frame and the content of the picture, the full puzzle can be assembled and the aggregated information can be interpreted and understood. In the interviews, the clinic staff discussed the challenge of utilising the resources in an optimal way to efficiently carry out surgeries. The challenge was approached from the perspective of structural aspects: guidelines, coordination, instructions, organisation and routines and of cultural aspects: values, attitudes, hierarchies among other related aspects. When looking at the whole picture, represented in the compilation of the interviews, it becomes clear that collaboration and communication across boundaries constitute a key focus to look at and try to develop to achieve positive change for the whole system, countering the construction and preservation of silos and subsequent sub-optimisation, but promoting cross-boundary collaboration with the common task of caring for the patient in focus.

An insight was the identification of the fact that the nurses have a perspective providing an overview of the complex flow while the surgeons are primarily focused on the patient and the surgery. This implies that it's especially important to involve the nurses in a project on

improving a flow and optimising a complex coordination of surgery resources, which was a part of the overall aim of the project, to reach a more optimal use of the resources at hand.

When discussing change processes the foremost decisive factor was expressed to be participation. To be informed, involved and part of a change project throughout the different stages will constructively deal with the natural change resistance and utilise the ideas and competences of the participants, consistent with the concept of participative leadership (Yukl, 2006) and empowerment, utilising the common knowledge.

It became clear, when interpreting the input from the interviews, that work environment and patient safety have very much to do with one another, and are also closely linked to efficiency and service. Positive aspects of the work environment, such as the good atmosphere and the relatively small size of the clinic, were mentioned and expressed to have a very positive influence over the other topics of patient safety, efficiency and service. If there is room for everyone to express their concern then that will be positive for the speak-up culture which relates to the patient safety. It will also raise the willingness to collaborate which supports the efficiency and lastly the people feel more part of the common work and achievement which is an important aspect of the work environment.

When it comes to the topic of the causes for inefficiency and challenges related to the communication and collaboration, the outcome was relatively complex which required the causes to be put in a breakdown structure to understand how they were connected. Although the reasons for inefficiency are many and complex, the underlying reasons can effectively be dealt with by enhancing the cross-boundary collaboration and communication at the clinic. In the final phase of the project several change initiatives, see project summary in *Results*, were taken that supported this approach and effectively dealt with inefficiencies.

Due to the dependencies induced by the interprofessional teamwork, as problematized by Kvarnström (2008), in the operating room, getting started in the morning in time with surgery showed to be a difficult challenge to solve. Although the different professions were aware of the problem and the potential benefit of solving it, the way to effectively deal with it was not clear. This lack of clarity is probably due to the challenge of dealing with behavioural aspects rather than the structural such as changing a set of guidelines of the morning procedure. One example of the challenge is the arrival of the surgeon prior to surgery, to which quite a bit of irritation is expressed due to the tendency of surgeons coming late. In this case the surgeons need to prioritise between arriving early and waiting before start and arriving late and having the rest of the team and the patient wait. In this context the professional culture and hierarchies between professions can affect the physician's decision and cause a late arrival due to an attitude of valuing one's own time as more worth than the others' time.

The division and perception of different belonging between the nurses at the operating unit and the anaesthesia staff can be understood to constitute a barrier for interprofessional teamwork in the operating room. However, this structural challenge could very well be overcome by cultural means, realising the common task and approaching each other to work in a more collaborative manner.

Methodology Discussion

By applying action research it was possible for the researcher and the clinic to carry out the project in a collaborative manner. It allowed the researcher to dedicate time to get to know the individuals and the groups, the structures and the cultures. Thereby the contribution to the clinic could be relevant and anchored, focusing on their capabilities and ideas and promoting an organic development with a participative process. Although the benefits outweighed the drawbacks of applying action research in this project there are several challenges that one needs to be aware of before embarking on a project with this approach. The balance between action and research is maintained by the mutual benefit from the two components. Depending on the action researcher and the circumstances in the project, difficulties can be experienced with spending sufficient time on the research part due to prioritisation of the action part. Malterud (2011) explains the challenge in a good way:

"Often there are energetic people who initiate those projects (action research projects). That can infer a risk of the action being prioritised at the expense of the project's research part, and that the evaluation and reporting becomes secondary due to that the everyday of the project all the time puts immediate requirements." (Malterud, 2011, p188, Trans.)

It is therefore crucial for the researcher to plan and take enough time continuously to also focus on the research and make reflections along the way. The work of compiling the many reflections were however postponed to end of the project, which caused some stress for the author. A lot of time was dedicated to be present at the clinic building up legitimacy and confidence in the author as facilitator, collecting relatively large amounts of qualitative data to acquire a comprehensive picture and to guide the organisation to initiate and achieve effective improvements. This proved to make the balance and compatibility with the research part challenging, allowing limited flexibility in parallel to focus on the research. Although the last period of the project was fully dedicated to the research, certain compromises needed to be made.

A crucial responsibility of an action researcher is to evaluate both the project progress and the actions and involvement of the researcher. In this evaluation also the organisation should be involved, expressing their view and experience, to acquire their perspective. Evaluation was done continuously throughout the project in different forums with respectively the organisation and the supervisors participating. It's was important both to evaluate throughout the project, for

the researcher to adjust appropriately and after the project to be able to learn for the next time. It was important to have a flexible approach and adapt the project along the way, since it was impossible to know beforehand what the progress would look like in detail. Another essential task of the action researcher is to take enough time to pause and reflect along the way to remain focused and be able to take different perspectives on the project and its characteristics. To achieve a process of systematic reflection the researcher took regular *breaks* continuously throughout the project, spending a week in Lund, the location of the university and the academic supervisors. This enabled to reflect on the project history, the progress and the future steps, with a distance to the clinic and with guidance from the supervisors. This was important to find a good balance between action and research. Although the outcomes of the two workshops were of relatively good quality, the preparation done by the researcher could have been improved in order to have achieved a more relevant and adapted outline of the two events.

Scientific Contribution

The thesis aims to contribute with a process of facilitation, based on participation and empowerment, which can be consulted and used to bring about change in healthcare. This includes insights and experiences from the application and development of the process in the action research project. It further provides insights on decisive process factors on how to get everyone engaged and achieve an effective and sustainable change to the better. Secondly, the thesis aims to contribute to the knowledge of how to apply a holistic approach to improve efficient utilisation of operating rooms, in the case of facilitation. This consists of insights on the root causes for inefficiency, often related to culture and attitude in the intersection of different actors. Not the least is the potential of developing the cross-boundary collaboration and communication identified to play a key role in achieving effective change and finding ways to better utilise the resources at hand.

Future Research

Based on the insights and reasoning made in this study several opportunities for future research appear to be of interest. One interesting aspect concerns the involvement, role and approach of external actors active in change projects in healthcare, and especially the impact of these actors in relation to their approach and their actions. Relevant questions would be:

- How does the healthcare staff perceive and experience the external actor?
- To what extent does an external actor involve and reach staff at all levels of the organisation and not only management?

Another very relevant topic is how teamwork in cross-boundary collaborations can enhance both the overall efficiency and the work environment. In this regard it can be especially interesting to look at how the teamwork and the efficiency can be connected. Further, a topic

interesting to research further in is how participation is considered in change projects in the healthcare. Specifically:

- How are change projects initiated?
- Who initiates them?
- How are change projects facilitated and led?
- How are well-functioning systems in healthcare created?

Often there is a large gap between the management and the operative staff. This has certain implications and poses challenges when change projects are initiated that affect everyone in the organisation. The question is how to overcome this gap and bridge across it, based on participation and empowerment. In general:

- How can an organisation be configured with the capability to deal with internal change processes to develop continuously?
- What role do the aspects of participation and empowerment play in this capability?

CONCLUSION

To approach and overcome sub-optimal use of resources at the clinic, cross-boundary collaboration and communication was promoted and improved to deal with the experienced challenges. By constructing a process based on participation and empowerment ideas were developed and improvements were designed and implemented, resulting in effective change. Utmost important was to have a process that involved all actors and was not limited to a small coalition excluding certain actor groups.

Regarding the facilitator role it can be concluded that humbleness and diplomacy played key roles for the involvement to have a positive impact and contribute to going through the change process with promising outcomes. To support the organisation to continue the change process the researcher focused on contributing to build up a capability of the organisation to involve all relevant actors, promote cross-boundary interactions and with a long-term perspective work with continuous improvement dealing with one challenge at a time.

In regard of the project and the reasons of inefficiencies the root causes were found to lie partially in lack of systematic procedures on measuring and following up on issues and partially in cultural aspects with attitudes lacking respect towards other actors, which caused sub-optimisation and inefficiency as a result. A specific structural aspect was the deficient estimation of surgery time which had several problematic impacts and resulted in delays, early finish and frustration among the staff when the time was not kept. A specific cultural aspect concerns getting started in the morning. Based on that everyone needs to be present, a culture was established that resulted in delayed starts and irritation about not getting started in time, often putting the guilt on another actor group than one's own. The specific challenges dealt with at the clinic primarily concerned the collaboration and communication both in the planning of surgeries and the execution of surgeries. The complex arrangements, procedures and dependencies made the challenge difficult to grasp and complicated to overcome. The measure taken to meet the challenge was to create a process based on participation and empowerment to promote cross-boundary collaboration and finding better ways to communicate and coordinate. Regarding the validity of the results it can be said that although the thesis was limited to deal with one project, certain aspects of the process used are able to be transferable and would be useful for others to consult, through case-to-case transfer (Firestone, 1993). It is perhaps not foremost the project-specific results that are possible to copy and apply in a different project, but the process that was taken. Not the goal but the road. The goal can differ, but you typically need a road, which requires construction, maintenance, design and so on. These practices relate to the ones of the facilitation in the clinic project.

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APPENDIX A

Recommendations to the Clinic

Although the primary contribution to the clinic of the researcher is not to provide solutions, anyhow, based on the data collection and participation in the process the researcher will summarise a set of general recommendations to the clinic to support them in their future change process. The focus of the recommendations will be on developing the cross-boundary collaboration and communication, approached with both improvements in structures and cultures. An important first advice is to strive towards long-term efficiency and organisational well-being. This requires consistency working towards an aim that goes beyond tomorrow. Although detailed changes might be small it's good to keep in mind the long-term perspective and aim.

The recommendations provided could be summarised by the three steps of *Motivate, Respect and Change*. Keep motivating the staff by hosting cross-boundary events and supporting staff members with ideas on change. Maintain a respect for the challenge of caring for the patients waiting for surgery as well as for the co-workers in interprofessional teamwork. Don't stop to change things that need to be changed, continue to create a spirit of continuous change and improvement.

Follow-up, feedback and continuous improvement. A specific procedure that is undergoing change at the time of writing this thesis is the estimation and follow-up of the surgery time. A more precise estimation, adapted to the specific surgeon, would have several benefits when established. The formalised change, following up the surgery time and discussing reasons for delay, will not be enough by itself but requires to be implemented with care and consideration of the opinions of the different actors involved. To achieve a transparency in this procedure and having the staff accept and promote it would further strengthen its positive effects, both on efficiency and the work environment, potentially leading to less delays. In the context of the formalised part, when a negatively influencing factor becomes obvious it's important also to deal with that factor, if practically possible. So, the first step is to measure, then continuous improvement can be achieved, along a cultural change promoting the properties of the improvement. The measurement, in this case reporting the time consumption and reason for early finish or delay, also needs to be correctly made for the statistical outcomes to be reliable enabling the other actors to trust in it.

Cross-boundary collaboration. Utmost important in the future progress of developing the organisation is to value the forums that gathers the different units and professions at the clinic. Due to the units being separated on different levels and the profession groups being involved in different work tasks the people do relatively seldom experience a sense of the whole clinic and realising the common work and the need and potential of collaboration. To avoid *we-and-*

them attitudes and bridge over the boundaries will further contribute to solve coordination problems and trigger new processes to be implemented. Further, it's relevant that all relevant cross-boundary communication channels exist and are shaped in a way that promotes interaction and helps the complex coordination to work out well.

The planning process. Although the process of planning the many different surgeries is complex and variable, certain improvements can possibly be done. On a general level the communication and coordination with both the surgeon's scheduling and the care unit capacity can be improved to make a surgery schedule better adapted to the circumstances. In this regard initiatives have been taken, that most probably will have beneficial outcomes.

Future change processes. Key in future change processes will be to involve all relevant actors and promote cross-boundary collaboration and solutions to find ways to improve the system as a whole and not just the different components. In this regard also transparency in the process will play a key role, change projects don't come about behind locked doors and especially not the effective implementation of them.

APPENDIX B

Intervjuguide för intervjuer i projekt PLOP

SYFTE

Syftet med studien är att

- Bidra till dokumentation och beskrivning av arbetsprocesserna i och kring PLOP-salarna
- Få en uppfattning om vad som upplevs vara problematiskt och/eller ineffektivt i flödet genom PLOP
- Få en inblick i personalens resonemang kring förbättringspotentialer och möjliga lösningsansatser för att lösa upplevd problematik/ineffektivitet
- Få en inblick i hur personalen resonerar kring utveckling av koordination och organisation av arbetet vid kliniken
- Få en insyn i personalens upplevelse av tidigare förändringsarbeten och förväntningarna på denna

METODPLAN

Semistrukturerade intervjuer kring arbetsprocesserna i och kring PLOP-salarna skall genomföras. Intervjupersonen skall utifrån frågorna ställda av intervjuaren, beskriva och resonera kring det egna och klinikgemensamma arbetet. Ett par personer inom varje yrkesgrupp intervjuas, i den mån det finns par vid kliniken. Med yrkesgrupp menas anestesistjuksköterskor, operationssjuksköterskor, undersköterskor, anestesiläkare, kirurger, planeringkoordinatorer samt administrativ och ledande personal. Resultaten från intervjuerna skall kategoriseras, analyseras kvalitativt och sammanställas i linje med studiens syften.

INTERVJUN

Nedan följer instruktioner och frågor till intervjun. Den kursiva introduktionen skall läsas upp för intervjupersonen så som den är, ord för ord. Intervjun skall betraktas som semistrukturerad. Huvudfrågorna skall betraktas som förslag på frågor där de fet markerade nyckelbegreppen är de centrala teman som skall diskuteras. Frågorna behöver alltså inte ställas i den föreskrivna ordningen eller ens i den form de är skrivna. Det viktiga är att nyckelbegreppen diskuteras och att diskussionen flyter. De frågor som är markerade med bokstäver är tänkta som följdfrågor som skall ställas om de passar in i diskussionen. Bakgrunds och debriefing frågor skall ställas så som de är skrivna.

INTRODUKTION

Syftet med intervjun är att få en samlad, dokumenterad förståelse för hur arbetet vid och kring operationssalarna på PLOP går till, samt identifiera upplevd problematik och potentiella lösningsansatser.

Intervjun kommer att spelas in, med ljudinspelning, för att dokumentera konversationen i forskningssyfte. De ljudinspelningar som görs kommer att hanteras konfidentiellt i den mening att inga personliga identiteter kommer att avslöjas i rapporter eller publikationer som baseras på materialet.

FRÅGORNA

Innan intervjun börjar skall intervjupersonen skriva under ett godkännande av att intervjumaterialet används i forskningssyfte och att intervjun dokumenteras med ljudinspelning. Därefter skall inspelningen påbörjas.

BAKGRUNDSFRÅGOR

- Är intervjupersonen kvinna eller man eller har annan könstillhörighet?
- Vilket år är du född?
- Vad har du för yrkesroll på kliniken?
- Hur länge har du varit verksam inom din nuvarande yrkesroll?
- Har du jobbat inom vården innan och i så fall med vad?
- När började du vid kliniken?
- Vad fick dig att söka dig till vården?

HUVUDFRÅGOR

1. Vad är din **roll på kliniken**? Hur är du inblandad i planering av respektive utförande av operationer vid PLOP?

2. När uppstår det **förseningar** på operationssalen som påverkar operationsplaneringen den dagen?

b. Vad beror förseningen på?

3. När under veckan respektive under dagen, inom schemalagd tid, står operationssalar generellt outnyttjade?

b. Vad beror det på?

4. Nämn några faktorer innan eller under operation som kan leda till **strykning** av en planerad nästpåföljande operation.

b. Hur kan man komma till bukt med dessa faktorer?

5. Berätta om **ett tillfälle** nyligen då en operationssal, under schemalagd tid, stod outnyttjad.

b. Vad berodde det på?

6. När sker det en **väntan** inne på operationssalen som inte har med patientens tillstånd att göra?

b. Varför sker det en väntan?

c. Vad skulle man kunna göra åt det?

7. Vilka delmoment under operationsprocessen, även bytestider och förberedelse inkluderat, tenderar att **dra ut på tiden**?

b. Vad är orsaken till att de drar ut på tiden?

c. Hur skulle de kunna genomföras effektivare?

8. Vilka **flaskhalsar** existerar i patientflödet innan respektive efter operation?

b. Vad beror flaskhalsarna på?

c. Hur skulle man kunna komma till bukt med flaskhalsarna?

9. Hur upplever du att **samarbetet i operationslaget** fungerar under operation?

b. Vad beror det på?

c. Finns det något som kan förbättras?

10. Hur upplever du att koordinationen och kommunikationen i planeringsprocessen av operationer fungerar?

b. Vad beror det på?

c. Finns det något som kan förbättras?

11. Hur tror du att **ditt arbete** skulle påverkas ifall fler operationer per vecka skulle hinnas med att genomföras?

b. Positiva effekter? Negativa effekter?

12. Hur upplever du att det i dagsläget vid kliniken överlag är ställt med **arbetsmiljö och patientsäkerhet**?

b. Skulle vissa saker kunna förbättras och i så fall hur?

13. Hur har du upplevt **tidigare förändringsarbeten** vid kliniken?

14. Vad har du för förväntningar på detta pågående projekt?

b. Vad är allra viktigast att åstadkomma?

15. Vad tycker du är viktigast vid ett förändringsarbete?

b. Varför då?

DEBRIEFING

Syftet med debriefingen är att intervjupersonen skall få ställa frågor om projektet samt att få information om hur denne kan nå intervjuaren.

Hur upplevde du det här?

Har du några frågor kring studien?

Stäng av ljudinspelaren.

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